

NTI

ANNUAL REPORT 2005-2006

Government of India
NATIONAL TUBERCULOSIS INSTITUTE
(Directorate General of Health Services)
'AVALON' No.8, Bellary Road, Bangalore 560 003
INDIA

NATIONAL TUBERCULOSIS INSTITUTE
WHO Collaborating Center
For
Tuberculosis Research & Training

ANNUAL REPORT
2005-2006



Government of India
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(Directorate General of Health Services)
'Avalon', No.8, Bellary Road, Bangalore-560 003
INDIA

email: ntiindia@blr.vsnl.net.in
<http://ntiindia.kar.nic.in>

© 2006
150

Year of Publication: 2006
No. of copies: 150

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Facilitator

Dr. Prahlad Kumar

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Compiled & Edited by

Dr. L. Suryanarayana
Dr. V.K.Challu

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Secretarial Assistance

Shri. R. Ravi

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Publication Secretary

Mrs. G. Umadevi

1
Publisher

560 003
National Tuberculosis Institute, Bangalore-560 003

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2005-06
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CONTENTS

ANNUAL REPORT 2005-2006	PAGE NO.
LIST OF ABBREVIATIONS	
FOREWORD	
1. ORGANIZATIONAL SET UP	1
2. STAFF POSITION	2
3. COMMITTEES	3-5
ACTIVITIES	
4. TRAINING	6-12
5. RESEARCH	13-22
6. NATIONAL REFERENCE LABORATORY	
A. External Quality Assurance of sputum smear microscopy	23-24
B. Drug Resistance Surveillance	
7. MONITORING	25
8. LIBRARY AND INFORMATION SERVICES	26-27
9. PUBLICATIONS	28
10. OTHER TECHNICAL ACTIVITIES	
A. RNTCP appraisal visits	
B. Central Internal Evaluation	
C. Health InterNetwork (HIN) – Tuberculosis	29-31
D. Scientific Gallery	
E. Status of Laboratory Animals	
F. Establishment of Bio-Safety Level III facility	
11. OVERVIEW OF COMPUTER FACILITIES	32-33
12. PARTICIPATION IN MEETINGS / TRAINING PROGRAMMES / SEMINARS / CONFERENCES / WORKSHOPS / CONTINUING MEDICAL EDUCATION ETC.	34-39
13. VISITORS	40
14. EVENTS CELEBRATED	41
15. FINANCIAL OUTLAY & EXPENDITURE	42
16. FUNCTIONS OF ADMINISTRATIVE SECTIONS	43-44
17. CIVIL & ELECTRICAL WORKS AND MAINTENANCE	45
ACKNOWLEDGEMENTS	46

LIST OF ABBREVIATIONS

AIDS	Acquired Immuno deficiency Syndrome
AIIMS	All India Institute of Medical Sciences
AMRU	Animal Model Research Unit
ART	Anti Retrieval Therapy
ARTI	Annual Risk of Tuberculous Infection
BCG	Bacillus Calmette Guerin
BMP	Bangalore Mahanagara Palika
CHC	Community Health Centre
CD	Compact Disk
CMO	Chief Medical Officer
CPWD	Central Public Works Department
CTD	Central Tuberculosis Division
DFID	Department For International Development
DGNM	Diploma in General Nursing & Midwifery
DOT	Directly Observed Treatment
DOTS	Directly Observed Treatment Shortcourse
DRS	Drug Resistance Surveillance
DTC	District Tuberculosis Center
DTO	District Tuberculosis Officer
EQA	External Quality Assurance
HIN	Health Inter Network
HIV	Human Immuno deficiency Virus
IAEC	Institutional Animals Ethics Committee
IEC	Information Education Communication
IQC	Internal Quality Control
IRL	Intermediate Reference Laboratory
KSAPS	Karnataka State AIDS Prevention Society
LAN	Local Area Network
LQAS	Lot Quality Assurance Sampling
MDMS	Mobile Data management Project
MDR	Multi Drug Resistance
MO - TC	Medical Officer - TB Control
<i>M.tb</i>	<i>Mycobacterium tuberculosis</i>

NACO	National AIDS Control Organization
NICD	National Institute of Communicable Disease
NRL	National Reference Laboratory
NTI	National Tuberculosis Institute
NTP	National Tuberculosis Programme
NFSG	Non-Functional Selection Grade
OS	Operating System
PAO	Pay & Accounts Office
PHI	Peripheral Health Institution
PPD	Purified Protein Derivative
PPM	Public Private Mix
PPS	Population Proportion to Size
QAP	Quality Assurance Programme
QI	Quality Improvement
RBRC	Random Blinded Re-Checking
RNTCP	Revised National Tuberculosis Control Programme
RTI	Right To Information
SAARC	South Asian Association for Regional Co-operation
SEARO	South East Asia Regional Office
STDC	State Tuberculosis Demonstration and Training Center
STLS	Senior Tuberculosis Laboratory Supervisor
STO	State Tuberculosis Officer
STS	Senior Tuberculosis Supervisor
TB	Tuberculosis
TCC	Technical Co-ordination Committee
TRC	Tuberculosis Research Center
TU	Tuberculosis Unit
VCTC	Voluntary Counseling and Testing Centre
WHO	World Health Organization

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FOREWORD

I am happy to place before you the Annual report for the year 2005-06. The National Tuberculosis Institute continues to contribute its services for the control of Tuberculosis. The Institute has been functioning as the technical arm of the Directorate General of Health Services since its inception and is in the forefront in training large number of health personnel involved in TB Control Programme and operational research. Since the entire country has been implemented under RNTCP, it is a challenge to maintain the achievements in the consolidation phase and the responsibility of the institute in this direction has increased manifold.

The ever increasing need for trained manpower is being met by the untiring efforts by the faculty and the staff of the institute by conducting unparalleled number of training programmes. This is evident from the number of training programmes listed in the forthcoming chapters of this report. The major thrust of training was on RNTCP modular training for programme managers at state and district level. Keeping in view the emerging threat of HIV infection on TB, due emphasis was given to training the key personnel involved in both TB & HIV control programmes. Accordingly, a customized curriculum has been developed and a good number of personnel from ART Centres have been trained.

The institute has taken up research studies in priority areas identified by the Central Steering Committee. Default, still being one of the challenges, is being studied on a national scale in different geographical settings. Effective involvement of private sector is essential for the success of the TB control programme. In this direction the institute has taken up a study on Economic Evaluation of Public Private Mix DOTS in Bangalore Mahanagara Palika. The question of meeting the requirements of the disadvantaged section of the society in accessing and utilizing TB services often draws the attention of the policy makers and the programmers. A study on the utilization pattern of anti-TB services by slum dwellers of Bangalore fits into the above slot. The outcome of these studies may throw light on this gray area to formulate appropriate remedial measures.

Sustenance of the quality of smear microscopy network and high cure rates achieved is essential for the success of RNTCP. In this direction, the institute has invested lot of efforts in establishing EQA network in different states under its jurisdiction. DRS, as an indicator of the programme performance has also been taken up as one of the priorities in the consolidation phase of the RNTCP. Besides providing the baseline information, this also provides an input for the development of logistics for DOTS PLUS programme. The state-wise DRS procedures are being established and operationalized in a phased manner in the ten states allocated to NTI.

A brief summary of each research project and its status has been presented for the benefit of the reader.

As a WHO collaboration center, institute has also undertaken training of the personnel from SEARO region. The leadership and strategic management workshop on TB Control was one of the important programme.

Participation in appraisals and central internal evaluations of the RNTCP districts along with the Central TB Division is also one of the integral part of the function of the institute. Monitoring of the programme by NTI at present confines to only non-RNTCP districts, which are shrinking in numbers with the rapid implementation of RNTCP.

Library and information services of the institute, classified as Category II as per the guidelines of the library Review Committee report, Government of India, New Delhi is a great asset of the institution. The collections in the library include core periodicals on TB and its back volumes, published books on TB, proceeding souvenirs and WHO unpublished documents. Digitization of the papers published by the institute and NTP reports of the past twenty-three years was a great achievement. Its publication activities include bringing out NTI bulletins on quarterly basis, annual reports and periodical abstracts.

Other technical activities that are highlighted in the report comprise mobile data management project, updating of scientific gallery, provision of technical assistance and consultation at central and state level.

Participation in various meetings, training programmes, Seminars, conferences, workshops and continuing medical education have been highlighted in this report.

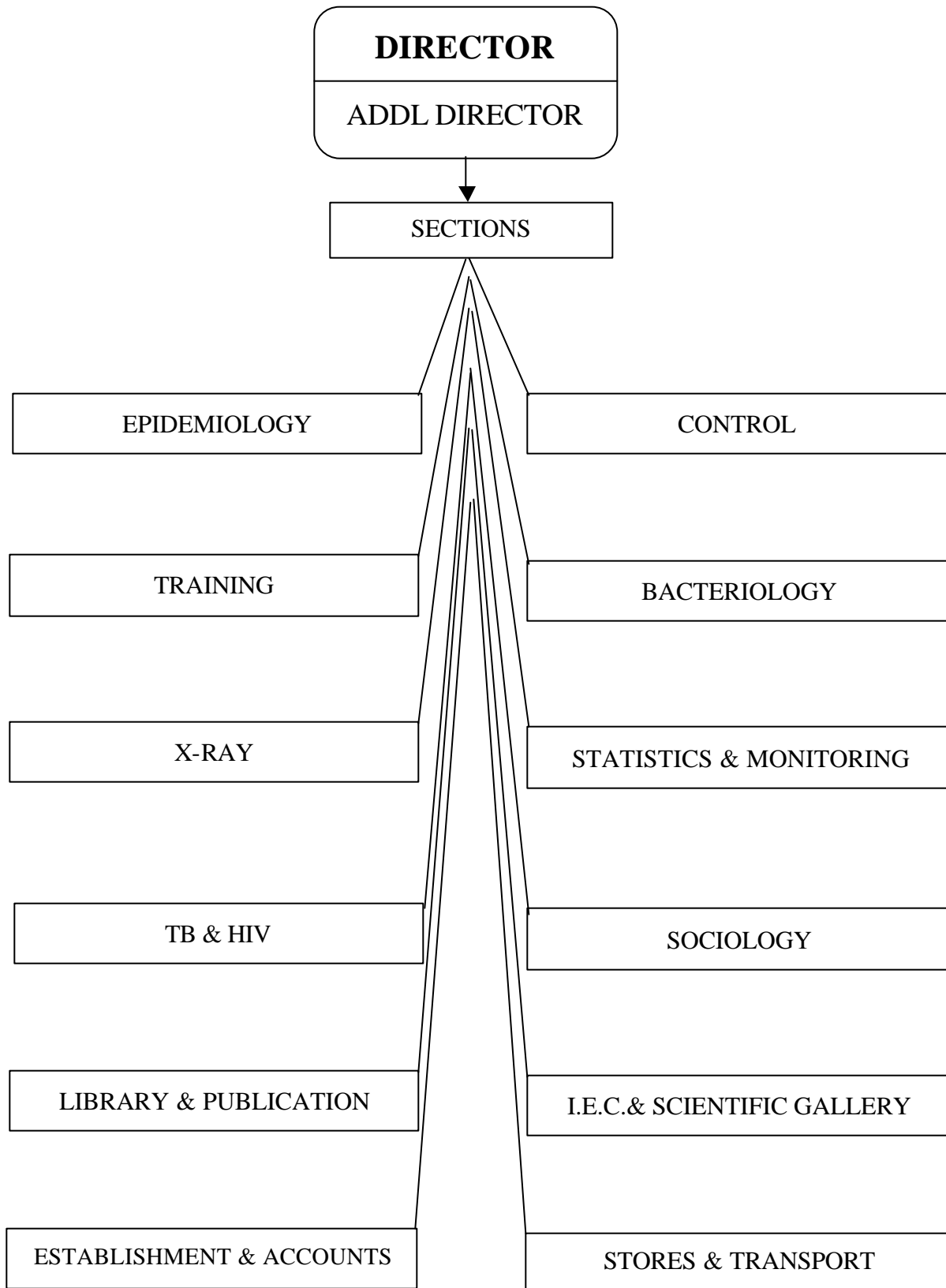
At this juncture, I would like to place on record the excellent co-operation and services provided by the faculty and staff of the Institute in accomplishing the tasks set for the year. I hope that the zeal and enthusiasm evinced by the staff of the institute would be sustained in the years to come.

