TUBERCULOSIS STRATEGIC PLAN FOR SOUTH AFRICA, 2007-2011

health

Department:
Health
REPUBLIC OF SOUTH AFRICA

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FOREWORD BY THE MINISTER OF HEALTH

The scourge of TB is ravaging our country affecting the lives of our people; mainly the young economically active group resulting in a decrease in the outputs of the country's labour force and consequently reducing the gross domestic product. This has been compounded by the emergence of drug resistant strains and HIV. TB also affects us individually through the stigma borne from ignorance and lack of information about the disease.

In order to achieve effective TB control a coordinated multi-sectoral approach must be adopted throughout the country. This plan provides a framework of what needs to be done to reduce the burden of TB and eventually eliminate TB in the country.

to pursue the vision of ensuring that everyone ha access to good quality TB services whilst also providing an environment that is conducive to health free of infection. The plan highlights the need for availability of skilled human resources, sustained adequate funding, partnership building, mobilising communities and fighting poverty to accelerate economic and social growth is critical for the success of this plan.

I believe that collectively we can make a difference; let us all join hands in the fight against TB and strive to achieve a TB Free South Africa.

DR MANTO TSHABALALA-MSIMANG
MINISTER OF HEALTH

1 VISION

A South Africa that is free of TB

2 MISSION

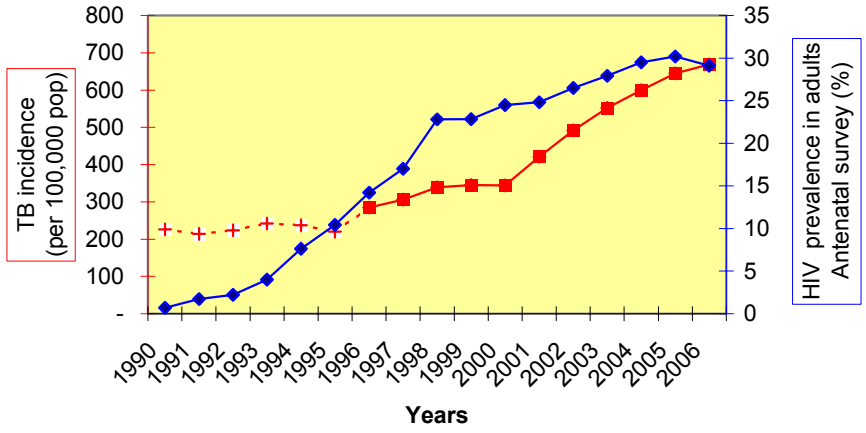
To prevent TB and to ensure that those who do contract TB have easy access to effective, efficient and high quality diagnosis, treatment and care that reduces suffering.

3 PREAMBLE

3.1 Context

South Africa is one of the 22 High Burden Countries that contribute approximately 80% of the total global burden of all TB cases. South Africa has the seventh highest TB incidence in the world.

During the past ten years the incidence of tuberculosis has increased, in parallel to the increase in the estimated prevalence of HIV in the adult population. This has resulted in the increasing recognition of the problems posed to public health by TB.



+-----+ estimated incidence from population projections

The cure rates and treatment success has gradually increased from over the last five years with 66% in 2000 to 70% in 2004. The defaulter rates remain high creating a barrier to achieving the targets for treatment success and cure and increasing the potential for drug resistance.

3.2 International Context

There have been a number of international, regional and national political and policy directives aimed at reducing the burden of TB. These include:

- Millennium Development Goals

Goal 6 of the MDGs refers to "Combating HIV and AIDS, Malaria and other diseases" and Target 8 aims to "halve and begin to reverse the incidence of Malaria and other major diseases." The indicators for this target are much more specific to TB and are as follows:

23. Prevalence and death rates associated with TB
24. Proportion of tuberculosis cases detected and cured under DOTS

- In March 2000, Ministers of the 22 high burden countries, called for the accelerated expansion of control measures and for increased political commitment and financial resources to reach targets for global TB control by 2005, namely:
  - Detect at least 70% of people with infectious TB and
  - Cure at least 85% of those detected.
- In 2005 at the WHO-AFRO Regional Committee meeting held in Maputo, 46 Ministers of Health unanimously declared TB an emergency in Africa. A resolution at this meeting warned that unless "urgent extraordinary actions" are in place, the situation will worsen and the 2015 Millennium Development Goals will not be met.
- The Stop TB partnership has developed a Global Plan to Stop TB that covers the period 2006-2015 building on the Partnership's first plan covering 2001-2005. This plan envisages new improved TB drugs (with shorter periods of treatment) and TB diagnostic tools by 2010. It also envisages a TB vaccine being commercially available by 2015.
- One of the top ten strategic priorities for the health system in South Africa 2004-2009 is the management of infectious diseases, of which TB is one of the most important.
- In South Africa the Minister of Health declared TB to be a national crisis in 2005 and a TB crisis management plan was developed. This plan focussed in four health districts with the highest disease burden in the country and poor treatment outcomes with the aim of intensifying the efforts to improve the TB programme.

3.3 Environmental analysis

This section is an assessment of the external factors under which the Department of Health (DoH) operates. A brief inventory of enabling legislation and existing policies and/or guidelines is crucial in ensuring smooth and easy implementation of the planned strategy.

3.3.1 Legislative framework

- **Constitution of the Republic of South Africa Act, 108 of 1996**
  The Constitution guarantees everyone the right to health care services and security. Those who are unable to support themselves and their dependants are guaranteed appropriate social assistance. The state is required to take legislative and other measures within its available resources, to achieve the progressive realisation of these rights. In terms of schedule 6 of the Constitution health and welfare services are areas of concurrent national and provincial legislative competence.

- **National Health Act, 61 of 2003**
  Provides for the establishment of a National Health System (NHS), which encompasses public, private and non-governmental providers of health services and which should provide the population of the Republic of South Africa with the best

possible health services that available resources can afford. It also sets out the rights and duties of both health care providers and users.

- **Public Finance Management Act, 1 of 1999**
  Modernizes public financial management in SA. Provides for transparency, accountability and sound financial management of all revenue, expenditure, assets and liabilities.

- **Occupational Health and Safety Act, 85 of 1993**
  Provides for the health and safety of persons at work and the protection of employees against hazards through provision of a safe working environment by the employer.

- **The Compensation for Occupational Injuries Diseases Act, 130 of 1993 and its Hazardous Biological Agent Regulations (21 December 2001);**
  Provides for the compensation for disability caused by injuries sustained and diseases acquired in the workplace by employees during their employment. This excludes the mines, which are provided for in a separate Act.

- **Occupational Diseases in Mines and Works Act, 78 of 1973**
  Provides for medical examinations on persons suspected of having contracted diseases in mines and for compensation in respect of those disease.

- **The Labour Relations Act, 66 of 1996;**
  Regulates the rights of workers, employers and trade unions

- **The Basic Conditions of Employment Act, 75 of 1997**.
  Provides for the minimum conditions of employment that employers must comply with in their workplace.

- **Notifiable Medical Conditions in South Africa**
  The National Health Act provides for the prescription of medical conditions and diseases in South Africa that need to be notified to the National Department of Health.

- **National Health laboratory Services Act, 37 of 2000**
  Provides for a public entity that provides laboratory services to the public health sector.

- **Medical Research Council Act, 58 of 1991**
  Provides for the establishment of the SA Medical Research Council and its role in relation to health research.

3.3.2 Policies

- **White Paper for the Transformation of the Health System in South Africa.**
  The White Paper contains a number of key policy principles in support of the provision of equitable health care to all South Africans.

- **Policy for Development of a District Health System for South Africa**
  The policy provides for basic principles of the establishment of the District Health System. The DHS is the primary vehicle for the delivery of primary health care services in a decentralised manner.

- **Patients' Rights Charter**
  The Patients' Right Charter is part of a national strategy to improve the quality of health services at all levels of care. It ensures effective access to all patients to health care as provided for in the Constitution of the Republic of SA. The Charter also includes some obligations of patients.

- **Batho Pele**
  Outlines how public servants should serve the public by putting people first and ensuring that the health care workers provide the best health care, respect and listen to patients and work with communities to build healthy communities.

3.3.3 Guidelines on TB and related issues

- Guidelines for management of TB in South Africa.
- Guidelines for the management of Drug Resistant TB in South Africa
- Infection Control Guidelines
- Guidelines for best practise in the containment of MDR and XDR-TB in South Africa
- TB and HIV Guidelines
- Guidelines of Anti- Retroviral Therapy
- Essential Drugs List

3.4 Strategic pillars

An overarching pillar for the elimination of TB is the need to decrease poverty and improve living and working conditions. This is clearly not only a role for the health sector, but government and its partners need to play a decisive role in this regard. In this regard intersectoral action, both amongst the three spheres of government and with our development partners, is key to realising the vision of this Plan.

There are a number of other requirements for the success of this plan, i.e. a decrease in the infection rate and improvement in the treatment and care of those who do get infected. The key pillars on which the implementation of this plan is based are:

- political and managerial support;
- the availability of adequate resources;
- effective programme management; and
- clear and complementary roles of all officials within the health system and their partners.

3.4.1 Political and managerial support

At every level of the health system leaders including national Minister of Health, provincial Members of Executive Councils for Health (MEC) and chairs of District Health Councils (DHC), need to prioritise and keep a spotlight on the implementation of the TB plans down to health facility level.

Leadership also needs to be displayed by the private sector, including the private health care sector. Owners and managers of private companies need to ensure that they provide working conditions that promote the health of employees and that quality health care is provided for employees that fall ill.

Heads of Provincial Health Departments (HOD) and their senior managers as well as managers in municipalities need to regularly and formally monitor the implementation of the TB plans at provincial and municipal levels. They should also ensure that managers at district, sub-district, and health facility managers undertake regular formal monitoring and review of the performance of the health system in relation to TB. This must be conducted quarterly and reports compiled and circulated. To ensure management accountability at least three TB indicators should be included in the performance management system viz., smear conversion rate, defaulter rate and cure rate.

3.4.2 Resource Mobilisation

Implementation of TB control activities requires the necessary resources to be made available. Managers in the public and private sectors need to ensure that sufficient resources are allocated to TB in order to achieve the set targets. This will require proper costing of the TB plan with a realistic budget for the period. The donor community and funding agencies will be approached to breech any funding gaps.

3.4.3 Effective Programme Management

At every level of the system – national, provincial, district, sub-district and health facility, private company – there needs to be effective management of the TB programme. Implicit in this is supportive supervision from the one level to the next where not only performance is monitored but also obstacles and challenges are jointly tackled.

Equally, effective programme management is also required in the private sector, in particular the mining sector. Referrals between the private and public health sectors require strengthening and monitoring to ensure that all those who treat TB in the country use the same clinical protocols.

3.4.4 Clear and Complementary Roles

Every health worker, every community health worker/community carer and traditional healer, needs to have a clear understanding of what their role is in relation to the TB control programme. Every one needs to know what his/her responsibilities are and to whom and for what they are accountable. The assumption is that managers will take responsibility in ensuring accountability. Everyone will be made to account for what they are supposed to do. In addition, the roles and responsibilities of other government departments, the private sector, development partners etc must be explicit and known to all parties concerned.

4 SITUATION ANALYSIS

4.1 Case-finding

Over the past decade the numbers of people with diagnosed TB has escalated. The figures and tables below reflect a virtual threefold increase in the numbers of people with TB (from 109,000 in 1996 to 341,165 in 2006). During this time the incidence has increased from 269 cases of TB per 100,000 population to 720 per 100,000 population[1].

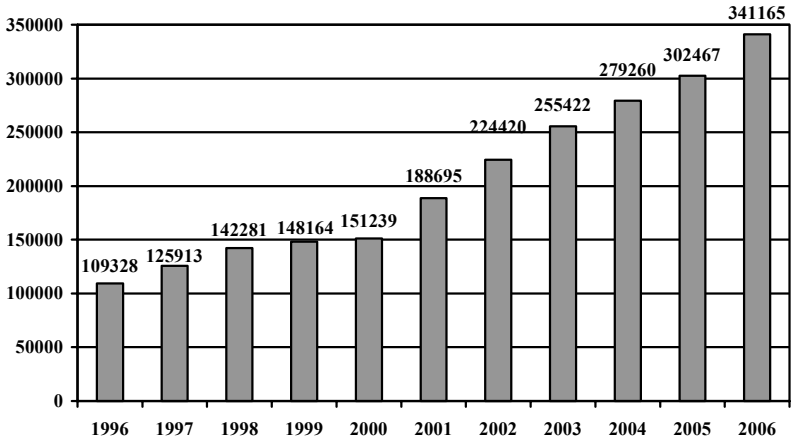


Figure 1: TB case notification, 1996 - 2006

The proportion of people with extra-pulmonary TB has also trebled, but appears to have stabilised at around 15%. The table below shows the breakdown of the TB cases reported by category and clearly indicates the increase in the numbers of infectious TB cases.

Table 1: Breakdown of TB cases reported from 1999 to 2006

Years	All TB cases	Pulmonary TB cases	New smear positive PTB cases
1996	109 328	92 380	42 163
1997	125 913	104 141	54 073
1998	142 281	115 537	66 047
1999	148 164	118 686	72 098
2000	151 239	120 075	75 967
2001	188 695	144 910	83 808
2002	224 420	182 583	98 800
2003	255 422	215 154	116 337
2004	279 260	234 213	117 971
2005	302 467	257 604	125 460
2006	342 315	287 440	131 618

[1] National TB control programme records.

The proportion of people with TB who are co-infected with HIV is around 55% (Drug Resistant Surveillance, MRC, 2001-2002).

4.2 Case Holding

The latest smear conversion rates for the year 2006 are shown in the table below. The data suggests that close on one in three patients (28%) do not have results available. This is higher in Mpumalanga, Eastern Cape, KwaZulu-Natal, and Northern Cape at more than 35 %. This obviously has implications for the clinical management of the patients without results at the end of the intensive phase. T his can be due to late diagnosis and very severe disease and to poor effectiveness of the initial phase of treatment (in patients who are on self-administered treatment). It also could be due to results arriving late at facilities or getting lost, thus making clinical management of patients difficult.

