National Tuberculosis Control Programme

Tuberculosis (TB), a debilitating disease, continues to remain one of the leading infectious killer diseases and a most pressing health problem in the country. To prevent and control the disease the National Tuberculosis Control Programme (NTCP) was launched in Assam in 1962. Although Government of India introduced (1992) a revised strategy for National Tuberculosis Control Programme (RNTCP) to achieve a cure rate of over 85 per cent by implementing the Directly Observed Treatment (DOT) of Short Course Chemotherapy (SCC) in a phased manner throughout the country, the RNTCP was launched (November 1998) only in one district (Dibrugarh) of Assam. Review of the Programme revealed that there were dismal achievement in detection of new TB cases, low cure rate, inadequate or non-availability of infrastructure facilities, irregular supply of drugs, insignificant training activities and lack of proper monitoring. Annual Action Plans were not formulated nor any survey was undertaken to identify TB patients. Funds provided by the Government of India were either not released or there was delay in release/utilisation of funds.

Highlights

-- Out of Rs.2.54 crore provided by Government of India in cash during 1997-98 to 2000-2001 the department had not released Rs.0.70 crore indicating that funds were diverted for other purposes instead of utilisation on the programme.

-- The department spent Rs.0.13 crore in excess of ceiling of funds for purchase of anti TB drugs during 2000-2001.

-- Targets and achievements for setting up TB units, TB dispensaries/chest clinics and microscopy centres during 1996-97 to 2000-2001 were not on record.

-- In 17 District Tuberculosis Centres 8 posts of Medical Officers and 52 posts of paramedical staff were lying vacant. Besides, there was no record of utilisation of 656 TB beds in government hospitals between 1996-97 and 2000-2001.

-- Contrary to Government of India orders (January 1999) the DHS had purchased Rifampicine Capsules and Pyrazinamide tablets valued at Rs.0.54 crore during January 1999 to October 2000 out of the grants received from Government of India. In DTC Karbi-Anglong out of 3 lakh Rifampicine capsules received in October 1995 against indents placed by DGHS, shelf life of 1.07 lakh capsules valued at Rs.6.42 lakh expired in October 1996 due to their supply in excess of requirement.

-- Though the cure rate under NTCP was between 17 and 29 per cent during 1996-97 to 2000-2001 against the cure rate of over 85 per cent envisaged under RNTCP, in 22 out of 23 districts the Programme has not been proposed for switch over to RNTCP in these districts. The percentage of defaulters in continued treatment steadily increased from 15 per cent in 1997-98 to 29 per cent in 2000-2001. The department had not analysed the reason for dismal cure rate and increasing trend of defaulters nor had taken any remedial measures to improve the position.

Introduction

3.31 The National Tuberculosis Control Programme (NTCP) was launched in Assam in 1962 as a centrally sponsored scheme with matching share between central and state government. The objective of NTCP were:

(a) to detect as large a number of patients suffering from tuberculosis as possible;

(b) to prevent and control the disease by effective treatment; and

(c) to provide the treatment to TB patients as near to their homes as possible through the District Tuberculosis Centres (DTCs), TB hospitals, TB clinics and peripheral health institutions.

(d) Following a review (1992) of NTCP by a Committee of Experts, the Government of India pilot-tested (1993-94) Revised National Tuberculosis Control Programme (RNTCP) as an externally aided project with emphasis on achieving cure rate of over 85 per cent of TB infection cases through administration of directly observed Short Course Chemotherapy (SCC) and to augment case finding activities to detect 75 per cent of estimated TB cases after achieving a desired cure rate. In Assam, the RNTCP, a 100 per cent centrally sponsored scheme, was launched (November 1998) in Dibrugarh district only. The RNTCP had not been extended in phases to other districts as of March 2001.