The institute express its gratitude to Central TB Division and WHO-India for all the co-operation, guidance and encouragement provided in all our endeavors.

Dated: 7th December 2006
Place: Bangalore

Dr. Prahlad Kumar
Director

1. ORGANIZATIONAL SET UP



2. STAFF POSITION

Staff position in terms of posts sanctioned, in-position and vacant are given in the tables below.

	<u>Sanctioned</u>	<u>In position</u>	<u>Vacant</u>
DIRECTOR	1	1	Nil
ADDL DIRECTOR	1	1	Nil

STAFF POSITION: GROUP-WISE

Sl. No.	Category	Sanctioned	In position	Vacant
1.	Group 'A'	17	14	4*
2.	Group 'B'			
	Gazetted	04	1	3
	Non-gazetted	16	6	10
3.	Group 'C'	113	83	30
4.	Group 'D'	55	47	8
Total		205	150	55

* One CMO (NFSG) working against the vacant post of TB Specialist.

3. COMMITTEES

Several Institutional and other committees have been constituted under the chairmanship of senior officers for examining the relevant issues, formulate recommendations to facilitate the Director in taking appropriate decisions. The functions of the important committees that existed during the year are described below:

Institutional Ethics Committee

Review the research protocols from the point of view of ethical considerations and to give the stamp of approval before implementation.

Institutional Animal Ethics Committee

Review and approve research projects involving animal experimentation.

Technical Co-Ordination Committee

All the faculty members of the Institute are members of this committee. This committee meets frequently to ensure in-depth inter-disciplinary discussions on all technical matters, exchange of information, plan and co-ordinate research activities. Whenever a new research activity is proposed to be undertaken, it is discussed threadbare in the committee meetings. It also reviews progress of fieldwork & analysis of the research protocols. The draft findings of the research projects are again discussed before it is either presented in technical conferences or published in the journals.

Committee on Administration and Staff Welfare:

All important service matters of the staff are referred to this committee for examination from the point of view of prevailing rules and formulation of recommendations for action by Director.

Planning Committee for Civil and Electrical Works

This committee is responsible for identification of civil & electrical works to be carried out in the institute and prioritizing the same within the annual budget under this head. Scrutiny of the estimates received from CPWD, and specifications of the work entrusted are undertaken by the committee before issue of administrative & expenditure sanction. The committee also monitors the progress of the work in close coordination with the concerned CPWD officials.

Purchase Committee

This committee is responsible for the scrutiny of the specification of the items sought by different sections, examination of pre-qualification criteria, opening of

quotations/tenders and scrutiny of comparative statements with reference to the set specifications and relevant rules of purchase. Finally the recommendations are submitted to the Director for further action.

Rajbhasha Implementation Committee

This committee has been formulated to promote the use of Rajbhasha and encourage the officials to learn and use Hindi language in official correspondences. This committee coordinates the celebration of Hindi week and Hindi Day.

Library Committee

This committee is entrusted with the responsibility of recommending the subscription of periodicals, acquisition of books, user-oriented activities and ways to promote dissemination of information.

Editorial Committee

This committee coordinates the publication activities of the Institute, especially the half yearly publication viz., “**NTI Bulletin**”.

Quarters Allotment Committee

The committee is responsible for organizing the preparation and scrutiny of waiting list for allotment of quarters and finalization of recommendations as per the prevailing allotment rules.

Campus Maintenance Committee

This committee has an advisory role in matters pertaining to the general upkeep, maintenance and security of the campus.

Flag Hoisting Committee

The committee is responsible for the supervision of the hoisting of national flag, daily as well as on occasions of national importance as per the guidelines of Government of India.

Committee for prevention of Sexual Harassment

This committee deals with the complaints of sexual harassment faced by the women Government servants.

Condemnation Committee

Condemnation Committee has been constituted to process the items recommended for condemnation by different sections. The committee after going through the history sheet (viz., date of procurement, duration of its use, the quantum of repairs undertaken and its present working condition) decides on the feasibility of its condemnation.

Committee for taking actions on court matters and audit objections

The committee has been constituted under the chairmanship of Additional Director to review and initiate action on pending court matters and audit objections.

Nomination of central public Information officers

Two central public Information officers - One for administrative matters and another for technical matters have been nominated to process the information as and when sought for in accordance with the guidelines of RTI act.

Constitution of office Council

Office council has been constituted under the chairmanship of Director and Section Officers as its members with the objective to promote harmonious relations and securing co-operation from the staff to achieve greater efficiency,

4. TRAINING

Training in TB Control programme is one of the vital functions of the institute and it is in the forefront to provide trained manpower for implementation and maintenance of the TB Control Programme. This is an ongoing and a continuous process because of periodic replacement of key personnel due to retirements/transfers. The training is under taken in response to the requirement at the state level and directives from Central TB Division, New Delhi. Besides regular RNTCP Modular Training, the institute also shoulders the responsibility of training the Medical & Paramedical personnel from various states in activities like TB-HIV, EQA in smear microscopy & DRS and training of tuberculin survey teams in testing and reading.

The various training activities carried out by the institute during the period under report are furnished below:

A. RNTCP and TB-HIV Modular training

This course of 12 days duration consists of a pre test, training in modules (1-9), lecture classes on important topics of RNTCP, discussions, question and answers session on the modules covered, field visits to the RNTCP area in the districts of Bangalore urban, Bangalore rural and BMP, post test and presentation of field reports.

Sl. No.	Category Personnel	Duration	No. of participants	Organization / State / District
1	District TB Officers	28-03-05 to 09-04-05	28	Gujarat, Karnataka, Orissa, Chattisgarh, Andhra Pradesh, Tamil Nadu
2.	District TB Officers	02-05-05 to 14-05-05	19	Bihar, Himachal Pradesh, Jharkhand, Kerala, Madhya Pradesh, Mizoram, Orissa, Punjab
3.	Medical College Teachers and District TB Officers	19-08-05 to 01-09-05	32	Medical Colleges of Bihar, Gujarat & Punjab. STOs and DTOs from Bihar, Gujarat, Karnataka, Andhra Pradesh, Arunachal Pradesh, HP, Orissa, Meghalaya & Mizoram

Sl. No.	Category Personnel	Duration	No. of participants	Organization / State / District
4.	District TB Officers, Medical Officers and Advisors from DFID	12-12-05 to 27-12-05	26	DTOs of Gujarat, Kerala, Karnataka, West bengal, Jharkhand, Tamil nadu, Maharashtra, Bihar, Andhra Pradesh, Manipur, Nagaland & Advisors from DFID.

The institute also extends its support in terms of facilitation of training programmes held outside NTI. The facilitators are deputed for training on specific requests, the details of which are given below:

Sl. No.	Category Personnel	Duration	No. of participants	Sponsoring Organization & Resource Person
5	Newly recruited RNTCP WHO Consultants	03-03-06 to 19-03-06	22	CTD, New Delhi. Dr. B. Mahadev, CMO (NFSG) NTI, Bangalore

B. RNTCP Modular training for staff of ART Centres

This training is aimed at strengthening the TB-HIV coordination. This course of 5 days duration consists of training in Modules (1-4), TB-HIV Module, Pre-test, Field visit, post test and presentation of field reports.

Sl. No.	Category Personnel	Duration	No. of participants	Organization / State / District
1	Medical Officers from ART Centers	30-01-06 to 03-02-06	22	Karnataka, Maharashtra & Andhra Pradesh,
2	Medical Officers from ART Centers	13-02-06 to 25-02-06	21 (2 batches)	Andhra Pradesh, Chattisgarh, Karnataka, Maharashtra, Kerala, New Delhi, UP

C. Training on TB-HIV for Trainers

This training for a duration of 2 days was focussed on HIV/AIDS and its co-ordination with the TB Control programme.

Sl. No.	Category Personnel	Duration	No. of participants	Organization / State / District
1	Faculty of NTI & WHO Consultants	31-03-06 to 01-04-06	17	NTI, Bangalore & WHO RNTCP Consultant of Karnataka

D. Training in EQA Programme

The institute being a NRL under EQA is responsible for training STDC staff of 10 states in EQA procedures.

Sl. No.	Category Personnel	Duration	No. of participants	Organization / State / District
Five days Training programme				
1	Laboratory personnel involved in EQA (using Revised EQA manual)	18-04-05 to 22-04-05	13	STDCs of Orissa, Mizoram and Pondicherry
2		25-04-05 to 29-04-05	08	STDCs of West Bengal and New Delhi.
3		18-05-05 to 22-05-05	05	STDCs of Chattisgarh, Uttar Pradesh, Jharkhand & Uttaranchal
4		23-05-05 to 27-05-05	08	
5	Medical Officers and staff of STDCs involved in EQA	12-09-05 to 16-09-05	11	STDC's of Maharashtra, Rajasthan Meghalaya, New Delhi TB Centre, and LRS Institute.

Sl. No.	Category Personnel	Duration	No. of participants	Organization / State / District
6	Lab. Technicians	16-01-06 to 20-01-06	06	Private Hospitals under BMP
Two days Training programme				
7	State TB Officers & Directors of STDCs	28-03-06 to 29-03-06	09	Nagaland, Himachal Pradesh, Chattisgarh, Uttaranchal, Tamilnadu, Tripura, Karnataka and Dadra & Nagar Haveli (UT)

The institute also has extended its support in terms of facilitation of EQA training programmes held outside NTI, the details of which are given below

Sl. No.	Category Personnel	Duration	No. of participants	Organization / State / District
1	District TB Officers	16-09-05 to 17-09-05	48	STDC.Pune, Maharashtra Dr. Ajay Kumar T. took part as course facilitator from NTI, Bangalore.
2	District TB Officers involved in EQA (using revised EQA modules)	03-10-05 to 04-10-05	12	STDC Shrinagar Dr.V.H.Balasangameshwara took part as course facilitator from NTI, Bangalore.

E. Orientation Programme

Sl. No.	Category Personnel	Duration	No. of participants	Organization / State / District
1	PG students of Respiratory Medicine and Preventive & Social Medicine of Medical colleges	13-06-05 to 24-06-05	25	Medical colleges of Karnataka, Kerala, Tamil Nadu, Andhra Pradesh, Maharashtra & Gujarat

Sl. No.	Category Personnel	Duration	No. of participants	Organization / State / District
2	Orientation Training Workshop on Public Health in collaboration with Dept of Epidemiology, AIIH&PH, Kolkata sponsored by KUSP & Assisted by DFID	29-08-05 to 02-09-05	16	Health Officers of Urban Local Bodies, Govt. of West Bengal

F. Sensitization on TB Control Programme for undergraduate/Post graduates/medical/paramedical students:

The institute also provides one day sensitization on TB Control Programme to both medical (MBBS), paramedicals (DGNM, Medical Assistants from Air Force) and graduates / postgraduates (B.Sc & M.Sc - life sciences). This consists of briefing on TB, its magnitude, salient features of RNTCP, management of TB cases and wherever relevant, the bacteriological aspects of TB viz., Primary isolation, identification & sensitivity tests, role of animal experimentation in TB control programme and a journey through the Scientific Gallery. The details of the sensitization programmes conducted are furnished below.

