



STATE OF TUBERCULOSIS IN THE SADC REGION, 2011



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ACRONYMS AND ABBREVIATIONS

ADB	African Development Bank
AIDS	Acquired Immunodeficiency Syndrome
ART	Antiretroviral Therapy
CDC	Centers for Disease Control and Prevention
CPT	Cotrimoxazole Preventive Therapy
DOT	Directly Observed Therapy
DOTS	Directly-Observed Treatment, Short-course: the internationally recommended strategy for TB control
DRS	Drug Resistance Surveillance or Survey
DST	Drug Susceptibility Testing
EQA	External Quality Assurance
FDC	Fixed-Dose Combination (or FDC anti-TB drug)
FIDELIS	Fund for Innovative DOTS Expansion, managed by IUATLD
FIND	Foundation for Innovative New Diagnostics
GDF	Global TB Drug Facility
GLC	Green Light Committee
Global Plan	The Global Plan to Stop TB, 2006–2015
GNI	Gross National Income
HIV	Human Immunodeficiency Virus
HTC	HIV testing and counselling
IPT	Isoniazid Preventive Therapy
MDG	Millennium Development Goal
MDR	Multidrug Resistance (Resistance to, at least, Isoniazid and Rifampicin)
MDR-TB	Multidrug Resistant Tuberculosis
MS	MemberState(s)
NRL	National Reference Laboratory
NTP	National Tuberculosis Control Programme or equivalent
PIHTC	Provider initiated Testing and Counselling (for HIV)
RCE	Regional Centre of Excellence
RISDP	Regional Indicative Strategic Development Plan
SADC	Southern Africa Development Community
SATCI	Southern Africa TB Control Initiative



ACRONYMS AND ABBREVIATIONS

SNRL	Supranational Reference Laboratory
TB	Tuberculosis
TB CAP	Tuberculosis Control Assistance Program
The Union/IUATLD	International Union Against Tuberculosis and Lung Disease
UNAIDS	Joint United Nations Programme on HIV and AIDS
UNITAID	International Facility for the Purchase of Drugs to Treat HIV and AIDS, Malaria and TB
WHO	World Health Organization
XDR-TB	Extensively Drug Resistant TB: TB due to MDR strains that are also resistant to a fluoroquinolone and at least one second-line injectable agent (amikacin, kanamycin and/or capreomycin)



EXECUTIVE SUMMARY

The SADC TB Report is an annual document that aims to provide the Ministers of Health of the Community, the Secretariat and the partners with an overview of the state of the disease and its control in the Region. It gives the state of progress towards Regional, Continental and Global commitments by both the SADC and the Member States, and constitutes a monitoring tool for the implementation of the SADC Framework for the Control of Tuberculosis which covers the period 2007-2015.

This report covers the year 2011. Member States were requested to submit TB reports to the Secretariat in a predetermined format. The format was designed on the basis of the agreed SADC harmonized surveillance and core indicators for TB. Member States were given a specified period in which to send in reports. The guidelines for the 2011 report were modified according to recommendations made at the last meeting of Programme Managers where the 2010 report was discussed.

The report emphasises the findings that the SADC Region remains the epicentre of the dual epidemic of Tuberculosis and HIV and AIDS as shown by reports from Member States. The figures show that the SADC Region contains the countries with the highest per capita burden of TB in the world. The high burden of TB rates in the high burden SADC Member States is largely due to the high rates of HIV infections. High burden countries in this context are defined as those whose annual TB notification rates are equal to or above 50 cases per 100,000 population. Only Mauritius and Seychelles are therefore not high burden Member States.

Notification rates of more than 300 new cases per 100,000 were recorded in seven Member States (compare with the WHO figures from the Global Tuberculosis Control 2011 Report that shows 10 SADC Member States having TB incidence of more than 300 per 100,000)¹. Five Member States recorded notification rates between 100 and 250 new cases per 100,000. Only two Member States reported much lower rates viz., Mauritius and Seychelles which are recognized as the only low burden countries for TB in the Region. The SADC Region therefore has the highest number of Member States that record the highest notification rates in the world, confirming the extremely high level of TB disease burden.

The notification rates of new TB cases have however peaked in all the high burden Member States, and they are all experiencing a measure of decline, though at a slow rate. Drug resistant TB is now a major problem in the SADC Region. All Member States with the exception of Seychelles have reported MDR-TB, while the six Member States in the extreme South of the Region (Botswana, Lesotho, Mozambique, Namibia, Swaziland and South Africa) have also reported XDR-TB for a few years. The report assesses the progress made by Member States in the control of Tuberculosis. The SADC core indicators, which are based on indicators developed by global tuberculosis frameworks such as the DOTS and the Stop TB strategies have been used to measure progress. The following is a summary of some of the findings:

By providing financing for their NTPs, Member States have shown Political commitment to the control of Tuberculosis in their countries. This is evident from the figures from those Member States who could provide the figures because their budgets could show allocation to Tuberculosis control. Virtually all Member States have costed strategic plans for Tuberculosis control and have appropriate staff in their National Tuberculosis Programmes.

Laboratory capacity is strong for microscopy and for culture and sensitivity for first line drugs. Only South Africa has full capacity for culture and sensitivity for second line drugs, and provides the service to most Member States. The number of Member States adopting new diagnostic technologies (LED, Xpert and LPA) is growing steadily.

The performance of the NTPs in the Member States remains low as measured by treatment success rates. Only eight Member States, or just over half, achieved the prescribed 85% treatment success rate, and this was the same as in 2010. This means that DOTS delivery remains unsatisfactory in many Member States. Mortality (as measured by case fatality rates) of the 2010 cohorts has shown slight improvement while default rates have not shown significant improvement.

1 World Health Organization 2011. Global Tuberculosis Control 2011: Estimated TB incidence rates, 2010



The SADC Secretariat continues to implement the frameworks adopted by the Member States. The implementation of frameworks for the Coordination and Harmonization of National TB Control Policies and Guidelines, Health Systems Strengthening to Support Extension and Expansion of Quality DOTS Services, and the Strengthening of Partnerships and Collaboration between TB Programmes, HIV Programmes, NGO's, Private Sector, and Civil Society is all proceeding according to schedule.

The main recommendations are aimed at Member States: those that are not achieving prescribed levels of success in DOTS, especially Treatment Success Rates, should take special steps to strengthen their DOTS delivery. They should also speed up the implementation of TB/HIV collaborative activities with the ultimate aim of integrating the two programmes. Both the SADC Secretariat and the Member States should work towards more Member States undertaking prevalence surveys, through more advocacy with WHO and other relevant partners.



INTRODUCTION

The SADC TB Report is an annual document that aims to provide the Ministers of Health of the Community, the Secretariat and the partners with an overview of the state of the disease and its control in the Region. It gives progress on Regional, Continental and Global commitments by both the SADC and the Member States, and constitutes a monitoring tool for the implementation of the SADC Framework for the Control of Tuberculosis which covers the period 2007-2015.

This current report is based on the core indicators that have been developed by the SADC Secretariat and is for the year 2011. Section 2, entitled “Background”, introduces the reader to the importance of TB as a public health problem in the SADC Region, including its global context. The epidemiology of Tuberculosis is given as a background to the situation in SADC, placing it also in the context of the global situation. The SADC Region’s approach to Tuberculosis Control in the context of its commitment to continental and global initiatives and programmes is also discussed.

Section 3 describes the Methodology followed to compile and produce the report, and gives an overview of how data was collected and analysed. It also explains how the report relates to the agreed SADC core indicators and also reflects on the limitations.

Section 4 of the report is entitled Progress Towards Control of TB in the SADC Region. The SADC core indicators are discussed at length, including their rationale and how they relate to those of international frameworks and strategies, like DOTS, and the Stop TB Strategy. It discusses the performance of Member States and the Region is analysed on the basis of the core indicators of the SADC Harmonized Framework for Surveillance and on the basis of International strategies, namely the Stop TB Strategy and DOTS. The Region’s progress in implementing SADC frameworks is also examined.

Section 5 is on Discussions and Conclusions, including Emerging Good Practices and Gaps. The section discusses the findings and their implications. The Member States’ experiences in innovations are summarized, as well as what they indicate as their main challenges.

Section 6 deals with recommendations. An attempt is made to relate these recommendations to the findings of the report. Finally there are five Annexes that provide information in different aspects of TB globally, including current global strategies and definitions. Annex 5 consists of data tables that summarize important data from Member States on all aspects of Tuberculosis.

2. BACKGROUND

2.1 TB in SADC in the Global Perspective

The SADC Region continues to be the epicentre of the dual epidemic of Tuberculosis and HIV and AIDS, with SADC Member States registering the highest per capita burden of both diseases in both the world and in the African Region of WHO. The current Tuberculosis epidemic of the SADC Region, which started in the 1980s, was driven by the HIV epidemic. According to Harries et al., nine Member States of SADC (Botswana, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, Zambia and Zimbabwe) account for almost 50% of the global burden of HIV-associated tuberculosis².

Consequently, the Member States have collectively and individually the highest proportion of TB patients co-infected with HIV in the African Region as well globally. WHO periodically estimates the incidence of TB in countries around the world, using modelling techniques, and publishes the results. The estimated incidence of TB in all SADC countries, with the exception of Tanzania and Malawi and the low burden states of Mauritius and Seychelles, is more than 300 per 100,000 population³. This is higher than in any other African region and all other regions globally⁴.

2 Harries, A D et al. The HIV-associated tuberculosis epidemic-when will we act. The Lancet.Tuberculosis. May 2010

3 If countries with total TB notification rates of 50 cases per 100,000 are classified high burden, then all SADC Member States except Mauritius and Seychelles are high burden TB countries

4 World Health Organization 2011. Global Tuberculosis Control 2011: Estimated TB incidence rates, 2010



2.2 Tuberculosis surveillance in SADC in the context of Regional, Continental and Global commitments

SADC Member States have adopted the “Harmonized Surveillance Framework for HIV and AIDS, Tuberculosis and Malaria in the SADC Region” and with it the core indicators for the three diseases.

The harmonised surveillance framework for TB is guided by the regional, continental and international declarations that SADC Member States have signed up to:

1. Regional Commitments

- a. **The Strategic Plan for the Control of TB in the SADC Region 2007-2015** which recommends the Stop TB Strategy as the basis for TB surveillance in the Region.
- b. **The SADC Protocol on Health Article 12, which commits Member States to:**
 - i. Develop strategies for the sustained control of TB, including the efficient supply and delivery of drugs; and
 - ii. Ensure where appropriate, the harmonization of TB control activities and HIV and AIDS programmes

2. Continental Commitments

- a. **The Abuja Call for Accelerated Action Towards Universal Access to HIV and AIDS, Tuberculosis and Malaria Services** of 2006, otherwise known as The Abuja Declaration, is an important Continental declaration of the AU to which SADC Member States subscribe. It calls for the prevention of multidrug-resistant TB, and for universal access to prevention, treatment, care and support for TB. While the Declaration deals with leadership, resource mobilization, human rights, and strengthening of health systems among others. It has been known mainly for its target, pledged by Member States, of allocating 15% of Government budgets to health.
- b. **Resolution AFR/RC 55/RS** that was adopted by the WHO Regional Committee for Africa at its 55th session in Maputo, Mozambique, in 2005, which declared TB an emergency, and also asked Member States to declare TB an emergency in their own countries.

3. Global Commitments

- a. **The Millenium Development Goals**, specifically Goal 6, Target 6C, which requires countries to “Have halted by 2015 and begun to reverse the incidence of tuberculosis”;

The targets of the MDGs and the Stop TB Strategy are as follows:

- i. MDG 6 Target 8- to have halted and begun to reverse the incidence of TB by 2015

Targets linked to the MDGs and endorsed by the Stop TB Partnership:

- By 2005, to have detected at least 70% of new sputum smear-positive TB cases and cured at least 85% of these cases
- By 2015, to have reduced TB prevalence and death rates by 50% relative to 1990 levels
- By 2050, to have eliminated TB as a public health problem (<1 case per million population).

- b. **The Stop TB Strategy**, whose goal is “To reduce dramatically the global burden of TB by 2015 in line with the Millenium Development Goals and the Stop TB Partnership targets.” The specific objectives of the strategy are:
 - i. Achieve universal access to high-quality diagnosis and patient-centred treatment;
 - ii. Reduce the suffering and socioeconomic burden associated with TB;
 - iii. Protect poor and vulnerable populations from TB, TB/HIV and MDR-TB; and
 - iv. Support the development of new tools and enable their timely and effective use.

The components of the Stop TB Strategy are:

1. Pursuing high-quality DOTS expansion and enhancement
2. Addressing TB/HIV, MDR-TB and other challenges
3. Contributing to health system strengthening
4. Engaging all care providers
5. Empowering people with TB, and Communities
6. Enabling and promoting research.



- c. **The DOTS Strategy (Directly Observed Treatment, Short Course)** which has the following components:
1. Political commitment with increased and sustained financing
 2. Case detection through quality assured bacteriology
 3. Standardized treatment with supervision and patient support
 4. An effective drug supply and management system
 5. Monitoring and Evaluation system and impact measurement

2.3 Mining and TB in SADC

Recently, Member States of SADC have revisited the role of mining, especially when associated with massive labour migration, on the transmission and maintenance of high Tuberculosis rates. This is in view of the fact that mining is known to have had a role in the early spread of TB in some SADC Member States, especially in the late 19th century and early 20th century. There is evidence that mining continues to influence the epidemiology of TB in the MSs, especially those that still experience significant migration to South African mines.