Death and defaulter rates remain low during the intensive ranging from 1.7-5.7% and 1-3.4% respectively. This means that most of the deaths and defaulting occurs during the intensive phase of treatment.

It is also concerning to note that 7% of patients remained positive at the end of the intensive phase as this group is most likely to have drug resistant TB. These high positivity rates at the end of intensive phase do not correlate with the low failure rate at the end of treatment reported in the country, casting doubts on the quality of the laboratory results or the quality of data.

Table 2: Smear Conversion rates for new smear positive cases reported in 2006

Province	**Smear Conversion rates (new smear positive cases)**						
	Registered	**Converted**	**Remaining positive**	**Smear results N/A**	**Died**	**Defaulted**	**Transferred out**
		%	**%**	**%**	**%**	**%**	**%**
E Cape	21217	54.8	6.7	31.5	3.6	1.7	1.8
F State	9401	67.2	12.3	10.7	5.7	1.7	2.4
Gauteng	22755	69.2	9.3	11.9	4.3	2.0	3.2
KZN	34928	48.4	5.3	36.4	2.7	3.4	3.8
Limpopo	7463	54.3	6.1	26.4	4.8	1.7	6.7
Mpumalanga	7474	44.4	6.0	38.8	4.6	2.9	3.3
N West	12586	48.1	8.9	33.8	3.2	2.3	3.6
N Cape	3792	48.3	10.2	36.3	3.1	1.0	1.1
W Cape	17722	68.9	8.0	18	1.7	2.0	1.4
S Africa	137338	56.8	7.6	26.8	3.5	2.3	3.0

N/A = Not Available

4.3 Treatment Outcome

In the table below, which shows the treatment outcomes for new smear positive patients (i.e. with infectious TB) from 1996 to 2005, both the cure rates and successful treatment completion rates initially declined to 50% and 60% respectively in 2001. Since then there has been a steady increase to 57.6% and 70.8% respectively. During the past 5 years the

death rate has been fairly constant at 6-7%, so has the failure rate around 1.5%. There have been steady declines in the transfer out and not evaluated rates.

Table 3: Treatment Outcome for new smear positive PTB cases reported from 1996-2005.

Years	New smear pos PTB	Cure rate %	Successful completion rate %	Death rate %	Failure rate %	Defaulter rate %	Transfer rate %	Not evaluated %
1996	39258	53.9	72.7	5.6	3.5	18.1	-	-
1997	41274	56.6	72.7	6.3	2.4	18.6	-	-
1998	42732	59.8	72.5	6.7	2.1	18.6	-	-
1999	61564	60.3	72.3	8.9	1.7	17.2	-	-
2000	86276	53.8	63.0	6.5	1.3	12.7	13.5	-
2001	100555	49.7	60.5	6.7	1.5	11.1	12.7	7.5
2002	110696	50.0	63.0	7.5	1.2	11.9	9.0	7.5
2003	115876	50.9	62.9	7.5	1.2	11.2	7.0	10.2
2004	133685	50.8	65.5	7.1	1.5	10.3	5.8	9.9
2005	141667	57.7	71	7.2	1.7	10.4	5.5	4.2

There are marked provincial variations in the treatment outcomes and an analysis of the latest year for which there are full outcome results (2005) is shown in the Table 4 below. The best performing province, the Western Cape, achieved a cure rate of 71.9%, a successful treatment completion rate of 79.7% and a non-evaluated rate of 0, 4%. The KwaZulu-Natal province, which appears to be experiencing significantly more challenges than the other provinces, reported a cure rate of 45.2%, a successful treatment completion rate of 64.2% and a not-evaluated rate of 7.9%.

Table 4: Treatment Outcomes by Province, 2005

Province	Treatment Outcomes for new smear positive PTB cases							
	Registered	Cure rate %	STCR %	Death rate %	Failure rate %	Defaulter rate %	Transfer rate %	Not evaluated %
E Cape	20551	54.7	74.7	7.0	1.2	9.0	3.6	5.5
F State	9731	67.5	76.9	10.1	2.0	5.9	4.8	0.3
Gauteng	23921	66.7	71.7	9.6	1.5	6.9	8.1	2.2
KZN	36511	45.2	64.2	6.1	1.2	14.7	5.8	7.9
Limpopo	6807	60.8	70.0	9.5	2.0	7.4	8.5	2.5
Mpumalanga	7642	51.8	65.7	9.0	1.0	10.8	4.3	9.2
N West	13771	57.6	70.0	7.3	2.9	9.5	6.5	3.8
N Cape	3888	50.1	71.4	6.8	3.2	13.1	2.8	2.6
W Cape	18845	71.9	79.7	3.7	1.9	11.1	3.2	0.4
S Africa	141667	57.7	71.1	7.2	1.7	10.4	5.5	4.2

STCR = Successful treatment completion rate

4.4 Review of the 2001-2005 TB Strategic Plan: achievements and challenges

The 2001-2005 TB Strategic Plan was developed in 2001 and focussed on the implementation of the DOTS strategy. Clear targets were set for 2005. There was engagement of external stakeholders such as the mines, other government departments including correctional services and NGOs.

While the activities and targets were clearly spelt out in the Plan, the plan did not identify clear roles and responsibilities for all involved in the TB control programme. It lacked a clear monitoring and evaluation framework for all stakeholders and was also not costed.

There was a phased implementation of the DOTS strategy and provincial plans dealing with this varied and in several provinces there was a lack of buy-in or awareness of the Plan or both. There were also variations in the resources allocated by provinces to the plan and resource gaps were generally not addressed by provinces.

The Electronic TB Register was introduced in 2001. As the rollout process was slow, the last province came on board in 2004, from then all provinces reported on the same cohort system.

Some of the achievements over this period are:

- DOTS coverage reached 100% at the end of 2004. Unfortunately Mpumalanga had to be declared a non-DOTS province at the beginning of 2005 and thus actual coverage is now 93%.
- The Electronic TB Register has been implemented in the whole country, potentially providing the program with an excellent tool to closely monitor and evaluate the progress and quality of implementation.
- The programme has a very reliable provision of anti-TB drugs of high quality.
- The integration of DOTS volunteers and Community Care providers into one integrated system of Community Care Givers is commendable.
- There has been progress made in providing integrated care to patients that are co-infected with both TB and HIV.
- National and Provincial Advocacy and Social Mobilization Plans were developed and implemented.

However, all DOTS components show major quality deficiencies that require urgent improvement. The most critical of them are the quantity and quality of human resources, TB-HIV collaboration, access to diagnostic services and the proper use of the recording and recording system.

Weaknesses identified include:

- The role of partners has not been expanded beyond providing TB treatment support, they are not fully utilised.
- The is inadequate inter and intra Departmental collaboration at provincial and local government levels

- The high turnover of staff creates a skills vacuum leading to sub-standard practices, increased training needs and increased workload on remaining personnel
- Data is not used as a management tools at the lowest level, this leads to lower level health personnel not knowing how their programme is performing at their facility.

The recommendations of the review of the implementation of the previous strategy are as follows:

- An adequate costing study must be made to provide the programme with data on the costs per patient diagnosed and treated.
- Provincial management must guarantee a smooth and patient friendly health system, including where the dual system of Local Authority and Provincial Health exists.
- The national and provincial Health Departments must urgently address the problem of human resources by developing an integrated Human Resource Development Plan that addresses the quantitative and qualitative problems encountered by the review team.
- Improve the quality of diagnostic services by introducing a reliable External Quality Assurance Programme,
- Improve reporting by laboratories on key laboratory indicators
- Establish a National Reference Laboratory.
- Improve case detection through systematic screening of suspects among adults attending health facilities for any reason, training of staff and strengthening supervision.
- The NDoH should increase training and supervision and monitoring activities to improve overall data management.
- The NDoH, in collaboration with Provincial Health Departments should strengthen support for data capture.
- The NTCP should develop a national strategy to engage the private sector to strengthen TB/HIV activities including activities to re-engage the mining sector to improve the quality of the workplace environment, including the supervision and monitoring of mine clinics and hospitals
- The Provincial TB programmes should expand CB-DOTS
- Provinces must analyse the quality of treatment provided by their MDR-TB units and ensure better supervision of patients before decentralizing MDR-TB services
- Data collection tools for MDR-TB must be developed and implemented
- Use of operations research to search for other ways to effectively treat MDR-TB without disrupting family life, and providing a more cost effective approach to treatment.
- Financial resources must be made available to facilitate full implementation of the Advocacy and Social Mobilization Plans.
- More diverse materials must be provided to health facility staff to support them in their Behavioural Change Communication (BCC) activities.
- The TB and HIV programmes should remain separate but ways must be found

to ensure much more effective cooperation between them.

- Guidelines for the treatment of co-infected people need to be made widely available and staff trained in their use.
- TB and HIV surveillance needs to be strengthened.
- Access to comprehensive HIV care for TB patients needs to be improved.

4.5 Multi-drug resistant TB and Extensive drug resistant TB

Drug resistant TB arises as a result of failures of the health system to adequately deal with patients who have TB. In order to reduce and prevent further spread and development of MDR and XDR-TB cases, the TB programme needs to be strengthened.

4.5.1 Multi-drug resistant TB

The number and proportion of MDR-TB cases are shown below. In the period January 2004 to April 2007 there were over 11,000 laboratory confirmed MDR cases in all the provinces. A significantly large proportion of these, 36%, come from the Western Cape. Paradoxically this province has arguably the best TB control programme in the country. This high proportion of MDR-TB (fairly constant at 2.60%) may mean that this province has a higher degree of suspicion of MDR-TB and that it is being relatively under-diagnosed in other provinces. There is a gradient from the Western Cape (36%) down to 0.43% in Limpopo. In Mpumalanga there has been a decrease in the proportion of MDR-TB over the past 3 years from 1.99% to 0.7%. This is highly worrying as it may mean that many patients with MDR-TB are not being diagnosed. It is also of concern in a province (Mpumalanga) where the TB control programme has not been functioning optimally.

Table 5: MDR-TB cases per province 2004-2007

Province	**2004**	**2005**	**2006**	**2007 (Q1)**
E Cape	520	601	927	315
F State	131	171	226	47
Gauteng	662	711	794	168
KZN	308	1014	2806	1134
Limpopo	86	58	84	21
Mpumalanga	156	156	177	25
N West	126	180	201	38
N Cape	126	161	203	44
W Cape	1163	1253	1298	348
S Africa	3278	4305	6716	2140

Table 6: Proportion of MDR-TB cases by province. 2004-2006

	EC	FS	GP	KZN	LIM	MP	NW	NC	WC	SA
2004 CASES	42026	19697	39697	84794	11879	7831	21119	7047	45170	279260
2004 MDR	520	131	662	308	86	156	126	126	1163	3278
2004 % MDR	1.24	0.67	1.67	0.3	0.72	1.99	1.06	1.61	2.57	1.1
2005 CASES	44909	20915	43990	85507	13366	10746	27208	7633	48193	302467
2005 MDR	601	171	711	1014	58	156	161	180	1253	4305
2005 % MDR	1.34	0.82	1.62	1.2	0.43	1.45	1.20	1.68	2.60	1.4
2006 CASES	48512	23374	46093	104705	17301	15035	28421	8631	49093	341165
2006 MDR	919	215	758	2806	70	101	202	201	1273	6545
2006 % MDR	1.89	0.92	1.64	2.67	0.40	0.67	0.71	2.3	2.6	1.9

4.5.2 Extensive drug resistant TB

Data related to the number of XDR-TB cases and based on laboratory registration, for the period 2004 to April 2007 are contained in the table below. These were retrospectively diagnosed on review of laboratory records and show clearly XDR-TB has been a problem for at least 3 years.

Over 800 cases have been diagnosed in this period with the bulk of the case being diagnosed during 2006 and the first quarter of 2007. There has been a huge escalation in the diagnosis of XDR-TB cases especially in KwaZulu-Natal. This province contributes 65% of all the cases. In Mpumalanga and Limpopo there has been gross under detection because of poor access to the culture and DST services for these two provinces

The extent of XDR-TB and the magnitude of the problem have serious public health consequences, not only for South Africa, but for the whole African region as well as globally.

Table 7: Extensive Drug Resistant TB cases by province, 2004-2007

Province	**2004**	**2005**	**2006**	**2007 (Q1)**	**Total**
E Cape	0	1	45	44	90
F State	0	4	4	0	8
Gauteng	32	6	44	3	85
KZN	19	158	279	133	589
Limpopo	1	0	0	0	1
Mpumalanga	0	0	0	0	0
N West	4	5	19	0	28
N Cape	0	3	12	0	15
W Cape	18	7	16	41	82
S Africa	74	184	419	221	898

4.6 TB and HIV

South Africa was involved in the early steps of TB and HIV strategy development with the implementation of the WHO ProTEST initiative in 4 districts in 1999, Bohlabela (Limpopo), Ugu (KZN), East London (EC) and Cape Town Central District (WC). A Joint Strategy for HIV&AIDS, STI and TB control in South Africa was then developed in 2001.

The WHO document *"Guidelines for Implementing Collaborative TB and HIV Programme Activities"* provides tools to support the planning, coordination and implementation of collaborative TB/HIV activities at district level which have been adapted to the country situation. A package of care was developed for HIV positive patients i.e. routine screening for TB and offer treatment for those with TB and TB preventive therapy for those found not to have TB. For TB patients this includes offering HIV counselling and testing to all TB patients, offering cotrimoxazole routinely to those who test HIV positive and anti-retroviral treatment (ART) to those who are eligible for ART, as well as ongoing psychosocial support and early diagnosis and treatment of other opportunistic infections

Phased implementation by sub district started in 2002. The aim was to focus on primary health care level and build capacity among staff on the management of co-infected TB patients to prevent unnecessary hospital admissions and deaths.