Organisational set up

3.32 Implementation of the programme is entrusted to a Joint Director of Health Services (TB) (Jt. DHS(TB) to function as State TB officer under the overall control and supervision of Director of Health Services (DHS). State TB officer is assisted by 23 Jt. DHS of the districts who implement the programme through the Sub-divisional Medical Officer/Medical Officer incharge of 17 District Tuberculosis Centres (DTCs)[*], 3 TB hospitals[0] and 3 chest clinics[+]. TB control societies with Commissioner and Secretary, Health

[*]11 DTCS fully functioning covering 16 districts: Barpeta, Dhubri, Jorhat (including Golaghat & Dhemaji) Kamrup, Karbi Anglong, Nagaon (including Morigaon), Dibrugarh (including Tinsukia), Cachar (including Hailakandi), N.C. Hills, Lakhimpur and Sonitpur.
6 DTCS partially functioning covering 7 districts Darrang, Goalpara, Karimganj, Kokrajhar (including Bongaigaon) Nalbari and Sibsagar.

[0] TB Hospitals: Kamrup (Guwahati); Dhubri, Sonitpur (Tezpur).

[+] Chest clinics: Kamrup (Rangia) Morigaon, Golaghat.

and Family Welfare as chairman and Jt. DHS (TB) as member secretary at state level and Deputy Commissioner/Principal Secretary Hills Autonomous Councils and Sub-divisional Medical and Health Officer in-charge DTC at district level were also involved in implementation of RNTCP in the state.

Audit coverage

3.33 Records of the Jt. DHS(TB), the Joint DHS and DTCs/Chest Hospitals of Kamrup, Barpeta, Nagaon, Karbi-Anglong, Cachar and Golaghat districts, out of the 23 districts of the State, for the period from 1996-97 to 2000-2001 were test-checked during January 2001 to June 2001. Thirty two per cent of expenditure incurred was covered in the review.

Financial arrangement

3.34 Budget allocation, release of funds and expenditure under NTCP during 1996-97 to 2000-2001 were as indicated below:

(Rupees in crore)

Year	Budget provision			Final grants/ appropriation			Funds released		Expenditure						Excess(-) Savings(+) (column 9 –column 15)
	Central	State	Total	Plan	Non Plan	Total	By GOI	By GOA	As per Appropriation Accounts			Data furnished by department			
									Plan	Non Plan	Total	Plan	Non Plan	Total	
1.	**2.**	**3.**	**4.**	**5.**	**6.**	**7.**	**8.**	**9.**	**10.**	**11.**	**12.**	**13.**	**14.**	**15.**	**16.**
1996-97	1.33	0.52	1.85	--	0.35	0.35	--	0.52	0.03	0.36	0.39	--	0.52	0.52	--
1997-98	0.44	0.57	1.01	0.33	--	0.33	0.85[@]	0.55	0.01	--	0.01	--	0.54	0.54	(+) 0.01
1998-99	0.51	0.43	0.94	0.33	--	0.33	0.51	0.44	--	--	--	--	0.44	0.44	--
1999-2000	1.14	0.64	1.78	--	0.51	0.51	0.73	0.87[**]	--	0.87	0.87	0.44	0.43	0.87	--
2000-2001	1.59	0.85	2.44	--	0.74	0.74	0.86	2.24[**]	--	0.55	0.55	1.40	0.83	2.23	(+) 0.01
Total	**5.01**	**3.01**	**8.02**	**0.66**	**1.60**	**2.26**	**2.95**	**4.62**	**0.04**	**1.78**	**1.82**	**1.84**	**2.76**	**4.60**	**(+) 0.02**

Source: Data furnished by the department, Finance department and Finance and Appropriation Accounts.

Poor financial management and diversion of funds

3.35 Discrepancies between Appropriation and departmental figures of expenditure were due to non-reconciliation by the department during 1996-97 and 1998-99. Although the expenditure figures during 1999-2000 and 2000-2001 were reconciled by the department the discrepancies arose due to non-reconciliation of corresponding district-wise figures furnished by DHS to audit.