3. METHODOLOGY

Method: Member States were requested to submit TB reports to the Secretariat in a predetermined format. The format was designed on the basis of the agreed SADC harmonized surveillance and core indicators for TB. Member States were given a specified period in which to send in reports. The guidelines for the 2011 report were modified according to recommendations made at the last meeting of Programme Managers where the 2010 report was discussed.

Data collection and analysis: This report was a desk study. Data were received from Member States in the predetermined format that was distributed as guidelines. Data were then analysed to bring out the status and progress in TB control as agreed in the SADC core indicators. The SADC core indicators are based on and are consistent with global TB indicators used for reporting to WHO. These indicators are agreed on globally through the Stop TB Partnership. Particular attention was paid to demonstrating progress in agreed SADC and International frameworks. The analysis paid particular attention to consistency. Comparison with previous reports to detect any major fluctuations was given particular attention, as well as consistency with data in the reports of WHO to which the Member States also report regularly.

Limitations: Initial reports emanate from Member States. The weakness of such reports is that there is no way of verifying the reports. However, since Member States also provide the same data to other bodies, especially WHO, these data can be compared with data submitted to those other bodies for consistency. In addition, since there have now been several SADC TB reports, consistency with data in previous SADC reports to check if there are any wide fluctuations also serve to assure that data are valid.

The initial draft was discussed at the meeting of National TB Programme Managers where proposals for changes as well corrections to data were made. These were incorporated in the final report. It was also presented to the Partners who met after the Programme Managers meeting for information. The draft final report was then sent to Member States for their inputs.

4. PROGRESS TOWARDS TB CONTROL IN THE SADC REGION

4.1 Tracking Progress of Member States towards meeting the Regional, Continental and Global Commitments

4.1.1 SADC Core Indicators

The SADC Region has adopted 'The Harmonized Surveillance Framework for HIV and AIDS, Tuberculosis and Malaria in the SADC Region ⁵'. The framework elaborates on the surveillance framework for TB, as well as for HIV/TB collaborative activities. It also gives a list of the core TB indicators that are to be used in the harmonized surveillance work.

The document acknowledges that SADC Member States have signed numerous regional, continental and global commitments on the control of HIV, TB and Malaria. Individually and collectively as a region they have a mandate to report on progress in the implementation of those commitments.



All SADC Member States are committed to the Stop TB Strategy and to its component DOTS Strategy (Directly Observed Treatment, Short Course) by virtue of their membership to WHO, the UN, the AU and other relevant bodies. As a result, the internationally agreed to indicators are used by the Member States (including those of SADC) for monitoring progress towards the agreed targets.

The SADC Secretariat has therefore developed core indicators for TB in the context of the Harmonized Surveillance Framework. Recommended case definitions for surveillance are listed out, and they correspond with the international list (see also Annex 7: Glossary of common terms and definitions).

The following is a summary of the SADC core indicators for Tuberculosis surveillance:

Core set of indicators and data sources for TB Surveillance

1. TB Prevalence Rate: Total number of cases, new and old, in the population at a particular point in time (per 100,000 population). Source: Population based surveys every five years.
2. TB Incidence Rate: Number of new cases in a given period (per 100,000 population). Longitudinal surveys or population surveys every five years.
3. TB Mortality Rate: Total number of deaths due to TB in a given period (per 100,000 population). Routinely collected data; TB registers. Annually.
4. Case detection rate per 100 000 population. Annual new smear-positive notifications. Source: Case notification and estimates of incidence. Annually.
5. Treatment Success Rate: New sputum smear-positive patients who started treatment in a given reporting period who completed treatment, with or without proof of cure. Source: Routinely collected data on cohorts of patients undergoing treatment; TB registers and laboratory registers. Annually.

In addition to these indicators, there are others on Drug-resistant TB and on TB/HIV collaborative activities. These are:

1. Core set of indicators for MDR-TB
2. Core set of indicators for XDR-TB
3. Core set of indicators, data sources and reporting frequency for TB/HIV collaborative activities

It can be seen above that Prevalence Rates and Incidence Rates can only be arrived at with surveys. No SADC Member States does these surveys routinely. Without these figures, Case Detection Rates can also not be calculated as Case Detection Rate is a measure of cases detected by the service against actual cases that occur (incidence). Instead what is measured and calculated by programmes on an annual basis is Notification Rate, that is, the cases actually detected and notified.

The WHO Global Task Force on TB Impact Measurement has 21 global focus countries where surveys of the prevalence of TB disease are recommended. The SADC Member States that are included in this group of countries are Malawi, Mozambique, South Africa, Tanzania and Zambia. According to the Task Force, these countries were selected based on primarily epidemiological criteria: a high estimated prevalence rate (at least 75 cases of smear-positive TB per 100,000 population) and a substantial share of the regional burden of TB.

On this criterion alone, all SADC Member States, with the exception of Mauritius and Seychelles qualify for prevalence surveys, hence the repeated recommendation for the SADC Secretariat and Member States to advocate for and work towards conducting such surveys. Information suggests that only Tanzania in the SADC Region has started the survey.

In the same vein, calculation of actual TB Mortality Rate is constrained as the programmes in Member States are unlikely to detect all deaths due to TB and calculation of the mortality rate would also need an accurate denominator, that is the actual prevalence of TB in the community. Hence in this report the case fatality rate, i.e., the deaths occurring in the cohort registered in the year preceding the year under review, is used to show the levels of TB mortality occurring.

The main focus of this section will be to show progress (or lack of it) in Member States in TB control. Indicators used will be those from the SADC core set of indicators and from monitoring systems put in place for DOTS and The Stop TB Strategy, especially cohort analysis.

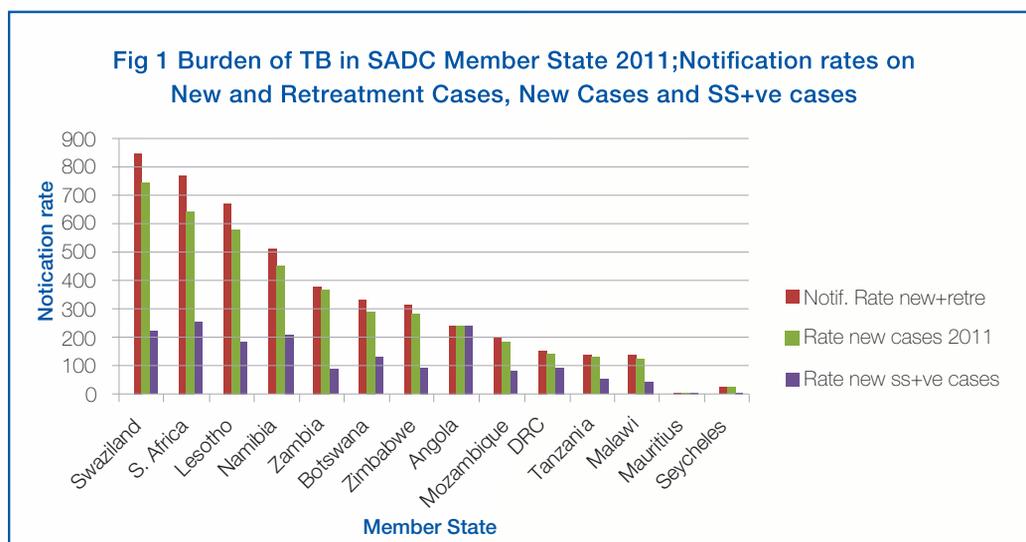


4.1.2 TB Notification Rates and Trends in SADC

Member States use notification rates (cases actually detected and notified) as one of the important indicators of disease burden that can be easily measured. Figure 1 shows the notification rates recorded by the SADC Member States in 2011. The ranking in terms of burden remains more or less the same as in 2010, with little change in the actual figures.

Notification rates of more than 300 new cases per 100,000 were recorded in seven Member States (compare with the WHO figures from the Global Tuberculosis Control 2011 Report that shows 10 SADC Member States having TB incidence of more than 300 per 100,000).⁶ Five Member States recorded notification rates between 100 and 250 new cases per 100,000. Only two Member States reported much lower rates, Mauritius and Seychelles which are recognized as the only low burden countries for TB in the Region. The SADC Region therefore has the highest number of Member States that record the highest notification rates in the world, confirming the extremely high level of TB disease burden.

WHO and its Stop TB partners have categorized 22 countries as high-burden countries⁷. These countries account for approximately 80% of all new TB cases arising each year. The classification is based on absolute numbers rather than on per capita burden. As a result, only five SADC countries are included in the 22 high burden countries. These are DRC, Mozambique, South Africa, Tanzania and Zimbabwe. However, in terms of notification rates and estimated incidence rates, these are not the top five countries in the SADC region.

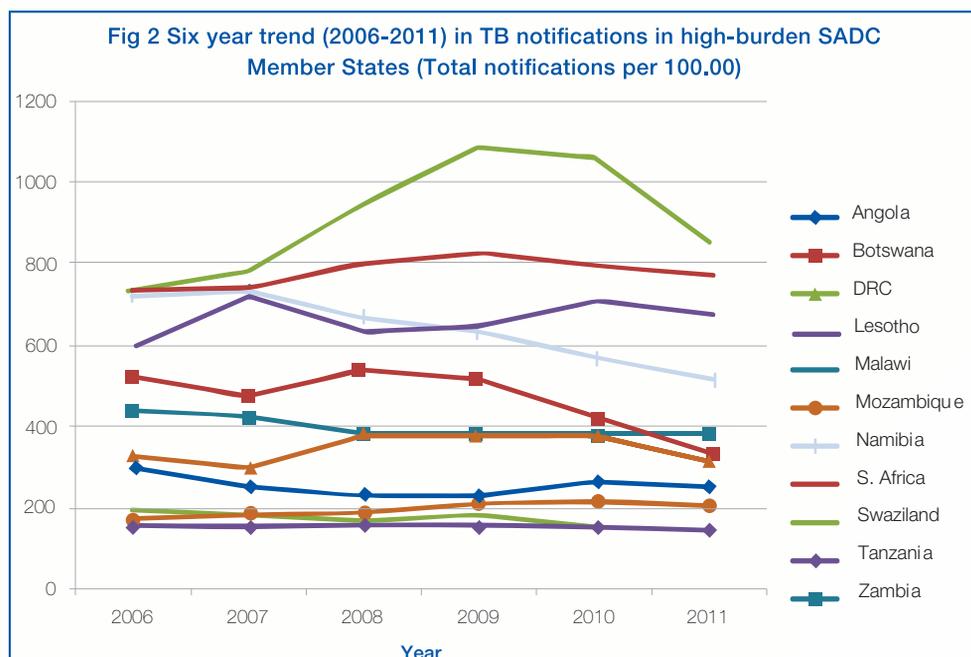


Source: Data from TB Reports submitted by Member States to SADC Secretariat

Figure 2 shows the trend of Tuberculosis in the high-burden SADC Member States in the six years spanning 2006 to 2011. These are the countries which were particularly hard hit by the HIV-associated TB epidemic. All the Member States in the graph show that their TB notifications have now peaked and are experiencing some decline. Peaks were experienced at different times in line with the timing of the HIV and TB epidemics with the last peaks experience in Swaziland, South Africa, Lesotho and Mozambique in the last two years. All in all, this indicates that all the high-burden SADC Member States have experienced the peak in their HIV-associated TB epidemics, and are now in the phase of decline, but the declines are generally very slow.

⁶ World Health Organization 2011. Global Tuberculosis Control 2011: Estimated TB incidence rates, 2010

⁷ Afghanistan, Bangladesh, Brazil, Cambodia, China, D R Congo, Ethiopia, India, Indonesia, Kenya, Mozambique, Myanmar, Nigeria, Pakistan, Philippines, Russian Federation, South Africa, Thailand, Uganda, U R Tanzania, Viet Nam, Zimbabwe.



Source: Data from TB Reports submitted by Member States to SADC Secretariat

The percentage of sputum smear positive cases among the notified new pulmonary cases, the most important group epidemiologically because of their role in transmitting infection, ranges from 32% in Swaziland to 91% in Angola. This wide range is likely to be due to several factors, the most important being the atypical presentation of TB in HIV infected individuals, where there are more cases of smear negative pulmonary cases, and the fact that in some countries a proportion of pulmonary cases do not have a sputum smear examination. Extra effort is needed by Member States to ensure that the sputum smear status of all pulmonary cases is known as this facilitates treatment, follow-up and the assessment of outcomes.

Performance of Member States in the components of DOTS, which encompasses component 1 of the Stop TB Strategy, and in addressing TB/HIV and MDR-TB, which falls under component 2 of the Stop TB Strategy are specifically dealt with in this section. Components 3 to 6 of the Stop TB Strategy do not have sections specifically devoted to them, but are implicitly dealt with as components of DOTS are examined. (see Section 2.2)

4.1.3 TB Mortality in SADC (Case Fatality Rates in cohorts)

Case fatality rates are reported yearly by Member States in their cohort analysis which is part of the Monitoring and Evaluation in DOTS. Case fatality measures mortality in a particular cohort. It is a more practical indicator of mortality under the circumstances as Member States currently have no means of measuring overall mortality, and WHO figures of TB mortality are based on modelling and give wide ranges for each country. Case fatality rates are up to date and useful, as they are also an indicator of programme performance.

