

*COMBAT HIV/AIDS, MALARIA
AND OTHER DISEASES*

6 Combat HIV / AIDS, Malaria and TB

Target 7: Have halted by 2015 and begun to reverse the spread of HIV/AIDS

6.1 According to the 2006 Report on Global AIDS Epidemic the number people living with HIV is 5.7 million, which is more than twothirds of the total number living

with AIDS in Asia. In 2004, of the estimated 55,000 children born with HIV every year due to parent to child transmission, infection was averted in about 2150

- During 2005 annual Sentinel Surveillance was conducted in 703 sites across the country, covering Antenatal Clinic attendees (391), STD clinic attendees (175), Female Sex Workers (83), Injecting Drug Users (30), Men having Sex with Men (18), TB patients (4) and Migrants (1).
- On an average, 0.88% of antenatal mothers, 5.66% of SDT patients, 8.44% of Female Sex Workers and 10.16% of Injecting Drug Users were infected with HIV. There were, however, considerable differences in the prevalence rates from state to state.
- Estimated number of adults (15-49) living with HIV, using the same methodologies and assumptions as in the previous years, worked out to be 52.06 lakhs. This gives an adult prevalence of 0.91% in the country, which is comparable to the previous year.
- Out of the estimated adults living with HIV, 38.4% were females, 57% were of rural background.
- Median HIV prevalence among STD patients increased significantly over the previous year in Delhi, Rajasthan and Orissa.
- Median ANC Prevalence fell below 1% in Tamil Nadu.
- HIV prevalence was >1% among antenatal mothers in 95 districts, including 9 districts in the low prevalence states. Similarly, HIV prevalence was >10% in 34 STD sites across the country, indicating multiple heterogeneous epidemics.
- HIV prevalence in Nagaland and Manipur Showed an increase indicating an IDU and heterosexual interface.

children only (4%). There is great risk that the gains in U 5 mortality in Southern States may suffer due to high prevalence of HIV/AIDS and if new infections among children are not averted. However, the political leadership at the highest level has committed itself to implement a comprehensive and sufficiently broad multi-sectoral programme and dramatically increase Government's allocation to HIV prevention and treatment.

6.2 The epidemic is shifting towards women and young people, with women accounting for 25 per cent of all HIV infections. As in the rest of the world, in India, HIV is being recognized as an infection that is spreading rapidly among young people. In India, there are 282

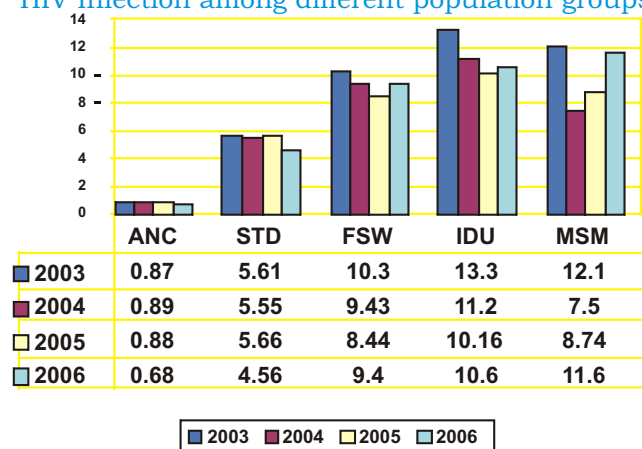
6.3 PMTCT and treatment of children are the most important strategies requiring urgent scaling up. Other interventions to enhance child survival of children affected or infected include cotrimaxazole prophylaxis to reduce acute respiratory infections, promotion of exclusive breast-feeding for six months and regular growth monitoring.

Epidemiological Situation of HIV/ AIDS in India

6.4 HIV/AIDS situation in the country is assessed and monitored through regular annual sentinel surveillance mechanism established since 1992. The sentinel surveillance started with 180 sentinel sites, which later expanded to 1122 sites, covering most of the districts of the country. These sentinel sites have

Fig.21

HIV Infection among different population groups



million people between 15 and 24 years old: 22 percent of India population who form a vast pool of individuals most vulnerable to HIV. The epidemic is shifting to rural populations and to women who account for 38% of infections. Number of districts reporting prevalence of more than 1% among women attending antenatal clinics also increases from 49 in 2002 to 111 in 2004.

been established in 628 Antenatal clinics representing general population and 394 at High Risk sites, representing High Risk Population. The high risk sites are among Injecting Drug users (51 sites), Female Sex workers (138 sites), Men having Sex with Men (31 sites) and STD Clinic attendees (251 sites).

6.5 As per recent estimates using the internationally comparable Workbook

method and using multiple data sources namely expanded sentinel surveillance system, NFHS-III, IBBA and Behavioural Surveillance Survey, there are 2 – 3.1 million (2.47 million) people living with HIV/AIDS at the end of 2006. Out of these, 0.93 million (37.7%) are women and 0.07 million (2.9%) are children. The estimated adult prevalence in the country is 0.36% (0.29% - 0.46%). The trend analysis and HIV situation among different population groups show high HIV prevalence among high-risk population in comparison to general population.

Table-6.1: AIDS incidence by categories of risk/transmission

Risk/Transmission categories			
	No. of cases		Percentage
Sexual	106669		85.34
Perinatal transmission	4755		3.80
Blood and blood products	2563		2.05
Injecting Drug users	2930		2.34
Others (not specified)	8078		6.46
Total	124995		100.00
Age group	Male	Female	Total
0 - 14 yrs.	3313	2283	5596
15 - 29 yrs.	23905	15876	39781
30 - 49 yrs.	54204	16701	70905
> 50 yrs.	6823	1890	8713
Total	88245	36750	124995

As on 31st August 2006

6.6 However, there are considerable differences in the prevalence rates across different geographical regions. A total of 116 districts showed HIV prevalence more than 1% among ANC clinic attendees during 2006, out of which 26 districts are in low prevalence states. Higher HIV prevalence among IDU is continuously observed in North Eastern States, moreover, in 2006, new pockets of high HIV prevalence among IDU have also been recorded in the states of Punjab, Tamil Nadu, West Bengal, Kerala and Maharashtra.

