

**NATIONAL TUBERCULOSIS INSTITUTE, BANGALORE**  
*Organization & Functions*



भारत सरकार  
राष्ट्रीय क्षयरोग संस्थान  
(स्वास्थ्य सेवा महानिदेशालय)  
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भारत

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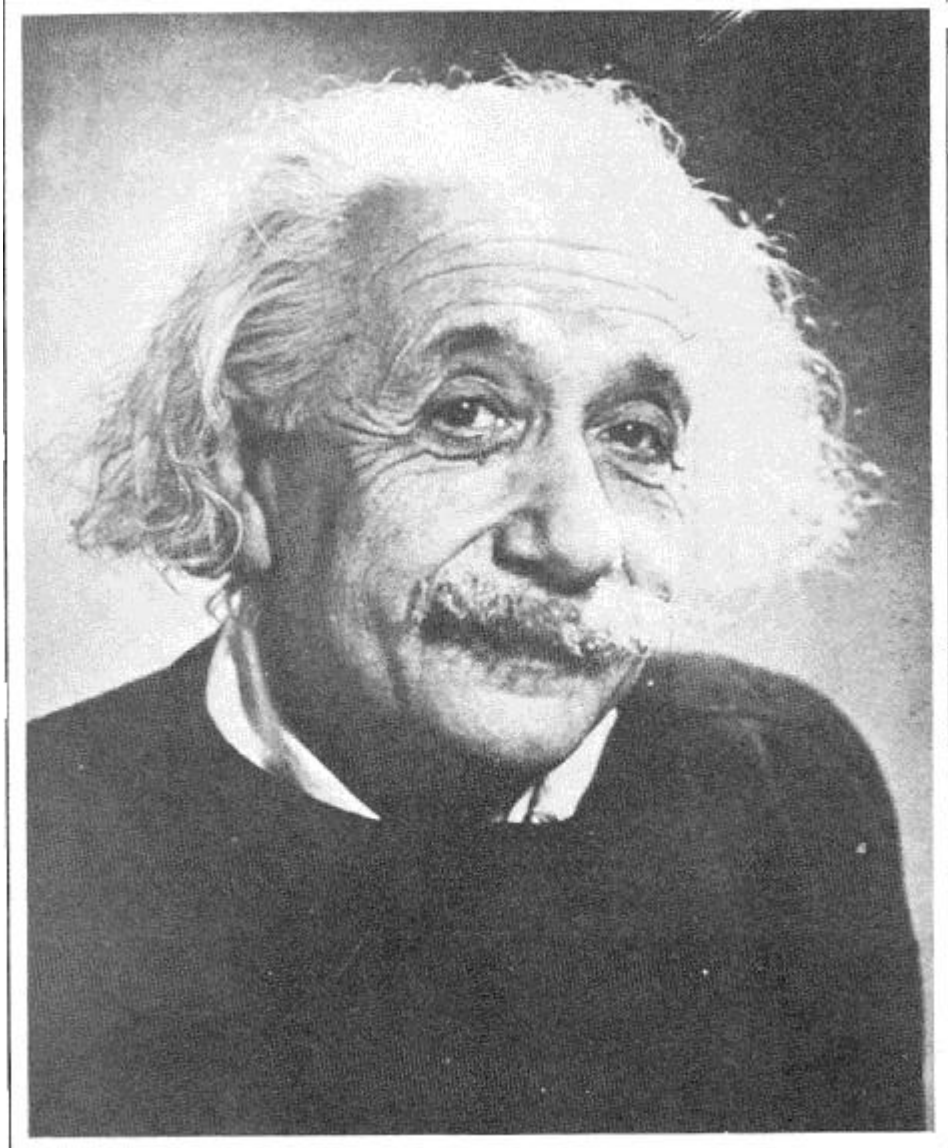
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GUIDING THOUGHT  
FOR  
NATIONAL TUBERCULOSIS INSTITUTE  
BANGALORE



*"Concern for man and his fate must always form the chief interest of all technical endeavours. Never forget this in the midst of your diagrams and equations".*

**EINSTEIN**

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*Silver Jubilee Hall*



*Auditorium*

## FOREWORD

*The National Tuberculosis Institute, a subordinate office of the Directorate General of Health Services under the Union Ministry of Health and Family Welfare has been a pillar of strength for the anti-Tuberculosis activities in the country. It has made significant contributions in research & training and in evolving a viable tuberculosis control programme. The Institute has functioned as the technical arm of the Central TB Division on matters related to tuberculosis control for the past four decades. Recognizing its technical capabilities and training infrastructure, the institute has attained the status of a 'WHO Collaborating Center'. Of late several international organisations such as WHO (SEARO), SAARC etc have been sponsoring candidates for training in tuberculosis control.*