By the end of the 2006/7, 211 sub-districts were implementing TB and HIV activities (87%). 58% of TB patients were offered HIV counselling and testing and the test uptake was 68%. Systematic TB screening amongst people living with HIV has been low but 29% of the patients screened were found to have TB disease. TB preventive therapy policy is not implemented widely at this stage and the reasons for this will be investigated further this year.

Table 8: Data on TB and HIV, 2005-2006

Indicators	**2005**	**2006**
TB patients tested for HIV	67988	110235
TB patients who were HIV positive	35299	58249
Co-infected TB patients started on CPT	35299	57053
Co-infected TB patients started on ART	11654	23344
Total number HIV positive		458618
HIV positive screened for TB		103056
HIV positive diagnosed with TB		30026
HIV positive started on IPT		2512

Gaps and Challenges in the implementation

The 'common agenda for action' relating to collaborative activities between TB Control and HIV & AIDS and STI departments has not been fully realized because of:

- Inadequate detail on how collaboration is to be achieved at facility and district levels i.e. a lack of written formal guidelines on this collaboration.

- Limited integration of services at health facilities. This includes inadequate technical support, guidelines and registers for monitoring and evaluation of integrated TB and HIV services.

4.7 Other Stakeholders

During the period of implementation of the previous strategic plan there was not much engagement of the stakeholders in TB control. Non-governmental organisations providing care to TB patients were engaged at local level with some funded by the Department of Health to provide these services. Different arrangements have been in place with the mining industry with mines diagnosing and treating employees with TB and reimbursed by the provinces, or training and drugs provided to the mines in 'exchange' for data.. Standardising the role of the mining sector through a memorandum of agreement and strengthening the TB programme in the correctional facilities should be priority with this plan. .

4.8 National TB Crisis Management Plan

The National Department of Health in consultation with Provincial Departments of Health and other relevant stakeholders developed a TB Crisis Management Plan in response to the World Health Organisation Afro Regional Committee's decision on the 25 August 2005 to declare TB as an emergency in the AFRO Region. The aim of the plan is to firstly address the four districts with the highest TB disease burden and poor treatment outcomes and turn the situation around within a period of one year by increasing the smear conversion and the cure rates by > 10%.

These districts are in three provinces, namely Gauteng (Johannesburg Metro), Eastern Cape (Amathole & Nelson Mandela Metro) and KwaZulu-Natal (eThekwini District). The other key pillars of the plan were to strengthen service delivery systems and processes at community and facility levels, and community participation so as to increase awareness.

Table 9: Case notification, 2005 – 2006 for the four crisis plan districts

District	All TB cases reported		New smear positive PTB cases	
	2005	2006	2005	2006
Amathole	10710	11838	4475	5077
CoJ	19281	20790	8308	8436
Ethekwini	29724	37182	10295	12205
NMM	13383	13785	4722	5198

There is generally an increase in the number of TB cases reported last year in all crisis districts from the baseline. This is mainly due to increased case detection by facilities as a result of:

- The social mobilisation activities conducted in these districts in the past year highlighting the seriousness of the disease and the need to test early.
- The training of the health care workers in all facilities to increase the index of suspicion for TB amongst patients presenting to the health facilities.

Table 10: Smear Conversion rates, 2005 – 2006 for the four districts

District	2004 *(Baseline)*	2005	2006	2006/7 (*Target*)
Amathole	*53%*	34.4%	41.5%	*65%*
CoJ	*72%*	63.3%	69.4%	*80%*
Ethekwini	*49%*	39.7%	48.3%	*60%*
NMM	*60%*	44.5%	55.0%	*70%*

The smear conversion rate has overall decreased from baseline whilst the cure rates have increased, the National TB Control Programme is currently investigating the reasons for this and will address them. The cure rates remain low in three of the four districts, much as there has been improvement they are below the set targets for 2006/7. Some of the challenges experienced were:

- Incomplete data from facilities; and
- Poor supervision of facilities

These are related to insufficient human resource capacity at district level to effectively supervise facilities and at facility level to complete patient records and registers.

Plans to address the above challenges

- Recruitment of data capturers for facilities to ensure updated records at facility level and relieve nurses of administrative work
- Strengthen supervision especially to poorly performing facilities

Table 11: Treatment Outcomes, 2004 – 2006 (Q1) for the four districts

District		Cure rate	Completion rate	Failure rate	Default rate	Death rate	Transfer out rate	Not evaluated
	2004	30.5%	34.8%	0.8%	10.0%	9.4%	5.9%	8.6%
	2005	33.4%	31.7%	1.2%	10.7%	10.0%	5.8%	7.3%
Amathole	**2006-Q1**	25.6%	16.2%	2.1%	6.2%	7.8%	4.7%	37.4%
	2004	62.5%	6.8%	1.2%	9.4%	9.7%	9.6%	0.8%
	2005	69.1%	4.6%	1.6%	7.4%	9.4%	7.7%	0.2%
CoJ	**2006-Q1**	73.7%	3.5%	1.7%	7.8%	6.9%	6.3%	0.1%
	2004	33.8%	25.3%	0.8%	23.0%	3.7%	5.2%	8.2%
	2005	41.0%	23.2%	0.8%	23.0%	2.8%	5.1%	4.0%
Ethekwini	**2006-Q1**	45.2%	17.2%	0.8%	17.4%	3.1%	4.6%	11.8%
	2004	45.4%	18.3%	2%	17.1%	7.1%	2.3%	7.7%
	2005	52.7%	15.2%	2.0%	16.3%	8.7%	2.5%	2.6%
NMM	**2006-Q1**	48.3%	19.1%	2.6%	14.3%	8.6%	2.3%	4.8%

5 TARGETS AND INDICATORS

There are international targets and indicators that need to guide the selection of national and provincial targets. These include the targets set in the Millennium Development Goals (the MDGs).

4.8.1 Specific targets and indicators*:*

Main Indicators *with proposed targets to be reached by 2011*

Case detection rate	70%
Cure Rate	85%
Treatment Success rate	>85%

Subsidiary Indicators *with proposed targets to be reached by 2011*

Bacteriological coverage	100%
Smear Conversion Rate (at 2 months)	>75%
Smear Conversion Rate (at 3 months	>85%
Defaulter rate	<5%
Not evaluated rate	0%
Sputum result Turn Around Time	80% of facilities with a TAT of <48hours
Proportion of MDR-TB patients started on treatment	100%
Proportion of XDR-TB patients started on treatment	100%
Proportion of TB patients offered counselling and tested for HIV	100%
Proportion of HIV positive TB patients started on CPT	100%
Proportion of HIV positive TB patients qualifying for ART and started on ART	100%

6. STRATEGIC OBJECTIVES

For the period 2007-2011, the strategic objectives of this plan, under the coordination of DOH in partnership with all stakeholders, in order to achieve TB control in the country are:

- To strengthen the implementation of the DOTS strategy;
- To address TB and HIV, MDR and XDR-TB;
- To contribute to health systems strengthening;
- To work collaboratively with all care providers;
- To empower people with TB as well as communities;
- To coordinate and implement TB research
- To strengthen infection control

DOTS Strategy

The success of the DOTS strategy rests upon the interface between the health worker and the patient, each of the five elements below need to be implemented at health facility level. A functional TB management system is a requisite for improved TB control at both community and facility levels.

6.1 Political Commitment

This refers to sustained political leadership at all levels of the political arena and commitment by all stakeholders that contribute to TB control in the country. The key indicators for political commitment are:

- Adequate and sustained resource allocation by all the relevant government departments and the private sector, in particular financial and human resources.
- Establishment of a national reference laboratory
- Greater oversight and formal review of TB performance regularly by senior management at Department of Health, Correctional Services the mining industry and business sector.
- Availability of the national TB policies including for the management of drug resistant TB and HIV
- Endorsement and implementation of all national TB guidelines by all stakeholders

6.2 Case Detection through smear microscopy and cultures

A nation-wide network of TB laboratory services providing quality, accessible diagnostic services for TB suspects and patients is key to a well functioning TB programme. These services will be available at sub-district (peripheral), district (intermediate), provincial (tertiary) and national levels (national reference laboratory). The country will follow the internationally recommended diagnostic practices for TB but will also explore use of new diagnostic tools for rapid diagnosis of TB. Sputum smear microscopy will remain the mainstay for the diagnosis of TB and culture will be conducted in all TB suspects who are HIV positive or smear negative. First line drug susceptibility testing will be conducted on all drug resistant TB suspects – contacts of drug resistant TB patients, re-treatment patients, and non-converters. Second line susceptibility testing will be conducted routinely on all confirmed MDR-TB.

As the laboratory services are a mandate of the National Health Laboratory Services it is essential for the programme to plan, implement and monitor jointly the programme

activities at all levels. A detailed analysis of current laboratory network with identification of service gaps should be prioritized. Where access to sputum microscopy may remain a challenge the NHLS will provide a transport network for sputum collection.

A system for sputum microscopy, culture and DST external quality assessment (EQA), and for supervision and monitoring of the laboratories must be implemented. The laboratory must maintain a system that provides for proper specimen identification, processing and accurate reporting. Laboratory indicators must be agreed upon with reporting within 24 hours of confirmation for new drug resistant TB, monthly for the other indicators.

The national TB Laboratory Reference Laboratory will be established and the role of this laboratory will be to maintain high proficiency of all the TB laboratory tests, train TB laboratory personnel, and implement quality assurance for smear microscopy and conduct research and surveillance.

6.3 Regular, Uninterrupted Drug Supply and management

Effective management of TB drugs is important to prevent interruption, mismanagement and availability of poor quality drugs, which may have serious consequences such as increased morbidity, defaulter rates and development of resistance. There needs to be adequate supplies of quality TB drugs at facility level and buffer (safety) stocks maintained, to ensure that no patient has to delay initiation of treatment, or interrupt treatment, due to the lack of drugs. Health workers must be trained on drug stock management and a system to monitor drug supplies at facility levels should be developed.
Use of second-line drugs for treatment of drug-resistant tuberculosis must be protected to limit the chances of development of further resistance. These drugs will only be available at primary health care level on a patient name basis.
The current challenges faced by the programme are:

- Non-availability of an Isoniazid formulation for TB prevention in children.
- Non-availability of the new children's formulations for treatment of TB children based on the WHO guidelines

The pharma industry should be encouraged to embark on research in the field of TB treatment for children as this area has been neglected. In addition, both new technologies for the rapid diagnosis of TB as well as new drugs which do not require long term use must be developed urgently by the private sector.

6.4 Supervision and Patient Support

Improving access to services will help reduce delays in treatment initiation whilst working towards improving access the programme will focus on strengthening the monitoring and follow up of patients in both facilities and communities.
At facility level there must be a person responsible for the follow up and monitoring of TB patients. This person will also be responsible for the coordination and monitoring of the community caregivers and NGOs providing care to TB patients in the community. The programme will continue with the implementation of DOT with standardized short course chemotherapy regimens as this has been proven to be the most appropriate way of ensuring adherence. This will be strengthened by patient/ family education and counseling on an ongoing basis emphasizing the early recognition of symptoms, cough hygiene, duration of

treatment, need for smear/ culture examinations, side-effects of drugs as well as need to complete treatment

The programme will ensure the availability of staff and community health workers/care givers who are committed to assisting the patients in a humane and empathetic manner, but will also consider family members as treatment supporters for TB patients.
Models for effective community care will have to be developed based on lessons from other areas and countries. Implementation of these models will be phased in with full coverage attained within the first two years of implementation of the plan.
The programme will also engage the services of the private for profit medical sector and traditional healers in detecting patients early, treatment support and follow up of TB patients.

For districts or sub-districts it is essential to map the NGOs working in the communities as this will help draw on these additional resources to follow up patients, patient education and counseling, trace contacts and defaulters. Sub district coordinators must ensure continued supervision and monitoring of DOT and provide assistance to community health workers tracing interrupters and defaulters of treatment. To effectively monitor DOT there is a need to develop and implement community based monitoring and evaluation tools with reporting structures agreed upon by all stakeholders.

6.5 Standardised Reporting and Recording System

The NTCP has revised the TB data collection tools to include HIV, these will be implemented during the financial year 2007/8. The paper-based tools will be available at all facilities; these comprise the TB register, suspect registers, patient cards, facility cards and referral forms. The NTCP provides stationary to the provinces based on estimated number of cases expected for the year. The provinces and districts must ensure distribution of the stationary to all PHC facilities and hospitals. All suspects and confirmed TB patients will be entered into the facility records and register in the facility, the data will be updated on a daily basis at facility level and collected by the supervisor or coordinator for data entry into the ETR at sub district level. Data collation validation will be conducted at facility, sub district, district and provincial levels.

6.6 Address TB & HIV, MDR, XDR-TB

6.6.1 TB and HIV

Both the TB should define clear roles and responsibilities and HIV programmes with TB & HIV indicators and data collection tools agreed upon. Both programmes will then report on these indicators with the data collated within the district health information system. Coordination structures or HAST committees at national, provincial and district levels will be established or strengthened where they already exist, comprising programme managers or coordinators and key stakeholders to monitor progress with implementation, identify barriers to care, challenges and agree on strategies to address these. These committees should meet at least twice a year, these meetings may be more frequent at district level.

Ensuring functional integration of TB and HIV activities at facility level is key to providing patient centred comprehensive care. The focus will be to increase HIV testing uptake by TB patients, CD4 testing and assessment of all co-infected patients, provision of treatment and preventive therapy for other opportunistic infections and antiretroviral treatment for all co-infected patients.

Key activities

- Develop best practise model(s) for integration of TB and HIV care
- Conduct training of facility staff on clinical management of co-infected patients
- Engage training institutions in reviewing the pre-service curriculum on TB and HIV.
- Ensure early diagnosis of HIV in TB patients through provision of provider initiated testing and counselling
- Conduct CD4 testing for all co-infected TB patients
- Provide Cotrimoxazole therapy to all co-infected TB patients
- Provide ART to all co-infected TB patients that qualify

6.6.2 MDR and XDR-TB

Given the potential negative social, epidemiological and economic impacts of inadequate treatment of MDR-TB, a systematic review of the quality of care delivered by MDR-TB centres must focus on:

- Availability and access to MDR referral centres
- Timely referral of MDR suspects
- Continuity of drug supply
- Adherence to guidelines
- Treatment delivery after hospitalization
- Management of side effects
- Laboratory quality control
- Costs involved.