Sl No	Date	No. of participants	Organization
1	05-04-05	47	Bowring Lady Curzon Hospital, B'lore
2	06-04-05	38	Fr Muller College, Mangalore
3	15-04-05	25	Manasa Gangotri, Mysore
4	18-04-05	24	St Martha's Hospital, Bangalore
5	06-05-05	40	Mathrushree Bheemabai Ambedkar Institute of Nursing, Bangalore
6	19-05-05	59	T.John's College of Nursing, Bangalore
7	25-05-05	41	St. Philomena's college of Nursing, Bangalore
8	30-05-05	99	TD Medical College, Allepy, Kerala
9	31-05-05	59	Faran College of Nursing, Bangalore
10	01-06-05	30	Sanjay Gandhi College, Bangalore
11	02-06-05	35	Gold Finch School. Bangalore
12	06-06-05	18	St. Mary's Institute of Nursing, Bangalore
13	14-06-05	25	St. Philomina's Hospital, Bangalore
14	15-06-05	50	NITTE Usha Institute of Nursing, Mangalore
15	17-06-05	25	RT Nagar College, Bangalore
16	04-07-05	41	Mary Matha School of Nursing, Bangalore
17	07-07-05	36	Unity Academy of Education, Mangalore
18	08-07-05	38	Vani Vilas Hospital, Bangalore
19	13-07-05	21	CMR College of Nursing, Bangalore
20	15-07-05	50	Kumarguru College of Technology, Coimbatore
21	18-07-05	18	St. Johns College of Nursing, Bangalore

Sl No	Date	No. of participants	Organization
22	19-07-05	58	Acharya college of Nursing, Bangalore
23	28-07-05	50	KP Ballal College of Nursing, Mangalore
24	17-08-05	20	INSA Bangalore
25	26-08-05	18	PSG College of Arts & Science Coimbatore
26	21-10-05	25	Air force Medical Training Centre, Bangalore
27	24-10-05	30	Vydehi Institute of Medical Sciences, Bangalore
28	25-10-05	60	T John College of Nursing, Bangalore
29	26-10-05	12	Smt VHD Central Institute of Home Science, B'lore
30	11-11-05	22	Holly Cross College of Nursing, Kerala
31	08-11-05	40	Govt. Science College, Bangalore
32	22-11-05	40	Vaidehi Medical College, Bangalore
33	28-11-05	48	T. Johns College of Nursing, Bangalore
34	13-12-05	154	Goutham Institute of Nursing , Bangalore
35	14-12-05	48	East West College of Nursing, Bangalore
36	16-12-05	25	Holy Mother Institute of Nursing, Bangalore
37	22-12-06	27	Sardar Patel University, Gujarat
38	23-12-05	22	St. Johns College of Nursing, Bangalore
39	28-12-05	38	Brindhavan College of Nursing, Bangalore
40	30-12-05	33	SJRC College of Science & Arts, Bangalore
41	04-01-06	50	Govt. Science College, Bangalore
42	09-01-06	18	St. Johns College of Nursing, Bangalore
43	13-01-06	62	Maharani Lakshmi Ammani College, B'lore
44	19-01-06	60	East West College of Nursing, B'lore
45	23-01-06	50	Reva Inst. For Science & Technology, B'lore
46	31-01-06	58	Dr Shyamala Reddy School & College of Nursing, Bangalore
47	02-02-06	45	
48	06-02-06	34	
49	08-02-06	56	
50	28-02-06	32	
51	14-02-06	56	Acharya College of Nursing, Bangalore
52	17-02-06	49	Sneha College of Nursing, Bangalore
53	20-02-06	28	Father Muller College of Nursing, Mangalore
54	21-02-06	25	Yashwant Rao Chavan College of Science, Maharashtra
55	03-03-06	47	Chinai school of Nursing, Bangalore
56	10-03-06	48	BMS College for women, Bangalore
57	13-03-06	21	Hill side school of Nursing, Bangalore
58	14-03-06	37	
59	17-03-06	58	CMR college of Nursing, Bangalore
60	20-03-06	45	Hill side college of Nursing, Bangalore
61	22-03-06	44	
62	27-03-06	45	Krupanidhi Inst.of Nursing, Bangalore
63	29-03-06	35	

G. WHO Collaborative Activities

As a WHO collaborative center, the institute took active part in conducting WHO sponsored training programme. Both in-house and external faculty facilitated the training.

a. Leadership & Strategic Management Workshop in TB Control.

Sl. No.	Category Personnel	Duration	No. of participants	Country
1.	National TB Programme Managers	08-08-05 to 12-08-05	19	Bangladesh, Bhutan, DPR Korea, India, Indonesia, Maldives, Myanmar, Nepal, Sri Lanka, Thailand, Timor Leste

b. WHO fellowship Training

Sl. No.	Type of Training	Duration	No. of participants	Country
1	Modular Training in RNTCP, Training in Sputum Microscopy, EQA & Programme Management in TB Control	20-06-05 to 29-07-05	1	Bhutan
2	Programme Management on TB Control	18-07-05 to 29-07-05	2	Myanmar

H. Other Trainings

Sl. No.	Duration	Details of training
1	22-08-05 to 24-09-05	Training of tuberculin survey team of Andhra Pradesh
2	17-01-06 to 23-02-06	Training of tuberculin survey team of Kerala

5. RESEARCH

Research on TB control and related areas is one of the prime functions of the Institute. Several technical sections in the institute pursue research in their respective areas. The Institute has put in place the mechanism of TCC for thorough technical discussion and exchange of information before finalization of the research protocol. The projects are also scrutinized by the Institutional Ethics Committee for ethical considerations. The progress of the project is monitored by the TCC at periodic intervals. The conclusions of the research projects are also reported in the TCC before they are either presented in technical conferences or published in journals. The report on various research projects is presented under three sub headings.

A. The status of the research projects undertaken during the year are given in brief below:

1. Economic Evaluation of PPM-DOTS in Bangalore

Public Private Mix-DOTS was launched in the year 2003 in 14 cities of the country as a pilot project under RNTCP with the objective of bolstering the involvement of other government, non-governmental health institutions and private practitioners in RNTCP. Against this background the Government of India proposed to evaluate the PPM-DOTS with the assistance of WHO to facilitate policy decisions for its expansion into new areas. Accordingly, the PPM-DOTS project site of BMP and Coimbatore city were chosen as the pilot sites for economic evaluation. The objective of this exercise was to assess the cost, effectiveness, and cost-effectiveness of PPM-DOTS, effectiveness of PPM-DOTS in reducing the diagnostic delay, socio-economic profile of the patients being treated by the six categories of provider involved in PPM-DOTS under BMP and the impact of PPM-DOTS on the expenditure incurred by TB patients. One thousand three hundred and thirty six(1,336) TB patients registered from 2nd Quarter of 2004 to 1st quarter 2005 from the TB Units of BMP and Coimbatore constituted the study subjects. The date on baseline survey (before registration), endline patient survey (till treatment completion) and providers cost were collected. Information on standard of living, direct and indirect cost incurred during diagnosis and treatment were explicitly elicited.

The study findings indicated that TB patients incur high expenditure before starting TB treatment under DOTS. Patients do spend on drugs and food supplements after initiation of free treatment under RNTCP. Health system delays are still relatively long within the PPM initiative in Bangalore. This calls for scaling up of the need for involvement of different stake holders in private sector.

2. Defaults & Patient Retrieval among New Smear Positive Patients Treated in RNTCP under Different Geographic and demographic Settings

The RNTCP based on the DOTS strategy has now been implemented almost in the entire country. At this phase of consolidation sustaining the quality of services and achieving high cure rates are most essential for the success of RNTCP. For this strict adherence to programme guidelines to ensure DOT and minimize default is a prerequisite. The challenges encountered in organizing and utilizing DOT services vary

considerably from place to place. Against this background, this study dealt with situational analysis of the organization of Directly Observed Treatment (DOT), insight into the difficulties encountered in implementing and delivering DOT services in different geographic regions and the problems faced by patients in utilizing the DOT services during treatment. The study findings will help in evolving suitable strategies, which could be incorporated in programme guidelines to achieve and maintain the desired cure rate of more than 85%.

The 19 districts selected for the study were drawn from the states, which were fully implemented under RNTCP by 1st Quarter 2003. The districts in these states were stratified into 6 different geographic and demographic regions namely, Plain, Desert, Municipal Corporation, Coastal, Hilly and Tribal. From each stratum two or three districts were selected based on new smear positive cases initiated on treatment. In each of the districts all patients defaulting from treatment during the selected quarters and an equal number of patients completing treatment belonging to the same age group, gender and from the same treatment center as the defaulted patient form the study group.

Data collection has been completed in 18 districts and is in progress in the district belonging to hilly stratum. The patients and providers (District TB Officer, MOTCs, STSs & DOT provider) were interviewed using a pre-tested interview schedule. Relevant data were also collected from the TB registers, treatment cards and quarterly reports. The table below shows the study subjects interviewed.

Provider Interviews	Patient interviews
DTO - 18, MOTC - 72	Defaulted - 666
STS - 107, DOT Provider - 540	Treatment completed - 666

3. Assessment of Diagnostic algorithm and treatment of chest symptomatics and smear negative patients under RNTCP.

This study has been taken up in BMP with the Objectives of finding out the compliance to the diagnostic algorithm, initial culture positivity among chest symptomatics declared as smear negatives and put on treatment. The study also aims at finding out the reasons for initiating Smear Negative patients on CAT I, CAT II or Non-DOTS treatment regimens. The data collection of the urban component of the study has been completed. The rural component of the study would be taken up.

4. Assessment of MO-TC involvement in RNTCP and the constraints encountered.

The study-titled assessment of involvement of MOTCs in RNTCP and constraints encountered was taken up as it was identified as a priority area by Central Steering Committee on Operations Research on TB Control. With a decade of experience of implementation of RNTCP programme and on close scrutiny of the reports from

RNTCP districts, it has been observed that whilst most districts have been able to achieve cure rates close to 85% or more, the case detection rate has yet to reach the minimum expected 70% in many areas. The Microscopy Centre's and other Peripheral Health facilities form the backbone for enhancing the case detection. The MOTC plays a supportive role to the District Tuberculosis Officer in managing the TB programme. The MOTC with his managerial responsibilities at the grass root level is the right person to give a feedback regarding the constraints faced in the field. In order to study this aspect a questionnaire was prepared to gather information from MOTCs. All the districts implementing RNTCP at the end of 4th quarter 2003 formed the sampling frame. It was desired to have a sample of more than 300 for the study. Assuming a 10% non-response, 30% of the districts were selected randomly. The total number of TUs thus forming the sample were 337.

The questionnaire along with the list of selected districts were sent to the concerned WHO consultants/DTOs in respective states via e-mail in order to achieve proper coverage and avoid loss during transit. Suitable arrangements were made to hand over the hard copies of the questionnaire to the MOTCs. The MOTCs in turn despatched the questionnaire by post to "The Director, NTI, No.8, Bellary Road, Bangalore-560003" with a superscription on the envelope "Questionnaire from MOTCs" under intimation to the DTO as well as the WHO consultant. In all 223 TUs have sent the completed questionnaires out of 337 TUs taken into the study. Data entry has been completed and the analysis is in progress.

5. Accessibility and utilization of anti-TB services by slum dwellers of Bangalore.

This study was taken up with the objectives of (1) To ascertain the awareness of slum dwellers regarding symptoms of tuberculosis, mode of diagnosis and availability of diagnostic and treatment services, (2) To find out the action taking behaviour of chest symptomatics and TB cases residing in city slums, (3) To find out the patient constraints in accessing RNTCP services, (4) To find out provider constraints in implementing RNTCP services in slum areas.