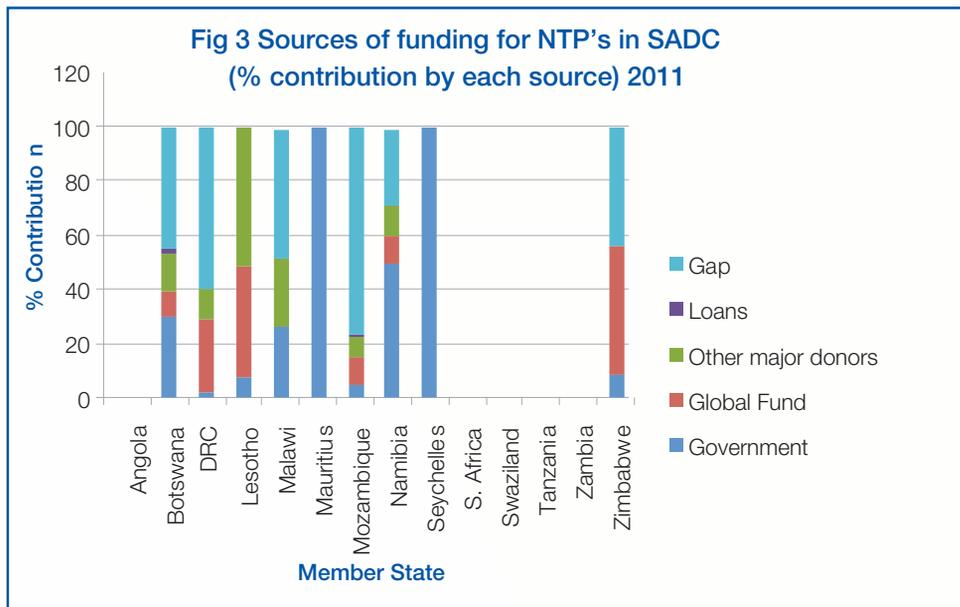
Case fatality in the TB and HIV high burden countries went up considerably during the height of the HIV epidemic as TB patients died also from other HIV related conditions.

In examining the data for the 2010 cohort, some improvements are apparent, indicating a drop in case fatality rates as should be the case with more access to Anti-retroviral Therapy (see Section 4.1.6 for fuller discussion).

4.1.4 Political commitment with increased and sustained financing

As in the 2010 report, Member States were asked to provide information on how their National Tuberculosis Programmes (NTPs) were financed, including a breakdown of the different sources of finance.

Figure 3 summarizes the sources of funding for NTPs in those Member States that could provide the information. Because some Member States do not have specific budget lines for TB, they have not provided the financial data in the format requested. Like in previous reports, the graph shows quite a variation in sources of finance for TB programmes.



As expected, Governments appear in all the programmes although at very different levels of contribution, followed by the Global Fund. Although some Member States indicate quite low Government contribution, this is surprising as Governments normally provide office accommodation, staff as well as transport to TB and other programmes. These costs should reflect as the main costs of the programme.

Eight Member States have provided data and six of them have indicated the gap in their funding, ranging from 28% in Namibia to 77% in Mozambique. Government contribution is less than 10% in DRC, Lesotho, Mozambique and Zimbabwe, and is 100% in Mauritius and Seychelles. In the rest of Member States that provided data therefore (Botswana, Malawi, Namibia and Seychelles), Government contribution ranges from 26% to 49%. Global Fund and grants from Donors make up the rest of the contribution, with loans constituting a small addition.

Source: Data from TB Reports submitted by Member States to SADC Secretariat

Member States also demonstrate commitment by deploying staff to the NTP. All MS with the exception of Seychelles have NTP Managers, and all have varying numbers of professional staff in the NTP. Only Namibia and Seychelles indicate they have no professional staff devoted to M& E. DRC and Seychelles-which has no districts- have no TB Coordinators at District level, while the rest of the Member States have TB Coordinators in 100% of their districts (except Angola 70%, Botswana 80% and S. Africa 92%). Those with Provinces show that 100% of them have TB staff. This level of staffing of NTP's generally indicates a high level of political commitment by the Member States to their TB programmes (see Table 4 of Annex 5).

With the exception of Mauritius and Seychelles, which are not high burden TB countries, all the Member States have costed Strategic Plans for Tuberculosis, ranging from five to six years and spanning different time periods. Mauritius plan is only three years and not costed as it is part of the MOH budget. Seychelles has indicated no specific plan for Tuberculosis-the numbers are too few to warrant such a plan.

Continental Commitments: In their submission to the current report, the following nine Member States indicated that TB has been declared an emergency in their jurisdiction: Angola (2008), DRC (2006), Malawi (no date given), Mozambique (2005), Namibia (2008), South Africa (2006), Swaziland (2011), Tanzania (2006), and Zambia (no date given). Interestingly, Botswana, although stating in the past that TB had been declared an emergency, this time indicated that it has not. Member States have not been able to indicate in exact terms what the impact of declaring TB as an emergency has been. Generally, the declaration of TB as an emergency seems to have played an advocacy role with Governments, making them commit more resources to TB and increasing the visibility of the NTP in the health system, while also sensitizing the public. Some also feel it has led to improvements in NTP performance and DOTS outcomes.

For purposes of this report, only five Member States responded to the question on the percentage of Government Budget allocated to Health (Botswana 17.8%, DRC 5%, Lesotho 12.5%, Mauritius 8%, Namibia 9%). It is obvious that most Member States don't have this information readily available. However, from the 2010 SADC TB report it is also obvious that very few SADC Member States have attained the 15% objective.



4.1.5 Case detection and diagnosis through quality-assured bacteriology

Case detection is a highly essential component of the National Tuberculosis Programme and is listed as an integral part of DOTS. Since Tuberculosis is spread through droplets containing bacilli when a patient with pulmonary disease coughs, such infectious cases have to be identified and treated if the spread of the disease has to be contained.

Detection of TB cases requires that affected individuals are aware of their symptoms, have access to health facilities and are evaluated by health workers who recognize the symptoms of TB. Health workers must have access to a reliable laboratory and ensure that the necessary specimens are collected for examination.

Generally, countries should aim to diagnose and treat successfully as close as possible to 100% of all estimated tuberculosis cases; all forms of the disease and all age groups.

Early laboratory diagnosis of Pulmonary TB relies on the microscopic examination of respiratory specimens, especially sputum, for Acid-Fast Bacilli (AFB). The technique is relatively simple and inexpensive and is currently indispensable in the detection of the most infectious cases of pulmonary TB. The use of fluorescence microscopy, or even better, fluorescence microscopes equipped with a light-emitting diode (LED) is faster and more sensitive. It is pleasing to note that this latter technology is being adopted by more and more SADC MSs, ten so far according to this report. The technology avoids the need for dark rooms.

Mycobacterial culture is much more sensitive than smear microscopy and provides a definitive diagnosis of TB. It is therefore seen as the gold standard for bacteriological confirmation. However it is impractical to do culture on all cases in poor-resource settings, so cases for culture have to be selected on set criteria. Ideally culture should be done on liquid medium, but this is more complex than the solid medium that is still largely used in poorer countries. Culture on liquid medium is rapid and can provide results in about 10 days as opposed to solid medium that needs 4-8 weeks. Again it is pleasing to note that more and more Member States are adopting the new technologies of LPA and GeneXpert.

Globally it is recommended that coverage with sputum-smear microscopy be one centre per 100,000 population, and coverage with culture and DST be equal or more than one centre per 5 million population.

The situation of laboratory capacity has remained more or less the same as 2010. With the exception Angola, Lesotho, Mauritius and South Africa the SADC Member States have achieved the microscopy coverage of 1 centre to 100,000 population. With regard to culture and DST (1st line), only the Member States with smaller populations, as well as South Africa and Zambia, have achieved the desired ratio of 1 centre to 5 million population. The countries with bigger populations (Angola, DRC, Mozambique, Tanzania, and Zimbabwe) have not achieved the ratio. The table also shows that only South Africa has the established capacity to do drug sensitivity testing for second line drugs. DRC and Tanzania have indicated they have capacity to do DST 2nd line, but they still indicate they send specimen to Belgium for DST 2nd line. South Africa provides this service to most SADC Member States.

Countries are now encouraged to adopt new diagnostic technologies for Tuberculosis. SADC Member States were asked to indicate what new technologies they have adopted. Firstly, LED Microscopy: Ten Member States, viz., Botswana, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, Tanzania, Zambia and Zimbabwe are using this technology, some at 100% coverage, while others are still rolling out coverage with definite targets for full coverage. With regard to Culture and DST, LPA is being used in DRC, Lesotho, South Africa and Swaziland. Botswana is still in the process of validating the technology before full utilization. Botswana, Lesotho, Mozambique, South Africa, Swaziland, Tanzania and Zimbabwe are using Xpert.

An important weakness in diagnosis is that several Member States still report a significant proportion of their pulmonary TB cases not subjected to smear microscopy. This is despite the favourable ratio mentioned above. The problem may be exacerbated by easy accessibility of X-Ray diagnosis. Nine Member States have given percentages of pulmonary cases not diagnosed by microscopy ranging from 9% in Angola to 48% in Mozambique (see Table 1.1.3 of Annex 5).

Table 1 TB laboratory diagnostic capacity of SADC Member States.



Country	Population	Microscopy Centres (No.)	Ratio of population per centre	Labs performing TB Culture (No.)	Labs performing DST 1st line (No.)	Labs performing DST 2nd line (No.)	Country where DST2nd line sent	New Diagnostic Technologies implemented? ⁸
Angola	18081000	146	1:123842	3	2	0	RSA	0
Botswana	2024787	52	39000:1	1	1	0	RSA	1 Xpert machine. LED & LPA being validated
DRC	73355802	1508	48644	2	1	1	Belgium	LPA
Lesotho	1876633	17	1:110390	1	1	0	RSA	LED, Xpert, LPA
Malawi	15033724	233	1:64500	1	1	0	RSA	LED (100%)
Mauritius	1280000	2	1:640000	1	1	0	Madagascar	0
Mozambique	23049621	430	1:53602	2	2	0	Italy	LED, Xpert (<1% cover)
Namibia	2104900	31	1:67900	1	1	0	RSA	LED (100% coverage)
Seychelles	87440	3	1:29133	2	0	0	RSA	0
South Africa	50586757	244	1:207000	15	15	15	-	LED, (MTBRIF) LPA (MTBDR Plus), Xpert
Swaziland	1080337	14	1:77166	2	1	0		LED, Xpert, LPA
Tanzania	44484855	910	1:48884	3	1	1	Belgium	LED, LPA, Xpert
Zambia	13046508	217		3	3	0	N/A	LED
Zimbabwe	13000000	151	1:86092	2	2	0	None	LED, Xpert

Source: Data from TB Reports submitted by Member States to SADC Secretariat

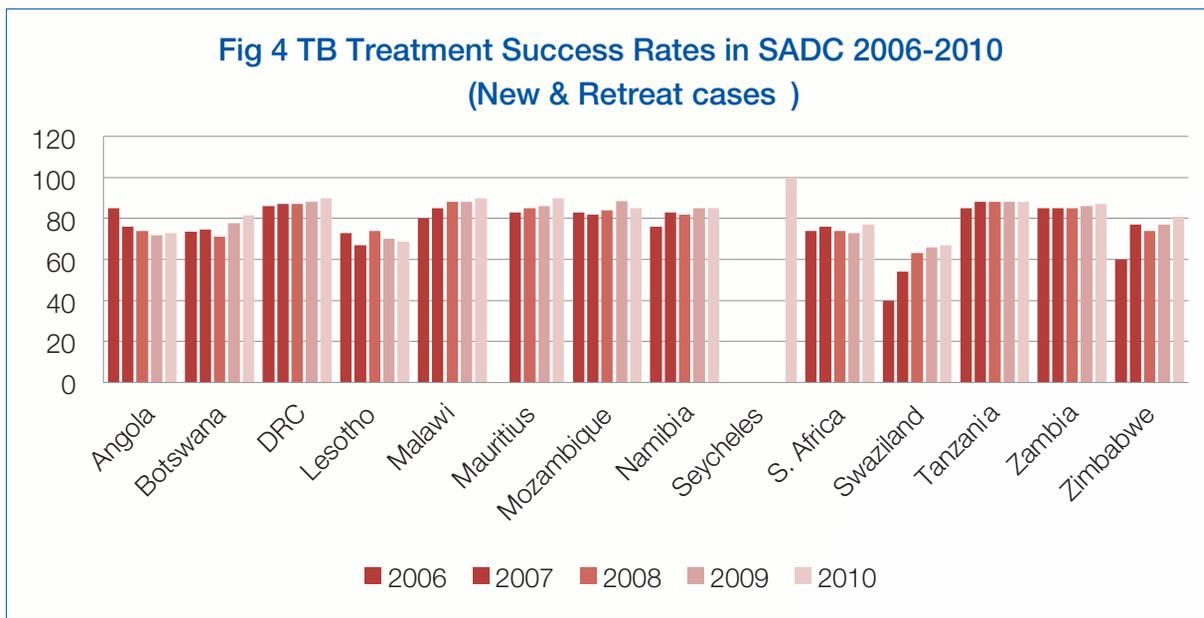
4.1.6 Provide standardized treatment with supervision, and patient support

The global target of treatment success rate in DOTS programmes is 85%. In the SADC Region, which is the epicentre of the TB/HIV dual epidemic, it is acknowledged that the high prevalence of HIV and MDR tuberculosis constitute specific challenges impeding high success rates.