*This booklet is an updated version of the institute's structure and activities. The readers are introduced to the various sections, their functions and the general infrastructure and facilities available. Some of the path-breaking studies conducted by the institute have been highlighted. A brief account of the future plan of activities is an added feature.*

*Any constructive suggestion for improvement of the publication would be gratefully appreciated.*

**Date: November 2003**  
**Place: Bangalore**

  
**Dr Prahlad Kumar**  
**Director**

# *National Tuberculosis Institute*

## **1. GENESIS**

An important landmark in the fight against TB in India was the launching of Mass BCG Campaign soon after independence. This turned out to be one of the biggest public health campaigns, penetrating into the vast interior rural areas with a health education component. An important offshoot of this campaign, was the pooling together of experiences resulting from international co-operation comprising, International Tuberculosis Campaign, World Health Organization (WHO) and United Nations International Children's Emergency Fund (UNICEF). Later on a meeting of the minds between the Late Dr PV Benjamin, the doyen in the field of TB control and the then Adviser on TB to the Government of India and Dr HT Mahler of WHO and their concerted efforts made a lasting impact on TB control programme.

The results of tuberculin tests carried out as a part of the Mass BCG Campaign led to the launching of "National Sample Survey on TB in India" - a pioneering work and also one of the largest survey of its kind undertaken by the Indian Council of Medical Research, New Delhi. The findings of these two surveys were rather startling and overturned the then prevailing myth that TB was mainly an urban problem.

Since nearly 80% of the population in India lived in about 5,60,000 villages, all of a sudden the TB problem loomed large as a colossus. After recovering from the striking effect of the above findings, TB workers in India under the guidance of the Dr PV Benjamin and Dr Mahler, initiated planning to fight the TB situation with determination and farsightedness.

Diagnosing and treating millions of people suffering from TB, throughout the country was the greatest challenge. The concept of treating TB patients then focussed on providing sanatorium line of treatment for long periods in hospitals. Their rehabilitation became clearly out of context and had to be replaced by one with a higher potential to diagnose and treat patients on domiciliary basis. Fortunately, with the advent of powerful anti-TB drugs, the possibility of treating TB patients at home became more practicable. Against this backdrop, to formulate an effective control strategy, **National Tuberculosis Institute** was established under Directorate General of Health Services, Ministry of Health and Family Welfare, New Delhi, and formally inaugurated on **16<sup>th</sup> September 1960** by late Pandit Jawaharlal Nehru, the first Prime Minister of India.



*Pandit Jawaharlal Nehru inaugurates - 16<sup>th</sup> September 1960*

*LR: Sri Jayachamarajendra Wodeyar, erstwhile Maharaja of Mysore; Pandit Jawaharlal Nehru, the then Prime Minister of India; Dr PV Benjamin, the then Advisor in TB, Govt of India & Dr NL Bordia, the then Director NTI.*

## *National Tuberculosis Institute*

### **2. THE CAMPUS**

The Institute is located in the northern part of the Bangalore near Rajamahall Guttahally on a sprawling green lush field of 23 acres of land. The main central old building of oriental architecture - "**Avalon**" was a palace belonging the erstwhile Maharaja of

Mysore. Over periods of time additional blocks have been constructed to meet the growing needs of the institute. The different blocks and the purpose for which they are used are mentioned below.

- Avalon** : Houses the office of the Director, Addl. Director, faculty of Epidemiology & Control section, Administrative Offices and Technical Co ordination committee room.
- Robert Koch Memorial Block** : Houses Laboratory, Computer Centre, Board Room & Silver Jubilee Hall
- PV Benjamin Memorial Block** : Houses Library & Publication Wing, Statistics & Monitoring Section, Training Section, Conference Hall & Training Class Rooms
- Kalaniketan** : Auditorium
- Hostel** : The institute has the advantage of having two large hostel blocks - Cauvery & Krishna Nivas and Guestrooms with mess facilities. A sprawling playground for sports and games is another facility.
- Residential blocks** : Houses Staff Quarters

The institute has a website <http://ntiindia.kar.nic.in> launched on 15<sup>th</sup> August 2001.



*Avalon*



## *National Tuberculosis Institute*

### **3. OBJECTIVES**

The National Tuberculosis (TB) Institute was established with the following objectives:

- To formulate and evolve practicable, economically feasible and widely acceptable TB control programme for the entire country.
- To train a large mass of medical and para-medical personnel to efficiently implement the programme in the entire country.
- To undertake necessary research to give inputs to the above two objectives.
- To monitor and supervise the programme.
- To provide technical support for effective implementation of TB Control activities at District, State and National, levels.