During the year under report, a total of 2253 adults were screened through a house based survey in the selected slums of Bangalore city for presence of symptoms suggestive of tuberculosis. The symptomatics were also subjected to sputum examination. Since the initiation of field work, 15,863 adults have been screened for symptoms and 124 symptomatics and 69 TB patients have been interviewed using semi-structured questionnaire. Field work has been completed and data entry and analysis is in progress

6. Utilization pattern of RNTCP services in rural areas of Bellary district - study of age, gender & spatial differentials.

This study was undertaken with the objective of arriving at the utilization pattern of RNTCP services in relation to age, sex and distance from the Health Centre. Fieldwork has been completed. Data entry & analysis is in progress.

7. Estimation of Annual Risk of Tuberculous Infection (ARTI) in Andhra Pradesh

A cluster-sample of house-based tuberculin survey was initiated in a representative sample of children 5-9 years of age during September 2005 with the objective of obtaining the state level estimate of ARTI. The clusters were selected by a two-stage sampling procedure. At first stage, five districts were selected by PPS method. Depending upon population ratio, 32 clusters allocated to each district were further sub-divided into rural and urban clusters selected by simple random sampling. Children irrespective of their BCG scar status were tuberculin tested using 1 TU PPD RT23 with tween 80 and the maximum transverse diameter of induration was measured about 72 hours later. The fieldwork has been completed in 4 districts & under progress in the 5th & final district.

8. A tuberculin survey among school children of Bangalore city to estimate the impact of RNTCP on Annual Risk of Infection

A repeat tuberculin survey was initiated among school children to estimate the trends in risk of infection. The previous round of tuberculin survey in the same study population was undertaken during 1996-99. During the year, 859 children were tuberculin tested in 16 schools. Fieldwork is in progress.

9. Annual Risk of Infection among children of Kerala State

The study to estimate the prevalence of infection among school children and compute state level estimate of ARTI is being conducted by the State TB Cell under technical guidance and supervision of NTI. Planning has been completed and fieldwork is scheduled to commence in June 2006.

10. TB-HIV collaborative project in the district of Mandya.

A project was taken up in Mandya district of Karnataka in collaboration with Karnataka state AIDS Prevention society (KSAPS) and WHO-SEARO to augment co-ordination between the TB and AIDS control programmes at the district. In the background of limited data available on sero-prevalence in a DTP setting, it was intended to study sero-prevalence among new smear positive pulmonary TB patients. 152 new smear positive pulmonary TB patients diagnosed in the 2nd quarter of 2005 were selected for this cross-sectional study, from a two-stage cluster sampling technique. HIV testing was undertaken on an unlinked anonymous basis. Two HIV tests were performed using different antigenic principles, the first testing being HIV combs and the second being TRIDOT. The estimated sero-prevalence was 4.6% (95% CI: 4.16 -5.04) among the new smear positive pulmonary TB patients. The study also strengthened the collaboration between the TB and AIDS control programmes, which was barely palpable at the time of commencement of the project. The experience from this project indicates that minimal financial inputs are required for the implementation of the TB-HIV collaborative activities, provided the TB and AIDS control programmes are strengthened, the available resources optimally mobilized and are periodically supervised by the TB-HIV co-ordination committees both at the district and state levels.

11. Screening two novel *M.tb* proteins for human T-cell response and testing DNA expressing the two proteins in guinea pigs for protection against tuberculosis – in collaboration with Indian Institute of Science, Bangalore.

This phase of the study entitled “Provision of animals for testing in the project on DNA Tuberculosis vaccine” was undertaken with the objective of evaluating new DNA vaccine candidates against Tuberculosis in Guinea Pig animal model. This is a part of the programme on development of new generation vaccines for several infectious diseases afflicting India. This is funded by the Department of Biotechnology, Government of India. In this study various DNA vaccines with a highly effective LipoVac adjuvant combinations prepared at Indian Institute of Science were tested in ninety five guinea pig animal model, Bangalore. Necropsy examinations were conducted on ninety-five animals (guinea pigs). Spleen, Liver and Lung tissues were processed for quantitative evaluation besides gross assessment of tuberculous lesions. Serial dilutions prepared from this were inoculated on LJ media for quantitative analysis. The study is in progress.

12. Study on “Virulence assay of parental, *devR* mutant and complemented strain of *M.tb* in NTI- bred albino guinea pigs” in collaboration with the Department of Bio-Technology, All India Institute of Medical Sciences (AIIMS) New Delhi, undertaken.

Existing anti-tubercular drug target replicating bacilli and drugs active against quiescent /latent bacilli are not available. The dev R-dev S, two component system of *M.tb* promises to be a novel target for identification of drugs active against non-replicating bacilli. Characterizing the pattern of infection in guinea pigs using dev R mutant strain will contribute in understanding its role during natural course of infection. During the period under report of this study two groups comprising sixty guinea pigs each were given coded suspensions of mutant strains of *M.tb* & control through subcutaneous route. Necropsy examinations have been completed on 60 guinea pigs. spleen, liver & lung tissues were dissected and sent for further processing at TRC, Chennai & AIIMS New Delhi. The preliminary analysis of the data has revealed that animals infected with a particular coded mutant strain have prolonged survival time, which is a significant observation. The study is in progress.

13. “The pathogenetic role of serine threonine kinases of *M.tb* in albino guinea pigs” A collaborative study with the tuberculosis Research Centre (TRC) chennai.

In this study four groups comprising of twelve guinea pigs each were given coded suspensions of *M.tb* (with disrupted genes). Besides assessing the extent of disease for virulence assay: spleen, liver & lung tissues, from above group of animals, were aseptically dissected out for further processing at TRC, Chennai. The study is in progress

B. Papers presented in Conference

1. Awareness of TB among patients residing in slums of Bangalore City by V.Magesh, Field Investigator, National Tuberculosis Institute, Bangalore..

A community based cross-sectional survey was undertaken in 12 notified slum areas, to find out the level of awareness of TB patients regarding symptoms of TB, its cause, mode of spread, diagnosis, curability, duration of treatment, preventing spread and availability of services in Government Health Centres. A total of 69 TB cases were interviewed by experienced health investigators using semi-structured questionnaire. Majority of patients were 15-34 years of age and belonged to lower socio-economic group being unskilled workers with monthly family income of less than Rs.2,500/-.

Majority of the patients was aware of the cough being most common symptom of TB. However, most had no clue about its cause and mode of spread in the community. About 25% knew about the role of sputum examination in diagnosing TB and another 12% about X-ray. Fifty percent (50%) of the patients interviewed had no idea about the diagnostic tools. Though, 80% were aware that TB is curable with treatment and 66% about the correct duration of treatment, Thirty three percent (33%) did not know about the consequences of interrupting treatment. Only about 20% knew about the role of covering mouth while coughing and spitting in closed containers. A similar proportion gave a negative reply to the knowledge about free availability of drugs at Government Health Centres. Appropriate IEC strategies for these vulnerable populations need to be implemented in order to achieve effective TB control.

2. Utilization of RNTCP services by Slum Dwellers of Bangalore City by P. Suganthi, Investigator, National Tuberculosis Institute, Bangalore..

A community based cross-sectional survey was undertaken in 12 notified slum areas to study the action taking behaviour of TB patients and their practices. A total of 69 TB cases were interviewed by experienced health investigators using semi-structured questionnaire. Most of the patients first contacted a private health provider for relief of their symptoms. The number of providers visited before TB diagnosis varied from 1 to 4. There was an average delay of 2-3 months between the onset of symptoms and initiation of treatment. Ultimately, all TB cases were treated at RNTCP centres.

3. TB-HIV collaborative project in the district of Mandya.

This project was taken up in Mandya district of Karnataka in collaboration with Karnataka state AIDS Prevention society (KSAPS) and WHO-SEARO to augment co-ordination between the TB and AIDS control programmes at the district. The interface between the epidemics of Tuberculosis (TB) and Human Immuno-deficiency Virus (HIV) has implications for public health approach in the control of TB. In the background of limited data available on sero-prevalence in a DTP setting, it was also intended to study sero-prevalence among new smear positive pulmonary TB patients. 152 new smear positive pulmonary TB patients diagnosed in the 2nd quarter of 2005 were selected for this cross-sectional study, from a two-stage cluster sampling technique. HIV testing was on unlinked anonymous basis. Two HIV tests were performed using different antigenic principles, the first testing being HIV combs and

the second being TRIDOT. The estimated sero-prevalence was 4.6% (95% CI: 4.16 – 5.04) among the new smear positive pulmonary TB patients. The study also strengthened the collaboration between the TB and AIDS control programmes which was barely palpable at the time of commencement of the project. The experience from this project indicates that minimal financial inputs are required for the implementation of the TB-HIV collaborative activities, provided the TB and AIDS control programmes are strengthened, the available resources optimally mobilized, and are periodical supervised by the TB-HIV co-ordination committees both at the district and state levels.

C. Research Papers published

Abstracts of the papers published during the year are presented below

1. Suryanarayana L *et al*: Current status of functioning of TB Sanatoria and Chest Diseases Hospitals in Karnataka; Ind J Tub 2005 52(3), 162.

This study was undertaken in the nine sanatoria of Karnataka with the objective of evaluating the infrastructure & manpower available in the sanatoria, the diagnostic and treatment practices in the sanatoria and to arrive at the socio-economic and clinical profile of the patients utilizing the facilities of sanatoria.

The average number of out patients attending Sanatoria was 29 per day. Of 2148 beds available, averages for occupancy rate and hospital stay of patients were 76% and 34 days respectively. The composition of cases admitted was, Smear positive pulmonary TB-26%, Smear negative pulmonary TB-51%, Extra Pulmonary - 5% and Children-18%. Non-Tuberculosis cases admitted varied from 2-17%. Out of budget of Rs.12.09 crores spent on all the 9 Sanatoria for the financial year 2001-2002, an amount of Rs.1.52 crores was spent on drugs and Rs.1.59 crores on food. Average cost/day/patient worked out to Rs.212. Of 39, out of 52 Medical Officers responding to the questionnaire, 31% of them had post graduate qualification in TB and Chest Diseases and 76% of them had formal training in TB Control Programme. No defined diagnostic algorithm was found to be practiced. Only 13% of the MOs mentioned standard drug regimens for the treatment of TB patients. Neither, any written policy for admission nor guidelines for practice of treatment regimens were available. Majority of the patients were put on daily Rifampicin containing regimen. Analysis of 414 Inpatients and 130 discharged patients interviewed revealed similar profile. Patients in the economically productive age group 25-54 constituted 67% of the Inpatients. Only 5% of the patients had history of haemoptysis. 84% of the cases did not have any associated diseases. 30% of the Inpatients had either been referred by private practitioners or medical officers in service.

51% of the Inpatients came from distances more than 40 kms away. Eighty percent of the patients had income below Rs.1000. Fifty seven percent of the patients wanted to stay in the hospital because of good food and 83% wanted to stay in the Sanatorium for good treatment. 57% of the patients were advised to take treatment at DTC/RNTCP-TB centers, PHI/Govt hospitals and 31% were advised to come back to Sanatorium, at the time of discharge. In light of the above findings and in the context of RNTCP implementation there is a need to redefine the role of Sanatorium all over the country. Stringent guidelines for admission of seriously ill tuberculosis patients or

those having post tubercular complication have to be formulated. Training in RNTCP for Medical Officers & paramedicals working at Sanatoria may be made mandatory. Provision may be made to treat seriously ill TB patients at CHC / Taluk Hospitals. Patients coming from long distances may be referred back to Hospitals for treatment in their jurisdiction.

2. Sophia Vijay et al: Pattern of default and methods of retrieval of new smear positive TB patients treated under RNTCP in a rural setup; Ind J Tub 2005 52(3), 163.

This retrospective cohort study among TB patients selected on the basis of purposive sampling was undertaken in two adjacent RNTCP districts of Karnataka state in a rural setting with the objective of finding (1) the pattern of treatment irregularity (2) factors contributing default and (3) patient retrieval methods & its effectiveness. All the defaulted patients and an equal number of treatments completed patients of a particular cohort belonging to similar age group, gender and treatment center formed the *study group*. The data was collected from programme records and patient interview using semi-structured schedules.