Routine culture and first line DST should be done for all high risk groups such as re-treatment TB patients, new TB patients who remain sputum smear-positive after two months and symptomatic close contacts of confirmed MDR-TB patients. Second line DST should be conducted on all confirmed MDR-TB patients.

All confirmed XDR-TB patients would be referred to the MDR-TB Unit for hospitalisation for a period of at least six months and thereafter discharged for ambulatory care at the nearest health facility with ongoing treatment and psychosocial support provided. This will require strengthening of the community based care and follow up systems at local level.

Monthly reviews and monitoring of patients will be conducted at the MDR-TB Unit until completion of treatment at the end of 24 months.

Infection control in all the TB, general hospitals and primary health care facilities will be strengthened with infection control officers trained on TB infection control and prevention and monitoring of the implementation of the infection control plans. Priority will be given to MDR-TB hospitals to improve ventilation systems and ensure isolation of patients. With increasing numbers of XDR-TB patients projected in the next five years there will be a

need to increase bed capacity for these patients by renovating or building new structures and recruiting, train and retaining staff in these facilities. Occupational health services should be provided for staff in these facilities with routine medical surveillance conducted and a notification system established for all staff acquiring infection from occupational exposure. These Units should also incorporate recreational, occupational and educational facilities considering that patients will stay for at least six months in hospital. Social support should also be provided for all patients and their families whilst hospitalised and employers should be engaged in ensuring job security through extended sick leave for those who are employed.

Specialised multi-disciplinary management teams consisting of a Coordinator or Information Officer, Infection Control Officer, Audiologist, Dietician, Specialist Physician, Occupational therapist, Physiotherapist, Counsellors, Medical Officer, Professional nurses, Social worker should be established in all MDR-TB Units. These teams should meet weekly to review all aspects of MDR-TB management and should be collectively responsible for decisions about treatment, evaluation of patients, follow-up, specialised counselling, training of staff and problem-solving for complicated. Other staff can be on a sessional basis but should be part of the management team.

Key activities

- Increase hospital bed capacity for all patients with drug resistant TB
- Strengthen infection control measures in all hospitals and clinics
- Conduct training of infection control officers on infection control
- Conduct second line DST on all confirmed MDR-TB patients
- Conduct routine culture and first line DST on all high risk groups
- Increase capacity for second line DST
- Increase laboratory capacity for culture and DST
- Establish a surveillance system for Drug resistant TB
- Strengthen referral and follow up systems for patients with drug resistant TB

6.7 Contribute towards strengthening the health system

6.7.1 Human resources

The main constraint in the implementation of the DOTS strategy is insufficient human resources at all levels to carry out these activities and for monitoring. This plan aims to address the lack of these resources at all levels in order to improve the care of TB patients thus reducing the number of deaths as a result of TB and prevent further spread of the infection in the communities. An analysis of the human resource needs for an effective programme was conducted. In most cases the staff at national level responsible for the different aspects of the programme do not have counterparts at provincial level where the implementation of all the various interventions is the responsibilities of one or two people. Therefore strong TB management at all levels coupled with systems to supervise and monitor performance of staff involved in TB control is key to attaining the targets set out in this plan. To attain this, role clarification of all health workers in the TB control programme from national level to facility is outlined in Annexure E. With high rotation of

staff at facility level, skills audits should be conducted during every supervisory visit to facilities and training planned and conducted based on needs.
Key activities

- Development and endorsement of organogram for TB staff at all levels
- Implement medical surveillance programmes for health care workers working in "TB high risk" facilities.
- Ensure availability of transport for supervision of facilities
- Conduct a skills audit taking into account the training needs at all levels and sectors
- Develop an annual training plan
- Engage private medical sector and NGOs in the management of TB patients

6.7.2 Health Information

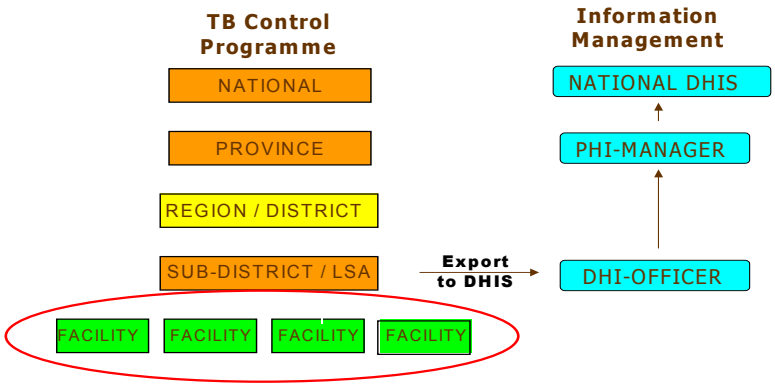


Figure 2: flow of data from facility to national level

Data capture takes place at facility level from patient and facility records and will be collated at sub/district level in the electronic TB register. At this level the data will be exported into the district health information system and transmitted to provincial and national level. To ensure up to date data capture and good quality data at facility level data capturers will be recruited for all facilities to relieve health care workers and supervision from sub/district to facilities strengthened. Health information officers at all levels will provide support to the coordinators at all levels. All stakeholders providing care to TB patients will be provided with the standardised paper based registers and report to the sub/ district in which they are working where the case load is high the electronic TB register may be used to collate the data which then can be reported directly to the next level.

Key activities

- Prepare a plan to recruit and train matriculants to eliminate the backlogs in data entry
- Develop an action plan to increase computing capacity for HIS generally and TB specifically including both hardware and software
- Strengthen supervision of facilities supported by the district TB co-ordinator and the District Information Officer to ensure good quality data.
- Ensure full synchrony between the disease notification system and the ETR.net
- The ETR.net should be re-programmed to
    - Specify "cured" and "completed" separately
    - Provide reports on "sputa that are due/outstanding", which can be circulated to the various clinics to act as a checklist and reminder to staff
    - Incorporate indicators for HIV and TB and drug resistant TB
    - Harmonise organisational units in ETR. Net with those in the DHIS regularly.
    - Improve the export functionality between ETR.net and the DHIS

6.7.3 Laboratory Systems

The National Health Laboratory Services (NHLS) provides the TB laboratory services in the public sector. The laboratory network is comprised of peripheral, regional and tertiary laboratories. Most of the peripheral laboratories are in hospitals specimen is transported from clinics to the peripheral laboratories by courier service.

Table: Network of NHLS laboratories providing TB services

Services	**Number of laboratories**
Microscopy	143
Culture	13
First line DST	9
Second line DST	4

The National TB Reference Laboratory (NTRL) is in the process of establishment and it will be responsible for training of laboratory personnel, Quality assurance for all tests, surveillance and research. The NTRL will collaborate with the Supranational TB Reference Laboratory which is the Medical Research Council (MRC) in ensuring quality control of culture, first and second line DST.

The focus during this period will be on improving access to microscopy and culture services particularly in high burden rural areas in Eastern cape, KwaZulu-Natal, Limpopo, Mpumalanga and Northern Cape. Quality assurance is essential for all services provided and the NHLS will be implementing the external quality assurance as recommended by the WHO and IUATLD during the period.

Private sector partners use other private laboratories and may use the services of any accredited laboratory to ensure quality of results.

Key activities

- Ensure a rapid and safe specimen transport system.
- Develop and implement a patient based information system

- Conduct province specific situational analysis to be undertaken to determine current levels of access of laboratory services with the aim to improve access in areas of deficit
- Develop a working manual (SOPs) of the TB services in the laboratories
- Develop and distribute a national TB laboratory manual to all laboratories.
- Establish and implement an external QA for smear microscopy in peripheral laboratories by rechecking randomly slides examined by the laboratory
- Develop a training programme should for newly recruited laboratory workers
- NHLS should report all services provided periodically to the National Department of Health.
- Establish an interface between lab system and ETR.net. This to be done first in situation where ETR.net is up to date and working well as a pilot. Once pilot demonstrated to work well to be rolled out to other provinces rapidly
- Create a system for a unique patient identifier to be linked to laboratory data.

6.8 Involve all care providers

It is important to forge relationships with other stakeholders involved in TB care and support. A database of all the stakeholders and the services they offer within the TB program should be established.

The roles of different personnel in other settings, correctional facilities, mine hospitals needs clarification.

6.8.1 Non Governmental Organisations

NGOs can be engaged in various aspects of TB management. Areas of involvement include:

- Case finding and contact tracing through awareness and social mobilisation and campaigns encouraging symptomatic people to test
- Provision of treatment, care and support to TB patients as part of the home based care programme
- Education and counselling of TB patients
- Treatment literacy programmes
- Tracing of treatment interrupters and defaulters
- Poverty eradication projects
- Training of community health workers and health professionals
- Community mobilisation

There is a need for close collaboration with NGOs in implementing the TB programme therefore all levels should provide structures and processes for such collaboration. This will require mapping of the NGOs working in the various communities including their scope of work at district or sub-district levels. This will be useful in identifying the overlaps and gaps so that they can be addressed.

To strengthen this collaboration NGOs should be represented in coordinating structures at all levels to ensure joint planning, monitoring of progress.

Key activities

- Engage training institutions or organizations in inclusion of TB in curricula and developing short courses on TB as part of the continued medical education programme (CME)
- Develop guidelines for engagement of NGOs in TB control.
- Ensure monitoring and evaluation of NGO activities

6.8.2 Business sector

Successful TB control requires the mobilization of private and public sector employers, employer organizations, employee organizations and non-governmental organizations. This can be done through the establishment of workplace TB control activities. The role that employers can play is:

To ensure a safe work place environment through

- The development and implementation of clear management policies on confidentiality, discrimination, length of time allowed for medical treatment and job modification when necessary. Employees should be educated on these policies
- Implement environmental infection control measures to minimise risk of transmission of infection in the workplace.
- Conduct awareness and educational campaigns to address negative attitudes towards people with TB and increase awareness among the employees about TB disease.
- Provide psychosocial support for employees who have TB such as free treatment and services, maintaining salary during treatment or providing compensation for loss of income, free transport to health facilities, food support and motivation of patients to continue treatment,

Employee organisations can assist in increasing awareness and understanding of the disease among employees.

Key activities

- Conduct sensitisation workshops with business to engage them in TB control quarterly
- Conduct training on TB workplace policies
- Conduct training of occupational health practitioners on TB
- Conduct joint awareness campaigns in communities
- Monitor and evaluate the implementation of workplace TB programmes

6.8.3 Other Government Departments

The roles other government departments can play in TB prevention and control are outlined in the table below. At an inter-sectoral level, it is important that other government departments that can contribute to the prevention of TB such as the Departments of Agriculture, Education, Minerals and Energy, Social Development, Housing, Provincial and Local Government and Correctional Services, develop implementation plans to address TB and report on progress through the Social Cluster at provincial and national levels.

Table 12: Roles for key government Departments

Government Department	Possible role in TB prevention and control
Department of Education	Education about TB and its spread, how to recognise the symptoms and what to do when one has symptoms and the duration of treatment and cough hygiene
	Prevention of spread of TB in schools through implementation of infection control measures
	Inclusion of TB in school health programmes - screening of symptomatic children
Department of Social Development	Provision of social support for eligible TB patients
	Food security for TB patients
	Linking TB patients to poverty eradication projects
Department of Housing	The building of well ventilated housing structures to prevent spread of infection in the household as well as the development of housing stock to decrease overcrowding
Department of Provincial and Local Government	Increasing awareness on TB through education and community mobilisation
	Improving living conditions in communities to prevent spread of infection
Department of Agriculture	Increasing awareness among farming communities about the disease.
	Advocating for better living conditions for farm workers to prevent the spread of infection
	Supporting income generating and food security projects such as vegetable gardens, chicken farming
Department of Minerals and Energy	Ensure early detection of TB in miners with contact tracing
	Ensure dust control in mines
	Appropriate treatment and referral of employees and contractors with TB
	Improving the living conditions of miners to prevent the spread of TB
	Ensure reporting of all TB cases
	Ensure proper management of co-infected patients
Department of Correctional services	Prevent spread of infection through implementation of infection control measures in correctional facilities
	Ensure early detection of TB and notification of the DOH for amongst others contact tracing
	Appropriate treatment and referral of prisoners (including those awaiting trial) with TB
	Increase awareness about TB disease in correctional facilities

S A Military Health Services	Prevent spread of infection through implementation of infection control measures in barracks and hospitals
	Ensure early detection of TB and contact tracing
	Appropriate treatment and referral of personnel with TB
	Increase awareness about TB disease
	Reporting of all TB cases
	Provision of care to civilians where SAMHS facilities are more accessible to communities than DOH facilities
Department of Science and Technology	Scientific research and development on new drugs, diagnostics and vaccines
Department of Transport	Awareness programmes – long distance travel
	Development and implementation of Airline travel guidelines
Department of Labour	Workplace health policies to include TB
	Ensuring employers provide a safe working environment in terms of infection control to prevent spread of infection for employees

6.8.4 For Profit Private Medical Sector

To increase access to treatment, care and support for TB patients the private sector health care providers will be engaged. The Department of Health will explore possible areas of collaboration together with the relevant professional and hospital organisations. The role this sector can play is outlined in the table below:

Activities	NDOH	Specialist Physicians	General Practitioners	Laboratories	Pharmacists
Identify TB suspects	X	X	X		X
Microscopy, microscopy and DST	X			X	
Diagnose	X	X	X		
Prescribe treatment	X	X	X		
Supervise treatment	X		X		X
Defaulter tracing	X		X		X
Record keeping	X		X	X	
Case notification	X	X	X	X	
Drugs and supplies	X				
Training	X	X		X	
Surveillance	X			X	
Quality assurance	X			X	
Evaluation	X				
Contact tracing	X	X	X		

The inclusion of TB as part of the minimum benefits for insured TB patients will be discussed with the Board of Health Care Funders.