6.7 A total of 1,82,787 AIDS cases have been reported since 1986 till 31st July 2007. 86.3% of the infections were transmitted through the sexual route and peri-natal transmission accounted for 4.34% of infections. 1.8% and 1.9% of infections were acquired through injecting drug use and contaminated blood and blood products respectively.

6.8 Based on the sentinel surveillance data for the last three years, all the districts in the country have been classified into four categories. Till last year, there were 140 A category districts and 47 B category districts. The remaining were in categories C & D. Now, based on HIV Sentinel Surveillance round

Fig. 22
Prevalence of Condom Use for contraception

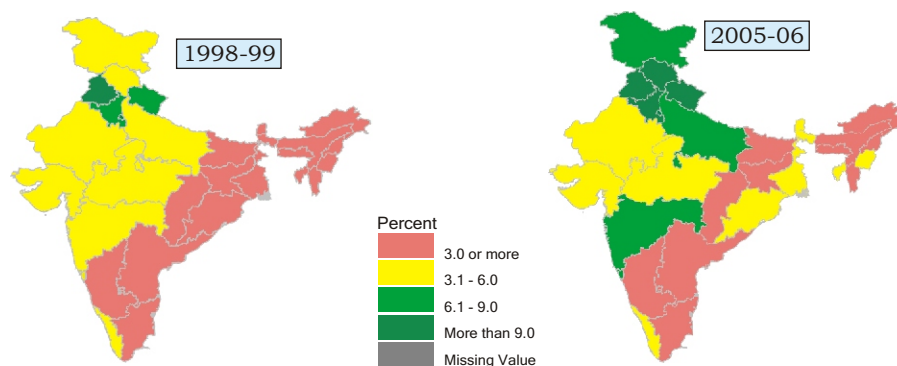


Table 6.2- AIDS CASES IN INDIA (Reported to NACO as on 31 December 2006)

S.No.	State/UT	AIDS Cases
1	Andhra Pradesh	23648
2	Assam	372
3	Arunachal Pradesh	13
4	A & N Islands	38
5	Bihar	155
6	Chattisgarh	0
7	Chandigarh (UT)	2280
8	Delhi	2759
9	Daman & Diu	1
10	Dadra & Nagar Haveli	0
11	Goa	671
12	Gujarat	7033
13	Haryana	789
14	Himachal Pradesh	302
15	Jharkhand	258
16	Jammu & Kashmir	36
17	Karnataka	4345
18	Kerala	1769
19	Lakshadweep	0
20	Madhya Pradesh	1894
21	Maharashtra	14325
22	Orissa	725
23	Nagaland	736
24	Manipur	2946
25	Mizoram	110
26	Meghalaya	8
27	Pondicherry	302
28	Punjab	528
29	Rajasthan	1758
30	Sikkim	11
31	Tamilnadu	58142
32	Tripura	5
33	Uttrakhandl	79
34	Uttar Pradesh	1751
35	West Bengal	2397
36	A,bad Mun.Corp.	726
37	Chennai M.C.	0
38	Mumbai M.C	31345
	Total	1162257

2006, 20 additional districts have been identified with HIV Prevalence > 1% among ANC clinic attendees. HIV epidemic in India is concentrated in nature with high HIV prevalence among

high-risk groups and heterogeneous in distribution.

6.9 Under the National AIDS Control Programme, National AIDS Control Organization (NACO) conducts **annual round**

of HIV sentinel surveillance in identified sentinel sites all over the country. This round is conducted for 12 weeks from 1st August to 31st October every year. Sample size of 400 is collected on consecutive basis with unlinked anonymous basis methodology in 12 weeks' time. The clinics identified as sentinel sites report data to the State AIDS Control Sites (SACS), which further compiles and sends it to NACO after necessary consolidation.

Knowledge of HIV/AIDS

6.10 As per DLHS- 2002-04, 54 % of currently married women in India had heard about HIV/ AIDS. Knowledge of HIV/AIDS is much lower among rural women, non-literate women, women from scheduled tribes, women from households with low standard of living, among young women and women from some religious groups. 78% of urban women had heard of HIV/AIDS compared to only 42% of rural women. Knowledge of HIV/AIDS steadily increased with an increase in educational level and standard of living.

6.11 More than one-fourth of non-literate women (28%) had heard of

HIV/AIDS against 94% of women who had completed ten or more years of schooling. Similarly, a little more than one-quarter of the women (28%) with a low standard of living heard of HIV/AIDS as against 86% of women of a high standard of living. Except younger women (age below 20 years), more than 50% of the women from all other age groups had heard about HIV/ AIDS. Awareness of HIV/AIDS among Women from Jains (92%), Christians (80%), Zoroastrians (86%), Buddhists (78%) and Sikhs (66%) are higher than Hindu women (53%) or Muslim women (50%) and other minor religions. Knowledge of HIV/AIDS among Women belonging to the Scheduled Castes (45%) and Scheduled tribes (32%) is much less compared to other castes. The pattern of the awareness among currently married men and women of about different modes of transmitting AIDS is almost the same among both males and females of all the three age-groups considered.

6.12 As a marker of spread of HIV, percentage of non regular sex partners and the condom use among non regular sex partners has been identified as crucial information. NACO conducts Behavioural

Table 6.3 : Status of Various Indicators under MDG 6.