There are also other factors that impede high success rates, including Health system weaknesses, poor health-care access, and several patient-related factors, including financial barriers. These tend to create challenges for treatment adherence in most Member States, especially the high burden ones.

Cohort analysis of smear positive cases is given priority because of the importance of smear positive cases in the epidemiology of tuberculosis. The smear positive cases are the main transmitters of tuberculosis infection, and therefore their cure is especially important in breaking the chain of transmission. Cohort analysis gives the outcome of treatment at 12 months in terms of Success Rate (cured, completed treatment), Defaulted, Died, Transferred Out, and Treatment Failed.

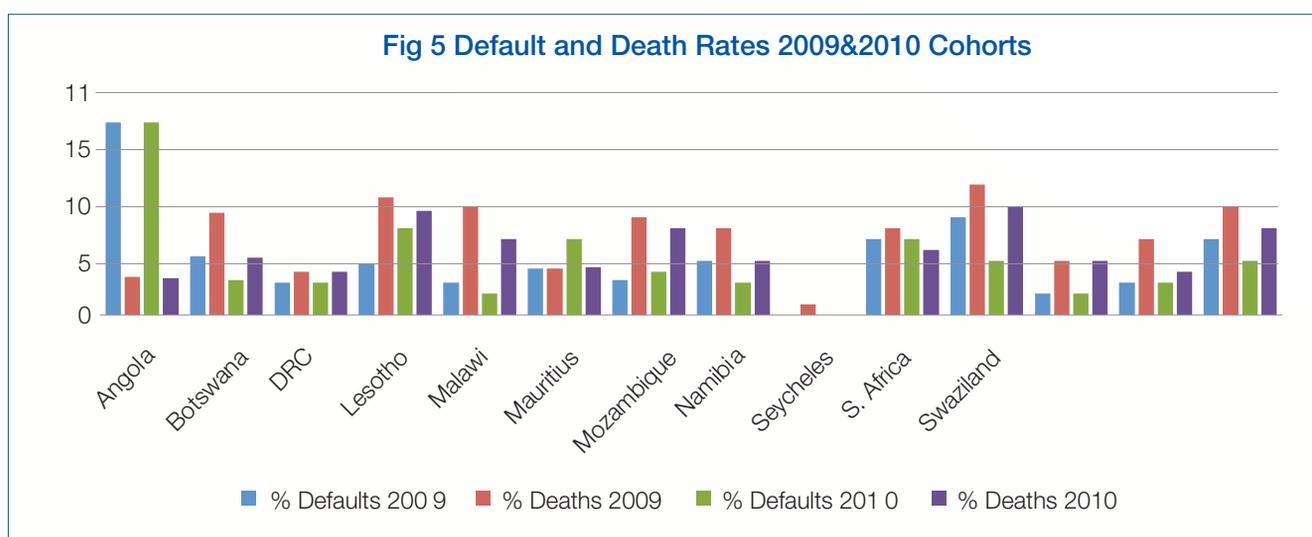
Figure 4 gives the success rates in SADC Member States for cohorts registered in 2006 to 2010. The data suggests that most Member States have tended to have similar success rates for the period. In this reporting period, there were no new 85% success rate achievers; the number of Member States achieving this success rate remained at seven (eight including Seychelles that was included for the first time in the graph). These eight Member States achieving the prescribed 85% success rate were: DRC, Malawi, Mauritius, Mozambique, Namibia, Seychelles, Tanzania and Zambia. This means that just under half of SADC Member States are still falling below target in their treatment success rates. Botswana and Zimbabwe have passed the 80% mark for the first time and will hopefully maintain this momentum for them to reach the prescribed 85% in the next cohorts.



Source: Data from TB Reports submitted by Member States to SADC Secretariat

Unsuccessful outcomes are another way of illustrating the low success rates. Figure 5 shows the percentage of defaulters and deaths in the cases registered in 2009 and 2010. Angola has registered strikingly high default rates in both years at 17.7%. Lesotho, Mauritius, South Africa and Zambia are the only other Member States registering default rates of more than 5% in the 2010 cohort. Mauritius had registered less than 5% default rate in 2009. Botswana, Namibia and Zimbabwe have shown improvements in default rates in this period by falling to 5% or below from higher rates. Defaulting is a very important source of drug resistant- tuberculosis, and it is essential that Member States take particular steps to bring down default rates. (It is recognized that Drug Resistant mycobacteria are also being transmitted directly by patients with Drug-resistant TB).

Case fatality rates have generally shown some improvement. In the 2010 cohort, only Lesotho, Mozambique, Swaziland and Zimbabwe have remained with case fatality rates of 8% or above (see Table 6.1 of Annex 5), a decline to four from eight states in the 2009 cohort. Member States registering fatality rates of below 5% have increased from three to five, while those registering 5% to just under 8% have increased from one to five. The decline in case fatality is to be expected because of access to ART, and the decline should continue as ARV coverage continues to improve.



Source: Data from TB Reports submitted by Member States to SADC Secretariat



4.1.7 An effective drug supply and management system

All Member States have a system of drug supply in place for tuberculosis. Few stock-outs were reported by Member States in this reporting period. The few stock-outs have been mainly attributed to the limited capacity of suppliers who win tenders. Some problems are encountered in the procurement of second line drugs because of limited numbers of suppliers, or in one case, due to the red tape in GLC procedures. The instability of paediatric formulations have also been mentioned by one Member State as contributing to stock-outs in this category of drugs.

Virtually, no Member State has reported supply chain problems. In one Member State delay in the approval of the GDF report resulted in temporary problems regarding maintenance of buffer stocks.

The conclusion is that SADC Member States have no major problems in the procurement, supply or distribution of anti-TB drugs.

4.1.8 Monitoring and Evaluation system and impact measurement

The DOTS strategy has a well-articulated Monitoring and Evaluation framework. This includes assessing activities, monitoring costs and expenditure, determining the extent of programme coverage and evaluating treatment outcomes, as well as the epidemiological impact of the programme.

At the centre of the reporting system is the cohort analysis, which is the systematic analysis of standard outcomes of treatment.

SADC Member States are all carrying out the Recording and Reporting system which is the basis for the DOTS and Stop TB strategies and are regularly reporting to WHO and now also to SADC. Data in this report are largely from this system in Member States.

Reports from Member States indicate that only two NTP's have no dedicated M&E officers but the function is being performed by other officers (see section 5.3.1 above). The quality of reports to the SADC Secretariat supports this information.

4.1.9 Addressing TB/HIV, MDR-TB, and other challenges

Since the adoption of the DOTS Strategy in the early 1990s, new challenges have emerged that made it difficult for DOTS to attain its targets. These challenges were mainly related to the impact of the HIV pandemic, which was particularly severe in the SADC Region, and to the emergence of MDR-TB, which has also been influenced by HIV. This is what led to the adoption of the Stop TB Strategy, which can be regarded as an expansion of the DOTS Strategy.

Table 1.2 in Annex 5 gives a review of the current state of the dual epidemic and what Member States are doing.

All the Member States routinely offer HIV testing and counselling to their TB patients, although the coverage varies. Table 1.2 of Annex 5 shows that the percentage tested in the cases notified in 2011 ranges from 10.2% in Angola to 100% in Seychelles. Eleven Member States have tested more than 80% of their new TB cases in 2011 for HIV, the same countries as for 2010.

Reported co-infection rates range from 7% in Mauritius to 78% in Zimbabwe. Angola, DRC, Mauritius, Seychelles and Tanzania, the same Member States as in 2010, have co-infection rates of less than 50%. All the other Member States have co-infection rates of more than 50%, confirming that TB in SADC is HIV driven and that the Region is the epicentre of the dual epidemic. This also underlies the importance of integrating TB and HIV control activities.

With regard to interventions, all Member States have TB cases on ART although evidence suggests that TB patients co-infected with HIV are not routinely put on ARV in most Member States. Since TB is a defining condition, all TB patients who are HIV positive should be put on ART. The percentage of TB patients on ART ranges from 23 in DRC to 100 in Seychelles. Coverage of more than 50% was reported in Angola, Malawi, Mauritius, Namibia, Seychelles, Swaziland and Zambia.

All Member States except Angola have CPT coverage of more than 50%. No Member State has reported using IPT routinely; Lesotho reports 31.5% coverage in two health facilities.



The WHO interim policy on collaborative Tuberculosis and HIV activities was formulated in 2004 and laid out the interventions needed to decrease the joint burden of Tuberculosis and HIV. It is a useful framework for assessing how much collaboration or integration has been achieved at country level between the HIV and TB programmes. It is therefore employed in this report to assess the level of collaboration or even integration in SADC Member States between the activities of the two programmes.

Table 2 summarizes what Member States report they have achieved in collaborative activities between the two programmes. The table shows that:

- All the Member States are active in all the major groups of activities
- In the first group of activities, “Establish Mechanisms for Collaboration”, most Member States are in the category of high activity. “Conduct Surveillance of HIV Prevalence among TB Patients” was the activity with most Member States in the highest category.
- In the second group of activities, “Decrease the Burden of TB in People Living with HIV”, most Member States are in category 2, which is coverage less than 50%. Obviously more effort is needed in this group of activities. Very few Member States have achieved the high coverage score of more than 75% in any of the activities.
- In the third group of activities, “Decrease Burden of HIV in TB Patients”, most Member States fall in the highest in the category, which means that coverage is more than 75%. HIV testing and counselling, and co-trimoxazole preventive treatment are activities where most Member States reported very high coverage of more than 75%.

These results show that while there are TB/HIV collaborative activities in Member States, they are not yet at the highest level, and integration is still not being regarded as the main objective. Member States should work towards integrating the two programmes in their countries.

To see the achievements of each Member State in these areas, see Table 3 of Annex 5.

Table 2 TB/HIV Collaborative Activities in SADC Member States: Level of Implementation

Activity	Number of Member States in each category				
1 ESTABLISH MECHANISM FOR COLLABORATION	Levels of activity: 0=none; 1=low; 2=medium; 3=high				
	0	1	2	3	
1.1 Ensure a coordinating body exists for effective TB/HIV collaboration at all levels	0	3	5	6	
1.2 Conduct surveillance of HIV prevalence among TB patients	0	2	1	11	
1.3 Carry out joint HIV/TB planning	0	2	7	5	
1.4 Conduct monitoring and evaluation (M&E)	0	3	3	8	
TOTAL	0	10	16	30	
2 DECREASE THE BURDEN OF TB IN PEOPLE LIVING WITH HIV	Levels of activity: 0=none; 1=low; 2=medium; 3=high				
	0	1	2	3	4
2.1 Establish intensified TB case finding	0	2	3	6	3
2.2 Introduce Isoniazid Prevention Therapy (IPT)	2	5	4	1	2
2.3 Ensure TB infection control in health care and congregate settings	0	3	6	4	1
TOTAL	2	10	13	11	6
Activity	Number of Member States in each category				
OF HIV IN TB PATIENTS	Levels of activity: 0=none; 1=low; 2=medium; 3=high				
	0	1	2	3	4
3.1 Provide HIV testing and counselling	0	1	1	1	11



3.2 Introduce HIV prevention methods	0	1	2	3	7
3.3 Introduce co-trimoxazole preventive therapy (CPT)	0	1	0	2	11
3.4 Ensure HIV care and support	0	1	5	1	6
3.5 Introduce Anti-retroviral therapy (ART)	0	1	4	6	3
TOTAL	0	5	12	13	38

Source: Data from TB Reports submitted by Member States to SADC Secretariat

MDR-TB: Drug-resistant TB is a recognized major threat in the world. In the SADC Region, all Member States except Seychelles have reported MDR-TB, while only the countries in the extreme South of the continent (Botswana, Lesotho, Mozambique, Namibia, South Africa and Swaziland) have reported XDR-TB. South Africa dominates the numbers, having more cases of both MDR and XDR-TB than all the other SADC Member States put together. The cumulative number cases in South Africa as of 2011 were 55,281 and 3,997 for MDR and XDR-TB respectively.

It should also be noted that in the African Region, Southern Africa has recorded more cases of drug resistant TB than other sub-regions. The real extent of the problem is not known as most countries do not have the capacity to do regular or continuous drug resistance surveys, and the capacity to do Drug Susceptibility Testing (DST) for second line drugs. In the SADC region, only South Africa can do second line DST (some capacity is recorded in DRC and Tanzania but they still refer specimens outside) and therefore acts as the Supra-National Laboratory for almost all the countries for this work.

Table 1.3 in Annex 5 gives an overview of the situation of MDR/XDR-TB in Member States and some of the responses.