Key activities

- Develop and pilot models for Public-Private-Mix DOTS (PPM) with the private medical sector
- Document best practise on PPM-DOTS strategies
- Develop guidelines for PPM-DOTS in TB control
- Engage medical professional associations in different aspects of TB control
- Conduct training on PPM-DOTS strategies for private and public sector staff

6.8.5 Correctional Services

Despite the fact that tuberculosis is a curable disease, it remains one of the unavoidable consequences of incarceration. Overcrowded correctional environments remain a major contributory factor in the transmission of communicable diseases. Some of the factors contributing to the spread and inadequate management of tuberculosis include the high turnover of awaiting trial detainees between the courts and Correctional facilities, poor ventilation and light, poor compliance with infection control policies and inadequate nutrition.

For the Department to be able to manage tuberculosis adequately, there must be an understanding of the extent of the disease, what needs to be done and the availability of adequately trained health professionals in order to mitigate the impact of tuberculosis.

Key activities

- The Departments of Health and of Correctional Services need to commit to a joint strategy with directives and monitoring of implementation**.**
- Ensure provision of adequate resources for the management of tuberculosis.
- Ensure availability of adequately trained and competent health professionals.
- Conduct research to determine the extent of tuberculosis in correctional services
- Conduct a situation analysis in the correctional services on TB control activities
- Develop a comprehensive plan of action for strengthening TB control in correctional services
- Ensure monitoring and evaluation of TB in correctional services
- Conduct joint meetings to review progress with the implementation of the plan at all levels

6.8.6 Mining Sector

The mining sector is responsible for more respiratory illnesses than all other industries with 90% of reported occupational lung diseases arising from mining industry. It has been found that the

TB incidence in miners has been increasing exponentially with HIV every year. In addition the South African Gold Mining Industry probably has the highest incidence of TB in the world (3000-7000/100000 population /year). The key risk factors for TB in the mining industry include duration of employment in dusty environments, age; silicosis and being HIV positive.

The Mining Industry Health Services should implement policies and treatment guidelines that are in line with the S A National TB Control Program; and the Department of Minerals and Energy Guidelines for TB Control in the mining Industry. In addition the industry must

comply with the Occupational Diseases in Mines and Works Act, Mine Health and Safety Act and the Compensation for Occupational Injuries and Diseases Act.
For effective TB Control in the mines the following strategies should be implemented to reduce the burden of disease, health and compensation costs:

- Increasing case detection
- Wide scale use of TB preventive therapy
- HIV prevention
- Silica dust control
- Infection control
- TB and HIV collaboration

Key activities

- Conduct a situation analysis of TB control in the mines
- Develop a comprehensive plan to strengthen the TB programme in the mines
- Develop a memorandum of understanding with the mining industry
- Ensure monitoring and evaluation of TB control in the mines
- Conduct joint meetings to review progress with the implementation of the plan at all levels.
- Ensure notification to relevant authorities, Provincial, ODMWA, COIDA, Rand Mutual Association (RMA)

6.9 Engage people with, and affected by TB

6.9.1 Advocacy, Communication and Social Mobilisation (ACSM)

Critical to the success of any efforts to control TB is the development and the implementation of a comprehensive Advocacy, Communication and Social Mobilization (ACSM) plan to support the national TB programme. The ACSM plan aims not only to ensure that every citizen knows the basic facts about TB but to address current challenges in TB control namely; low case detection, poor treatment adherence, stigma and discrimination associated with TB, lack of awareness by patients and communities and insufficient resources for TB programme activities.

The ACSM plan should include the following components:

- Capacity building at all levels
- Fostering inclusion of TB patients and affected communities
- Ensure accountability at all levels
- Forge partnerships
- Documenting lessons and building on best practises

For effective implementation of the ACSM plan

- The national and provincial departments should develop and implement comprehensive ACSM plans with relevant stakeholders
- National and provincial ACSM committees should be established with clear terms of reference including mobilisation of resources for ACSM; oversight of production of communication materials; support for provinces around ACSM; monitoring and evaluation of all ACSM activities.

- Each province should have a specific focal point person for ACSM, who will be responsible for the development of ACSM provincial implementation plans, implementation of ACSM activities, production of communication materials in local languages, support to districts on social mobilisation and monitoring and evaluation of ACSM activities.

Key activities
- Develop and implement an ACSM work plan for the 2007/8 financial year
- Conduct KAP studies to monitor impact of ACSM activities
- Develop and distribute TB IEC materials targeting patients, family members, communities and people living with HIV and AIDS
- Conduct targeted awareness campaigns in "hotspot" areas
- Conduct training sessions on TB for journalists
- Conduct briefing sessions for political and traditional leaders at all levels
- Develop and implement a communication strategy for implementation at national level
- Conduct Imbizos on TB in communities
- Develop and disseminate advocacy materials for opinion makers, political, traditional and business leaders
- Mobilise business sector, employer organisations, employee organisations government departments and other non-governmental organisations in TB control.
- Conduct training of staff at all levels on ACSM
- Develop and distribute ACSM guidelines
- Conduct quarterly press conferences
- Develop and distribute advocacy IEC materials
- Ensure monitoring and evaluation of ACSM activities
- Conduct educational programmes in schools, churches, workplace to destigmatise TB
- Conduct annual activities to commemorate World TB Day.

6.9.2 Patient's Charter for TB care

The Patient's Charter (Appendix A) outlines the rights and responsibilities of people with tuberculosis (TB) and empowers people with TB, their families and communities through knowledge of the disease. Patients are encouraged to demand quality care and to be treated with dignity and respect. The Charter sets out the ways in which patients, communities, private and public sector health-care providers, and the government can work together as partners in a positive and open relationship to improve standards of TB care.

Key activities
- Develop and disseminate information, education and communication materials on the patient's charter

6.10 Enable and promote research

The TB programme in conjunction with the Research Coordination Unit will determine the TB research priorities annually and this will be shared with the research community in the country. A data base of all research including scientific research, clinical trials, diagnostic tool evaluation and health systems research conducted in the country will be compiled by the Research Unit. This information will be made accessible to all stakeholders through a website still to be established. Health care workers and programme coordinators will be

trained on conducting operational research to empower them to conduct research that may improve service delivery at local level and enable them to share experiences with other districts and provinces. Every two years a national TB conference will be held to create a platform for networking for the research community as well as dissemination of research findings, planned and on going research.

Key activities

- Conduct workshops to identify national TB research priorities annually
- Conduct TB prevalence surveys
- Conduct drug resistance surveys
- Participate in clinical trials on new TB drugs
- Participate in evaluation of new diagnostic tools
- Pilot models for engagement of private medical sector in care for TB patients
- Pilot models for community care of TB patients
- Establish and update a database on all TB research conducted in the country

6.11 Infection control

The provincial Departments of Health are responsible for ensuring that surveillance, prevention, management and control of Tuberculosis is included in the annual report on the health status of the province. The responsibilities of the provincial outbreak response teams should include drug resistant TB.

Health facility managers, in both the private and public sectors are responsible for the appointment of infection control officers. Every health facility should have an infection control plan, which should include TB, and the implementation of this plan should be monitored regularly.

Health care providers must ensure that:

- all TB suspects and contacts are examined and investigated
- any person with confirmed TB is started on treatment and those who may be a risk to the community are hospitalised for treatment
- all confirmed TB patients are notified
- they are familiar with infection control policies and adhere to these policies.

Heads of institutions such as educational institutions, correctional facilities, residential facilities and barracks must ensure adherence to infection control policies. Any person suspected to have TB should be examined and investigated as well treated and isolation if appropriate.

Key activities

- Appointment of infection control officers in all facilities
- Training of infection control officers on infection prevention and control
- Ensure that risk assessments are conducted in all facilities prioritising TB hospitals
- Ensure infection control plans in all laboratories performing culture and DST
- Ensure that all facilities have infection control plans
- Conduct educational and awareness campaigns in communities on cough hygiene and other measures to prevent spread of TB infection in places of congregation, homes, workplaces and in public transport.

- Engage training institutions to develop formal training courses on infection control as well as short courses.
- Ensure structural renovation of old hospitals to improve ventilation
- Development and dissemination of IEC materials on infection control in all relevant languages
- Development of minimum standards for all clinics and hospitals

7 OVERCOMING THE EFFECTS OF POVERTY ON TB

An overarching strategic objective is to prevent people from contracting TB and in those with latent TB to prevent the dormant disease from becoming active. This requires improving the nutritional status of people and improving the general socio-economic conditions in which people live and work, including improved housing. This mission should be undertaken in conjunction with the social sector cluster as a whole. The TB programme should contribute to poverty reduction through:

- Identifying the poor and vulnerable groups, migrant populations, the homeless and isolated ethnic minorities in the country, determine the barriers they face to accessing services and develop interventions to address these.
- Establishing the basis for impact evaluation by setting specific targets for TB control in poor and vulnerable populations, assessing the distribution of TB in the population
- Monitoring of poverty-related inequalities and the impact of pro-poor interventions.

Key activities

- Ensure that TB prevention is part of the agenda of the Social Cluster at provincial and national levels
- Ensure inclusion of socio-economic questions in TB prevalence surveys
- Conduct periodic studies of health seeking behaviour and use of TB services
- Assess the profile of people in the community who benefit from the TB services
- Engage non governmental organisations involved in poverty alleviation and skills development projects to assist TB patients

8 SUPERVISION, REPORTING, MONITORING AND EVALUATION

Effective supervision at all levels is crucial for the successful implementation of the plan and the TB programme. Clear roles and responsibilities of respective staff at each level in relation to supervisory activities should be outlined.

The role of the national level includes supervision of the implementation, monitoring and evaluation of overall performance of the TB programme throughout the country and regular reporting on NTCP performance. Regular supervisory visits will be conducted to poor performing provinces and districts and to provide the necessary technical and policy guidance.

Provinces are responsible for the planning, supervision, monitoring and evaluation of all TB control activities in the province. The provincial staff is expected to make supervisory visits to all districts every month. Provincial TB programme review meetings will be held

quarterly and chaired by the provincial TB manager. Representatives of the other health institutions and stakeholders will be invited to attend these review meetings.

Districts and partners will submit reports to the province quarterly prior to the provincial review meetings. The district TB coordinator is responsible for the submission of these reports signed off by the district manager. The provincial manager will then be responsible for consolidating the quarterly report and submission to the national level signed off by the Head of Health as well as providing feedback to the districts on their quarterly reports within 30 days of the end of the quarter.

District coordinators will in turn conduct supervisory visits to all sub districts once per month per sub district. These visits must include visits to poorly performing facilities (clinics, community health centers, hospitals and laboratories, including private health facilities and correctional facilities that treat TB patients). The coordinator will compile a report on the visit outlining the relevant findings and recommendations for improvement which will be circulated to the district and sub-district management, facility managers.

At sub district level the coordinator and primary health care supervisors are responsible for undertaking supervisory visits to all the peripheral health facilities, laboratories, and NGOs. These visits will be conducted bimonthly with reports compiled and circulated to all people in the team and the management at district and sub district level.

8.1 Prioritization of district, sub-district and facilities to be supervised

The districts, sub-districts and health facilities to be supervised will be based on the following criteria:

- Low proportion of patients receiving directly observed treatment
- Sputum conversion rate for new sputum smear positive patients at 2 months is less than 75%
- Cure rate for new sputum smear positive patients is less than 70%
- High proportion of sputum negative and extra-pulmonary cases
- Low case detection of new sputum smear positive cases
- High default, death or failure rate

8.2 Monitoring

The implementation of the plan and TB programme performance will be monitored on a quarterly basis from reports, which include the case finding, sputum conversion, treatment outcomes and programme management. Other initiatives will include:

- Internal evaluation of the programme, with the aim of:
    - validating the treatment outcomes of the districts for the last reported quarter
    - assessing the programme performance as well as human, financial as well as logistics management
    - making recommendations for improving data quality and reporting
    - making recommendations for improving the performance
- Provincial evaluation of the districts
  The provinces will conduct the reviews in poor performing districts. The aim is to improve the programme performance of the districts, to identify strengths,

weaknesses, and barriers to service delivery, challenges and make recommendations for improvement. This will also conducted in best performing districts mainly to validate the correctness and quality of data and document good practice for sharing with other districts.

8.3 National Review of the implementation of the plan

A national review of the implementation of this plan and programme performance of the provinces will be conducted annually. This review will identify national level problems and make recommendations for remedial actions.

8.4 External review of the implementation of the plan

The NDOH will also conduct external reviews of the implementation of the plan and programme performance every two years in conjunction with international agencies and partners, in order to enhance the quality of services provided and overall progress towards the attainment of the set targets.

8.5 Impact assessment

The impact of the TB programme interventions on the TB epidemiology in the community will determine whether TB will be controlled in the country therefore has to be assessed at intervals. Due to the epidemiology of TB disease the impact can be assessed every five years but we need to keep in mind that the impact would not only be a direct result of programme activities but also due to improved socio economic factors such as housing, poverty and addressing the HIV epidemic.
The indicators that need to be measured in order to assess the impact of the programme interventions in line with the MDGs are:

- incidence rate
- prevalence of TB
- mortality rate due to TB.
- levels of drug resistance.

9. BUDGETARY REQUIREMENTS

The budgeting for this plan has been done using the WHO Planning and Budgeting tool and covers the five-year period. Funding for the plan will be from the provincial equitable share health allocation. A budget bid will be presented to national treasury for funding of the plan for 2007/8 financial year and over the Medium Term Expenditure Framework (MTEF) 2008-2011 to ensure sustained financing. On an annual basis provinces will develop business plans based on the disease burden and where there are funding gaps donor agencies will be requested for financial assistance. Additional financial and technical support will be provided to under resourced provinces where this is necessary. The budget shown in the table below is based on an assumption of 10% annual increase in notified patients as a result of case detection interventions that will be implemented and population growth over the period of five years.