Indicator / Year	2001	2002	2003	2004	2005	2006	Source
HIV Prevalence among pregnant women aged 15-24 years (%)	NA	0.74	0.86	0.80	0.80	0.68	Annual Sentinel Surveillance
HIV Prevalence among pregnant women aged 25-49 years (%)	NA	0.80	0.88	0.98	1.00	0.6	
Condom use with non-regular sex partner during last sex	49.3%	--	--	--	66.1	58.3%	Behavioural Surveillance Survey 2001-02 & 2006
Percentage of population aged 15-49 with comprehensive correct knowledge about HIV/AIDS	46.8%	--	--	--	57.2	40.3%	

Source: Ministry of Health and Family Welfare

Sentinel Surveillance Survey (BSS) to monitor trends in risk behaviours among general population and among high risk groups. This data is captured from the survey among general population whereby individual respondents are asked to respond to specific questions related to these indicators. The respondents are asked whether they had sexual intercourse with any non regular sex partners in the last 12 months before the survey. The respondents, who reported having sex with any non-regular sex partner in the last 12 months before the survey, were asked whether they used condom during the last sexual intercourse with any non-regular sex partner. The behavioural sentinel surveillance survey is conducted once in three years. During National AIDS Control Programme (NACP) II, the baseline (BSS) survey was conducted in 2001 while the end line survey will be conducted during 2005- 06. The survey was conducted by an independent organization identified by NACO. The independent organisation collects data from the field level which are compiled and documented in the form of BSS Report.

6.13 As per the data available, the HIV prevalence has increased from 0.74 per hundred pregnant women aged 15-24 years in 2002 to 0.86 in 2003 and since then has dropped to 0.68 by 2006. Likewise the figures for age group 25-49 have declined to 0.60 per hundred pregnant women by 2006. As per the Baseline BSS report 2001-02, only 40.1% of the population who had sex with nonregular partners used condom and 16.5% people between ages 15-49 years have comprehensive correct knowledge about HIV/AIDS. The 2006 BSS reveals these figures as 58.3% and 40.1% respectively.

National Response to HIV/AIDS epidemic

6.14 The first phase of National AIDS Control Programme was initially from 1992 to 1997 and was later extended to 1999. NACP-II commenced from April 1999 with the twin objectives of reducing the spread of HIV infections and strengthening the capacity of Central and State Governments to respond to HIV/AIDS on a long term basis. Targeted interventions were initiated for high risk groups and measures to prevent HIV transmission among the general population were taken up. The Programme implementation has been completely decentralized to states and UTs. Each state and UT has registered a State AIDS Control Society (SACS) responsible for implementing the programme at the State/ UT level.

6.15 Important Policy initiatives taken during NACP-II include: adoption of National AIDS Prevention and Control Policy (2002); National Blood Policy; a strategy for Greater Involvement of People with HIV/AIDS (GIPA); launching of the National Rural Health Mission; launching of National Adolescent Education Programme; provision of anti-retroviral treatment (ART); formation of an inter-ministerial group for mainstreaming; and setting up of the National Council on AIDS, chaired by the Prime Minister

National AIDS Control Programme -Phase III

6.16 Taking stock of the achievements and the gaps to be filled, and incorporating the lessons learnt from NACP-II, the third phase of NACP was launched in June 2007. The overall goal of NACP-III is to halt and reverse the epidemic in India over the next

5 years. Considering that more than 99% of the population in the country is free from infection, NACP-III will place the highest priority on preventive efforts while, at the same time, seeking to integrate prevention with care, support and treatment. This will be achieved through a **four-pronged strategy**:

1. Prevention of new infections in high risk groups and general population through:
 - a. Saturation of coverage of high risk groups with targeted interventions (TIs)
 - b. Scaled up interventions in the general population
2. Providing greater care, support and treatment to larger number of PLHA.
3. Strengthening the infrastructure, systems and human resources in prevention, care, support and treatment programmes at the district, state and national level.
4. Strengthening the nationwide Strategic Information Management System.

6.17 The specific objective is to reduce new infection as estimated in the first year of the programme by:

- Sixty per cent (60%) in high prevalence states so as to obtain the reversal of the epidemic; and
- Forty per cent (40%) in the vulnerable states so as to stabilize the epidemic.

The unifying credo of Three Ones, i.e., one Agreed Action Framework, one National HIV/AIDS Coordinating Authority and one Agreed National M&E System, Respect for the rights of the PLHA, Civil society representation and participation are among the important guiding principles for NACP-III. Given the spread of HIV infection into rural areas, NACP-III will further decentralize its organizational structure to

implement programmes at the district level. The basic unit of implementation will now be the district. The political leadership at the highest level has committed itself to implement a comprehensive and sufficiently broad multisectoral programme and provide adequate funding for HIV prevention and treatment..

Target 8: Have halted by 2015 and begun to reverse the incidence of malaria and other major disease

6.18 **Malaria** is a public health problem in several parts of the country. About 95% population in the country resides in malaria endemic areas and 80% of malaria reported in the country is confined to areas consisting 20% of population residing in tribal, hilly, difficult and inaccessible areas. **Directorate of National Vector Borne Disease Control Programme (NVBDCP)** has framed technical guidelines/ policies and provides most of the resources for the programme. For the monitoring of the programme, indicators have been developed at national level and there is uniformity in collection, compilation and onward submissions of data. Passive surveillance of malaria is carried out by PHCs, Malaria Clinics, CHCs and other secondary and tertiary level health institutions, which patients visit for treatment. At present, there are 22,975 PHCs, 2,935 CHCs and 13,758 Malaria Clinics. The Table below gives information on Annual Parasite Incidence (annual number of malaria positive cases per thousand population) and death rate (actual number of confirmed deaths due to malaria per 100,000 population) from 1990 up to 2006.