*WHO South East Asia Training Course on TB Control held on 10<sup>th</sup> - 21<sup>st</sup> March 2003*

# *National Tuberculosis Institute*

## **4. FUNCTIONS**

### **A. FORMULATION OF TUBERCULOSIS CONTROL PROGRAMMES**

Based on the findings of the epidemiological, sociological and operational research studies, the draft district tuberculosis (TB) programme was prepared in 1961. This was pilot tested in Ananthpur district of Andhra Pradesh. The programme was mainly based on providing TB services as an integral part of the general health services through direct smear microscopy and domiciliary treatment, which were provided free of cost. The programme also emphasized on periodic supervision aimed at maintaining improved work standards and replenishment of logistics.

Detailed manuals including work instruction for all the key personnel were prepared for guidance in their routine activities. Simultaneously Training of the key personnel to manage the district TB programme - a functional unit of NTP was also taken up. The programme was expanded in a phased manner from 1962 onwards to cover all the districts in the country.

Encouraged by the remarkable findings of international short course chemotherapy trials in early 1970's and their pilot testing in early 1980's in our country, short course chemotherapy was introduced in the control programme in a phased manner from 1986 - 1987.

In 1992, the Government of India reviewed the TB Programme in depth in collaboration with World Health Organization (GOI-WHO). The already known inadequacies were documented and remedial measures were suggested which gave birth to the Revised National TB Control Programme.

### **B. TRAINING**

From the very inception, training was one of the major activities of the Institute. The concept of training centered on, inservice medical and para-medical personnel to function as a coordinated team. The practical training imparted created a situation wherein each trainee learns his job, gets conversant

with the nature of the job of his colleagues and will be aware of the links and flow of work of all categories of personnel in the entire programme. The trained manpower in turn would train his subordinate counter parts at sub district level. NTI has the distinction of training medical and paramedical personnel as a team in implementing and supervising the TB programme. Initially the duration of training was six months. Duration of training was shortened over a period of time to 8 weeks taking into consideration technical and operational factors without compromising the quality of training.

With the emergence of **Revised National Tuberculosis Control Programme** in 1993, and its expansion after 1997-1998, the focus of training has now shifted to RNTCP. The faculty of the institute has been actively involved in imparting quality training to large number of medical and paramedical personnel in RNTCP modular training both within and outside the institute. The training schedules have been revised in 2002 with emphasis on training of the trainers for personnel working in STDC and management of TB control at state level. Curriculum with orientation on TB Control programme have been incorporated for the undergraduate and post graduate medical students from the medical colleges, NGOs and private practitioners. .

### **C. RESEARCH**

Right from inception, the institute has been actively involved in conducting operational research studies. The findings of epidemiological, sociological, operational and bacteriological research studies have helped in the formulation and evaluation of the national TB control programme. Some of the findings are of invaluable nature, even in the context of revised national TB programme. To mention a few: a sociological study on awareness and action taking among chest symptomatics, prevalence and longitudinal studies, case finding potential studies, the limitations of conducting sputum camps & feasibility of contact tracing and chemoprophylaxis and

## *National Tuberculosis Institute*

studies on acceptability of drug regimen in TB were path breaking. At present the institute is involved in carrying out the prestigious studies on Annual Risk of Tuberculosis Infection (ARTI) and drug resistance surveillance at national level and quality control measures at state levels. Research studies undertaken by the institute are subject to approval by institutional ethical committee constituted for this purpose. The details of the research studies undertaken by individual sections are briefly described in respective chapter.

### ***D. MONITORING***

Following successful implementation of NTP in a phased manner, the Institute took up the responsibility of monitoring and supervision of NTP in the Southern Region of the country consisting of Andhra Pradesh, Tamil Nadu, Karnataka and Kerala from 1966. Subsequently the Institute took over monitoring and supervision of all districts in the country from September 1977 onwards. Monitoring involves collection, collation, analysis, interpretation and provision of feedback to the District and State levels for corrective action. Currently the Institute is involved in the preparation and publication of quarterly report on performance of NTP (Non-RNTCP Districts). The report is also hosted on the NTI website. Besides the institute is also compiling the reports received from RNTCP Districts for internal consumption and is prepared to take up the monitoring of RNTCP districts if the situation demands.

### ***E. COLLABORATIVE ACTIVITIES.***

NTI in close collaboration with Central TB Division of Directorate General of Health Services collaborates with following centers.