Patients with instances of one or more missed doses in the intensive and continuation phase were higher among defaulted patients than the completed group in both districts. This resulted in undue prolongation of treatment in more than 40% of cases in both districts. As per treatment cards, retrieval actions were found to have been taken for instances of missed doses in 10% of patients in district I and 3% in district II. However, no differences were observed in this regard between 'defaulted' and 'completed' groups. The treatment outcome was not recorded in 41% of the treatment cards in district I and 52% in district II. A significant number of treatment cards were incomplete with regard to information related to DOT in both districts. Initial home visit for address verification before initiation of treatment was significantly higher in the completed group compared to the defaulted in district I, whereas, more than 93% of patients in district II reported that home visit was not done. Drugs were provided for self-administration for 37.8% of patients in district I. Defaulter retrieval actions were found to have been taken in 58% and 32% of patients in district I and II respectively. Reasons for default were mostly treatment related. Based on the study findings it is recommended that the programme guidelines may be strictly adhered to and the supervision may be strengthened to minimize default.

3. Sophia Vijay: Rationale of intensive and continuation phase in short course chemotherapy; Practical Approach in Tuberculosis Management 2005 brought out by Dr.VK Arora, Additional Director General Health Services, Govt of India & Director LRS Institute, New Delhi.

This article dealt on the rationale of short course Chemotherapy describes the critical roles of intensive phase and continuation phase in the treatment of TB. The role of intensive phase in achieving culture conversion and role of continuation phase in minimizing the relapses and achieving high cure rates has been highlighted. The bacteriological basis i.e., the existence of different bacterial population with reference to their metabolic activity and multiplication is presented in detail. The role of different anti-tuberculosis drugs with reference to different type of anti-mycobacterial

activity has been emphasized. The critical importance of duration of treatment of intensive and continuation phases has been discussed in detail.

4. Agarwal SP *et al*: The History of Tuberculosis in India: Glimpses through Decades; Directorate General of Health Services, Ministry of Health and Family Welfare, New Delhi 2005.

This article has dealt in detail the history of TB control in India. Three different and clearly demarcated phases have been identified. Four decades prior to the formal launch of the programme and the efforts of non-government organizations in TB control has been described in detail. Establishment of Sanatoria and TB clinics, the birth of TB associations of India, the mass BCG campaign and execution of national sample survey has been highlighted. The efforts invested subsequently in three decades after the formal launch of the NTP, its achievements and constraints has been presented. The third phase beginning with implementation of RNTCP in a phased manner, its expectations, additional inputs, salient features of RNTCP and its achievements have been narrated. The role of non-government organizations and IEC has been mentioned briefly.

5. Chadha VK *et al*: Annual Risk of Tuberculous Infection in four defined zones of India- a comparative picture: *Int J Tuberc Lung Dis* 2005; 9(5) 569-575.

A Nation wide tuberculin survey was carried out during 2000-03 to obtain zonal level estimates of the average ARTI. Children 1-9 years of age in selected clusters of 26 districts were subjected to tuberculin testing with 1TU PPD RT23 with Tween 80, and the maximum transverse diameter of induration was measured 72 hours later. Prevalence of infection was estimated using the cut-off point method (Method I) and the mirror-image technique (Method II) among children without bacille Calmette-Guérin scar. Results from individual zones have been reported earlier, and the results from all four zones are presented here as a consolidated summary.

The ARTI computed from estimated prevalence was found to be lowest in the southern zone (Method I: 1.1%, Method II: 1.0%). It was higher in the eastern zone (1.3% by both methods) and highest in the western (Method I: 1.8%, Method II: 1.6%) and northern zones (1.9% by both methods). The proportion of infected children was found to be significantly higher in urban than in rural areas in all zones.

6. Chadha VK *et al*: Tuberculosis Epidemiology in India: a review: *Int J Tuberc Lung Dis* 2005; 9(10): 1072-1082.

High prevalence and incidence of disease and a high rate of transmission of infection characterize the tuberculosis situation in India. disease surveys conducted in different parts of the country since the 1950s have reported prevalences of smear-positive pulmonary tuberculosis of 0.6-7.6 per 1000 population, culture-positive tuberculosis of 1.7- 9.8 and culture and/or smear-positive tuberculosis of 1.8-12.7. The incidence of smear-positive pulmonary tuberculosis has been observed in the range of 1.0-1.6/1000 and that of culture-positive pulmonary tuberculosis 1.0-2.5/1000 in the limited number of studies carried out. The ARTI had been estimated at 1-2% for most of the tuberculin surveys carried out in different areas over different time periods. During a nationwide study in 2000- 2003, the average ARTI in the country was

estimated at 1.5%. An increasing trend has been observed in HIV sero-positivity among tuberculosis cases, which has been found to vary between 0.4% and 28.8% in different studies conducted mostly at tertiary health care centers. The proportion of new cases with MDR was relatively low, at 0.5– 5.3%. However, the proportion of MDR cases among previously treated cases varied between 8% and 67%.

7. Challu VK *et al*: Involvement of youth for TB- An innovative experience, NTI Bulletin; 2005: 41(1&2): 71-75.

The global recognition of TB burden, emerging threat of TB-HIV and danger of MDR-TB indicates urgent need to deal with TB not as a medical or even public health problem alone but as a social problem where creative intervention are essential for its effective control. For achieving and maintaining higher cure rates and early case detection, mere access to health facilities with free anti-TB drugs may not be enough to bring about desired success in DOTS strategy under RNTCP. New partners especially youth force has a great potential to bring about desired change in the community through propagating correct information on TB and its control. The project initiated at NII involved 125 students (7th to 10th Standards) of Bethesda School, Bangalore and a cadre of sixteen student ambassadors were groomed to generate an effective movement in fight against TB. A highly motivated student ambassadors participated in further sensitization of 150 students of a Government Middle and High school situated in Yeshwanthpur slum area of Bangalore. In the process, a creative network of student ambassadors can now be expanded and utilized to propagate correctly about TB and its control not only to their friends and families but also to the community at large.

6. NATIONAL REFERENCE LABORATORY

National Tuberculosis Institute is recognized as one of the NRL for purposes of quality assurance under RNTCP both for sputum smear microscopy laboratory network and culture sensitivity testing of *M. tb*. Ten states have been covered under its jurisdiction, viz., Bihar, Jammu & Kashmir, Jharkhand, Karnataka, Madhya Pradesh, Maharashtra, Orissa, Pondicherry, Rajasthan and West Bengal.

A. Quality Assurance Programme (QAP)

Quality Assurance Programme covers IQC and EQA and QI. It involves classification of errors in sputum smear microscopy and assessment of laboratories based on LQAS.

External Quality Assurance of sputum smear microscopy

Training of STDC Personnel

During the year the institute took a leading role in imparting training to 71 Laboratory personnel (37 EQA Officers/Microbiologists and 34 senior laboratory technicians) from 27 states. The focus of the training was on EQA guidelines, conducting Onsite Evaluation and panel testing of their respective states.

OSE of the STDC laboratories:

EQA-OSE of ten states were conducted during the year 2005-06 for laboratory infrastructure, IRL-OSE of DTCs, Panel testing of STLS, and RBRC responsibilities of STDCs. The findings were that in the initial year of EQA implementation, all states imparted EQA trainings to staff of the peripheral laboratories. DTC-OSEs and Panel testing of STLS were completed in the states of Karnataka, Maharashtra, Rajasthan, Pondicherry and West Bengal. Bihar, Jharkhand, Orissa and J&K partially completed their respective OSEs. The blinding and cross-checking of registers for RBRC were initiated in all the states. The RBRC results were monitored for improvement in the working of the laboratories.

EQA orientation & Quality improvement work shops:

Workshop based on the findings of NRL-OSE was conducted in which STOs and STDCs Director's from 25 states across the country participated.

The details of the on site Evaluation visits undertaken during the period under report are as under:

Sl. No.	Particulars of visit	Period	Resource person/s
1	Kamala Nehru STDC Ajmer, Rajasthan	30-05-05 to 01-06-05	Dr.VH Balasangameshwara Dr. Ajay Kumar Thirumala

2.	STDC Kolkatta, West Bengal DTCs of Hoogly and 24 North Paraganas.	15-06-05 to 18-06-05	Dr.VH Balasangameshwara Dr. Ajay Kumar Thirumala, Mrs. Shilpa Shiju, Ms. Shyni San
3.	STDC Cuttack, Orissa and DTC of Ganjam District.	20-06-05 to 22-06-05	Dr.VH Balasangameshwara Dr. Ajay Kumar Thirumala, Mrs. Shilpa Shiju, Ms. Shyni San
4.	LWSTDC Karnataka and visit to BMP DTC.	28-06-05 to 30-06-05	Dr. Ajay Kumar Thirumala, Mrs. Shilpa Shiju, Ms. Shyni San
5.	STDC, Pondichery.	13-07-05 to 15-07-05	Dr. Ajay Kumar Thirumala, Mrs. Shilpa Shiju, Ms. Shyni San
6.	STDC, Bhopal.	24-08-05 to 26-08-05	Dr. Ajay Kumar Thirumala, Mrs. Shilpa Shiju, Ms. Shyni san
7.	STDC, Nagpur.	19-10-05 to 21-10-05	Dr.VH Balasangameshwara
8.	Itki Sanatorium, Ranchi, Jharkhand	26-10-05 to 28.10.05	Dr. Ajay Kumar Thirumala
9	STDC, Kolkata and west Bengal	13-02-06 to 16-02-06	Dr.Ajay Kumar, Ms.Shilpa Shiju & Ms. Shyni San
10.	Srinagar, Jammu and Kashmir	27-02-06 to 02-03-06	Dr.Ajay Kumar, Ms.shilpa shiju & Ms.Shyni San

B. Drug Resistance Surveillance

NTI took an active and major role in development of methodology for selection of sample size for State-wide DRS under RNTCP, along with TRC and other members of National RNTCP Laboratory Committee. In continuation of this effort, NTI alongwith STDC Nagpur (Maharashtra) initiated the Drug Resistance Surveillance for new smear positive and retreatment cases of the state adopting "population proportion clusters sampling technique". A sample size of 1680 for the 'resistance among the new patients' and 990 for the 'resistance among the previously treated patients' were determined for the study period of one year. In the preparatory phase, all the DTOs, STLS and LTs were trained. A pilot study comprising 100 patients was conducted and the findings were incorporated for refinement of the protocol. Sputum samples were received at NTI from randomly selected 59 DRS centers from 10 zones of Maharashtra for Drug sensitivity testing. The intake of samples into the study is in progress.

7. MONITORING

Performance of the National Tuberculosis Programme

NTI had been monitoring the performance of NTP since of 1977 through periodic reports from the DTPs. The NTP was reviewed in 1993 and revised under the banner of RNTCP with DOTS strategy. The revised strategy has been implemented across the country by the end of March 2006. The Central TB division, Dte.GHS, Ministry of Health & Family Welfare, New Delhi has been directly monitoring the performance of RNTCP districts. Some of the erstwhile districts implementing the NTP till their implementation under RNTCP, have reported in NTI formats, which are few in numbers.

The quarterly reports brought out in 2005-06 appraise the performance of NTP districts in terms of implementing, reporting, case-finding and treatment activities. The report also contains the information on treatment of Non-DOTS cases in RNTCP districts.

Implementation status & Reporting Efficiency:

During the year 2005, 48 NTP reports were analyzed (32 in revised format and 16 in DTP/9 format) against the expectations of 152 quarterly reports. The reports with inconsistent data and other types of errors were excluded from the analysis. Some DTCs did not submit the report for one or more quarters. 12 RNTCP districts have reported on the Non-DOTS cases, which were not considered for analysis. Thus reporting efficiency was 36%.