6.19 From the data, it is clear that annual parasite incidence rate has consistently

Table 6.4: Annual Parasite Incidence and Death Rate

Year	Annual Parasite Incidence (per 1000)	Deaths	Death per 100,000 population
1990	2.57	353	0.05
1991	2.62	421	0.05
1992	2.58	422	0.05
1993	2.65	354	0.04
1994	2.91	1122	0.13
1995	3.29	1151	0.13
1996	3.48	1010	0.12
1997	3.01	879	0.10
1998	2.44	664	0.07
1999	2.41	1048	0.11
2000	2.07	932	0.09
2001	2.12	1005	0.10
2002	1.80	973	0.09
2003	1.82	1006	0.10
2004	1.84	949	0.09
2005	1.68	963	0.09
2006*	1.54	1467	0.14

* Provisional Source: Ministry of Health and Family Welfare

come down from 2.57 per thousand in 1990 to 1.54 per thousand in 2006 but confirmed death rates due to malaria have been fluctuating in this period between 0.04 - 0.14 deaths per 100,000 population. The Table shows the information on indicators by which malaria prevention/ control activity in India are monitored and evaluated. Slide Positivity Rate (SPR) and Slide Falciparum Rate (SFR) have reduced over the years 1990 to 2006. It may be seen that ABER lies within 8.80% to 10.49% during the period 1990-2006. Functioning has increased to 3,66,517 in 2005 but number of functioning Fever Treatment Depots has come down to 96,015 in the country.

6.20 The Table 6.6 shows the position regarding Drug Distribution Centres (DDCs) and Fever Treatment Depots (FTD) established during 1997 to 2005. There are approximately 6.25 lakh villages, the number of Drug Distribution Centres functioning has increased to 3,66,517 in 2005 but number of functioning Fever Treatment Depots has come down to 96,015 in the country.

6.21 The Table below shows position regarding the **percentage of population in high risk areas covered by Indoor Residual Spray** during 1997 and 2004.

Table 6.5: Malaria Epidemiological Situation in India (1990-2006)

Year	Population (in 000s)	BSE	Positive cases	PF cases	ABER	SPR	SFR
1990	784418	74422242	2018783	752118	9.49	2.71	1.01
1991	808102	75158681	2117460	918488	9.30	2.81	1.22
1992	824137	79011151	2125826	876246	9.59	2.69	1.11
1993	833885	77941025	2207431	852763	9.35	2.83	1.09
1994	861730	82179407	2511453	990508	9.54	3.06	1.21
1995	888143	83521300	2926197	1136423	9.40	3.50	1.36
1996	872906	91536450	3035588	1179561	10.49	3.30	1.29
1997	884719	89445561	2660057	1007366	10.11	2.97	1.13
1998	910884	89380937	2222748	1030159	9.81	2.48	1.15
1999	948656	88333965	2284713	1141359	9.31	2.58	1.29
2000	982413	86459292	2031790	1037173	8.80	2.34	1.20
2001	984579	90389019	2085484	1005236	9.18	2.30	1.11
2002	1025563	91617725	1842019	897454	8.93	2.00	0.98
2003	1027157	99136143	1869403	857124	9.65	1.88	0.86
2004	1040939	97111526	1915363	890152	9.33	1.97	0.92
2005	1082882	104143806	1816569	805077	9.62	1.74	0.77
2006*	1085460	102629774	1669333	756655	9.45	1.63	0.74

* Provisional

BSC : Blood Smear Collected

BSE : Blood Smear Examined

PF : Plasmodium Falciparum

ABER : Annual Blood Smear Examination Rate (percentage of blood smears examined in a year of total population)

Source: Ministry of Health and Family Welfare

Table 6.6: DDCs/ FTDs Established/ Functioning –

Year	DDCs		FTDs	
	Established	Functioning	Established	Functioning
1997	198554	170488	73796	54389
1998	201612	181437	72892	51411
1999	247997	209849	83209	73015
2000	264824	252932	88609	88609
2001	278910	278910	99724	99265
2002	336918	263561	120060	98990
2003	363506	312274	133429	116871
2004	375516	355173	103180	98580
2005	377139	366517	104882	96015

Source: Ministry of Health and Family Welfare

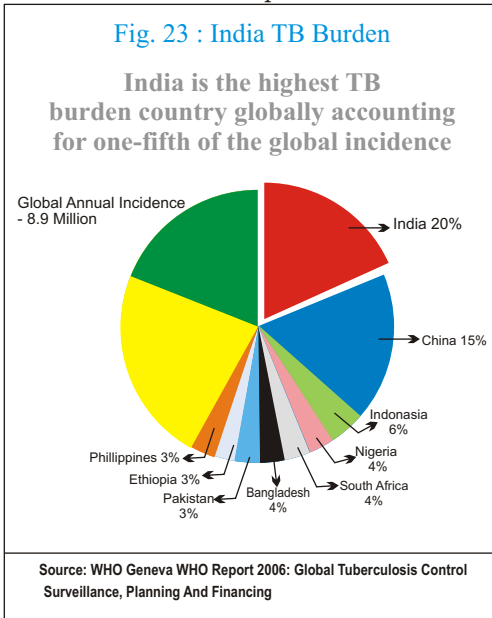
Table 6.7: Percentage of population in high risk areas covered by Indoor Residual Spray

Years	Population in high risk areas		% age
	Target	Covered by Indoor -Residual Spray	
1997	129483148	99875347	77.08
1998	104827478	80085578	76.40
1999	84593820	73050748	86.35
2000	99999950	81691911	81.69
2001	92550262	77640746	83.49
2002	75864024	63575991	83.80
2003	60425231	50754459	84.00
2004 *	73962661	60064338	81.21

* Provisional Source: Ministry of Health and Family Welfare

**Tuberculosis
TB Burden in India**

6.22 India is the highest TB burdened country in the world, accounting for nearly one-fifth of the global incidence. In 2005, out of the global annual incidence of 8.9 million TB cases, 1.8 million were estimated to have occurred in India, of whom 0.8 million were infectious cases. The prevalence of TB in



India for the year 2000 has been estimated at 3.8 million bacillary positive cases. TB is one of the leading infectious causes of death, leading to nearly 370,000 deaths each year, more than 1000 every day or two deaths every 3 minutes.