	2007/8	2008/9	2009/10	2010/11	2011/12
First-line drugs	104,930,068	109,489,285	113,935,660	118,211,874	118,383,790
TB Human resources	59,847,600	31,828,013	32,786,924	34,252,397	35,485,376
Management and supervision	30,863,476	31,828,013	32,786,924	34,252,397	335,485,376
Training (general)	6,550,000	34,313,624	14,139,079	2,567,726	274,559
Laboratory supplies and equipment	327,536,752	315,330,241	331,260,321	347,228,056	356,396,312
Patient support	53,260,402	58,392,715	64,107,308	70,454,986	76,173,291
Public private Partnerships in TB	1,650,000	6,910,200	14,469,959	16,665,052	19,193,140
Practical Approach to Lung Health	5,764,017	12,393,549	16,516,360	7,630,677	986,942
ACSM (including community involvement in care)	19,524,800	38,347,987	44,394,211	50,655,526	58,568,425
Monitoring and Evaluation	15,450,000	7,590,750	274,052	8,321,048	300,419
Operational Research	10,000,000	15,705,000	21,924,180	28,693,271	36,050,225
MDR-TB	1,760,352,375	1,513,054,338	1,700,901,477	1,903,063,911	2,120,472,321
Infection control	88,997,438	176,725,329	192,756,291	90,640,109	103,034,100
TB&HIV activities	74,783,026	196,686,968	289,584,173	368,871,509	373,541,044
Hospitalization	1,463,099,580	1,531,865,260	1,603,862,927	1,679,244,485	1,758,168,976
Outpatient visits	234,165,389	246,954,517	259,763,047	272,459,503	275,872,357
Total	4,256,774,923	4,380,380,948	4,789,454,417	5,091,911,117	5,430,221,011

10 ANNEXURES

ANNEXURE A

The Patients' Charter for Tuberculosis Care (the Charter) outlines the rights and responsibilities of people with tuberculosis (TB). It empowers people with the disease and their communities through knowledge of the disease. Initiated and developed by patients from around the world, the Charter makes the relationship with health-care providers a mutually beneficial one.

The Charter sets out the ways in which patients, communities, health-care providers, both private and public, and governments can work together as partners in a positive and open relationship, to improve standards of TB care and enhance the effectiveness of the health-care process. It allows all parties to be held more accountable to each other, fostering mutual interaction and a "positive partnership".

Developed in tandem with the International Standards for Tuberculosis Care (1) to promote a "patient-centred" approach, the Charter adheres to the principles on health and human rights of the United Nations, UNESCO, WHO and the Council of Europe, as well as other local and national charters and conventions (2).

The Charter embodies the principle of Greater Involvement of People with TB (GIPT). This affirms that the empowerment of people with the disease is the catalyst for effective collaboration with health-care providers and authorities and is essential to victory in the fight to stop TB. The Charter, the first global "patient-powered" standard for care, is a cooperative tool, forged from a common cause, for the entire TB community.

THE PATIENTS' CHARTER FOR TUBERCULOSIS CARE

PATIENTS' RIGHTS

1. **Care**
   a. The right to free and equitable access to TB care, from diagnosis to completion of treatment, regardless of resources, race, gender, age, language, legal status, religious beliefs, sexual orientation, culture or health status.
   b. The right to receive medical advice and treatment that fully meets the new International Standards for Tuberculosis Care, centring on patient needs, including those of patients with MDR-TB or TB-HIV co infection, and preventive treatment for young children and others considered to be at high risk.
   c. The right to benefit from proactive health sector community outreach, education and prevention campaigns as part of comprehensive health-care programmes.

2. Dignity

a. The right to be treated with respect and dignity, including the delivery of services, without stigma, prejudice of discrimination by health-care providers and authorities.

b. The right to high-quality health care in a dignified environment, with moral support from family, friends and the community.

3. Information

a. The right to information about the availability of health-care services for TB, and the responsibilities, engagements and direct or indirect costs involved.

b. The right to receive a timely, concise and clean description of the medical condition, with diagnosis, prognosis (an opinion as to the likely future course of the illness) and treatment proposed, with communication of common risks and appropriate alternatives.

c. The right to know the names and dosages of any medications or interventions to be prescribed, its normal actions and potential side-effects and its possible impact on other conditions or treatments.

d. The right of access to medical information relating to the patient's condition and treatment and to a copy of the medical records if requested by the patient or a person authorized by the patient.

e. The right to meet, share experiences with peers and other patients and to voluntary counselling at any time from diagnosis to completion of treatment.

4. Choice

a. The right to a second medical opinion, with access to past medical records.

b. The right to accept or refuse surgical interventions if chemotherapy is possible and to be informed of the likely medical and statutory consequences within the context of a communicable disease.

c. The right to choose whether or not to take part in research programmes without compromising care.

5. Confidence

a. The right to respect for personal privacy, dignity, religious beliefs and culture.

b. The right to confidentiality relating to the medical condition, with information released to other authorities contingent upon the patient's consent.

6. Justice

a. The right to make a complaint through channels provided for this purpose by the health authority and to have any complaint dealt with promptly and fairly.

b. The right to appeal to a higher authority if the above is not respected and to be informed in writing of the outcome.

7. Organization

a. The right to join, or to establish, organizations of people with or affected by TB, and to seek support for the development of these clubs and community-based associations through health-care providers, authorities and civil society.

b. The right to participate as "stakeholders" in the development, implementation, monitoring and evaluation of TB policies and programmes with local, national and international health authorities.

8. Security

a. The right to job security after diagnosis or appropriate rehabilitation upon completion of treatment.

b. The right to nutritional security or food supplements if needed to meet treatment requirements.

PATIENTS' RESPONSIBILITIES

1. **Share Information**

a. The responsibility to provide as much information as possible to health-care providers about present health, past illnesses, any allergies and any other relevant details.

b. The responsibility to provide information to health-care providers about contacts with immediate family, friends and others who may be vulnerable to TB or who may have been infected.

2. **Follow treatment**

a. The responsibility to follow the prescribed and agreed treatment regimen and to conscientiously comply with the instructions given to protect the patient's health and that of others.

b. The responsibility to inform health-care providers of any difficulties or problems in following treatment, or if any part of the treatment is not clearly understood.

3. **Contribute to community health**

a. The responsibility to contribute to community well-being by encouraging others to seek medical advice if they exhibit symptoms of TB.

b. The responsibility to show consideration for the rights of other patients and health-care providers, understanding that this is the dignified basis and respectful foundation of the TB community.

4. **Solidarity**

a. The moral responsibility to show solidarity with other patients, marching together towards cure.

b. The moral responsibility to share information and knowledge gained during treatment, and to share this expertise with others in the community, making empowerment contagious.
c. The moral responsibility to join in efforts to make the community free of TB.

In common cause, with mutual respect, together we can raise the standards of TB care.

ANNEXURE B

INTERNATIONAL STANDARDS OF CARE FOR TB PATIENTS

Standards for Diagnosis

Standard 1. All persons with otherwise unexplained productive cough lasting two–three weeks or more should be evaluated for tuberculosis.

Standard 2. All patients (adults, adolescents, and children who are capable of producing sputum) suspected of having pulmonary tuberculosis should have at least two, and preferably three, sputum specimens obtained for microscopic examination. When possible, at least one early morning specimen should be obtained.

Standard 3. For all patients (adults, adolescents, and children) suspected of having extra-pulmonary tuberculosis, appropriate specimens from the suspected sites of involvement should be obtained for microscopy and, where facilities and resources are available, for culture and histo-pathological examination.

Standard 4. All persons with chest radiographic findings suggestive of tuberculosis should have sputum specimens submitted for microbiological examination.

Standard 5. The diagnosis of sputum smear-negative pulmonary tuberculosis should be based on the following criteria: at least three negative sputum smears (including at least one early morning specimen); chest radiography findings consistent with tuberculosis; and lack of response to a trial of broad spectrum antimicrobial agents. (NOTE: Because the fluoroquinolones are active against *M. tuberculosis complex* and, thus, may cause transient improvement.in persons with tuberculosis, they should be avoided.) For such patients, if in facilities for culture are available, sputum cultures should be obtained in persons with known or suspected HIV infection, the diagnostic evaluation should be expedited.

Standard 6. The diagnosis of intra-thoracic (i.e., pulmonary, pleural, and mediastinal Or hilar lymph node) tuberculosis in symptomatic children with negative sputum smears should be based on the finding of chest radiographic abnormalities consistent with tuberculosis and either a history of exposure to an infectious case or evidence of tuberculosis infection (positive tuberculin skin test or interferon gamma release assay). For such patients, if facilities for culture are available, sputum specimens should be obtained (by expectoration, gastric washings, or induced sputum) for culture.

Standards for Treatment

Standard 7. Any practitioner treating a patient for tuberculosis is assuming an important public health responsibility. To fulfi ll this responsibility the practitioner must not only prescribe an appropriate regimen but, also, be capable of assessing the adherence of the patient to the regimen and

addressing poor adherence when it occurs. By so doing, the provider will be able to ensure adherence to the regimen until treatment is completed.

Standard 8. All patients (including those with HIV infection) who have not been treated previously should receive an internationally accepted first-line treatment regimen using drugs of known bioavailability. The initial phase should consist of two months of isoniazid, rifampicin, pyrazinamide and ethambutol. The preferred continuation phase consists of isoniazid and rifampicin given for four months. Isoniazid and ethambutol given for six months is an alternative continuation phase regimen that may be used when adherence cannot be assessed, but it is associated with a higher rate of failure and relapse, especially in patients with HIV infection. The doses of antituberculosis drugs used should conform to international recommendations. Fixed-dose combinations of two (isoniazid and rifampicin, three (isoniazid, rifampicin, and pyrazinamide), and four (isoniazid, rifampicin, pyrazinamide, and ethambutol) drugs are highly recommended, especially when medication ingestion is not observed.

Standard 9. To foster and assess adherence, a patient-centered approach to administration of drug treatment, based on the patient's needs and mutual respect between the patient and the provider, should be developed for all patients. Supervision and support should be gender-sensitive and age-specific and should draw on the full range of recommended interventions and available support services, including patient counseling and education. A central element of the patient-centered strategy is the use of measures to assess and promote adherence to the treatment regimen and to address poor adherence when it occurs. These measures should be tailored to the individual patient's circumstances and be mutually acceptable to the patient and the provider. Such measures may include direct observation of medication ingestion (directly observed therapy - DOT) by a treatment supporter who is acceptable and accountable to the patient and to the health system.

Standard 10. All patients should be monitored for response to therapy, best judged in patients with pulmonary tuberculosis by follow-up sputum microscopy (two specimens) at least at the time of completion of the initial phase of treatment (two months), at five months, and at the end of treatment. Patients who have positive smears during the fifth month of treatment should be considered as treatment failures and have therapy modified appropriately (See Standards 14 and 15.) In patients with extra-pulmonary tuberculosis and in children, the response to treatment is best assessed clinically. Follow-up radiographic examinations are usually unnecessary and may be misleading.

Standard 11. A written record of all medications given, bacteriologic response, and adverse reactions should be maintained for all patients.

Standard 12. In areas with a high prevalence of HIV infection in the general population and where tuberculosis and HIV infection are likely to co-exist, HIV counseling and testing is indicated for all tuberculosis patients as part of their routine management. In areas with lower prevalence rates of HIV,

HIV counseling and testing is indicated for tuberculosis patients with symptoms and/or signs of HIV-related conditions and in tuberculosis patients having a history suggestive of high risk of HIV exposure.

Standard 13. All patients with tuberculosis and HIV infection should be evaluated to Determine if antiretroviral therapy is indicated during the course of treatment for tuberculosis. Appropriate arrangements for access to antiretroviral drugs should be made for patients who meet indications for treatment. Given the complexity of co-administration of anti tuberculosis treatment and antiretroviral therapy, consultation with a physician who is expert in this area is recommended before initiation of concurrent treatment for tuberculosis and HIV infection, regardless of which disease appeared first. However, initiation of treatment for tuberculosis should not be delayed. Patients with tuberculosis and HIV infection should also receive cotrimoxazole as prophylaxis for other infections.

Standard 14. An assessment of the likelihood of drug resistance, based on history of prior treatment, exposure to a possible source case having drug-resistant organisms, and the community prevalence of drug resistance, should be obtained for all patients. Patients who fail treatment and chronic cases should always be assessed for possible drug resistance. For patients in whom drug resistance is considered to be likely, culture and drug susceptibility testing for isoniazid, rifampicin, and ethambutol should be performed promptly.

Standard 15. Patients with tuberculosis caused by drug-resistant (especially Multiple Drug Resistant [MDR]) organisms should be treated with specialized regimens containing second-line anti tuberculosis drugs. At least four drugs to which the organisms are known or presumed to be susceptible should be used, and treatment should be given for at least 18 months. Patient centered measures are required to ensure adherence. Consultation with a provider experienced in treatment of patients with MDR tuberculosis should be obtained.

Standards for Public Health Responsibilities

Standard 16. All providers of care for patients with tuberculosis should ensure that Persons (especially children under 5 years of age and persons with HIV infection) who are in close contact with patients who have infectious tuberculosis are evaluated and managed in line with international recommendations. Children under 5 years of age and persons with HIV infection who have been in contact with an infectious case should be evaluated for both latent infection with *M. tuberculosis* and for active tuberculosis.

Standard 17. All providers must report both new and re-treatment tuberculosis cases and their treatment outcomes to local public health authorities, in conformance with applicable legal requirements and policies.