(a) Against the cash grant of Rs.2.54 crore released by Government of India for purchase of anti TB drugs and reagents during 1997-98 to 2000-2001, Government of Assam released Rs.1.84 crore under plan during 1999-2000 and 2000-2001. Reason for non-release of Rs.0.70 crore was not stated. The government had diverted the funds for other purposes.

(b) The department had furnished the expenditure figure of Rs.1.40 crore against ceiling for funds of Rs.1.40 crore released by Government of Assam

[@] Includes Rs.0.44 crore in cash and Rs.0.41 crore in kind.
[**] Includes plan funds of Rs.0.44 crore during 1999-2000 and Rs.1.40 crore during 2000-2001.

out of plan funds during 2000-2001. However, scrutiny of details of purchases of anti TB drugs for which the fund was provided revealed that DHS had purchased drugs and reagents valued at Rs.1.56 crore during 2000-2001, of which expenditure of Rs.0.96 lakh was under non-plan and a bill for purchases valued at Rs.2.41 lakh had not been paid for paucity of funds. Thus, expenditure worked out to Rs.1.53 crore during 2000-2001 under plan head.

(c) Excess expenditure of Rs.0.13 crore during 2000-2001 was due to purchase of anti TB drugs in excess of ceiling for funds released by Government of Assam in violation of Government orders.

(d) Utilisation certificate for grants received from Government of India was not submitted (May 2001).

Thus proper financial management and control for implementation of the programme were not exercised.

Inadequate infrastructure

3.36 A TB Unit (TU) at the sub-district level was to be created for a population of about 5 lakh. The functioning of the TUs was to be entrusted to a Senior TB Laboratory Supervisor (STLS) and a Senior Treatment Supervisor (STS) under the overall supervision of a Medical Officer. Similarly, a Microscopy Centre, one each for a maximum population of one lakh, was to be set up at Community Health Centre (CHC) or Primary Health Centre (PHC) besides TB dispensaries or chest clinics in city areas. The State TB Officer did not furnish the target and achievement in respect of setting up of TUs, TB dispensaries/Chest Clinics and Microscopy Centres during 1996-97 to 2000-2001 except stating that three Chest Clinics were presently functioning in the state.

(a) Of the six DTCs, only the Sub-divisional Medical and Health Officer (SDM&HO), DTC, Nagaon, stated (May 2001) that 12 Microscopy Centres set up prior to 1996 at PHC level could not function properly for want of supervision, mobility and financial constraints.

(b) Thus, the department failed to assess and create the infrastructure facilities under the programme and even existing facilities were poorly managed.

(c) According to the information furnished by state TB officer in 17 DTCs (including one in RNTCP district at Dibrugarh) functioning in the state as of March 2001, the requirement of Medical Officers and paramedical staff was 34 and 226 respectively against which 26 MOs and 174 paramedical staff members were in position. Thus, key posts of 8 MOs and 52 paramedical staff remained vacant at the end of March 2001.

(d) Five of the 11 X-Ray machines with Odelca cameras and 7 of the 11 vehicles of the DTCs were out of order as of May 2001. Jt. DHS (TB) could not furnish the period from which the X-Ray machines and vehicles was out of order. Measures had not been taken to restore their services.

(e) Of the bed strength of 656 in TB wards of 15 government hospitals (282 beds), and 3 government chest/TB hospitals (374 beds) bed occupancy for treatment of TB patients during 1996-97 to 2000-2001 was not on record. Actual utilisation of bed strength for treatment of TB in-patients was, therefore, not ascertainable in audit.

Irregular purchase of anti-TB drugs

3.37 Purchase of anti TB drugs and reagents was to be made by State TB Officer after assessing requirement of DTCs taking into account the stock position of DTCs for avoiding excess or unnecessary procurement. According to Government of India orders (January 1999), government of Assam was to purchase only sputum negative anti TB drugs. Short Course Chemotherapy (SCC) drugs (sputum positive drugs) like Rifampicine and Pyrazinamide were not to be purchased out of the cash assistance provided by the Government of India and to be got supplied through DGHS, New Delhi.