Strategic Vision of TB Control

6.23 Over the past one decade, the RNTCP has expanded rapidly from covering 18 million people in 1998 to the entire population of 1114 million by March 2006. Phase-II (2006-2011) of the RNTCP is a step towards achieving TB related UN MDGs. The programme has developed a strategic vision for TB control for the country up to 2015, under which it aims to

achieve and maintain a cure rate of at least 85% in new Sputum Positive Pulmonary TB patients, and detection of at least 70% of such cases. The RNTCP Phase-II is making efforts to strengthen the quality of DOTS through implementation of the RNTCP Quality Assurance protocol for sputum microscopy; decentralized accessible and patient friendly DOT services; pro-active Public-Private Mix (PPM) activities to increase the reach of Dot services; rational use of standardized first and second line anti-TB drugs; and need based advocacy; communication and social mobilisation to generate awareness and demand for quality services. New activities have been included in the RNTCP to provide care and management for up to 500 new MDR-TB cases a year. The vision is to have a network of RNTCP accredited quality assured State level Intermediate Reference Laboratories (IRLs), one in each large State, providing culture and drug sensitivity testing services for RNTCP and to have DOTS-Plus sites, for the case management of MDR-TB patients as per guidelines.

Evolution of RNTCP

Based on the recommendations of a joint review conducted by the Government of India, WHO and the Swedish International development Agency, the Revised National Tuberculosis Control Programme (RNTCP) was launched in 1997. It is built upon the infrastructure already established by the previous programme, while incorporating the elements of the internationally recommended directly observed Treatment, Short courses (DOTS) strategy for TB control.

Incidence of TB

6.24 Prior to 2000 there was no large-scale nation wide survey conducted in the country for estimating TB incidence. Estimates were

based on small regional surveys. For the first time a nation wide . Annual risk of TB infection (ARTI) survey was conducted by National Research Centre between 2001-03 to provide estimates of incidence of TB in the country. The methodology and validity of the estimates have been universally accepted. It is envisaged to undertake ARTI surveys every 3-6 years gap, with the next round planned 2007-09 to measure the progress towards achieving the MDG goals and impact of Directly Observed Treatment Short course (DOTS) in the country. ARTI represents the proportion of population that gets newly infected (or reinfected) with tubercle bacilli over the course of one year. Based on Styblo's calculations, it has been estimated that for every one percent annual risk of tuberculosis infection, there are about 50 new pulmonary sputum smear positive cases per 100,000 population per year. Currently the average ARTI in the country as a whole is estimated to be 1.5% i.e. there will be 75 New Smear Positive (NSP) cases per 100,000 population per year. Prior to 2000, based on the small regional/local ARTI surveys, the ARTI was estimated to be 1.7% in the country i.e. 85 NSP cases per 100,000 population per year.

Prevalence of TB.

6.25 Using data on TB disease prevalence among adults from TB Research Centre (TRC), Chennai, TB prevalence among children from the National TB Institute (NTI), Bangalore, and the nationwide annual risk of TB infection (ARTI) survey of 2000-2003 conducted by NTI and TRC, an estimate of the prevalence of TB disease in the Year 2000 was calculated. The estimated number of bacillary cases was 3.8 million (95% CI: 2.8-4.7). The number of bacillary cases was estimated to be 3.9 million and that for extrapulmonary cases was 0.8 million, giving a total prevalence figure of 8.5 million (95% CI: 6.3-10.4) for

the Year 2000. This estimate includes the disease burden of X-ray suspected cases that are likely to breakdown to bacillary cases in a one year period and extrapulmonary TB cases. This estimation provides a baseline for comparison against data in future years to measure the long term impact of TB control activities in India.

6.26 Large-scale national disease prevalence surveys are ideal to get direct estimate of the TB prevalence in a large country like India but is not feasible due to enormous requirement of trained manpower, operational constraints and high cost. To obtain a more representative estimate and study the trend in prevalence, the programme plans to undertake TB prevalence surveys in 6-7 select sentinel sites/districts in different zones of the country. The surveys will be undertaken in 2007-10 and would be repeated after 3-6 years to measure progress towards MDG.

Mortality due to TB

6.27 The case fatality rate among registered cases under RNTCP DOTS has been consistently below 5%, resulting in a seven-fold reduction of death rates compared to the earlier National Tuberculosis Control Programme (NTCP) where the death rate of 29% was reported. However, with a significantly large private sector catering to TB patients, weak civil registration system and reporting on causes of death – the country does not have reliable estimates on TB mortality rates. As per the available WHO estimates (based on mathematical modeling exercises), deaths, due to TB has decreased from 500,000 prior to 2000 to under 270,000 per year currently. WHO has estimated the death rates due to TB in the country 44 per 100,000 in 1990 to 35 per 100,000 in 2002 and for the year 2005 as 29 per 100,000 (Annual Global TB Report 2007).

6.28 The programme with the support of TRC, Chennai has conducted community based mortality surveys using standardized Verbal Autopsy question-naire developed by

the Registrar General of India (RGI) Office, in the states of Andhra Pradesh (South Zone) and Orissa (East Zone) in 2005-06. The programme has plans to undertake TB morality survey in the state of Uttaranchal (North Zone). These surveys would also be repeated after 4-5 years to obtain information on the trends in the community.

Programme performance

6.29 Since the inception of programme, more than 6.9 million patients have been initiated on treatment i.e. over 1 lakh patients are initiated on treatment every month, resulting in saving nearly 1.2 million additional lives. In 2006, nearly 1.4 million patients have been registered for treatment. RNTCP is close to the global targets for TB control. The treatment success rate has been maintained consistently over the global target of 85% amongst new smear positive cases, and the case detection rates in such cases was 66% in 2005 and 2006, close to the global target of 70%.