Angola, Zambia and the low burden Member States of Mauritius and Seychelles have never had drug resistance surveys while DRC, South Africa and Zimbabwe have had surveys 10 years or more ago. The rest of the Member States have had surveys on or after 2008. It is essential that a more uniform and systematic surveillance be put in place for the whole SADC region.

All Member States who have reported Drug Resistant TB have patients on treatment, indicating access to second line drugs. Most depend on a combination of Government and donors to purchase the drugs. The Global Fund and UNITAID, as well as some other unspecified Donors, are listed by Member States as assisting with second line drugs.

4.2 SADC Regional Response to the TB Epidemic

The cooperation of SADC Member States in TB control and the action of the SADC Secretariat derive from several documents. Firstly, there is the SADC Protocol on Health which came into force in 2004. The aim of the Protocol is to harmonize and rationalise resources in the implementation and attainment of the health objectives of the Region. Two articles of the Protocol are of specific importance to tuberculosis control:

- *Article 9:* Communicable Disease Control
- *Article 12:* Tuberculosis Control

Member States have now adopted The SADC Framework for the Control of Tuberculosis which covers the period 2007-2015. The Framework gives the following strategic approaches for the purposes of achieving its objectives:

- Coordination and harmonization of national TB control policies and guidelines in SADC Region in order to ensure enhanced and expanded quality DOTS services accessible to all TB patients
- Health system strengthening to support expansion and extension of quality DOTS services
- Strengthening of partnerships and collaboration between TB programmes, HIV programmes, NGO's, private sector and civil society and other sectors in the SADC Region.

The SADC Secretariat is in the process of implementing the above strategic approaches of the Framework. The purpose of the frameworks is two-fold; firstly, to compliment the national work that is on-going and secondly, to facilitate the integration agenda through harmonization.

Progress on the various strategic approaches is summarized below:



4.2.1 Coordination and Harmonization of National TB Control Policies and Guidelines

i) Harmonized Minimum Standards for the Prevention, Treatment and Management of Tuberculosis in the SADC Region

Background: The Minimum Standards for TB were finalised in 2010 and were reviewed and approved by SADC Ministers of Health at their meeting in Lubumbashi in November 2010. The minimum standards address the key areas of TB control, including diagnosis, case definition, treatment, paediatric TB, TB/HIV co-infection, and drug-resistant TB. Minimum standards are also presented for key cross-cutting issues relating to TB control, including laboratory services, cross-border control, and TB infection and prevention control.

There is special emphasis on formalising TB/HIV collaboration, ensuring that HIV counselling and testing is provided to all TB patients, and that TB screening is provided to all HIV-positive clients as part of routine management. All children younger than five years, and those that are HIV-infected (irrespective of age), are to be screened for TB disease. Steps to ensure the diagnosis and successful treatment of MDR-TB are also outlined.

Member states are expected to align their TB programs with the regional Minimum Standards.

Progress report: The SADC Secretariat has initiated the process of facilitating the domestication of the agreed minimum standards in TB. This includes the facilitation of the adaptation of the harmonized Minimum Standards for the Prevention, Treatment and Management of Tuberculosis and Regional Minimum Standards for the harmonized Control of HIV and AIDS, Tuberculosis and Malaria in Militaries in the SADC Region.

The SADC Secretariat with the assistance of the technical experts from Member States has developed a two pronged strategy to facilitate the domestication of agreed policies. This includes building capacity of experts in Member States to have a full appreciation of the minimum standards and advocacy activities with critical national stakeholders to promote ownership of the policies.

The capacity building activities will be guided by a strategy that was developed in 2011. The agreed strategy is to have two-levels of training. Firstly, regional training of trainers: It is envisaged that trainers will ideally be those at the forefront of the various programs, the aim is to train them so that they will in turn train those in their programmes. The aim of this level of training is to train a sufficient pool of key personnel per area of agreed policy to ensure that capacity building will be sustainable even beyond the SADC Secretariat intervention.

Secondly, there will be another level of training at national level, targeted at national operational staff. This will be to enable each Member State to have the capacity to adapt the regional minimum standards. In addition to TB specific training, the participants will also be trained on broad regional integration issues so that they could have a better appreciation of the regional agenda. These will include discussion on the SADC Health Protocol, and the regional strategic Plan for TB.

In the year under review, regional institutions were invited to express interest in conducting the training. The institutions will be selected in 2012 and will initiate training.

ii) Policy Framework for Population Mobility and Communicable Diseases in the SADC Region

Background: The draft framework calls for harmonised communicable diseases treatment regimens and management guidelines across SADC Member States, coordinated cross-border referral services and continuity of care for patients with communicable diseases, and joint programming for communicable disease control along common borders. They also describe steps to achieve equitable access to health services for cross-border mobile populations, the coordination of regional public health surveillance and epidemic preparedness, health promotion among mobile populations, and legal, regulatory and administrative reforms.

With regard to population mobility and communicable diseases, the SADC secretariat is facilitating two major processes, namely the development of a Regional Framework for Population Mobility and Communicable Diseases and the development of a referral form for TB.

The Draft framework was completed in 2009. However, the SADC Secretariat was advised by Member States to clearly articulate the financing mechanism for the Framework and the role of the private sector before it could be taken to the Ministers of Health for approval.



Progress report: The Draft Policy Framework for Population Mobility and Communicable Diseases in the SADC Region will be completed in 2012. The outstanding component of the policy is the financing modalities. In 2011, the SADC Secretariat undertook an assessment of the possible financing mechanisms in selected Member States. Furthermore, the role of the private sector was explored.

The assessment report will inform the proposed financing modalities for the Policy Framework which is expected to be presented to Minister of Health and those responsible for HIV and AIDS in November 2012.

Communicable Diseases and Prisons: The SADC Secretariat is in the process of finalising the regional minimum standards on Communicable Diseases and Prisons. This initiative was recommended by the Ministers of Health at their meeting in 2009 in Swaziland. In the same meeting, the Ministers had expressed concern of the high levels of HIV and other communicable diseases in prisons, such as TB.

In response to the Ministers' recommendation, the SADC Secretariat arranged a regional consultation meeting in 2011 on Communicable Diseases and Prisons. The meeting was meant to share experiences among Member States on the state of communicable diseases in Prisons. The meeting observed that prisons in SADC Member States had on average an occupancy rate of 138%. This means that prisons are over-populated by 38%. Evidence shows that an overpopulated prison is a high risk environment for disease transmission and also challenges the provision of adequate health services. Overcrowding is known to reduce the quality and quantity of ventilation, lighting and sanitation available for prisoners. This is particularly important in the spread of airborne disease such as TB. High rates of HIV co-infection and also multi-drug resistant species TB have been reported in prisons in SADC.

The consultation meeting informed the development of the regional Minimum Standards on Communicable Diseases and Prisons. The draft will be presented to Ministers of Health for their review and approval in November 2012.

The main purpose of the Minimum Standards is to establish minimum requirements for prisons to be able to effectively prevent, treat and control HIV and AIDS, TB, Hepatitis B and C and STIs. The Regional Minimum Standards also serve as a harmonisation framework for HIV and AIDS, TB, Hepatitis B and C and STIs responses across all SADC prisons.

iii) *Regional Minimum Standards for the Harmonized Control of HIV and AIDS, Tuberculosis and Malaria in Militaries in the SADC Region*

Background: The regional minimum standards are informed by the SADC Protocol on Health and the Maseru Declaration. Key among the principles guiding them are universal access, gender equality and non-discrimination, and the need to involve all partners (civil and military) in the planning, implementation and evaluation of the standards. The regional minimum standards serve as a framework for guiding the regional harmonisation of activities for preventing and controlling HIV and AIDS, TB and Malaria in all SADC Member State militaries. They set out minimum policy requirements for Governments, military health service managers and other policy development personnel in the areas of policy and programming, training, prevention strategies, diagnostic tools and methods, case management, treatment and care, as well as referral systems, data collection, and monitoring and evaluation.

Progress report: This framework has been approved and is being implemented. The SADC Secretariat is facilitating and coordinating the implementation, working with Ministries of Health, national coordinating bodies and Military Health Services.

4.2.2 Health Systems Strengthening to Support Extension and Expansion of Quality DOTS Services

Strong health systems are a prerequisite for the implementation of strong and sustainable DOTS-based NTPs. Technology and Infrastructure are important components of a National Health System, the others being Leadership and Governance, Health Financing, Health Information Systems, Human Resources for Health and Service Delivery. It is in this regard that laboratory services are treated as critical in the implementation of DOTS within the context of the SADC Framework for the Control of Tuberculosis.

The following summarizes some milestones and progress in this strategic approach:

i) *Minimum Standards for National Reference Laboratories in the SADC Region*

Background: SADC recognizes that National Reference Laboratories are at the pinnacle of diagnostic service provision. It is in this light that SADC adopted the Minimum Standards for National Laboratories in the SADC Region.



In the 2010 TB Report it was stated that the SADC Secretariat would establish a laboratory coordination mechanism to streamline its support for laboratory services, while WHO would provide technical support and advice, and assist in resource mobilization and in meeting training and human resource needs.

Progress report: In recognition of the pivotal role of the laboratory services in the efforts to reduce the morbidity and mortality associated with Communicable and Non-Communicable diseases, the Ministers of Health and Ministers Responsible for HIV and AIDS mandated the SADC Secretariat to constitute a Committee of laboratory experts drawn from SADC Member States.

The first meeting of the committee was held in October 2011. Its role is to advise the SADC Secretariat and Member States on matters pertaining to laboratory service provision.

Some of the major outputs of the committee in the year 2011 included:

- a) Drafting of an MOU to operationalize the Supranational Reference Laboratory and Regional Centres of Excellence (SNRL/RCE) initiatives. The MOU provides for obligations and responsibilities of SNRL/RCE, obligations and responsibilities of Member States seeking the services of SNRL/RCE, financial obligations, maintenance of accreditation status, monitoring and evaluation of the SNRL/RCE and pricing arrangements. The draft MOU was presented at the Ministers meeting in November 2011 and was adopted as a working draft for further consultation.
- b) Pricing of services offered by SNRL and RCE: The Advisory committee agreed that the services provided by Member States on laboratory should be charged below commercial rates. To this end, it was agreed that the cost of the tests would be cost price plus a margin of no more than 10%. This would reimburse the service provider with the cost of reagents and the costs of servicing and maintaining the equipment. The margin was justified as necessary to facilitate the maintenance of equipment.
- c) Training of Laboratory experts: The Committee further reviewed the training content of Regional Centres of Excellence in capacity development in laboratories. The Committee recommended the standardization of training modules and placed greater emphasis on certain prioritized areas such as TB drug susceptibility and HIV Drug resistance testing.
- d) Finalization of TOR of the Advisory Committee: The Committee also reviewed and approved the draft terms of reference of its work. The Committee will promote advocacy for laboratories at the level of the Member States in order to increase the visibility of the laboratories and promote and disseminate minimum standards for the laboratories. The Committee will also advocate for the allocation of the minimum 0.7% of the health budget for laboratories as agreed in other forums including the World Health Organisation and endorsed by the MSs during their meeting in Maputo. Within each Member State, Committee members should promote efforts at achieving accreditation and advocate for the attainment and maintenance of The SADC Minimum Standards for National Reference Laboratories. The SADC Minimum Standards for laboratories are in synchrony with international standards.

ii) Functions and Minimum Standards for Supranational Reference Laboratories (SNRL) in the SADC Region

Background: Since there is a range of essential diagnostic tests that currently cannot be performed in some Member States, it is essential that selected laboratories in the Region be able and empowered to conduct these tests for other Member States. These laboratories are to serve as referral facilities for national reference laboratories.

The SNRL for HIV is expected to perform laboratory tests for which there is limited capacity in individual Member States such as HIV Drug Resistance (HIVDR) genotyping. Three laboratories have been identified to serve this purpose. These are the national HIV reference laboratories from Botswana, South Africa and Zimbabwe.

The SNRL for TB on the other hand is expected to have the capacity to diagnose Multi-drug resistant TB (MDR) and in particular extensively drug resistant TB (XDR) and to genotype TB strains is an essential requirement for a TB-SNRL. The laboratories selected for this service are based in Botswana and Zambia.

With regards to Regional Centres of Excellence (RCE's), their focus will mainly be on Human Resource Capacity Development and Quality Assurance. The former is expected to support HR development and training to complement the efforts of Member States' NRLs by providing critical human resources through twinning schemes, mentorship and/or regular hands on laboratory training programs. The National Institute of Communicable Diseases in South Africa has been selected to be the Regional Centre of Excellence.



The role of Regional Centres of Excellence in Quality Management would be to introduce and implement integrated quality management systems to include amongst others, participation in External Quality Assessment schemes (EQAs) for all diagnostic and monitoring tests, establishing integrated, cost-effective and sustainable national EQA schemes that strengthen external and internal quality control, process control, documentation, safety and waste management systems in Member States. Institutions in two Member States have been selected to provide these services. These are the National Institute of Communicable Diseases in South Africa and the Zimbabwe National Quality Assurance Program. These services are expected to become operational once the laboratories fully meet the minimum standards and also after the signing of the memorandum of understanding among Member States.