#### ***WHO Collaborating Center***

Recognizing the contribution in the field of training and research activities in TB control. The institute has been designated as a WHO Collaborating Center since 1985. The activities as a collaborating center consists of:

Organization of training activities in TB control for medical and paramedical personnel

on policies and procedures consistent with the WHO-recommended DOTS strategy.

Monitoring and supervision of TB Control programme in the country.

Planning, coordination and execution of TB research in epidemiology, surveillance of drug resistance and control strategies relevant to regional & national programme delivery.

Augmentation and dissemination of information on TB and its control by tapping the potentials of the existing Library and Information Dissemination Services. As an off shoot, the institute is recognised as the nodal centre for "**Health InterNetwork Project**".

In 2003, the institute in collaboration with WHO for the first time conducted South East Asia Training Course in TB Control (SEATC) for TB Control programme managers and workers of WHO, SEARO Region under SEATC & Fellowship programmes.

#### ***The SAARC Nodal Centre***

The institute has been collaborating with SAARC TB Center, Katmandu, Nepal in providing training to the medical and paramedical personnel of member countries and of late for collaborative activities under SAARC- CANADA TB project.

### ***F. TECHNICAL GUIDANCE & SUPPORT***

The institute is actively involved in providing technical guidance and support as mentioned below:

1. Providing Technical Information and advice on TB to DGHS, New Delhi.
2. Active support for appraisal of districts before RNTCP implementation and evaluation of implemented districts.
3. Providing Technical and Infrastructure support for conducting International, National and state level RNTCP Training, holding of workshops and seminars etc within and outside the institute.

## *National Tuberculosis Institute*

4. Providing technical guidance to states for carrying out research studies on Drug resistance surveillance and Annual Risk of tuberculous Infection.
5. Providing active support in strengthening of the STDC in terms of training and research.

### **G. LIBRARY & INFORMATION SERVICES**

The Institute has a specialised health science library with its resources and services focused on TB and its allied disciplines. Collections include: Core periodicals on TB & respiratory diseases, documents on TB research, reports, proceedings, souvenirs, WHO unpublished documents, selected papers and non-print media viz. slides, cassettes, transparencies, CD ROMs etc. Selected library holdings have been computerised and important research studies have been digitized and made available on the internet / intranet.

It plays a significant role in meeting information needs of research, & training activities and plays a vital role in dissemination of information generated at local, state, regional, national and

international level to programme workers at different levels.

### **H. PUBLICATION ACTIVITIES**

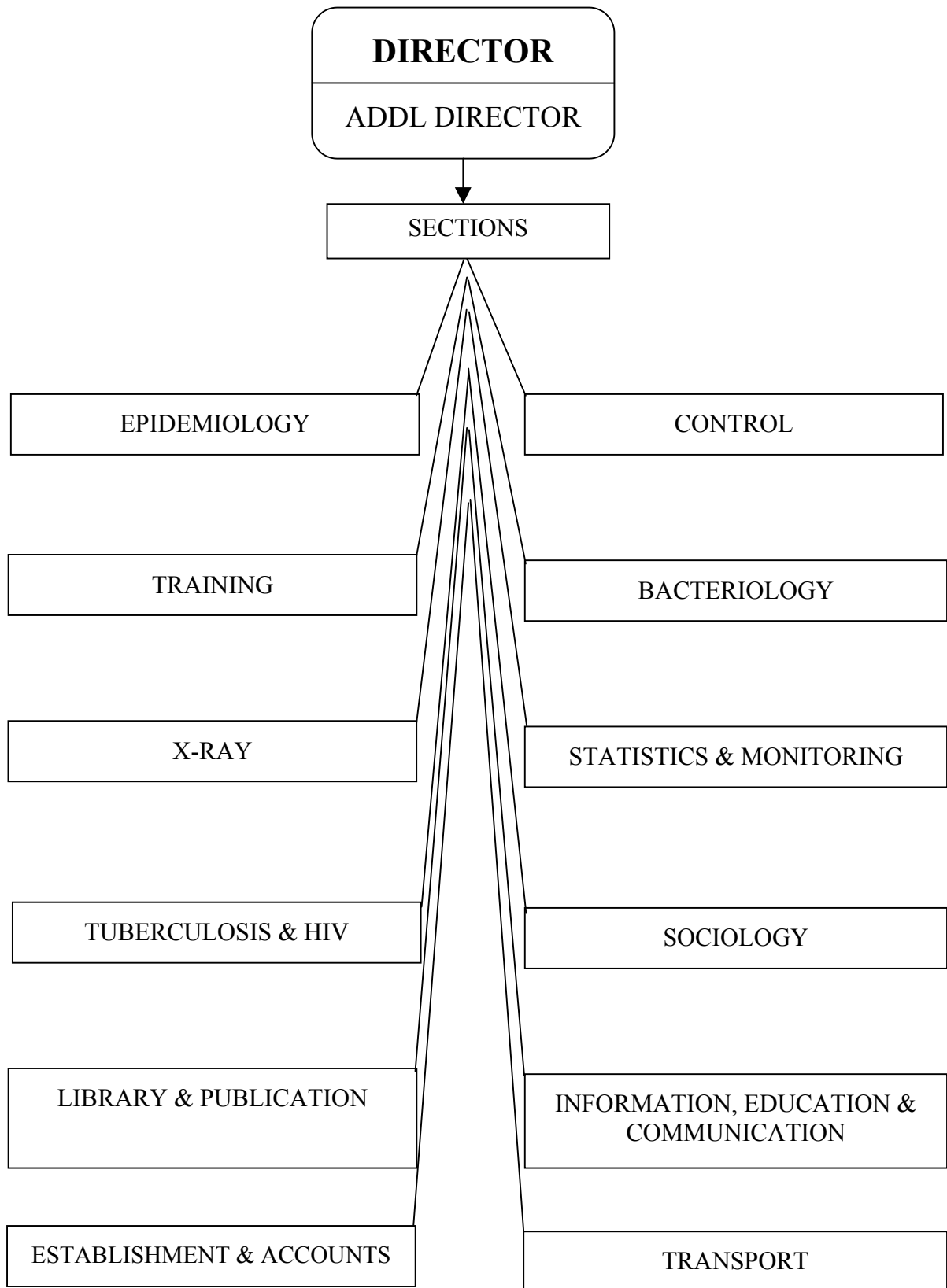
The publication wing established in 2002 aims at generating and documenting information on TB for the benefit of TB workers at different levels.