6.30 Estimates of incidence and death

rates are based on a consultative and analytical process; they reflect the new information gathered through surveillance and from special studies/ surveys (such as ARTI, prevalence surveys.). DOTS implementation started as a pilot in 1993 and adopted in 1997. Prior to 1993 reliable information on case detection rates and treatment success rates were not available. Hence, information on case detection rates and success rates are available from 1996-97 onwards. These reports are compiled from the standardized RNTCP quarterly reports, summarized annually.

6.31 Proportion of registered NSP TB patients successfully treated under DOTS in a given year is mentioned below:
 Numerator = No. of NSP TB patients cases treated successfully under DOTS in an annual cohort of cases. Denominator = No. of NSP TB patients registered for treatment in the corresponding year (annual cohort).
 The proportion of TB patients successfully treated has risen from 82% in 1997 to 85% in 2001 and has been consistently maintained over 85% since then as can be seen in Table 6.8.





Table 6.8: Number of TB patients registered for treatment under DOTS and treated successfully.

Year	Population Covered (million)	Total Patients Registered	Number of NSP cases registered	Treatment Success Rate (%) amongst NSP Cases
1997	11	18,097	7,747	82%
1998	18	32,818	12,354	84%
1999	130	137,028	53,334	82%
2000	287	245,135	95,091	84%
2001	450	471,658	185,178	85%
2002	530	622,873	245,051	87%
2003	778	906,472	358,496	86%
2004	947	1,187,353	465,331	86%
2005	1080	1,293,083	506,193	86%
2006	1114	1,397,498	553,660	-

Source: RNTCP Status Reports: TB India 2001-2007

Fig.24

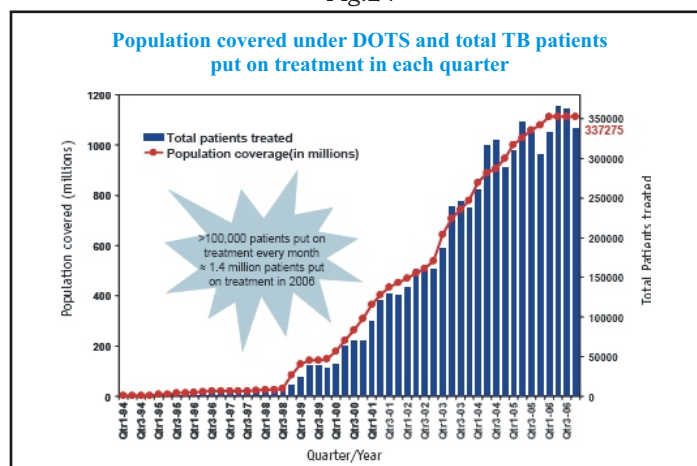


Table 6.9: Key indicators of TB Prevalence

S.No	Indicator	DOTS
1.	New & Relapse Cases	1,227,246
New Cases		
2.	Smear Positive	553,660
3.	Smear Negative/unknown	400,496
4.	Extra-pulmonary	183,180
Retreatment Cases excl. relapse		
5.	Retreatment Cases excl. relapse	170,252
% of new pulmonary cases smear+		
a.		In India 61
b.	In 22 High Burden countries	62
c.		Global 60

Sources of Indicators 1-5:- TB India 2007: RNTCP Status Report

6:- WHO Report 2007: Global TB control

ACHIEVEMENTS

- Diagnostic facilities in nearly 12,000 laboratories throughout the country have been upgraded and established. more than 6.2 million TB suspects have been examined at these facilities in 2006. System for quality assurance have been put in place.
- RNTCP is in the process of building up the intermediate reference laboratories capable of undertaking culture and drug sensitivity tests (C/S). By the end of 2007, 12 new state level IRLs would be upgraded to provide C/S facilities.
- The programme is about to roll out DOTS-Plus management for MDR-TB in the state of Gujarat and Maharashtra by early 2007.