ANNEXURE C

SPECIFIC TARGETS AND INDICATORS

Main Indicators						
Indicator	Target	Numerator	Denominator	Routine Data elements	Data Source	Level(s) to be collected
Case detection rate	70%	Number of TB patients started treatment for a given reporting period	Number of estimated TB patients for the stated period	Number of TB patients started treatment	ETR.net	National
				Total number of estimated TB patients which includes undiagnosed active TB patients	Models based on Prevalence study and Vital statistics	
Treatment Success rate	> 85%	Total number of New sputum smear positive PTB patients started treatment in a given reporting period, that completed treatment, with or without proof of cure (A time period can be a specific quarter or year)	Total number of New sputum smear positive PTB patients started treatment in the stated reporting period	Total number of New sputum smear positive PTB patients that were Cured	Paper-based TB Registers and ETR.net	All Levels (Facility; Sub-district; District; Province and National)
				Total number of New sputum smear positive PTB patients that completed treatment without proof of Cure		
				Total number of New sputum smear positive PTB patients		
Cure rate	85%	Total number of New sputum smear positive PTB patients started treatment in a given reporting period that were Cured	Total number of New sputum smear positive PTB patients started treatment in the stated reporting period	Total number of New sputum smear positive PTB patients that were Cured	Paper-based TB Registers and ETR.net	All Levels (Facility; Sub-district; District; Province and National)
				Total number of New sputum smear positive PTB patients		
Subsidiary Indicators						
Indicator	Target	Numerator	Denominator	Routine Data elements	Data Source	Level(s) to be collected
Bacteriological coverage	100%	All 1Pulmonary TB patients started treatment in a given reporting period with bacteriological testing	All Pulmonary TB patients excluding children with no smear 0 - 7 years in the stated period	All Smear Positive Pulmonary TB patients	Paper-based TB Registers and ETR.net	All Levels (Facility; Sub-district; District; Province and National)
				All Smear Negative Pulmonary TB patients		
				All Pulmonary TB patients		
				Pulmonary TB patients with no smear 0 - 7 years		

Smear Conversion Rate **(at 2-months)**	75%	All New sputum smear Positive PTB patients started treatment in a given reporting period that converted by 2-months	All New sputum smear Positive PTB patients started treatment in the stated period	All New sputum smear Positive patients that converted by 2-months All New sputum smear Positive PTB patients started treatment	Paper-based TB Registers and ETR.net	All Levels (Facility; Sub-district; District; Province and National)
Smear Conversion Rate **(at 3-months)**	85%	All New sputum smear Positive PTB patients started treatment in a given reporting period that converted by 3-months	All New sputum smear Positive PTB patients started treatment in the stated period	All New sputum smear Positive PTB patients started treatment that converted by 3-months All New sputum smear Positive PTB patients	Paper-based TB Registers and ETR.net	All Levels (Facility; Sub-district; District; Province and National)
Defaulter rate	< 5%	All New sputum smear Positive PTB patients started treatment in a given reporting period that defaulted before end of treatment	All New sputum smear Positive PTB patients started treatment in the stated period	All New sputum smear Positive PTB patients that defaulted before end of treatment All New sputum smear Positive PTB patients started treatment All New sputum smear Positive PTB patients started treatment in the stated period	Paper-based TB Registers and ETR.net	All Levels (Facility; Sub-district; District; Province and National)
Turn Around Time (TAT) within 48 hours	80% of all facilities with TAT within 48hrs	Number of facilities with 80% of Smear results back from the laboratory, within 48hrs, in a given reporting period.	Number of facilities within the sub-district/district in the stated period	Number of specimens sent to the laboratory Number of smear results received back from the laboratory - within 48 hrs	TB Case Identification and Follow-up Register (Suspect Register)	Facility level
				Number of facilities with 80% of Smear results back from the laboratory, within 48hrs. Number of facilities within the sub-district/district	Sub-district / District Report	Sub-district / District level; Provincial and National levels

MDR-TB treatment starting rate	100%	Number of MDR-TB patients started treatment in a given reporting period	Number of MDR-TB patients registered in the stated period, excluding MDR-TB patients that died before starting treatment	Number of MDR-TB patients started treatment Number of MDR-TB patients registered, excluding MDR-TB patients that died before starting treatment	Drug Resistant-TB Register	MDR-Unit; Provincial and National levels
XDR-TB treatment starting rate	100%	Number of XDR-TB patients started treatment in a given reporting period	Number of XDR-TB patients registered in the stated period, excluding XDR-TB patients that died before started treatment	Number of XDR-TB patients started treatment Number of XDR-TB patients registered, excluding XDR-TB patients that died before started treatment	Drug Resistant-TB Register	MDR-Unit; Provincial and National levels
(V)CT rate for TB patients	100%	Number of TB patients (offered/accepted) counselling and testing for HIV in a given reporting period	Number of All TB patients in the stated period	Number of TB patients offered counselling and testing for HIV Number of All TB patients	Paper-based TB Registers and ETR.net	All Levels (Facility; Sub-district; District; Province and National)
CPT starting rate for TB/HIV co-infected patients	100%	Number of TB/HIV co-infected patients started CPT in a given reporting period	Total number of TB/HIV co-infected patients in the stated period	Number of TB/HIV co-infected patients started CPT Total number of TB/HIV co-infected patients	Paper-based TB Registers and ETR.net	All Levels (Facility; Sub-district; District; Province and National)
ART starting rate for TB/HIV co-infected patients qualifying for ART	100%	Number of TB/HIV co-infected patients qualifying for ART started on ART in a given reporting period	Number of TB/HIV co-infected patients with a CD4 count of $\leq$ 200 in a stated period	Number of TB/HIV co-infected patients qualifying for ART started on ART Number of TB/HIV co-infected patients with a CD4 count of $\leq$ 200	ART Registers, Paper-based TB Registers and ETR.net *(Data needs to be collected through TB HIV)*	All Levels (Facility; Sub-district; District; Province and National)
Prevalence rate		The total number of cases, new and old, in the population at a particular point in time.	The total population	The total number of cases, new and old, in the population at a particular point in time. The total population	National Survey	National

[1]Pulmonary TB (PTB) includes PTB with evidence of EPTB

[2]Defaulter = a patient that interrupted treatment for 2 consecutive months or more

Annexure D: Framework

	Interventions	Objectively verifiable indicators	Means of verification	Assumptions	Responsibility	07	08	09	10	11
Overall Objective	To reduce mortality, morbidity and transmission of Tuberculosis in the country	Reduction of TB incidence Reduction of TB prevalence Reduction in TB mortality rates	TB recording and reporting system SASTATS TB Prevalence Studies	Baseline for prevalence conducted in 2007	NDOH					
Specific Objectives	To increase TB case detection	Increase in case detection rate from 55 – 70% by 2011	Modelling based on Prevalence study and Vital statistics (SASTATS)	Trained staff empowered to use their new skills	NDOH PDOH NGOs Business sector	56	59	62	66	70
		80% of all facilities with a sputum result TAT of less than 48 hours by 2010	TB Case Identification and Follow-up Register TB laboratory reports Sub district reports. DHIS Paper-based TB Registers and ETR.net	Increased human resources at all levels Adequately funded district plans Accountability of District managers	FPMS Mining industry DCS DME MHS	55	65	75	80	
	To reduce the TB defaulter rate	Reduction of the defaulter rate from 10% to below 5% by 2011	Paper-based TB Registers and ETR.net	and facility managers Clear roles and		8	7	6	5	4
	To increase the cure rates for new smear positive patients	Increase the smear conversion rate for new smear positive patients from 55% to more than 75% by 2011	Paper-based TB Registers and ETR.net SASTATS reports	responsibilities for staff at all levels Health information management system linked to the ETR		60	65	70	75	80
		Increase in cure rates for new ss+ PTB from 56% to 85% by 2010		Proper supervision of all levels		60	65	70	75	85

	To reduce the death rates as a result of TB	Reduction in death rates from 71 to 60 per 100 000 by 2011				71	68	65	62	60
	To ensure early detection and proper management of patients with MDR-TB	100% of all patients with confirmed MDR-TB started on treatment by 2007	Laboratory surveillance system Drug Resistant-TB Register			100	100	100	100	100
	To ensure early detection and proper management of patients with confirmed XDR-TB	100% of all patients with confirmed XDR-TB started on treatment by 2007	Laboratory surveillance system Drug Resistant-TB Register			100	100	100	100	100
	To improve access to HIV care for HIV infected TB patients	Increase the HIV testing rate among TB patients from 41% to 100% by 2011	Paper-based TB Registers and ETR.net DHIS			41	60	80	100	100

	Interventions	Objectively verifiable indicators	Means of verification	Assumptions	Responsibility	07	08	09	10	11
Programme Outputs	1. <u>Strengthened DOH human resource capacity to deliver TB treatment, care and support services</u>									
	1.1. Appointment of staff at national, province, district, sub-district and facility levels	Staff at all levels appointed by end 2008/9	National and Provincial organograms and reports		NDOH PDOH DCS MHS Training institutions and NGOs Technical agencies Donor agencies Private sector	30%	30%	40%		
	1.2. Conduct skills and knowledge audit among public and private sector health workers	Report available by end of 2007	Skills audit report Human resource development plan developed			X				
	1.3. Conduct training of all health workers on clinical management of TB and drug Resistant TB	7 000 health workers trained by 2010	Provincial HRD progress reports			1750	3500	5250	7000	
	1.4. Conduct training of district managers, facility managers, PHC supervisors and sub and district TB coordinators on TB programme management	53 managers, 53 district coordinators, 3500 facility managers, 226 sub district coordinators and 1130 PHC supervisors trained on TB programme management by 2010	Provincial HRD progress reports			1241	2482	3723	4964	
	1.5. Conduct training of	53 district coordinators,	Provincial HRD			111	111	111		

	district, sub district coordinators and information officers on TB data management	53 information officers and 226 sub district coordinators trained on TB data management by 2009	progress reports							
	1.6. Conduct training on TB data collection tools and data management for health care workers and data capturers	3500 health workers and 3500 data capturers trained on TB data collection tools and data management by 2009	Provincial HRD progress reports			1750	3500	5250	7000	
	1.7. Conduct training on infection control for health care workers, infection control officers and facility managers	3500 health care workers, 3500 infection control officers and 3500 facility managers trained on infection control by 2009	Provincial HRD progress reports			3500	3500	3500		
	1.8. Conduct training on social mobilisation for advocacy, health promotion and communication officers	30 Advocacy, health promotion and communication officers from national and provincial levels trained on social mobilisation for advocacy by 2008	National HRD progress reports				30			
	1.9. Conduct training of community care givers on adherence counselling and support for TB patients	25 000 community care givers trained on adherence counselling and support for TB patients by 2010	Provincial HRD progress reports			6250	6250	6250	6250	
	1.10. Conduct training of for laboratory	429 laboratory assistants, medical	NHLS Reports		NHLS	214	215			

	assistants, medical technicians and technologists on TB laboratory work	technicians and technologists trained on TB laboratory work by 2008								
	1.11. Conduct training of health workers and pharmacy assistants on TB drug stock management	3500 health workers and pharmacy assistants trained on TB drug stock management by 2009	Provincial quarterly progress reports		NDOH	1750	1750			
	2. <u>Equitable access to quality TB diagnostic, treatment and care services</u>									
	2.1. Establish three new culture laboratories in Limpopo, Mpumalanga and KwaZulu-Natal	3 culture facilities operational in Limpopo, Mpumalanga and KwaZulu-Natal by 2008	NHLS Reports		NHLS NDOH Technical agencies Donor agencies	3	1			
	2.2. Establishment of a functional National TB Reference Laboratory	NTRL operational by 2008	NHLS Reports							
	2.3. Develop and implement a laboratory blind checking quality assurance system for microscopy services	Quality assurance system for all peripheral microscopy services operational by 2008	NHLS Reports				X	X	X	X
	2.4. Ensure adequate supply of TB drugs in all facilities	0% TB drug stock outs in all facilities by 2007	Provincial/ district quarterly progress reports Clinic stock cards		PDOH	0%	0%	0%	0%	

	2.5. Establish an efficient referral and recall system for TB patients in all facilities	100% of clinics with an operational referral and recall system	Provincial/ District quarterly progress reports Supervision reports		PDOH DMT	30%	60%	100%		
	2.6. Ensure provision of patient centred TB care in all facilities	100% of clinics implementing a fast tracking system for TB patients	Provincial/ District quarterly progress reports Facility TB Registers, ETR reports		DMT	40%	80%	100%		
	2.7. Construct or upgrade facilities to accommodate patients with Drug Resistant TB	Increase bed capacity for MDR-TB from 2514 to 3364 by 2011 Increase bed capacity for XDR-TB patients from 946 to 1301 by 2011	Provincial/ District quarterly progress reports Supervision reports		NDOH PDOH DMT	2514	2727	2940	3153	3364
	2.8. Improve infection control measures in all health facilities	100% of hospitals with proper ventilation systems for infection control by 2010	Provincial reports Facility infection control reports Supervision reports		NDOH PDOH DMT	25%	50%	75%	100%	
		100% of clinics implementing administrative controls to prevent spread of infection by 2009	District and Provincial reports Supervision reports			30%	60%	100%		
	2.9. Review and document existing models of community TB care	CTBC models implemented in all 53 districts by 2010	Document on good practise in Community TB care		NDOH PDOH	15	30	45	53	

	for scaling up									
	2.10 Review existing models for delivery of TB and HIV services at PHC level and document for scaling up	100% of PHC facilities implementing the model for integrated TB and HIV care by 2010	District and provincial reports		NDOH PDOH	20%	40%	70%	100%	
	2.11 Provide food supplements to all TB patients	100% of TB patients started on treatment getting food supplements	Supervision reports District and provincial reports		PDOH	100%	100%	100%	100%	100%
	2.12 Provide food parcels to all qualifying TB patients	100% of qualifying TB patients provided with food parcels			PDOH DSD	30%	80%	100%	100%	100%
	3. <u>Change in attitudes and behavior attained through advocacy, communication and social mobilization</u>									
	3.1 Develop and distribute ACSM guidelines	Guidelines distributed to all sub districts and districts by 2007	Provincial reports National ACSM reports		NDOH Technical agencies Donor agencies	X				
	3.2 Conduct press conferences on TB to disseminate information on progress with TB control	Four press conferences conducted per year	Media reports		NDOH	4	4	4	4	4
	3.3 Conduct mass media campaigns	Four bursts of mass media campaigns conducted per year	Reports on exposure or reach National ACSM reports		NDOH PDOH Technical agencies Donor agencies	4	4	4	4	4