Progress report: See the above section on coordination, which gives a report on progress to date in setting up a coordination mechanism for implementing these roles.

iii) Harmonized Surveillance Framework for HIV and AIDS, Tuberculosis and Malaria in the SADC Region

Background: The Regional HIV and AIDS, TB and Malaria reports are to be prepared annually, and Member States are required to prepare national annual reports based on the SADC core indicators. National reporting guides have been developed and are the bases for regional reports.

In this regard a framework for core indicators has already been developed for TB and is being implemented and is used for the preparation of the annual report.

Progress report: The Secretariat has made advances in facilitating the domestication of the regional surveillance system. As a first step, Member States were required to report their status on TB based on the regionally approved core indicators.

The Second step will be training of Member States on the approved surveillance system. Regional Institutions were invited in 2011 to express interest in conducting the training. The selection of training institutions will commence in 2012. The training will be both at regional and national levels.

Development of a Tele-Health System to support surveillance system: The SADC Secretariat has initiated a process of establishing a Tele-health System for HIV and AIDS, TB and Malaria Surveillance and Information Sharing. The process was due to be initiated with the assessment of the state of Tele-health systems in Member States that was to be completed in March 2012.

The assessment will inform the draft Tele-health system. The objectives of the system are:

- To enable timely collection and reporting of data on the three diseases, that is, HIV and AIDS, TB and Malaria through Internet links between Ministries of Health in SADC Member States and SADC Secretariat on the one hand and links within each Member State between the Ministry of Health and the national referral hospital and a national reference laboratory on the other;
- To serve as an early warning system for disease outbreaks;
- To support programming and management of communicable diseases, by leveraging the harmonised surveillance framework throughout the region;
- To improve referrals for the three diseases within and across MS in the SADC region;
- To strengthen sharing of information and knowledge among reference laboratories for HIV and AIDS, TB and Malaria; and
- To network not only the data bases but people in order to create Communities of Practice for disease surveillance in the SADC region.

The system will be completed in 2012 and presented to Ministers of Health of SADC for approval.

4.2.3 Strengthening of Partnerships and Collaboration between TB Programmes, HIV Programmes, NGO's, Private Sector, Civil Society etc.

Background: Meetings of TB Programme Managers as well as those of TB Managers and Partners are now established and regular. The SADC Secretariat convenes meetings of the National TB Programme Managers and the Partners annually on a back to back basis. The Managers meet to take stock of progress and deliberate on a theme decided in the previous meeting. The partners are also appraised on progress and they give an update on their own activities.



Both meetings discuss the draft SADC Annual TB Report and give their inputs.

Progress report: The SADC Secretariat continued to support the annual meeting for TB Managers and the TB Partnership Forum. The two meetings were held on 16 – 18 February 2011 under the Theme “Strengthening DOTS Services in the SADC Region”. The partnership forum included the UN, Civil Society Organizations, Research Institutions and the Private Sector.

The review of the DOTS services was premised on the five pillars, namely:

- Strategies to sustain political and financial commitments;
- Case Detection through quality assured bacteriology;
- Standardized Short-Course anti-treatment given under direct and supportive observation;
- Effective Drug supply and management system; and
- Monitoring and evaluation system and impact measurement of TB programmes.

A major interesting observation that emerged from the Partnership Forum was that new diagnostic technologies for TB and MDR-TB which cut on the turn-around time needed for results are becoming more and more available. Some have already been approved by WHO and some are already in use in Member States, while others are in the final stages of development.

5. Discussions and Conclusions

5.1 Emerging Good Practices

Good practices should make an impact on the implementation of DOTS and the Stop TB strategy generally, thus improving success rates in treatment outcomes, because this is the area where most NTPs are showing weakness. The following emerging good practices have been selected from those submitted by Member States in their reports to SADC and they were judged important by the author. They reflect those practices that the Member States regard as having made an impact in various components of DOTS, particularly in enhancing case-finding and in improving treatment outcomes. Member States putting them forward are stated in brackets. No Member State could directly relate the quantum of improvement in percentage terms to the particular good practice they have cited.

1. Targeted mentorship and supportive supervision on a quarterly basis to selected priority districts (Botswana).
2. Implementation of TB Reach project SMS system to communicate laboratory results to the health facilities in 4 districts and to follow up patients using the same SMS (Lesotho).
3. Increased HIV testing for TB patients (Namibia, Tanzania).
4. The involvement of community-based organisations in the provision of DOT (Directly Observed Treatment) support to patients has helped improve case retention (Namibia).
5. Household intensified case finding: Households with known TB patients are visited, using teams comprising community health workers and health professionals. Contacts of these known TB patients are screened and also provided HIV counselling and testing (South Africa). Intensified case finding in health facilities using “Cough Officers” (Swaziland).
6. Establishment of ex-TB patients group to participate in TB case finding and support of TB patients (Tanzania).
7. 100% implementation of Directly Observed Treatment in the intensive phase in selected localities reducing defaulters drastically (Zimbabwe). (DOT is actually an integral part of DOTS!!)

5.2 Gaps and Challenges

5.2.1 Policy and Programme Gaps

Policies are generally well developed in Member States as they are based on internationally agreed strategies such as the Stop TB Strategy and DOTS. The gaps in programmes relate largely to implementation such as delivery of directly observed treatment (health facility vs. community based), ensuring bacteriological diagnosis of all pulmonary cases, drug and laboratory supplies to avoid stock-outs, and keeping up to date information systems on TB through maintenance of the standard DOTS Recording and Reporting system.

Another major gap is the inability to calculate some indicators such as Prevalence, Incidence, Mortality, and Case Detection Rates because of inability to achieve enough coverage to calculate them. Under the circumstances only



Prevalence Surveys of active TB disease can make it possible to calculate these important indicators. WHO and other international organizations and partners could support SADC Member States to conduct the surveys considering the per capita TB burden in the Region.

Gender is an important factor in TB epidemiology. In the natural history of Tuberculosis a male preponderance has always been demonstrated, especially in high burden populations. Table 1.1.1 of Annex 5 that tabulates the total number of notifications (new and retreatment cases) and new cases, shows that all the eight Member States that provided gender-disaggregated data have reported a higher number of males than females, despite the higher prevalence of HIV in females. In smear positive cases, again all Member States except Seychelles (which had only 2 cases- 1 male, 1 female) reported male preponderance (see Table 1.1.3 of Annex 5). Gender constitutes a gap in the discussions on TB in the SADC Region because no analysis to date has been done regarding the gender patterns of health seeking behaviour in relation to TB, and their impact on TB control, including in such factors as treatment outcomes and the distribution of drug-resistant TB.

Those Member States with significant Mining Sectors and those with significant migration of miners to other countries (mainly to South Africa) have not yet developed programmes to deal with TB and Mining, and need to develop surveillance and intervention programmes.

The data available in reports does not lend itself to directly relating failure in performance to particular gaps.

5.2.2 Challenges

Member States have submitted various challenges they face in implementing various aspects of their NTPs, mainly related to the various components of DOTS and the Stop TB Strategy, but also to health systems related issues, such as funding and human resources. What countries are doing to address these issues is dealt with in various areas in the body of the report.

The following is a distillation of challenges submitted by Member States:

1. TB surveillance activities in the private sector remain poorly documented and not well accounted for.
2. Infection control remains poor, despite guidelines being available. Actual practice remains challenged especially at ARV clinics most of which were not purpose-built with TB infection control in mind.
3. Detection rate of Drug-resistant TB is estimated to be low in Member States, mainly because of diagnostic capacity constraints and coverage of health services.
4. Limited resources to properly manage Drug-resistant-TB, encompassing both drugs and support structures.
5. Mortality and defaulter rates remain high in some Member States, the former despite availability of ARVs. Could default rates mean that treatment is not always directly observed?
6. Integration of TB/HIV control programmes to avoid gaps and duplications, and conserve resources.
7. Global Fund problems, especially erratic disbursement of funds.
8. Development or revision of the algorithm with introduction of new diagnostic tools.
9. Shortage of human resources at all levels.
10. Slow adoption of new TB diagnostic technologies.
11. Sustainability of the NTP, especially in the light of the new problems of HIV and MDR/XDR-TB. Many Member States are dependent of donor funds to run the NTP.

This is a large list of challenges which can be dealt with incrementally in subsequent reports as Member States report what they are doing and show positive results.

5.3 Conclusions

Member States continue to show improvements in processes and inputs in their National Tuberculosis Programmes, and are investing financial, human and other resources in the Programmes. This shows political will to control the disease. However results are still suboptimal. Success Rates in treatment outcomes have been static between 2010 and 2011 (see section 4.1.6). No new Member States achieved the prescribed success rate of 85% in treatment success during the period. Only eight Member States (slightly more than half) achieved the 85% success rate. A major effort is really required by the remaining six to achieve this rate. Some improvement has been seen in mortality (case fatality) rates however. Default rates remain high with insignificant improvements.



6. Recommendations

Recommendations in the annual SADC TB Report are usually many, based on the gaps and challenges that have been identified. There is no way of actually measuring how much the recommendations have been implemented. As most of them to date have been on strengthening DOTS implementation, and as success rates remain low, it implies that the recommendations largely remain unimplemented.

The following are recommended to the SADC Secretariat:

1. Follow up with WHO on proposals to have more SADC Member States conduct prevalence surveys.
2. Establish which Member States would be ready to embark on prevalence surveys, in addition to the ones already marked for the surveys by WHO.
3. Sponsor Member States for benchmarking visits to fellow Member States who are performing exceptionally well in particular areas of DOTS implementation.
4. The Secretariat should advocate to Member States to calculate information on percentage of Government Budget allocated to Health and have the information readily available

Recommendations to Member States:

1. Member States whose treatment success rates remain below 85% should review their DOTS implementation; they should particularly look at if they are actually daily supervising the treatment of each TB case (DOT).
2. Member States should speed up the adoption of new diagnostic procedures as slow turn-around of diagnostic results contributes to low diagnosis of sputum positive cases from both microscopy and culture.
3. Member States should speed up the coverage of the different components of the TB/HIV collaborative activities.
4. Member States should make information on percentage of Government Budget allocated to Health readily available and provide it for the TB reports as part of monitoring the attainment of the Abuja Declaration.
5. In view of the problem of estimating case detection rates, each high burden SADC Member State should advocate with WHO and other partners to perform a prevalence survey.
6. Member States should update their TB drug resistance status by institutionalizing drug-resistance surveys and conducting them at regular intervals.



Annex 1: Glossary of common terms and definitions

Term	Meaning/Definition
Definition of TB Cases	
Case of tuberculosis	A patient in whom tuberculosis has been confirmed by bacteriology or diagnosed by a clinician.
Definite case	A patient with positive culture for the Mycobacterium tuberculosis complex. In Member States where culture is not routinely available, a patient with two sputum smears positive for acid-fast bacilli (AFB+) is also considered a definite case.
Pulmonary case	A patient with tuberculosis disease involving the lung parenchyma.
Smear-positive pulmonary case	A patient with one or more initial sputum smear examinations (direct smear microscopy) AFB positive.
Smear-negative pulmonary case	A patient with pulmonary tuberculosis not meeting the above criteria for smear-positive disease. Diagnostic criteria should include: at least two sputum smear examinations negative for AFB; and radiographic abnormalities consistent with active pulmonary tuberculosis; and no response to a course of broad-spectrum antibiotics (except in a patient for whom there is laboratory confirmation or strong clinical evidence of HIV infection); and a decision by a clinician to treat with a full course of anti-tuberculosis chemotherapy; or positive culture but negative AFB sputum examinations.
Extrapulmonary case	A patient with tuberculosis of organs other than the lungs (e.g. pleura, lymph nodes, abdomen, genitourinary tract, skin, joints and bones, meninges). Diagnosis should be based on one culture positive specimen, or histological or strong clinical evidence consistent with active extra-pulmonary disease, followed by a decision by a clinician to treat with a full course of anti-tuberculosis chemotherapy. A patient in whom both pulmonary and extra-pulmonary tuberculosis has been diagnosed should be classified as a pulmonary case.
New case	A patient who has never had treatment for tuberculosis or who has taken antituberculosis drugs for less than one month.
Re-treatment case	A patient previously treated for TB, who is started on a re-treatment regimen after previous treatment has failed (treatment after failure), who returns to treatment having previously defaulted (see below; treatment after default), or who was previously declared cured or treatment completed and is diagnosed with bacteriologically positive (sputum smear or culture) TB (relapse).
Definitions of treatment outcomes	
The definitions are expressed as a percentage of the number of patients registered in the cohort	
Cured	A patient who was initially smear-positive and who was smear negative in the last month of treatment and on at least one previous occasion.
Completed treatment	A patient who completed treatment but did not meet the criteria for cure or failure. This definition applies to pulmonary smear-positive and smear-negative patients and to patients with extrapulmonary disease.
Died	A patient who died from any cause during treatment.
Failed	A patient who was initially smear-positive and who remained smear-positive at month 5 or later during treatment.
Defaulted	A patient whose treatment was interrupted for 2 consecutive months or more
Transferred out	A patient who transferred to another reporting unit and for whom the treatment outcome is not known.
Successfully treated	A patient who was cured or who completed treatment.