Fig. 25

New Smear Positive TB Detection Rate of India, 2006

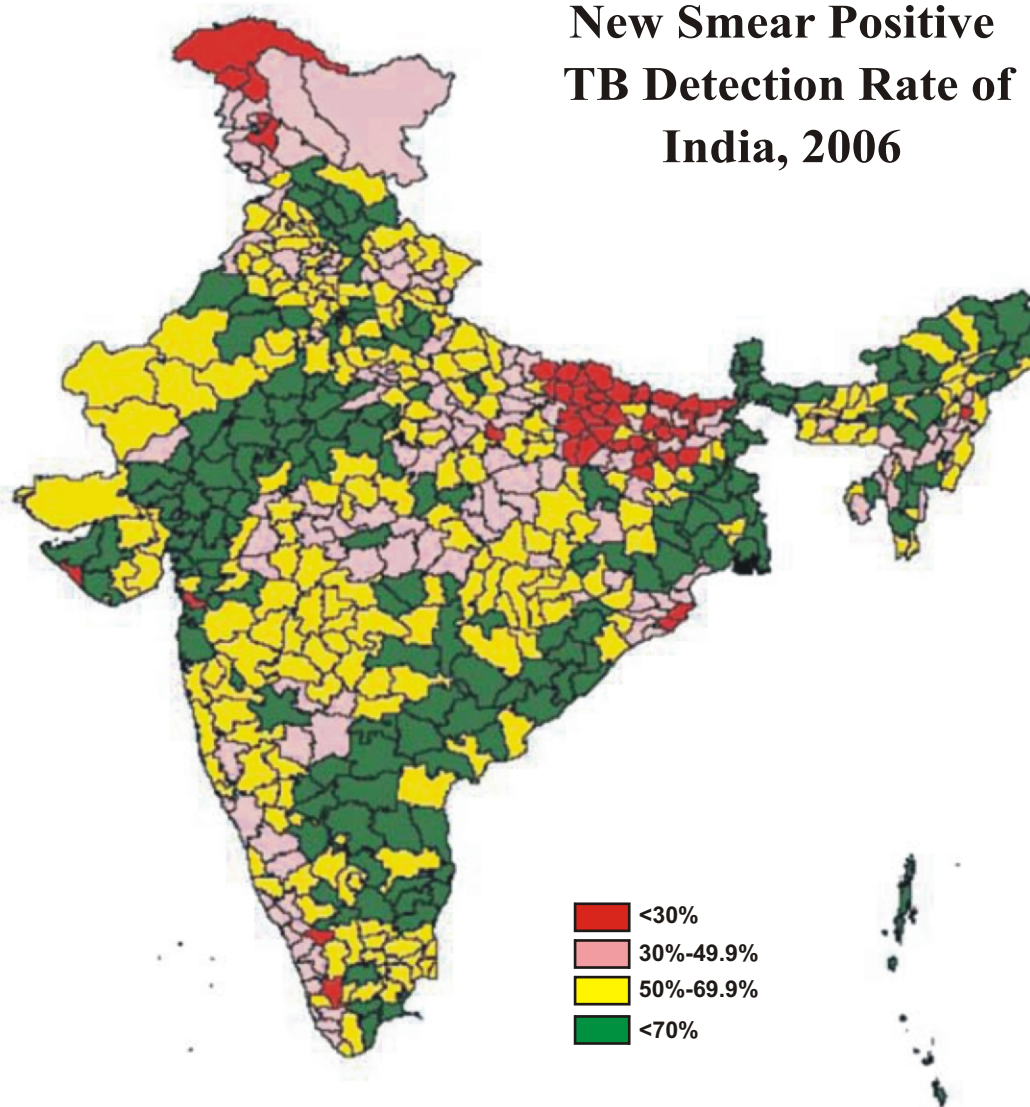


Fig. 26

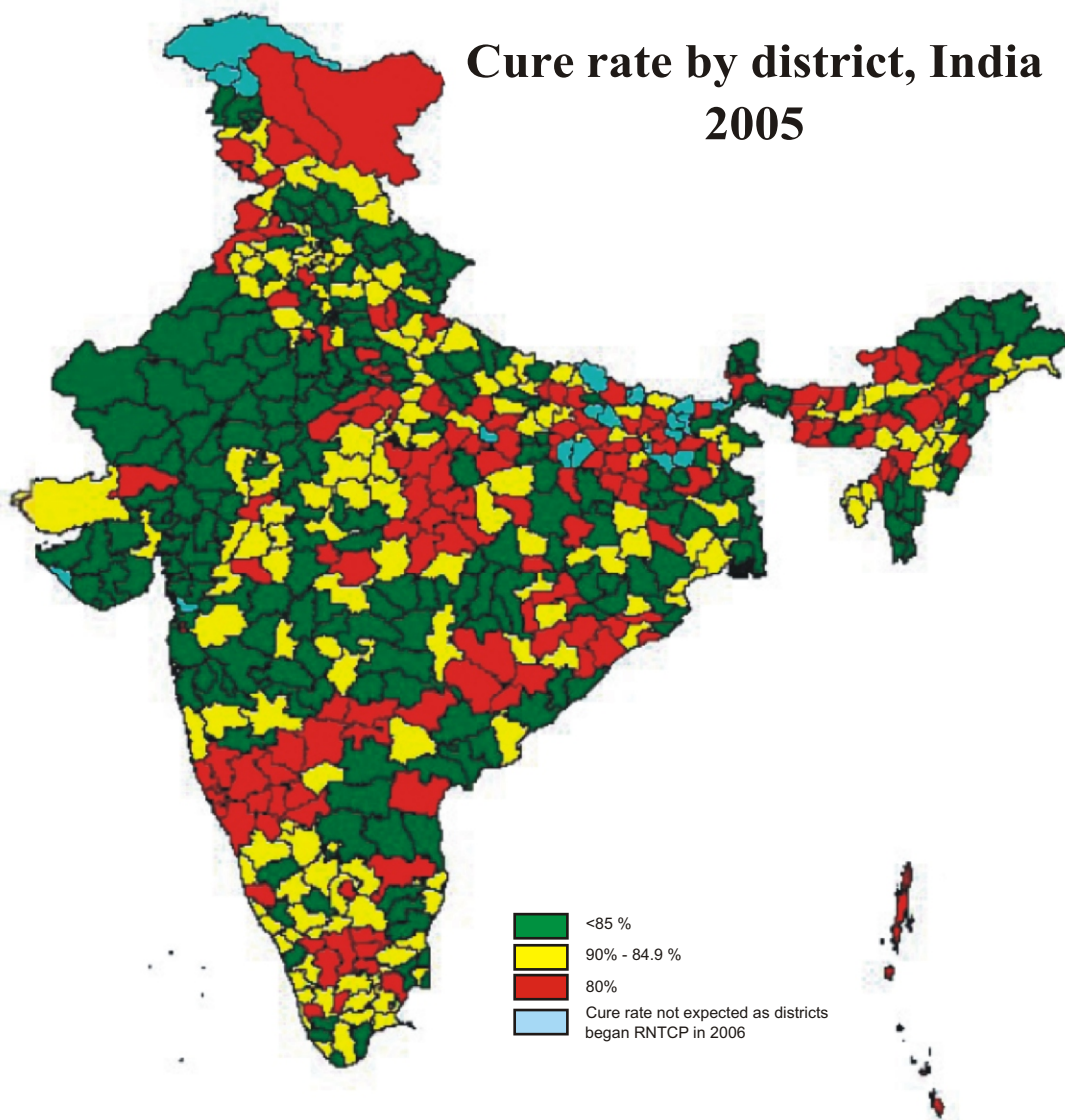


Table 6.10
Annual Performance of RNTCP Case Detection (2006), Smear Conversion
(4th quarter, 2005 and 1st to 3rd quarter, 2006) and Treatment Outcomes(2005)