(i) Test-check revealed that for distribution to DTCs, the State TB Officer, with the approval of DHS had procured (between January 1999 and October 2000) 7.48 lakh capsules of Rifampicine 450 mg/150 mg (value Rs.36.55 lakh) and 9.38 lakh tablets of Pyrazinamide 500 mg (value Rs.17.69 lakh) in violation of Government of India orders. Of this, 1.02 lakh capsules of Rifampicine valued at Rs.5.04 lakh and 0.29 lakh tablets of Pyrazinamide 500 mg valued at Rs.0.55 lakh have been lying in stock since February 2001.

(ii) Out of 1.58 lakh capsules of Rifampicine 450 mg supplied till March 2001 to the 3 of the 6 districts test-checked, 1.05 lakh capsules valued at Rs 5.65 lakh remained unutilized in their stock for periods ranging from 2 months to over 24 months as of June 2001.

(iii) In justification of the procurement of sputum positive anti TB drugs, State TB Officer had informed (October 2000) the DHS that demands for the drugs were increasing day by day. Also referring to Government of India indents (September 2000) placed with Government Medical Store Depot (GMSD) it was inferred that the required quantity of drugs were not likely to be supplied by Government of India to 10 of the 23 districts. The contention of State TB officer was not tenable as Government of India placed indents for drugs after assessment of stock returns and requirements received from DTCs. The increasing trend of demand for anti TB drugs and assessment of their requirement, based on stock position of DTCs, were also not on records of State TB Officer.

(iv) Further, DTC, Karbi-Anglong had received (October 1995) 3 lakh capsules Rifampicine 450 mg from GMSD, Calcutta against indents placed by DGHS. Of this only 1.93 lakh capsules could be utilised and shelf life of 1.07 capsules (value: Rs.6.42 lakh) had expired in October 1996. The SDM&HO, DTC Karbi-Anglong stated (May 2001) that the medicines were supplied in excess of requirement and with short expiry date.

(v) Thus, curative and supportive measures to be employed for treatment and relief of the identified patients lacked proper planning and co-ordination.

Shortfall in achievement of sputum smear examination and low cure rate

3.38 The State TB officer had not prepared annual plan of action for TB control activities. Thus, the identification of TB patients was continued to be done by X-Ray and sputum examination in the DTCs and hospitals without undertaking any survey for the purpose. House visits by TB Health Visitors for motivating TB patients, delivery of services at their doorsteps and treatment of TB patients at a more convenient location for Direct Observation Treatment (DOT) under RNTCP was introduced in only one district and no proposals were sent to Government of India for the remaining 22 districts.

(a) Records showing number of patients referred to by private practitioners and result of treatment of such patients were not maintained either at state level or in the DTCs test-checked.

(b) The targets and achievements in detection of new TB cases and conducting of sputum examination by the DTCs/PHCs during 1996-97 to 2000-2001 were as under:

Year	Number of cases of Sputum Smear examination			Number of new cases detected	Percentage of detection of new cases with reference to col (3)
	Targets	Achievements	Percentage of achievements		
1.	2.	3.	4.	5.	6.
1996-97	78720	29227	37	19983	68
1997-98	78720	21167	27	19474	92
1998-99	78720	22181	28	17676	80
1999-2000	130614	21088	16	16239	77
2000-2001	130614	20793	16	16722	80

Source: Data furnished by the department.

(c) The State TB Officer had not furnished reasons for shortfall in sputum smear examination which varied from 63 to 84 per cent during 1996-97 to 2000-2001. An analysis by audit and information furnished by the DTCs test-checked revealed that short fall in achievements was due to the following reasons:

(1) Non-availability of X-Ray facilities and microscopy centres in all the DTCs/PHCs, requiring the patients to cover long distances in getting treatment;

(2) Specialised equipment like Odelca cameras provided to the DTCs were lying out of order;

(3) Inadequate supply of essential materials like sputum slides, reagents, X-Ray films, fixers and developers;

(d) State TB officer had not furnished information on number of TB positive cases converted to TB negative by treatment nor were they available on records.