Cohort	A group of patients in whom TB has been diagnosed, and who were registered for treatment during a specified time period (e.g. the cohort of new smear-positive cases registered in the calendar year 2005). This group forms the denominator for calculating treatment outcomes. The sum of the above treatment outcomes, plus any cases for whom no outcome is recorded (e.g. “still on treatment” in the European Region) should equal the number of cases registered. Some Member States monitor outcomes among cohorts defined by smear and/or culture, and define cure and failure according to the best laboratory evidence available for each patient.
Definitions of outcome and impact measures of TB control	
Outcome	
Case notification rate: all cases	The number of TB cases reported to the NTP per year per 100,000 population. <i>Numerator:</i> Number of new TB cases detected <i>Denominator:</i> Total population in the specified area Multiplied by 100,000
Case detection rate	1) <i>Numerator:</i> Number of new TB cases detected <i>Denominator:</i> Estimated number of new TB cases countrywide ⁷ 2) <i>Numerator:</i> Number of new smear-positive TB cases detected <i>Denominator:</i> Estimated number of new smear-positive TB cases countrywide 3) <i>Numerator:</i> Number of new smear-positive TB cases detected under DOTS <i>Denominator:</i> Estimated number of new smear-positive TB cases countrywide
Treatment success rate	<i>Numerator:</i> Number of new smear-positive pulmonary TB cases registered in a specified period that were cured plus the number that completed treatment <i>Denominator:</i> Total number of new smear-positive pulmonary TB cases registered in the same period
Impact	
Incidence	Number of new TB cases occurring during a given period in time
Prevalence	Number of existing cases of TB at a given point in time
Death rate	<i>Numerator:</i> Number of new smear-positive pulmonary TB cases registered in a specified period that died during treatment, irrespective of cause <i>Denominator:</i> Total number of new smear-positive pulmonary TB cases registered in the same period



Annex 2: Global Declarations, Commitments and Targets for TB Control

Millennium Development Goals (MDGs):

- Halt and begin to reverse TB incidence by 2015

Abuja declaration against AIDS, TB, Malaria and other communicable diseases

The primary goal of the Declaration was to arrest and reverse the accelerating rate of HIV infection, TB and Other Related Infectious Diseases (ORID)

Objectives:

- To advocate for optimal translation of earlier commitments of African Leaders into social and resource mobilization for sustainable programming of Primary Health Care.
- To develop policies and strategies aimed at preventing HIV, Tuberculosis and other related infections, and at controlling the impact of the epidemic on socio-economic development in Africa.
- To establish sustainable mechanisms for national and external resource mobilization for prevention, and treatment of the persons living with HIV AND AIDS and Tuberculosis.
- To ensure that we (AU) attend to the needs of vulnerable groups such as children, the youth, women and persons with disabilities, workers and mobile populations.

World Health Assembly resolution 1991

- To detect at least 70% of new smear-positive cases in DOTS programmes
- To successfully treat at least 85% of detected cases.

Stop TB Partnership

- By 2005: At least 70% of people with sputum smear-positive TB will be diagnosed (i.e. under the DOTS strategy), and at least 85% cured.
- By 2015: The global burden of TB (per capita prevalence and death rates) will be reduced by 50% relative to 1990 levels.
- By 2050: The global incidence of active TB will be less than 1 case per million population per year.

TB Global Plan:

- **By 2005**, and to be sustained or exceeded by 2015: At least 70% of people with infectious TB will be diagnosed (i.e. under the DOTS strategy) and at least 85% of those diagnosed will be cured.
- **By 2015**: the global burden of TB disease (disease prevalence and deaths) will be reduced by 50% relative to 1990 levels.

Specifically this means reducing prevalence to 155 or fewer per 100 000 population, and reducing deaths to 14 or fewer per 100 000 per year by 2015, including people co-infected with TB and HIV. The number of people dying from TB in 2015 should be less than 1 million.

- **By 2050**: TB will be eliminated as a global public health problem. Using the criterion for TB elimination adopted in the USA, this means that the global incidence of TB disease will be less than 1 per million population.

Maputo Resolution of 55th Regional Committee of the African Region of WHO of 2005

- Ministers of Health from 46 Member States of the Africa Region unanimously declared TB an emergency in the Region
- Rapidly improve case detection and treatment outcomes through Acceleration of the DOTS coverage
- Reduce patients transfer and defaulter rates
- Accelerate scale up of TB/HIV interventions
- Improve human resources for TB control
- Expand national partnerships and
- Mobilize additional resources for TB control.



SADC Strategic Framework for the Control of Tuberculosis in the SADC Region, 2007-2015

Objectives

- To increase access to high-quality Tuberculosis diagnosis & patient-centred treatment in the SADC Region
- To reduce the suffering and socioeconomic burden due to Tuberculosis in the SADC Region
- To ensure access to prevention, diagnosis and treatment of TB, TB/HIV and MDR/XDR-TB in the SADC Region
- To support the development and adoption of new tools for Tuberculosis prevention, diagnosis and treatment in the SADC Region

Abuja Call for Accelerated Action towards Universal Access to HIV AND AIDS, Tuberculosis and Malaria services, May 2006:

African Heads of State and Government adopted the call at a special summit in Abuja that affirmed previous global and regional targets for TB control as well as called for universal access to TB prevention, treatment, care and support services, including of key TB/HIV interventions.



Annex 3: Global Partnerships and Initiatives in support of TB control¹⁰

Organizations	Services offered
International Union Against Tuberculosis and Lung Disease (IUATLD/The Union)	Technical support
Global Fund to Fight AIDS, TB and Malaria (GFATM/Global Fund)	Technical and financial support for national TB programmes
TB Coalition for Technical Assistance (TBCTA) – [ATS, CDC, FHI, KNCV, IUATLD, JATA, MSH, WHO]	Technical support
TB Control Assistance Programme (TB CAP)	Technical support
UNICEF/UNDP/World Bank/WHO Special Programme for Research and Training in Tropical Diseases (TDR)	Development of new TB diagnostics
World Health Organisation (WHO)	Technical and financial support
National Institute of Communicable Diseases (NICD)	Laboratory based TB services
University Research Co.(URC)/Centre for Human Services	Strengthening human resources for TB and TB/HIV
Global TB Alliance	Develop and equitable access to new TBdrugs
Stop TB Partnership and its various initiatives and working groups:	
The Global Drug Facility (GDF)	Provision of TB drugs
Green Light Committee (GLC)	Support in management of MDR-TB
DOTS Expansion Working Group	Support related to laboratory capacity strengthening, public-private mix, childhood TB, and poverty and TB
Working Group on DOTS-Plus	Support in Multidrug-resistant TB management
TB/HIV Working Group	TB/HIV collaboration
Working Group on New TB Diagnostics	New TB Diagnostics
Working Group on New TB Drugs	New TB Drugs
Working Group on New TB Vaccines	New TB Vaccines
Advocacy, Communications and Social Mobilization Working Group	Advocacy, Communications and Social Mobilization Working Group

¹⁰ Also universities, research community etc, and many more; list not exhaustive.



3. Implementation of TB/HIV Collaborative Activities

Activity	Describe level of activity
1 ESTABLISH MECHANISMS FOR COLLABORATION	Levels of activity: 0=none; 1=low; 2=medium; 3=high
1.1 Ensure a coordinating body exists for effective TB/HIV collaboration at all levels	
1.2 Conduct surveillance of HIV prevalence among TB patients	
1.3 Carry out joint HIV/TB planning	
1.4 Conduct monitoring and evaluation (M&E)	
2 DECREASE THE BURDEN OF TB IN PEOPLE LIVING WITH HIV	Level of coverage: 0=none; 1=<25%; 2=<50%; 3=<75%; 4=75%+
2.1 Establish intensified TB case finding	
2.2 Introduce Isoniazid Prevention Therapy (IPT)	
2.3 Ensure TB infection control in health care and congregate settings	
3 DECREASE THE BURDEN OF HIV IN TB PATIENTS	Level of coverage: 0=none; 1=<25%; 2=<50%; 3=<75%; 4=75%+
3.1 Provide HIV testing and counselling	
3.2 Introduce HIV prevention methods	
3.3 Introduce co-trimoxazole preventive therapy (CPT)	
3.4 Ensure HIV care and support	
3.5 Introduce Anti-retroviral therapy (ART)	

4. Human Resources for NTP

National Manager NTP YES/NO	No. professional staff in central NTP office (state key areas e.g. M&E)	M&E Officer YES/NO	% Provinces or Regions with TB Coordinator	% Districts with TB Coordinators

5. Programme Performance

Key Indicator	2011	2010	2009	2008	2007	1990
Surveillance and DOTS Implementation						
Notification Rate New and Retreatment cases /100 000 pop.						
Notification Rate New cases /100,000 pop.						
Notification Rate New SS+ve cases /100 000 pop						
Cure Rate New SS+ve cases (Cohort registered preceding year)						
Key Indicator	2011	2010	2009	2008	2007	1990
Cure Rate New and Retreatment cases SS+ve (Cohort registered preceding year)						
Treatment success rate (cured & completed treatment)						
New SS+ve cases (Cohort registered preceding year)						



Treatment success (cured & completed treatment) New and Retreatment SS+ve cases (Cohort registered preceding year)									
Treatment success (completed treatment) all cases registered preceding year									
Died New SS+ve cases registered preceding year %									
Defaulted “ “ “ “ %									
Transferred out “ “ %									
Treatment failures “ %									
Budget and Finance									
NTP budget by source of funding	Gap (US \$, %)								
	GFATM (US \$, %)								
	Grants (US \$, %)								
	Loans (US \$, %)								
	Gov (US \$, %)								

6. Other Indicators

A. Gender

- i. Give the male/female ratios of
 - a. All TB Cases notified in the year under review
 - b. SS+ cases

B. New Diagnostic Technologies

Have you introduced any of the new diagnostic technologies?

- a. Microscopy
 - 1) LED Fluorescent microscopy
- b. Culture and DST
 - 2) Molecular Testing (e.g. Line Probe Assay LPA)
 - 3) Xpert

C. TB Strategic Plan: Is there one in existence? What period? Costed?

D. Drug Management

- Any stock outs?
- Any procurement problems?
- Any supply chain problems?

E. Has TB been declared an Emergency?

- When
- What effects has it had on the programme and outcomes?

F. Expenditure on health as percentage of Government budget (Abuja) (state percentage)

G. TB and Mining:

- Is TB perceived as a problem in your mines
- What percentage of your TB case load is from the mines
- Is there any programme to address TB and Mining
- Is labour migration a significant contributor to TB? How many miners work in another country? Which country



Annex 5 DATA TABLES: TB REPORT SADC 2011

1. BURDEN OF TB IN SADC MEMBER STATES

1.1.1 TB Notifications in SADC Member States 2011

Country	Population	TB Notifications 2011(New & Retreatment) No.			TB Notification Rate/100,000 (New & Retreatment)			New TB Notifications 2011			TB Notification Rate new cases/100,000		
		M	F	Total	M	F	Total	M	F	Total	M	F	Total
Angola	18081000	24947	19601	44548	138	108	246	24921	19582	44503	138	108	246
Botswana	2024787	3730	3003	6733	377	299	333	3192	2669	5861	323	258	289
DRC	73355802	-	-	114290	-	-	156	-	-	106371	-	-	145
Lesotho	1876633	-	-	12621	-	-	673	-	-	10945	-	-	583
Malawi	15033724	11749	9019	20768	78	60	138	10634	8206	18840	71	55	126
Mauritius	1280000	71	45	116	5.6	3.5	9.1	68	43	111	5.3	3.4	8.7
Mozambique	23049621	-	-	47452	-	-	205	-	-	43200	-	-	187
Namibia	2104900	-	-	10805	-	-	513	-	-	9575	-	-	455
Seychelles	87440	18	3	21	24	3.6	27.6	18	3	21	24	3.6	27.6
South Africa	50586757	-	-	389974	-	-	771	-	-	325272	-	-	643
Swaziland	1080337	4721	4459	9180	437	412	849	4070	3960	8031	378	367	745
Tanzania	44484855	-	-	61648	-	-	140	34534	24230	58764	158	107	132
Zambia	13046508	29149	19445	48594	223	149	380	24739	17291	41958	190	133	372
Zimbabwe	13000000	22087	19218	41305	170	148	318	19522	17438	36960	150	134	284

Source: Data from TB Reports submitted by SADC Member States to SADC Secretariat

1.1.2 New TB Notifications Pulmonary cases 2011

Country	No. of new Pulmonary cases (Total)	New Pulmonary cases notification rate/100,000	Pulmonary cases as % of all new cases	Extra-pulmonary cases as % of all new cases
Angola	40104	222	86.8	13.2
Botswana	4648	230	79.3	20.7
DRC	84792	116	84	16
Lesotho	8856	472	81	19
Malawi	13557	90	75	25
Mauritius	103	8	93	7
Mozambique	37696	164	87	13
Namibia	7537	358	79	21
Seychelles	16	18.3	76.1	23.1
South Africa	338695	664	87	13
Swaziland	6636	614	83	17
Tanzania	44900	101	76	24
Zambia	32050	245	76	24
Zimbabwe	31768	244	86	14