State	Population (in lakh) converted by RNTCP	No. of suspects examined	Suspects examined per lakh population per quarter	No. of smear positive patients diagnosed ²	% of S+ve comes among suspects	Total patients registered for treatment	Annual total case detection rate	Now smear positive patients registered for treatment	Annual new smear positive case detection rate(%)	(%) % new sputum positive out of total new pulmonary cases	No of new smear negative cases registered for treatment	No of new Ep cases registered for treatment	
Andaman & Nicobar	4	4040	256	379	9%	920	234	274	70	93%	48%	299	235
Andhra Pradesh	804	447523	139	66924	15%	107131	133	44907	56	74%	56%	34095	9394
Arunachal Pradesh	12	10824	231	1352	12%	2607	223	922	79	105%	55%	765	296
Assam	290	114640	99	10573	16%	32311	111	14012	48	64%	59%	9853	2925
Bihar	908	222802	61	29289	13%	61151	64	19615	20	27%	43%	26361	3020
Chandigarh	10	14048	347	1662	12%	2322	229	785	77	82%	64%	441	675
Chattisgarh	229	109280	120	13273	12%	28209	123	10737	47	59%	48%	11620	2887
D & N Haveli	2	1613	163	187	12%	391	158	148	60	75%	61%	94	72
Daman & Diu	2	3020	424	198	7%	280	157	95	53	67%	58%	70	40
Delhi	161	156732	244	25427	16%	47606	296	13717	85	90%	59%	9444	13711
Goa	15	10356	168	1091	11%	2036	132	637	41	52%	54%	552	466
Gujarat	548	348473	159	60231	17%	79821	146	33601	61	77%	72%	127466	9236
Haryana	230	159318	173	22893	14%	34693	151	13155	57	60%	64%	7388	4961
Himachal Pradesh	64	61070	238	8354	14%	13303	207	4965	77	81%	67%	2414	2778
Jammu & Kashmir	116	72411	156	5229	7%	10268	88	3635	31	33%	58%	2617	2574
Jharkhand	292	112432	96	18289	16%	33035	113	14024	48	64%	53%	12265	1990
Karnataka	561	344976	154	40886	12%	64842	116	25363	45	60%	62%	15318	11420
Kerala	336	229692	171	13566	6%	25248	75	10707	32	43%	66%	5447	6014
Lakshadweep	1	189	72	6	3%	16	24	7	11	14%	54%	6	3
Madhya Pradesh	668	267667	100	45923	17%	74435	111	28884	43	54%	55%	23467	7192
Maharashtra	1041	583510	140	76759	13%	138837	133	54093	52	65%	58%	30547	20658
Manipur	26	19159	187	1478	8%	4603	180	1141	45	59%	42%	1584	871
Meghalaya	25	11582	117	1832	16%	3929	159	1220	49	66%	59%	846	815
Mizoram	10	7835	205	776	10%	1912	200	548	57	77%	55%	449	591
Nagaland	21	9470	111	1279	14%	2695	126	950	45	60%	60%	642	461

Annual Performance (Contd.)

State	Population (in lakh) converted by RNTCP	No. of suspects examined	Suspects examined per lakh population per quarter	No. of smear positive patients diagnosed ²	% of S+ve comes among suspects	Total patients registered for treatment	Annual total case detection rate	Now smear positive patients registered for treatment	Annual new smear positive case detection rate(%)	(%) % new sputum positive out of total new pulmonary cases	No of new smear negative cases registered for treatment	No of new Ep cases registered for treatment	
Orissa	391	183290	117	25741	14%	44790	115	19663	50	50%	61%	12346	6864
Pondicherry	10	16477	395	1481	9%	1513	145	666	64	85%	68%	311	286
Punjab	260	154763	149	20592	13%	34537	133	13630	52	55%	63%	7918	6424
Rajasthan	624	365455	146	70012	10%	107783	173	40152	64	80%	56%	31649	12092
Sikkim	6	7432	321	787	11%	1458	252	505	87	116%	65%	273	366
Tamil Nadu	653	619549	237	49317	8%	87065	133	33314	51	65%	57%	24711	17441
Tripura	34	12401	91	1611	13%	2314	68	1255	37	49%	72%	478	232
Uttar Pradesh	1839	922839	125	133715	14%	224465	122	91610	50	52%	55%	74719	20190
Uttarakhand	92	50751	162	7685	13%	11653	126	4279	46	49%	56%	3416	1465
West Bengal	1858	560008	163	66873	12%	109319	127	50435	59	78%	66%	25445	14535
Grand Total	11142	6224636	140	834870	13%	1397498	125	553660	50	66%	58%	400496	183180

Estimated New Smear Positive cases/lakh population based on ARTI data for North Zone (Chandigarh, Delhi, Haryana, Himachal Pradesh, Jammu & Kashmir, Punjab, Uttar Pradesh, Uttarakhand) is 95; East Zone (Andaman & Nicobar, Arunachal Pradesh, Assam, Bihar, Jharkhand, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura, West Bengal) is 75; South Zone (Andhra Pradesh, Karnataka, Kerala, Lakshadweep, Pondicherry, Tamil Nadu) is 75 and West Zone (Chattisgarh, Dadra & Nagar Haveli, Daman & Diu, Goa, Gujarat, Madhya Pradesh, Maharashtra, Rajasthan) is 80; Orissa is 85

• Projected population based on census population of 2001 is used for calculation of case- detection rate. 1lakh-100,000 population

• Smear positive patients diagnosed include new smear positive cases and smear positive retreatment cases

• Total patients registered for treatment includes new sputum smear positive cases, new smear negative cases, new extra-pulmonary cases, smear positive retreatment cases and 'others'