Case finding:

During the calendar year 2005, the number of cases reported under NTP or non-DOTS cases from RNTCP areas were as under:

New smear positive cases	1971(22%)
New smear negative cases	5915(67%)
Extra Pulmonary cases	883(11%)

Further analysis on conversion and treatment outcome could not be taken up because of limited receipt of reports on the same. Consequent upon the coverage of entire country under RNTCP, monitoring of NTP districts has been discontinued.

8. LIBRARY AND INFORMATION SERVICES

Library & Information Services

The institute has a specialized **Category II** health science library as per the guidelines of the library Review Committee report, Government of India New Delhi. The categorization is based on Resources, Services, and Dissemination of Information & Automation activities. Its resources and services are focussed on TB and allied disciplines. The collections include core periodicals on TB and Respiratory diseases and its back volumes, published books on TB and multi disciplinary aspects, reports, proceedings, souvenirs, WHO unpublished documents, selected papers and non-print media viz., slides, cassettes, transparencies, CD-ROMs etc.

Library & Information Service section shoulders the responsibility by building up the appropriate collection, its progressive development, and organization of information services to provide increased access to its resources. Its major role is Selective Dissemination of Information to all stake holders: viz., Policy makers, Administrators, Academicians, Programme workers depending upon their information needs. The National data on Tuberculosis hosted on NTI website, periodical up-dating, creation of Digital Library, Digitization of monitoring reports on TB for archival value stands as a testimony for its efficiency. The information resource on Indian Data on TB available on the electronic media has drawn the attention of various Research Workers/Scientists Globally.

Besides, Library coordinates the activities of the Editorial committee and Publication Section. It plays active role in publication programmes of the Institute.

The following are highlights of the activities during the year under report.

Automation activity

- **Select Bibliography of Indian Medical Literature on TB:** Selected Bibliography of Indian Medical Literature on TB was prepared and sent to National Informatics Centre for hosting the same on the NTI website.

▪ In house digitization

The data on NTI papers & publications, Research publications: The in-house databases created on the WINISIS was uploaded on the **Intranet** using WWWISIS with the assistance from the Documentation & training centre, Bangalore and was found functional. The uploading of the database was done in-house. The data on NTI papers & publications, Research publications could be retrieved on line.

Open Access Catalogue of Books: Digitization of about 3064 records were completed. The database created using the WINISIS have been converted for uploading onto SLIM ++ and the same has also been put on the OPAC on LAN.

Digitization of the Monitoring reports for the remaining 7 years viz., 1980, 1983, 1985, 1998, 1999, 2003 & 2004 were completed thus making the database complete.

Open archiving: An initiative on **OPEN ARCHIVING** of NTI papers and publications was tested as a sample on the OPENMED developed by the National Informatics Center, New Delhi. Preliminary registration of the NTI was done. The Bibliographic details of NTI papers and publications along with the full text documents were digitized and sent to the National Informatics Center, New Delhi for hosting on the OPENMED. The URL of OPENMED is <http://openmed.nic.in>. Through this methodology, the national data on TB will have global access and wider visibility.

9. PUBLICATIONS

Publication section coordinates the publication activities of the institute. The major responsibilities of this section are to over see the regularity of the publication of NTI bulletin and the production of other specialized publications. The faculty and the staff of the institute contribute the articles for publication.

Documents published - The following documents were published during the year

1. Five Hundred (500) copies of NTI bulletin Vol. 40/1&2 issues of the year 2004.
2. Five Hundred (500) copies of NTI bulletin Vol. 40/3&4 issues of the year 2004.
3. Five Hundred (500) copies of NTI bulletin Vol. 41/1&2 issue of the year 2005.
4. One hundred and fifty (150) copies of the NTI Annual Report of the year 2003-04
5. One thousand (1000) copies of the State Tuberculosis Demonstration Centers document - Ed 3.
6. One thousand (1000) copies of the document "Summaries of NTI Studies - Vol. 2 (1995-2005)".

Besides, the printing section assisted in printing various research forms and administrative requirements in addition to Reprographic services to the laboratory, Animal Model Research Unit, Training & library.

10. OTHER TECHNICAL ACTIVITIES

The faculty of the institute assisted the Central TB Division in appraising and central internal evaluation of the districts. The objectives of appraisals were to assess the readiness of the districts in terms of infrastructure and trained manpower for implementation of RNTCP and that of central internal evaluation was to assess the achievements and the constraints encountered during the implementation. Following were the districts appraised / internal evaluations carried out during the year :

(A) RNTCP appraisal visits

Sl. No.	Details of visits	Duration	Resource person
1.	Khagaria & Madhepura Districts of Bihar	30-01-06 to 03-02-06	Dr. G.V. Ramesh CMO (NFSG)

(B) Central Internal Evaluation

Sl. No.	Details of visits	Duration	Resource person
1.	Kanpur district, Uttar Pradesh	03-05-05 to 07-05-05	Dr.V.H.Balasangameswara, CMO
2.	Madurai District ,Tamil Nadu	05-06-05 to 10-06-05	Dr. B.Mahadev CMO
3.	Medak District, Andhra Pradesh	11-09-06 to 16-09-06	Dr. L. Suryanarayana CMO (NFSG)
4	Gulbarga District, Karnataka	17-10-05 to 21-10-05	Dr. G.V. Ramesh CMO (NFSG)
5	Jabalpur district, Madhya Pradesh	05-12-06 to 09-12-06	Dr.L.Suryanarayana, CMO (NFSG)
6	Rohtak District, Haryana	28-03-06 to 30-03-06	Dr. G.V. Ramesh CMO (NFSG)

(C) Health InterNetwork

The MDMS project was reviewed and a decosopm was taken to make it functional for at least 2 TU's as per the old pattern of monitoring for the purpose of demonstration. Discussions were held with the officials of Bharat Electronics Limited, Bangalore (the manufacturers of AMEDA Simputers) regarding the development of the software on

MDMS for implementation in the AMEDA model of simputers. The officials of Bharat Electronics agreed to develop the application free of cost incorporating the revisions in the monitoring system. The necessary inputs for development of the MDMS application on the simputer (AMEDA model) was provided to the software team of Bharat Electronics. There has been a considerable progress in this direction.

(D) SCIENTIFIC GALLERY

The concept of establishing the scientific gallery was born in the year 2002 with an innovative approach conceived by Dr. P. Kumar, Director. The general information on TB, important milestones in the evolution of the programme and achievements of the institute both in the past and in the present have been displayed. The needs of various category of trainees visiting the institute have been taken into consideration in choosing the appropriate display material in an interesting graphic manner. This gallery also disseminates the health education material regarding tuberculosis as disease, its treatment, epoch making events and the luminaries who have contributed in tuberculosis control. The scientific gallery comprises of the following two units:

Photos Display Unit:

As part of the up-gradation of the gallery, new health education panels and photographs of luminaries in the field of TB were installed. The names of the luminaries are furnished below:

Dr. Rustomji Bomanji Billimoria, Dr. AC Ukil, Dr. Raman Viswanathan, Dr. T.J. Joseph, Dr. BK Sikand, Dr. C. Frimodt Moller, Dr. J. Frimodt Moller, Dr. R.N. Tandon, Dr. P.V Benjamin, Dr. Hafdan T Mahler, Dr. Khushdeva Singh, Dr. Prafulla Kumar Sen, Mr. SS Nair, Dr. Kamarazu Narasimha Rao, Dr. N.L. Bordia, Dr. SP Pamra, Dr. Raj Narain, Dr. Har Bajan Dingley, Dr. DR Nagpaul, Dr. Debabar Banerji, Dr. ML Mehrotra, Dr. KV Krishnaswami, Dr. MD Deshmukh and Dr. S. Radhakrishna.

Projection facility & Information kiosk on TB:

Multimedia projector including necessary softwares and information kiosk was commissioned besides installation of Touch screen monitor & computer along with uploading of relevant health education material. Binocular and projection microscopes have been installed. Sputum smears positive for AFB have been kept for demonstration purposes. Information kiosk on TB provides information to the visitors depending upon their preference.

Target group

The target group for the scientific gallery are the visitors comprising medical, the para-medical personnel working in teaching & and non-teaching institutions and graduates & post graduates from other live science subjects.

The scientific gallery has rich source of information for all those engaged in TB control activities. The photographic display session will leave an indelible impression in the minds of the visitors on the achievements of the institute, the evolution of the programme and its monitoring aspects. This facility is available free of cost during the

working days of the week (Monday to Friday). The gallery could be visited by the interested visitors on a mutually agreed date with a prior formal communication with the Director, NTI.

(E) STATUS OF LABORATORY ANIMALS

Fresh stock of three hundred and forty seven NTI-bred albino guinea pigs were raised in healthy condition. Appropriate preventive measures were taken to check sickness and outbreak of disease among breeding stock. Eighty-eight animals were utilized for the ongoing collaborative research projects during the above period under report.

11. OVERVIEW OF COMPUTER FACILITIES

The ever-growing demand for computing facilities from various sections for analysis of research data, compilation of performance reports, regular office administration and for other purposes has always pushed towards betterment and up-gradation of the existing infrastructure.

The existing server on Novell Netware V 4.01 is now coupled with a Windows 2000 server to cater to the requirements of the Institute. The institute has also witnessed an expansion in the LAN during the year. The former network was mainly in the Computer Center wing of the Institute. However the LAN points have now been extended to the PV Benjamin Block (Library), Robert Koch Block (laboratory) and to all rooms on the ground floor and the first floor of 'Avalon' Building. In addition, LAN points have been provided in the Board Room, Silver Jubilee hall and Kalaniketan, auditorium, thus making it easier to access the server for larger presentations. These expansions were facilitated by the WHO's HIN project. A 64 KBPS DSL lease line facility has also been procured under the HIN project and connected to selected nodes, thus giving net access to the users.

The OS on the two servers are Novell version 4.01 and Windows 2000. The O.S on all the nodes/ stand alone PCs are on windows environment (win95 , Win 98, Win Me or Win XP).

There are over 40-nodes/ stand alone PCs currently in the institute. An overview of the distribution of IT hardware in the Institute is as under:

Sl No	Section	server	Computers		Printers			LCD Projector	Others*
			PCs	Lap top	Dot matrix	Laser Jet	Ink Jet		
1	Directors office		3	1	1	2	1	1	1-ext.cd-rom 3-zipdrive 1-pen drive
2	Addl. Director's office		1	-	-	-	1	-	-
3	Statistics	3	14	1	2	2	3	-	1-scanner 1-ext.cdrom 2-pendrives
4	Epidemiology		3	1	2	1	-	-	1-ext.cdrom
5	Control		2	-	1	1	1	-	1-pendrive
6	Bacteriology		4	-	2	1	1	1	1-ext.cdrom 1-pendrive
8	Training		2	2	1	2	1	2	1-pendrive
9	Library	1	5	-	3	1	-	-	1-scanner 1-ext.cdrom
10	Administration		7	-	5	-	-	-	-

SI No	Section	server	Computers		Printers			LCD Projector	Others*
			PCs	Lap top	Dot Matrix	Laser Jet	Ink Jet		
11	Transport		1		1				
12	X-Ray		1		1				
13	Stores		1		1				
14	Accounts		3		3				
17	Officer I/C HIV & TB		1			1			
18	AMRU		2			1			
19	IEC		3			1		1	
20	Draughtsman		1		1				
21	TB Special specialist		1						
Total		4	55	5	24	13	8	5	

* Others include - HP Scanners, External CD ROM drive/writers, omega zip drive, tape drives

@ Inclusive of 2 servers

12. PARTICIPATION IN CONFERENCES / WORKSHOPS / CONTINUING MEDICAL EDUCATION / TRAINING PROGRAMMES / MEETINGS ETC.

Conference:

Sl. No.	Particulars	Date	Resource Person
1	International Biometric Society (Indian Region) Conference held at the University of Agricultural Sciences, Bangalore.	06-10-05 to 07-10-05	Sri.KP Unnikrishnan, CSO Sri.MS Subramanya Rao, SO
2	National Conference on Tuberculosis and Chest Disease held at Lucknow	24-02-06 to 25-02-06	Dr. Preetish S. Vaidyanathan, CMO Dr. Ajay Kumar Mr. V. Magesh Mrs. V. Suganthi

Workshop:

Sl. No.	Particulars	Date	Resource Person
1	National Consultation workshop on updating training curriculum for training on TB / HIV for all cadre of staff & to device modalities for conducting TB & HIV training at National & State level held at India Habitat Centre, New Delhi organized by CTD & NACO in collaboration with WHO	18-04-05 to 19-04-05	Dr.B Mahadev, CMO(NFSG)
2	Brainstorming Workshop on Future of TB Research in India, at ICGB, New Delhi, (DBT Sponsored)	19-05-05 to 21-05-05	Dr.VK Challu, Veterinarian
3	SAARC Workshop on EQA & DRS Islamabad.	12-07-05 to 14-07-05	Dr.VH Balasangameshwara CMO(NFSG)
4	RNTCP workshop on TB Training focal points for State level officers from the states of Bihar, Haryana, Kerala, MP, Meghalaya, Tamilnadu, West Bengal, Delhi.	23-08-05 to 25-08-05	Dr. P Kumar, Director and faculty
5	TB – HIV workshop at Bangalore.	27-08-05	Dr. P Kumar, Director
	<ul style="list-style-type: none"> • Inaugural and valedictory session of the Orientation Training workshop on Public Health for Health officers and 		Dr. P Kumar, Director and faculty

Sl. No.	Particulars	Date	Resource Person
6	Asst. Health officers of KUSP- AIIH & PH, Kolkata Held at NTI <ul style="list-style-type: none"> Lecture on Management Information system. Lecture on progress of RNTCP Lecture on Information Education and Communication. 	29-08-05 to 02-09-05	Shri.KP Unnikrishnan, CSO Dr.B Mahadev, CMO(NFSG) Dr.VK Chadha, Sr.Epidemiologist
7	Lecture on "Monitoring Evaluation for drug resistance in TB in India" at the National Consultation on Drug Resistance on TB, HIV and Malaria conducted by US Embassy, WHO & NACO held at Mumbai.	19-09-05 to 21-09-05	Dr.VH Balasangameshwara CMO(NFSG)
8	TDR-WHO workshop on project development at New Delhi.	26-09-05 to 28-09-05	Dr. VK Chadha Sr.Epidemiologist
9	ZTF North Zone workshop at Chandigarh - presentation of EQA in the RNTCP lab network during the scientific session.	22-10-05 to 23-10-05	Dr.P Kumar, Director
10	Workshop for revision of Laboratory Technicians Manual and training modules for Laboratory Technicians and STLS at Central TB Division, Nirman Bhavan, New Delhi.	26-10-05	Dr.P Kumar, Director Dr.VH Balasangameshwara CMO(NFSG)
11	Operational Research Steering Committee meeting held at Nirman Bhavan, New Delhi where the protocol "Prevalence of PTB among adults and ARTI among children in an urban community of Bangalore Rural district" was presented.	30-01-06	Dr. V. K. Chadha Sr.Epidemiologist
12	TOT workshop on orientation for ART trainers, curriculum development for medical officers, specialists and orientation for DME/DMS/MS held at GHTM Chennai	25-04-05 to 26-04-06	Dr Preetish S Vaidyanathan, CMO

Continuing Medical Education Programs:

Sl. No	Particulars	Date	Resource person
1	CME on RNTCP in St. John's Medical college, Bangalore.	11-04-05	Dr. L Suryanarayana, CMO(NFSG)

Sl. No	Particulars	Date	Resource person
2	Orientation on RNTCP at Mahaveer Jain Hospital, Bangalore	13-04-05	
3	Guest Speaker on Recent Initiatives under RNTCP at National CME Programme on Infectious Diseases organized by Indira Gandhi Institute of Child Health in collaboration with NIMHANS.	14-05-05	Dr.B Mahadev CMO(NFSG)
4	CME & National Task Force Meeting at AIIMS, New Delhi	03-11-05 to 05-11-05	
5	CME & National Task Force Meeting at AIIMS, New Delhi	03-12-05 to 05-12-05	
6	Attended the CME on MDR - TB held at Kasturba Medical college, Manipal	19-03-06	Dr.VH Balasangameshwara CMO(NFSG)

Meetings:

Sl. No.	Particulars	Date	Participating official
1	DOTS Plus meeting on development of guidelines pertaining to laboratory aspects of DOTs Plus	11-04-05 to 12-04-05	Dr.VH Balasangameshwara CMO(NFSG)
2	Assessment visit to Gujarat as a CTD representative along with WHO DOTS Plus team from Geneva	13-04-05 to 14-04-05	
3	Meeting for formulation of Technical Specification for procurement of Purified Protein Derivative (PPD) for diagnosis in pediatric patients for RNTCP, held at Nirman Bhavan, New Delhi.	12-04-05	Dr. VK Chadha, Sr.Epidemiologist
4	Meeting with Director General Health Services regarding TB burden In India, held at Nirman Bhavan, New Delhi	18-04-05	
5	Meeting of WHO collaborative centre & National Reference Laboratories at National Institute of Virology, Pune	13-04-05 to 15-04-05	Dr.B Mahadev, CMO(NFSG)
6	The 6 th Institutional Ethics Committee meeting was held on for consideration of the following research proposals:	06-05-05	Justice VS Malimath, Chairperson Dr. P Kumar, Director & Members of Technical

Sl. No.	Particulars	Date	Participating official
	1. Efficacy and safety of immunomodulator (Mycobacterium w) as an adjuvant therapy in category II pulmonary tuberculosis (a randomized clinical trial). 2. Knowledge and practices of private practitioners and community workers in slums of Bangalore city. 3. Study of HIV sero-prevalence among tuberculosis patients in Mandya district. 4. Economic evaluation of PPM-DOTS in Bangalore.		Coordination committee, NTI
7	Attended District TB Society (Bangalore Urban) meeting	25-05-05	Dr.GV Ramesh CMO(NFSG)
8	Meeting on "Role of NGOs in TB control" held at Bangalore.	06-06-05	Dr P Kumar, Director
9	Lab Committee meeting at CTD, New Delhi	10-06-05	Dr.VH Balasangameshwara CMO(NFSG) & Dr Ajay Kumar Thirumala
10	Institutional Animals Ethics Committee meeting to discuss the proposed collaborative research project titled " <i>The pathogenetic role of serine threonine kinases of M.tb in guinea pigs</i> "	27-06-05	Dr.P Kumar, Director & Chairperson and Members of IAEC Dr. Sujatha Narayanan Dy.Director (IMM) TRC, Chennai (special invitees).
11	Technical Committee meeting for procurement of equipments for Culture & Sensitivity tests for RNTCP held at the office of Additional DG, Nirman Bhavan, New Delhi.	30-06-05	Dr.VH Balasangameshwara CMO(NFSG)
12	A meeting of the office bearers of Voluntary Health Association of Karnataka was organized at NTI. Director, NTI presided the meeting. Avenues for involvement of VHAK in TB control activities were discussed. A sensitization workshop on RNTCP for the members of VHAK was proposed to be held during or the at NTI.	last week of July 2005	Dr.P Kumar, Director Mr.KP Unnikrishnan, CSO, NTI STO, Karnataka & WHO consultants, Karnataka
13	DOTS Plus meeting at CTD, New Delhi.	29-07-05 to 30-07-05	Dr. VH Balasangameshwara CMO (NFSG)
14	Review meeting of DTOs of Karnataka chaired by STO, Karnataka at Bangalore	16-08-05	Dr.VH Balasangameshwara CMO(NFSG) & Dr.GV Ramesh CMO(NFSG)

Sl. No.	Particulars	Date	Participating official
15	First meeting of the State Level Coordination Committee for HIV/TB at Bangalore.	18-08-05	Dr.P Kumar, Director
16	"Hindi-Kannada" meeting organized by "Shabd" Sahithya Samstha, Bangalore & Uttar Pradesh Hindi Samsthan, Lucknow, held at Bharathiya Vidya Bhavan, Bangalore.	20-08-05	Dr.P Kumar, Director
17	5 th Executive Committee meeting of the Karnataka State TB Coordination Society, Bangalore, at "KRISHNA" Directorate of Health & FW Services.	24-08-05	Dr.P Kumar, Director
18	Lab. Committee meeting and national Lab Network Committee meeting held at Delhi.	09-09-05 to 10-09-05	Dr. Ajay Kumar Thirumala
19	Situational analysis of the districts of Tuticorin and Thirunalveli of Tamil Nadu for National study on Default.	26-09-05 to 28-09-05	Dr.VH Balasangameshwara CMO(NFSG)
20	Zonal National Task Force Meeting for involvement of Medical College held at CMC, Vellore, Tamil Nadu	10-10-05 to 11-10-05	Dr.B Mahadev, CMO(NFSG)
21	Meeting of the ISS Officers working in various institutions under Dte.GHS held in Nirman Bhavan, New Delhi.	27-10-05	Sri.KP Unnikrishnan, CSO
22	Situational analysis of Ajmer, Jodhpur and Bikaner districts of Rajasthan for National study on Default.	07-11-05 to 11-11-05	Dr.VH Balasangameshwara CMO(NFSG)
23	DOTS Plus Meeting of CTD, New Delhi	22-11-05	Dr.VH Balasangameshwara CMO(NFSG)
24	State level Meeting of Integrated Disease Surveillance Project held at Bangalore	29-11-05	Dr.GV Ramesh CMO(NFSG)
25		01-12-05 to 02-12-05	Dr.P Kumar, Director Dr.VH Balasangameshwara Dr. Ajay Kumar, Mr. HD Surendra,
26	RNTCP EQA Meeting for STO & STDC Directors from 23 states & union territories	05-12-05 to 06-12-06	Mr. Manjunath G A, Ms. Shilpa Shiju Mr. D Yesupadam, Mrs. R Bhagirathi, Ms. Shyni San,
27		09-12-05 to 10-12-05	Mrs. K Hemalatha, Raghunandan, Mrs. Kusuma S R

Sl. No.	Particulars	Date	Participating official
28	The Institutional Animal Ethics Committee meeting to discuss the research proposal on " <i>Public Health Implications of TB in Asian Elephants</i> " submitted by National Centre for Biological Sciences, GKVK Campus.	15-12.-05	Dr.P Kumar, Director, Dr.VK Challu Veterinarian & Members of the committee
29	Chairing a session in the "National health systems research on access to TB services and IEC under RNTCP" organized by DANTB, Orissa at The India International centre, New Delhi	12-12-05	Dr.P Kumar, Director
30	DOTS plus meeting to review the draft DOTS plus guidelines held at Nirman Bhavan, New Delhi.	20-12-05	Dr. Sophia Vijay & Dr.VH Balasangameshwara
31	Laboratory Consultative Meeting and DOTS Plus meeting held at CTD, New Delhi.	16-01-06 to 17-01-06	Dr.P Kumar Director Dr.VH Balasangameshwara Dr. Ajay Kumar
32	RNTCP Phase II - Zone II meeting with STOs and Consultants held at Ernakulam, Kerala	19-01-06 to 22-01-06	Dr.VH Balasangameshwara CMO (NFSG)
33	Quarterly Review meeting of DTOs held at Mumbai, Maharashtra from.	27-01-06 to 28-01-06	Dr.VH Balasangameshwara CMO (NFSG) Dr. Ajay Kumar
34	Preparatory meeting at Jaipur and Durgarpur, Rajasthan for interview of MOTCs of Jaipur, Durgarpur and Banaswara for National Default Study.	06-02-06 to 11-02-06	Dr.VH Balasangameshwara CMO (NFSG)
35	Meeting for discussion on Equipments for DRS held at CTD, New Delhi.	14-02-06 to 18-02-06	Dr.VH Balasangameshwara CMO (NFSG)
36	Meeting for assessment of equipments and review of DRS held at STDCs Nagpur and Ahmedabad.	27-02-06 to 01-03-06	Dr.VH Balasangameshwara CMO(NFSG)
37	Situational analysis and interview of DTOs and MO-TCs of Kangra & Mandi districts of Himachal Pradesh and discussion with State TB Officer at Shimla in connection with National study on Default.	13-03-06 to 16-03-06	Dr.VH Balasangameshwara CMO(NFSG)