(e) In the absence of annual action plan, survey for identification of TB patients, non-provision of treatment facilities at the reach of the patients and non-assessment of benefits actually provided to the patients by the implementing agencies/institutions, the impact of the programme remained unassessed.

(f) TB patients brought under treatment, discharged after completion of treatment and defaulters during 1996-97 to 2000-2001 were as indicated below:

Year	Number of patients brought under treatment			Number of patients discharged after completion of treatment	Percentage of cure rate	Defaulters*	
	Old cases registered	New cases during the year	Total			Number	Percentage
1996-97	8662	19983	28645	5118	18	5233	18
1997-98	5742	19474	25216	6841	27	3842	15
1998-99	5574	17676	23250	6785	29	3690	16
1999-2000	6950	16239	23189	6126	26	6216	27
2000-2001	6342	16722	23064	3845	17	6605	29

Though the cure rate was too low as compared to the expected cure rate of over 85 per cent under RNTCP, the state government had not initiated any action to introduce RNTCP in 22 out of 23 districts.

(g) Percentage of defaulters as compared to the total number of patients brought under treatment steadily rose from 15 during 1997-98 to 29 during 2000-2001. The department had neither analysed the reason for TB patients becoming defaulters nor any remedial measure were taken to prevent or reduce the increasing trend.

Poor training activities

3.39 State and district level medical officers working under NTCP/RNTCP were to be trained at National TB Institute Bangalore, TRC Chennai and LRS Institute Delhi. Other categories of Medical and Paramedical staff were to be imparted training within the state. Annual requirement or proposal for training of State/district level officers and other categories of staff were not on record.

(i) The State TB officer stated (April 2001) that for training of State and district level officers during 1996-97 to 2000-2001, 25 training programmes were proposed under RNTCP (15 during 1996-97 and 1997-98) and NTCP (10

* TB patients who had discontinued treatment.

during 1998-99 and 1999-2000). Of this, 2 training programmes were held under RNTCP during 1996-98 and 2 under NTCP during 1998-2000. Number of officers actually trained were not furnished.

(ii) During the entire period of five years ending 2000-2001, 3 medical staff members out of 11 proposed and 6 para-medical staff members out of 12 proposed were trained. Information regarding number of DTCs running without trained officers/staff was not available with the department. Reason for poor performance in training was neither on record nor stated to audit.

(iii) Thus, the training activities under the programme were insignificant and retarded implementation.

Non-monitoring of the programme

3.40 The department had not put in place any mechanism to ensure or monitor the regularity in submission of quarterly reports on programme data and case detection, sputum examination and sputum positive cases by DTCs to National TB Institute (NTI), Bangalore and Central TB Division. State TB officer stated (April 2001) that reports on analysis of the programme data by NTI and feed back by Central TB Division were not received. State TB officer stated (July 2001) that no evaluation of the programme was carried out by the Ministry of Health and Family Welfare, GOI and Planning Commission. Except holding one meeting of State TB Society under RNTCP in September 2000 the department had not organised any meeting of State TB officers to review the progress of activities under NTCP/RNTCP.

3.41 The foregoing observations were reported to government in August 2001; their reply had not been received (October 2001).

Recommendations

3.42 In view of the irregularities and shortcomings noticed, the following recommendations are made to prevent and control the debilitating disease more effectively:

(i) Fund meant for the programme must be utilised and not retained in any form or diverted.

(ii) Improvement of infrastructure namely, establishment of TB units, microscopy centres, diagnosis by increased use of microscope and adequate supply of medicine and essential materials need to be ensured;

(iii) House visits by TB health visitors and adoption of Direct Observation Treatment facilities has to be ensured.

(iv) Public awareness of the programme has to be built up and the programme needs to be properly supervised and monitored.