Source: Data from TB Reports submitted by SADC Member States to SADC Secretariat



1.1.3 NEW TB NOTIFICATIONS, SMEAR-POSITIVE CASES 2011

Country	No. of new Smear Positive (SS+ve) cases			Rate new SS+ cases /100,000			SS+ve cases as % of new Pulmonary cases (Total)	% Pulmonary cases not diagnosed by microscopy
	M	F	Total	M	F	Total		
Angola	c	21807	44503	126	121	246	91	9
Botswana	1492	1199	2691	151	116	133	57.9	28.2
DRC	38933	32388	71321	53	44	97	79	15
Lesotho	1970	1540	3510	105	82	187	40	32
Malawi	4017	3009	7026	26	20	46	51.8	0
Mauritius	67	33	100	5	3	8	90	0
Mozambique	-	-	19537	-	-	85	52	48
Namibia	2540	1963	4503	249	181	214	60	20
Seychelles	1	1	2	4.7	4.7	9.4	-	0
South Africa	70586	59184	129770	140	117	257	47	28
Swaziland	1227	1181	2408	114	109	223	32	26
Tanzania	15496	8802	24298	71	39	55	54	0
Zambia	7526	4520	12046	58	35	92	38	0
Zimbabwe	6909	5687	12596	53	44	97	40	12

Source: Data from TB Reports submitted by SADC Member States to SADC Secretariat



1.2 HIV BURDEN IN TUBERCULOSIS PATIENTS 2011

Country	No. New TB Notifications	No. Tested for HIV	% Tested	No. +ve	% +ve	% of all +ve cases on ART ¹¹	% of all +ve cases on CPT ¹²	% of all +ve cases on IPT ¹³
Angola	21703	2228	10.2	945	42.4	74	N/A	N/A
Botswana	5861	4626	78.9	2938	63.5	43.1	81.8	
DRC	106371	30636	27	4942	16	23	54	N/A
Lesotho*	10945(12621)	10380	82	7909	76	40	90	31.5
Malawi	20768	17339	83.5	10341	60	60	89	
Mauritius	111	108	97	8	7	62	100	0
Mozambiq	47452	41896	88	26538	63	29	91	11
Namibia**	9563w	10042	84	4990	50	54	98	N/A
Seychelles	21	21	100	4	19	100	100	0
South Africa	389974	323440	82.9	211800	65	25	76	N/A
Swaziland	8031	7384	92	5599	76	51	95	N/A
Tanzania	61648	54042	88	20632	38	38	95	0
Zambia	48594	41701	86	26737	64	53	87	0
Zimbabwe	47685	41062	86	31849	78	45	88	N/A

* NB: 31.5% in the two facilities that had started IPT by the end of 2011. The denominator used is the total number of patients who came to the facility during that period.

** The denominator in this case is "All forms, including RAD, Treatment after failure, and "Others"

Source: Data from TB Reports submitted by SADC Member States to SADC Secretariat

11 Anti-retroviral Therapy

12 Co-Trimoxazole Preventive Therapy

13 Isoniazid Preventive Therapy



1.3 DRUG RESISTANCE BURDEN (MDR/XDR) 2011

Country	No. MDR cases detected 2011	Cumulative MDR cases (ever detected)	No. on treatment	No. XDR cases detected 2010	Cumulative	% of all +ve cases on ART	Source of drugs for treatment Gvt/GF/Donors ¹⁴
XDR cases	40	40	40	N/A	N/A	-	Gvt
(ever detected)	46	492	134	0	9	2008	Govt
Donors	63	114	59	0	0	1998	GF, UNITAID
Lesotho*	148	693	220	0	3	2008	UNITAID & GF
Malawi	24	112	78	0	0	2010	Govt, Donors
Mauritius	1	5	2	0	0	-	Gvt
Mozambiq	146	649	468	0	2	2008	GF, Donors
Namibia**	192	998	192	2	50	2008-9	Gvt
Seychelles	0	0	0	0	0	-	-
South Africa	10085	55281	5515	869	3997	2001-2	Gvt
Swaziland	332	1108	749	0	9	2009	Gvt, GF
Tanzania	68	225	68	0	0	2007	GF
Zambia	65	161	65	0	0	Scheduled 2012	Gvt, GF
Zimbabwe	118	177	64	0	0	1994-95	Gvt, GF

Source: Data from TB Reports submitted by SADC Member States to SADC Secretariat



2 TB LABORATORY SERVICES 2011

	Population	Microscopy Centres (No.)	Ratio of population per centre	Labs performing TB Culture (No.)	Labs performing DST 1st line (No.)	Labs performing DST 2nd line (No)	Country where DST2nd line sent	New Diagnostic Technologies implemented?
Angola	18081000	146	1:123842	3	2	0	RSA	0
Botswana	2024787	52	39000:1	1	1	0	RSA	1 Xpert machine. LED & LPA being validated
DRC	73355802	1508	48644	2	1	1	Belgium	LPA
Lesotho	1876633	17	1:110390	1	1	0	RSA	LED, Xpert, LPA
Malawi	15033724	233	1:64500	1	1	0	RSA	LED (100%)
Mauritius	1280000	2	1:640000	1	1	0	Madagascar	0
Mozambique	23049621	430	1:53602	2	2	0	Italy	LED, Xpert (<1% cover)
Namibia	2104900	31	1:67900	1	1	0	RSA	LED (100% coverage)
Seychelles	87440	3	1:29133	2	0	0	RSA	0
South Africa	50586757	244	1:207000	15	15	15	-	LED, (MTBRIF) LPA (MTBDR Plus)
Swaziland	1080337	14	1:77166	2	1	0	RSA	LED, Xpert, LPA
Tanzania	44484855	910	1:48884	3	1	1	Belgium	0
Zambia	13046508	217	1:60122	3	3	0	N/A	0
Zimbabwe	13000000	151	1:86092	2	2	0	None	LED, Xpert

Source: Data from TB Reports submitted by SADC Member States to SADC Secretariat

3 IMPLEMENTATION OF TB/HIV COLLABORATIVE ACTIVITIES SADC 2011

2.1 Introduction and approach

Activity	Ang	Bots	DRC	Lesot	Mal	Maur	Moz	Nam	Seyc	RSA	Swaz	Tanz	Zamb	Zimb
1 ESTABLISH MECHANISMS FOR COLLABORATION*														
1.1 Ensure a coordinating body exists for effective TB/HIV collaboration at all levels	1	2	2	3	3	3	2	3	2	1	3	1	3	2
1.2 Conduct surveillance of HIV prevalence among TB patients	1	3	1	3	3	2	3	3	3	3	3	3	3	3
1.3 Carry out joint HIV/TB planning	1	3	3	3	3	3	2	2	2	1	2	2	2	2
1.4 Conduct monitoring and evaluation (M&E)	1	3	2	3	3	2	2	3	1	1	3	3	3	3



2 DECREASE THE BURDEN OF TB IN PEOPLE LIVING WITH HIV**															
2.1 Establish intensified TB case finding	1	1	2	3	2	2	3	4	3	3	4	3	4	3	
2.2 Introduce Isoniazid Prevention Therapy (IPT)	1	1	1	2	1	0	2	4	0	3	2	2	4	1	
2.3 Ensure TB infection control in health care and congregate settings	1	2	1	3	2	2	1	2	3	2	3	3	4	2	

3 DECREASE THE BURDEN OF HIV IN TB PATIENTS**															
3.1 Provide HIV testing and counselling	1	4	2	4	4	3	4	4	4	4	4	4	4	4	
3.2 Introduce HIV prevention methods	1	4	3		4	2	2	3	4	4	4	3	4	4	
3.3 Introduce co-trimoxazole preventive therapy (CPT)	1	4	3	4	4	3	4	4	4	4	4	4	4	4	
3.4 Ensure HIV care and support	1	2	2		4	2	2	4	4	3	4	2	4	4	
3.5 Introduce Anti-retroviral therapy (ART)	1	2	2	2	4	3	2	3	4	3	3	3	4	3	

* Levels of activity: 0=none; 1=low; 2=medium; 3=high. ** Level of coverage: 0=none; 1=<25%; 2=<50%; 3=<75%; 4=75%+

Source: Data from TB Reports submitted by SADC Member States to SADC Secretariat



4 HUMAN RESOURCES SADC 2011

Country	National Manager NTP YES/NO	No. professional staff in central NTP office (state key areas e.g. M&E)	M&E Officer Yes/No	% Provinces or Regions with TB Coordinators	% Districts with TB Coordinators
Angola	Yes	9	Yes	100	70
Botswana	Yes	17	Yes	N/A	80
DRC	Yes	63	Yes	100	0
Lesotho	Yes	8	Yes	N/A	100
Malawi	Yes	20	Yes	100	100
Mauritius	Yes	22	Yes	100	100
Mozambique	Yes	5	Yes	100	100
Namibia	Yes	7	No	100*	100
Seychelles	No	8	No	0	0
South Africa	Yes	12	Yes	100	92
Swaziland	Yes	17	Yes	100	N/A
Tanzania	Yes	22	Yes	100	100
Zambia	Yes	4	Yes	100	100
Zimbabwe	Yes	10	Yes	100	100

Not fully dedicated to TB. (Source: Data from TB Reports submitted by SADC Member States to SADC Secretariat)

5 FINANCING: NTP BUDGET BY SOURCE OF FUNDING (%) SADC 2011

	Ang	Bots	DRC	Lesot	Mal	Maur	Moz	Nam	Seyc	RSA	Swaz	Tanz	Zamb	Zimb
Gap (US \$, %)	-	45	60	0	?	-	77	28	0	-	-	-	-	44
GFATM (US \$, %)	-	9	27	41	? to verify	-	10	11	0	-	-	-	-	48
Grants (US \$, %)	-	14	11	52	25	-	7	11	0	-	-	-	-	0
Loans (US \$, %)	-	2	0	0	0	-	1	0	0	-	-	-	-	0
Gov (US \$, %)	-	30	2	7	26	100	5	49	100	-	-	-	-	8

Source: Data from TB Reports submitted by SADC Member States to SADC Secretariat



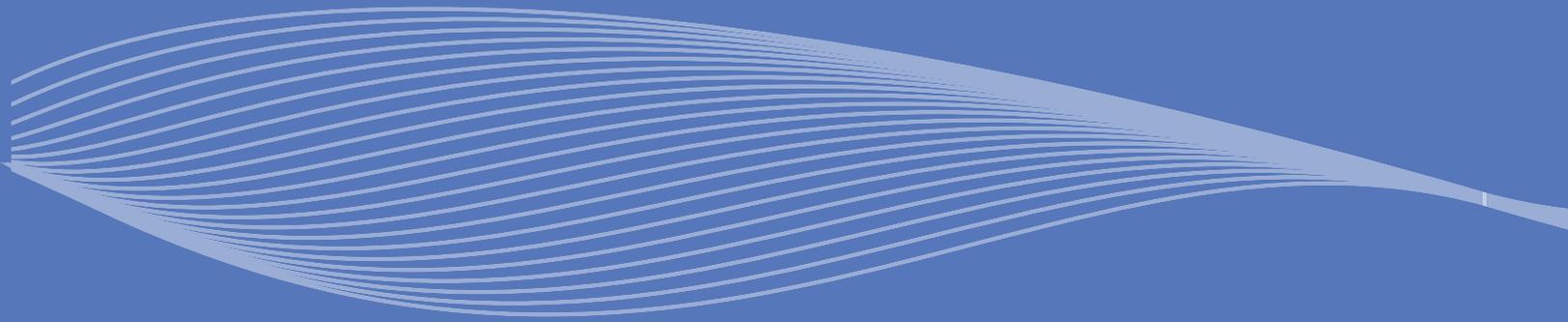
6 PROGRAMME PERFORMANCE 2011

6.1 Cohort analysis results of treatment outcome (Cases notified 2010)

Key Indicator	Ang	Bots	DRC	Les	Mal	Maur	Moz	Nam	Seyc	RSA	Swaz	Tan	Zam	Zim
Cure Rate New SS+ve cases (Cohort registered preceding year)	47	49.6	86	58.3	88	85	85	74	100	73	49	83	82	72
Cure Rate New and Retreatment cases SS+ve (Cohort registered preceding year)	71	38.1	85	57	86	90	N/A	69	100	70	49	82		70
Treatment success rate (cured & completed treatment) New SS+ve cases (Cohort registered preceding year)	73	81.4	90	68.8	90	85	85	85	100	79	71	88		81
Treatment success (cured & completed treatment) New and Retreatment SS+ve cases (Cohort registered preceding year)	73	79.5	89	67.9	87	90	N/A	82	100	77	67	87		76
Treatment success (completed treatment) all cases registered preceding year	73	76.6	88	45.6	86	95	N/A	80	100	76	50	88	87	56
Died New SS+ve cases registered preceding year %	3.4	5.3	4	9.6	7	4.4	8	5	0	6	10	5	4	8
Defaulted “ “ “ “ %	17.7	3.2	3	8	2	7	4	3	0	7	5	2	3	5
Transferred out “ “ %	4.7	2.9	1	1.6	1	2.4	1	2	0	5	2	3	4	6
Treatment failures “ %	1.7	2.1	1	2	2	0	13	4	0	2	8	0.2	1	1

Source: Data from TB Reports submitted by SADC Member States to SADC Secretariat





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