	3.4 Conduct training on TB for journalists	One training work shop for journalists conducted per year	Workshop report and attendance list		NDOH PDOH	1	1	1	1	1
	3.5 Develop and disseminate IEC materials on advocacy	Adequate supplies of materials available at district, sub-district, provincial and national levels	Supervision reports Provincial and district reports		NDOH PDOH	X	X	X	X	X
	3.6 Conduct community "Imbizos" on TB	36 Imbizos held per year in all provinces	National, Provincial and district reports		NDOH PDOH DMT	36	36	36	36	36
	3.7 Conduct door to door campaigns and TB Blitz campaigns	90 campaigns conducted in each province per year	Provincial and district reports		NDOH PDOH DMT	90	90	90	90	90
	3.8 Mobilize political commitment for TB	90 community meetings held in each province per year	District and provincial reports		NDOH PDOH DMT	90	90	90	90	90
	3.9 Establish ACSM Steering committees at national and provincial levels	1 national and nine provincial ACSM steering committees established and functional by 2007	Minutes of the meetings held		NDOH PDOH DMT		2	2	2	2
	3.10 Conduct KAP studies in selected districts	KAP studies conducted in at least 20 districts from all nine provinces by 2008	Reports on KAP studies		NDOH PDOH Technical agencies Donor agencies		20		20	
	3.11 Develop best practice guidelines on ACSM based on provincial	100% of districts and sub-districts with best practise guidelines	Provincial and district reports		NDOH PDOH Technical agencies		100%			

	experiences				Donor agencies Stakeholders					
	3.12 Establish a monitoring and evaluation framework for the ACSM plan	100% districts reporting on indicators for ACSM	Provincial and district reports KAP study reports		NDOH PDOH Technical agencies Donor agencies		100%			
	3.13 Develop and disseminate business tool kits on TB	TB toolkits distributed to business sector	Reports from business sector Provincial and district reports		NDOH PDOH Technical agencies Donor agencies Stakeholders					
	4. <u>Enhanced partnerships with key stakeholders in TB Control</u>									
	4.1 Conduct a situation analysis of TB control in the mines, private sector, SANDF and Correctional Services	Reports with recommendations available by 2008	Report on situation analyses		NDOH PDOH DCS COM MHS Private sector partners		100%			
	4.2 Develop a comprehensive plan to strengthen the TB programme in the mines, private sector, SANDF and Correctional Services	Plan developed and implemented by 2008	TB Improvement Plan Progress reports				100%			
	4.3 Develop a memorandum of	Memorandum of understanding signed by	Memorandum of Understanding				X			

	understanding on delivery of TB services with these sectors	2008								
	4.4 Ensure monitoring and evaluation of TB control in these sectors	All sectors reporting on indicators quarterly by 2008	Minutes of meetings held Stakeholder progress reports				100%			
	4.5 Explore models for engagement of the private medical practitioners in TB control activities and pilot them	Models for engagement of private medical practitioners piloted in 5 districts by 2008	Report on the pilot study		NDOH PDOH Professional organisations IPAs Research institutions		X			
	4.6 Develop a best practise guide on engagement of private medical practitioners for scale up	Best practise document disseminated to all provinces and districts by 2008	Best practise document		NDOH PDOH Professional organisations IPAs Research institutions		X			
	4.7 Engage training institutions or organizations in inclusion of TB in curricula and developing short courses on TB as part of the continued medical education programme	TB included in curricula in medical and nursing colleges by 2008	Minutes of meetings Training curricula		NDOH Heads of training institutions		X			

	4.8 Develop guidelines for engagement of NGOs in TB control.	Guidelines for engagement of NGOs in TB control distributed by 2008	Guidelines for engagement of NGOs in TB control		NDOH PDOH Technical agencies NGOs		X			
	4.9 Conduct joint monitoring and evaluation of all sectors engaged in TB control activities	One meeting in a quarter held with the sectors to review progress	Minutes of meetings held Progress reports		NDOH PDOH All stakeholders		4	4	4	4
	4.10 Mobilise other relevant government departments to address TB in their plans	All 11 identified government departments with plans to address TB by 2008	Minutes of meetings held Departmental plans Progress reports		NDOH PDOH		4	4	4	4
	4.11 Engage research and academic institutions in conducting research on TB	Database of all research conducted in the country established by 2008	Research Database Minutes of meetings held		NDOH PDOH		X	X	X	X
		Research priorities published annually					X	X	X	X
	5. <u>Supervision, monitoring and evaluation of the TB programme strengthened at all levels</u>									
	5.1 Conduct quarterly supervisory visits to national to the provinces	36 supervisory visits conducted to all provinces per year	National reports		NDOH PDOH	36	36	36	36	36
	5.2 Conduct monthly supervisory visits from province to the	636 visits conducted to districts in all provinces per year	Provincial reports		DMT Technical agencies Donor agencies	636	636	636	636	636

	Districts									
	5.3 Conduct monthly supervisory visits from district to sub-District	2712 visits conducted to sub districts in all provinces per year	District reports			2712	2712	2712	2712	2712
	5.4 Conduct monthly supervisory visits from sub-district to facilities	42 000 visits to all facilities in all provinces per year	Sub district reports			42000	42000	42000	42000	42000
	5.5 Conduct quarterly meetings with provinces at national level to monitor progress	Four meetings held per year	Minutes of meetings held Progress reports			4	4	4	4	4
	5.5 Conduct quarterly meetings at provincial level with district and sub districts to monitor progress	36 meetings held per year	Minutes of meetings held Progress reports			36	36	36	36	36
	5.6 Conduct monthly meetings with facility managers to monitor progress	108 meetings held per year	Minutes of meetings held Progress reports			108	108	108	108	108
	5.7 Conduct an annual national reviews of the TB programme	One review conducted per year	Review report				1	1	1	1
	5.8 Conduct external reviews of the TB programme	One review conducted bi-annually	Review report				1		1	

Annexure E: Human Resource requirements at all levels

National

The main function of the national unit is to provide support and technical guidance to the provinces on the following key activities:

- Countrywide implementation of the DOTS strategy
- Training of provincial and district TB coordinators on all elements of the DOTS strategy
- Establish and update the national technical policies and guidelines on TB case detection and treatment for health facilities and laboratories.
- Conduct quarterly supervisory visits and advise on planning, monitoring and evaluation of TB control activities.
- Develop and update training materials on case management, programme monitoring and supervision for TB and Drug Resistant TB
- Collaborate with the pharmaceutical and laboratory services to ensure programme needs are met.
- Ensuring an efficient recording and reporting system for monitoring TB and DR TB patients and programme performance.
- Strengthening collaboration between TB and HIV and AIDS programmes to ensure better management of co- infected patients.
- Enhance and support communication, coordination and collaboration between all stakeholders in tuberculosis control.
- Support implementation of the Advocacy and social mobilization plan.
- Promote, coordinate and support operational and epidemiological research activities

Recommended staffing:

TB Cluster Manager (1)
Directorate: DOTS implementation – supervision, training, Treatment support and adherence (9)
Directorate: Monitoring and evaluation (5)
Directorate: Advocacy, Communication and Social mobilisation (5)
Clinical advisor for Drug Resistant TB (1)

Province

The key functions at provincial level are to:

- Collaborate with district management teams in planning TB activities so that the provincial work plan is the sum of the district work plans.
- Plan training and conduct supervisory/support visits including laboratory and pharmacy personnel who perform activities related to TB control.
- Facilitate procurement of TB dugs and advise on rational distribution and accountable drug management ensuring uninterrupted supply of drugs throughout the province.
- Supervise record keeping of the TB case registers and laboratory registers.
- Review quarterly reports provided by the districts for accuracy and completeness and provide feedback to the district officers.
- Collaborate with staff working in the HIV and AIDS programme to ensure better management of patients.

- Collaborate with other agencies and NGO's as well as private doctors, who provide care for TB patients.
- Coordinate the advocacy and social mobilization activities.
- Coordination of DR-TB management in the province.
- Surveillance of DR-TB patients and reporting on outcomes
- Conducting training for health care workers on DR-TB management.
- Ensuring proper follow up and referral of DR-TB patients

In order to conduct these core activities a full time TB coordinator has to be appointed and because of the large size of the provinces there is a need for support.
Recommended staffing:

Provincial TB manager – director level (1)
Clinical advisor Drug resistant TB, TB and HIV (1)
Reporting and recording – TB and DR-TB (2)
Advocacy Communication and Social Mobilization (1)
Supervision, Training and district support (2)
Inpatient care and Infection control (1)

Sub district and District

The district and sub-district is the implementation level and the key functions at this level are to:

- Coordinate training activities at district level
- Develop an efficient referral system of patients to ensure continuity of care for TB patients
- Ensure sufficient drug supply at all facilities
- Coordinate laboratory services and communication with laboratories
- Coordinate and establish community based DOT programmes
- Conduct support visits to health facilities including NGO's, laboratories and pharmacies
- Collate and validate facility data and submit quarterly reports on case finding, case holding and treatment outcomes
- Ensure adequate supplies of diagnostics and drugs at all times
- Ensure functional integration of TB and HIV activities at facility level
- Plan and conduct social awareness, health promotion and educational campaigns.
- Adapt, develop and distribute relevant IEC (information, education and communication) material in local language.
- Collaborate with all stakeholders in the district.

For efficient provision of these core activities and the large size of the districts, sub district TB coordinator is needed who will work closely with the primary health care supervisor, HIV and AIDS, laboratory services coordinator, district pharmacist, health promotion and the health information units. Supportive staff for the coordinator for data entry is also necessary.
Recommended staffing:

TB coordinator (1)
Data capturer (1)

Functions of the District Coordinator

- Responsible for smooth implementation of the NTCP and for achieving the programme objectives in the district.
- Planning and coordinating TB control activities in the district.
- Maintaining and distributing supplies (drugs, forms, TB stationary) and equipment.
- Organizing training of all medical staff of the peripheral health institutions.
- Supervising and supporting the facilities with the help of the primary health care supervisors. The facilities should be visited monthly for supervision.
- Compiling and analysing quarterly reports and administrative data on programme implementation in respect of the district, and sending the quarterly reports to the province.
- Organize health education campaigns and establish linkages with private practitioners, non-governmental organizations and community leaders.
- Ensure maintenance of appropriate budgets and monitor quarterly expenditure.
- Ensure proper referral and follow up of MDR-TB patients.

Functions of the Data clerk

- The data clerk is responsible for entry of the data collected from the facilities into district electronic TB register, collation, validation and analysis of the data.
- Compilation of facility and district reports for facility and district management and the province.
- Assist in the compilation of annual TB reports reflecting progress based on the established performance indicators.
- Follow up on inconsistent and incomplete data and ensure timeous reporting.
- Assist with on site training of health care workers on reporting and recording.

Facility

At facility level there should be a person responsible for the coordination of the programme. Activities particularly in facilities with case load less than 200 patients. The responsibilities should be that of ensuring proper referral and follow up of patients, record keeping, infection control and DOT monitoring. In facilities with higher case loads there should be dedicated staff to manage TB in each facility, the suggested norm is 1:200 with a split of 2/3 Professional nurse and 1/3 Enrolled nurse/ Enrolled nursing assistant. Notwithstanding this, all staff at facility level needs to be trained in TB to ensure integration and a comprehensive primary health care approach. The facility manager remains accountable for the TB programme at facility level.

Functions of Facility coordinator

- Responsible for the quality of DOT and achievement of Programme objectives in the facility (clinic or hospital).
- Responsible for case-detection and organizing direct observation of treatment in the catchment area.
- To maintain the TB Register, incorporating required information in respect of all cases diagnosed in the facility.

- To prepare quarterly reports on case detection, sputum conversion and treatment outcome for facility management.
- To maintain a map of the area detailing all other health facilities in the area, and of government organizations and NGOs/ CBOs, which carry out TB activities, including contact details of these organizations. This should also show location of the TB patients.
- To ensure (by checking the Suspect register, Treatment Cards, comparing the TB Register and the Laboratory Register, patient cards with the treatment supporters for retrieval of defaulters) that patients are correctly classified; appropriate treatment given and taken; microscopy tests carried out and treatment outcome indicated appropriately at the time of discharge. Any discrepancies found should be addressed immediately.
- To ensure implementation of the suspect register.
- To maintain a regular supply of drugs and other logistics and to ensure their uninterrupted availability.
- To arrange and facilitate the referral of patients to other facilities and follow up.
- Provide appropriate display of health education materials and conduct group health education activities.
- Ensure initial visit to the home of the patient prior to starting treatment and follow-up visits for retrieval of defaulters.
- Maintain the Treatment Cards, ensure that follow-up smear examinations are carried out as per guidelines.
- Ensure that contacts are suitably examined.
- Coordinate with the laboratory to ensure that sputum is received and examined on time.
- Ensure proper follow up and referral of MDR-TB patients.

Trained lay people can assist with the clerical workload of TB control programme to relieve the nurses to do clinical work i.e. data clerks & TB assistants employed through the Expanded Public Works Programme (EPWP) or an NGO. The suggested norms for data clerks or capturers are 1:400 and for TB assistants is 1:300.

Functions of the Community Health Worker

- Verify address of all new patients and educate patients and their families on the plan of treatment.
- Ensure regularity of DOT and administer DOT five times a week throughout the treatment period.
- Arrange time and place for DOTS, according to the patient's convenience.
- Ensure that follow-up smear examinations of sputum are carried out as per the stipulated schedule.
- Maintain the Treatment Card and record information.
- Ensure that the Patient Card is given to the health care worker for entry in the Clinic/ Hospital Card and TB Register.
- Take steps for immediate retrieval of defaulters. It should be no later than the day after the default.
- Assist with contact tracing.