13. VISITORS

During the year the Institute had the privilege of having the following dignitaries as visitors

Sl. No.	Details	Date
1	Dr. Sujatha Narayanan, Deputy Director (IMM), Tuberculosis Research Centre, Chennai gave a presentation on the proposed collaborative project between NTI and TRC entitled "Studies on pathogenetic role of serine threonine kinases of <i>M.tuberculosis</i> " to the Technical Coordination Committee.	07-04-05
2	Dr. Deepak from All India Institute of Medical Sciences, New Delhi for discussion on the ongoing collaborative research study between NTI and AIIMS.	04-05-05
3	Dr. Jaya S Tyagi, Professor, Department of Biotechnology, All India Institute of Medical Sciences, New Delhi for discussion on various issues pertaining to the collaborative projects between the two Institutions.	05-05-05
4	Dr. E.V.V. Gupta, Former State TB Officer of Karnataka and Dr. Balasubramanian from International Union for Health Promotion and Education, South East Asia Regional Bureau, for a discussion on the collaborative project with NTI for TB control programme.	22-09-05
5	Dr S.P. Aggarwal, DGHS, MH&FW, New Delhi for discussion with the Director on issues pertaining to the Institute.	01-10-05
6	Lt. Gen. D. Raghunath, Principal Executive, Sir Dorabji Tata Center for Research in Tropical Diseases, Innovation Center, Indian Institute of Science Campus, Bangalore for discussion on collaboration with NTI in TB control.	05-10-05
7	Mr. Krishnan, Fellowship Officer, WHO-SEARO had discussion on coordination between WHO and NTI on fellowship training.	06-11-05
8	Ms. Katherine Floyd, Dr. Knut Lonroth, Mrs. A.Pantoja, Experts from WHO Head Quarters, Geneva and Dr Lal, National Programme Officer, WHO PPM-DOTS Project, New Delhi for a meeting on Evaluation of PPM-DOTS project in Bangalore city.	14-11-05 to 16-11-05
9	A team of nine Chinese delegates visited the Institute. They were apprised on the activities of the institute and the implementation of RNTCP in India.	24-01-06
10	Dr. Somil Nagpaul from CTD, Dte.GHS, New Delhi, for a discussion about TB-HIV training and involvement of medical colleges in RNTCP.	08-02-06
11	Dr. MA Neon from DANTB held discussion with Director about their contribution in a project on RNTCP at Orissa.	10-02-06

14. EVENTS CELEBRATED

- 15th August 2005 **Independence Day** was celebrated in the Institute. The staff along with family members, trainees, staff from other offices situated within the campus and students from neighboring Bethesda School participated in the celebrations. The Director hoisted the national flag. Patriotic songs were sung by the faculty, staff and trainees. The Director addressed the gathering.
- 8th -14th September 2005 **Hindi week** was observed from 8^h - 14th September 2005 and Hindi Divas was celebrated on 14th September 2005. Shri C.M. Ganapathi was the chief guest on the Hindi Day. As part of the observance of the Hindi week, Anthakashri, Hindi translation, Letter writing, Essay, Quiz competition, Ek Shyam Bachonke Naam (cultural programme for the children of NTI staff) and Hindi Jokes / Songs were organized. Prizes were distributed to the winners of the events and also to the concerned officials who participated in writing one Hindi word a day on the notice boards of Avalon Block and P.V. Benjamin Block to promote usage of official language.
- 7th - 11th November 2005 **Vigilance awareness week** was observed in the Institute. As part of the observance of vigilance awareness week the staff of NTI, NICD, CPWD and PAO Audit took oath. Poster / cartoon writing competitions were held as part of the observance. Director addressed the gathering in which he highlighted the need for observance of high standards of morality and to be vigilant against corrupt practices.
- 26th January 2006 **Republic Day** was celebrated in the Institute. The faculty and staff of NTI and the trainees participated. Director hoisted the National Flag. Patriotic songs were sung by the faculty, staff and trainees. Hoops display / cultural programmes were presented by Bethesda School children, Bangalore. The Director addressed the gathering.
- 24th March 2006 The faculty and the staff of the institute participated in the **World TB day** celebrated under the auspicious of State Tuberculosis control Society. This function was held in the premises of Rajbhavan. His Excellency the Governor of Karnataka inaugurated the rally, which went around the important points in the city highlighting the salient features of TB control services available under RNTCP. The faculty and staff also participated in the function held at Town Hall, Bangalore.

15. FINANCIAL OUTLAY & EXPENDITURE

The Plan & Non-plan budget allocation and expenditure incurred for the financial years 2003-04, 2004-05 & 2005-06 are presented in tables below.

PLAN

Year	Budget allocated (Rs.)	Expenditure (Rs.)
2003 - 2004	1,35,00,000	96,05,000
2004 - 2005	1,00,00,000	91,95,000
2005 - 2006	2,10,00,000	1,16,09,000

NON PLAN

Year	Budget allocated (Rs.)	Expenditure (Rs.)
2002 - 2003	2,36,00,000	2,39,80,000
2003 - 2004	2,47,00,000	2,54,55,000
2004-2005	2,56,00,000	2,53,76,000

Revenue generated by the Institute for the year 2004-05 was credited to the consolidated fund of Government of India is given in the table below.

REVENUE GENERATED

Year	Amount (Rs.)
2004-2005	1,95,648

16. ADMINISTRATIVE SECTIONS

ESTABLISHMENT

- The section is responsible for general upkeep of the office. The various types of activities undertaken in the section include :
 - i. Attending to administrative matters of the Institute.
 - ii. Recruitment, posting, transfers retirements and all other service matters.
 - iii. Provision of personal assistants to all the sections.
 - iv. Processing of legal issues in service matters under Central Administrative Tribunals and higher institutions.
 - v. Correspondence with Directorate General of Health Services (DGHS) & other agencies on administrative matters.
 - vi. Provision of secretarial assistance to all the sections.
 - vii. Maintenance of office buildings, hostel facilities and campus.
- The retirement and repatriation details of staff of the Institute during the year are given in the table below.

Sl. No	Name	Designation	Date
New Postings			
1.	Dr. N. Somashekar (Through UPSC)	TB Specialist	18-11-05
Transferred out			
1	Sri. P. Sangeeth Kumar	Sr. Statistical Officer	27-07-05
Retirement on Superannuation			
1	Sri. Srikantramu	Statistical Assistant Statistics Section	01.04.05
2	Sri. K. Lakshminarayana	Group 'D' Peon	30-06-05
3	Smt. Rangamma	Cook	30-06-06
4	Sri.B.R. Sathyanarayana	Sorter Operator	30-06-06
5	Sri. T.R. Thulasi	Telephone Operator	30-09-05
6	Smt. Sudha S. Murthy	Sr. Librarian & Information Asst.	30-11-05
7	Sri. S. Shivarudrappa	Chowkidar	31-12-05
Retirement on VRS			
1	Sri.B.A. Eswara	Health Visitor	01-04-05
Death while in service			
1	Sri. Puttaraju	Safaiwala	12-04-05

ACCOUNT

The major responsibilities of the section are:

- i. Preparation of annual budget proposal and performance budget.
- ii. Drawing and disbursement of Salaries, Travelling Allowances, Medical reimbursement and other staff expenses.
- iii. Processing of payment for stores services and annual maintenance service contracts.
- iv. Processing of payments of advances to the staff.
- v. Deduction of Professional tax and Income Tax at source from the employees and its remission to concerned authorities.

STORES

- The section is responsible for procurement and supply of stores items for the smooth functioning of the Institute. This involves extensive procedures like receipt of indents from individual sections and their compilation, calling for quotations/tenders, arrangements for opening the tenders, preparation of comparative statements & submission to the Purchase Committee and processing of the recommendations of the Purchase Committee.
- The other functions of the section include:
 - i. Maintenance of stores /stock ledger.
 - ii. Arrangement for Annual Maintenance of electrical, electronic and other equipment.
 - iii. Disposal of condemned items as per laid down procedure.
 - iv. Annual Stock verification

TRANSPORT

The Institute has a fleet of vehicles and this section is primarily responsible for its upkeep and provision of the vehicles for administrative and research facilities. The section also handles maintenance of all documents regarding registration, insurance and condemnation. The section is also equipped to undertake minor repairs of vehicles.

HOSTEL

The institute has two hostel blocks namely Krishna Nivas and Cauvery Nivas for providing boarding and lodging facilities for medical & paramedical trainees and officials visiting from head quarters and other Institutions/Offices. The hostel rooms have been renovated with attached toilet facilities. The rooms have been refurnished with new furniture and other facilities.

17. CIVIL & ELECTRICAL WORKS AND MAINTENANCE

CIVIL & ELECTRICAL WORKS

The Institute gets the Civil and Electrical works executed through Central Public Works Department (CPWD), which is under the Ministry of Urban Development and Poverty Alleviation, Government of India. NTI gets the allocation of fund under the PLAN budget, in the head of account, 'MAJOR WORKS' during each financial year.

The Institute was provided with an amount of Rs.50 lakhs during the financial year 2005-06 in Budget Estimate and an additional amount of Rs.40 lakhs was provided in the Revised Estimate and the same has been utilized for carrying out Renovation/Maintenance works. Out of these allocations, a few sanctions issued during the previous financial year have also been revalidated during the year under report, as the CPWD could not execute the works during 2004-05. An amount of around Rs.7 lakhs has also been utilized out of the budget provided under PLAN - Machinery & Equipment to carryout a few electrical works.

The CPWD executed the following works during the year under report

Civil works

1. Providing attached bathrooms to the existing rooms in all the four floors (Ground + three floors) of 'Krishna Nivas' building, making (27+1) rooms 27 rooms with attached bath rooms.
2. Rehabilitation of shaft type overhead water tank-strengthening of shaft etc.
3. Repairs to entrance of 'AVALON' building, providing concrete blocks in the portico, polished granite stones to the existing steps, internal and external painting etc.
4. Renovation of a portion of AMRU building - providing animal cage for retired guinea pigs and enclosure to the Air Handling system.
5. Additions and alterations to 48 old staff quarters of Type I, II and III.

Electrical Works

1. Rewiring and providing additional electrical facilities and control switch etc. in the renovated Krishna Nivas.
2. Rewiring with copper wire and other electrical works in AMRU building
3. Provision of split air conditioners in the conference hall (Room NO. 306) of P.V. Benjamin Block.

MAINTENANCE WORKS

In addition to the above-mentioned civil and electrical works, the Central Public Work Department has been undertaking routine annual repair and maintenance operation.

Acknowledgements

The Director acknowledge the efforts of the Annual Report compilation committee under the Chairmanship of Dr. L. Suryanarayana, CMO & Dr. Vijay Kumar Challu, Veterinarian, in compiling, editing and organizing the publication of this report. The contribution made by Shri. Joydev Gupta and R.K. Srivastava is also acknowledged and appreciated. The assistance provided by Kum. R. Rathi is also acknowledged with thanks. The untiring secretarial assistance provided by Shri. R. Ravi Stenographer Gr.II in processing and preparing this report deserves appreciation.