The publications of the Institute include:

1. **Serial:** NTI Bulletin initiated in 1963 provides information on programme aspects to TB personnel at various levels. This is also made available on the NTI Website.
2. **Non serial:** The Institute has brought out 35 publications, which include, training manuals under DTP, Guidelines for laboratory procedures and Manuals on isolation, identification and sensitivity testing of mycobacterium TB. All these documents are digitized and are available on Intranet of NTI.

**5. ORGANIZATIONAL STRUCTURE**

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*National Tuberculosis Institute*



*PV Benjamin Block*



*Robert Koch Block*

## *National Tuberculosis Institute*

### **ORGANIZATIONAL SET UP**

The Institute's activities are organised through various sections with expertise in specific fields as depicted in the organisational chart. To ensure co-ordination and healthy exchange of ideas between various disciplines, a Technical Co-ordination Committee is in vogue. This mechanism ensures better understanding and helps the individual sections in planning, co-ordinating and carrying out research and other technical activities in an efficient manner. The primary responsibilities of individual sections and their contributions are described in brief below:

### **EPIDEMIOLOGY SECTION**

Research into the Epidemiological aspects of TB in the country that help in the evolution and evaluation of the TB control programme is one of the primary functions of this section. Several path-breaking studies have been conducted and the section has been

a pillar of strength for field oriented research. Surveys throwing light on the magnitude of TB problem in terms of incidence and prevalence of infection and disease, data on cause specific mortality, natural trend of the disease, intricacies involved in tuberculin test and its interpretation were some of the significant contributions of the section. The conclusions of the various studies conducted by this has provided vital inputs in formulation, evolution and evaluation of TB control programme.

The section recently undertook " A nation wide tuberculin survey to estimate the Annual Risk of TB Infection in different zones of India", one of the largest ever epidemiological studies conducted in the country. The results of the survey indicate high prevalence of tuberculous infection in all the zones and the situation is worse in urban areas than rural. The section has been providing technical guidance to various agencies including states interested in the studies of Epidemiology of TB.



*National ARI Survey - Tuberculin Testing*

## *National Tuberculosis Institute*



*National ARI Survey - Tuberculin Reading*

The section also is involved in training activities related to Epidemiology of TB & its control aspects. Special courses in Epidemiology for fellows sponsored by WHO & Epidemiologists from State TB Training and Demonstration Centres are conducted by the section.

The section also provides the Technical Guidance and practice training in tuberculin

testing, reading and other various aspects of field duties for the benefit of Government and Non Governmental organisations to carry out local ARTI survey.

### **CONTROL SECTION**

The section derives its identity from its contribution in the area of operational



*Interviewing patient at home*



## *National Tuberculosis Institute*

research studies, which has greatly helped in the formulation and strengthening of the TB Control programme. Several land mark studies on case finding, proportion of symptomatics among adult out patients attending general health institutions, percentage of smear positive cases among chest symptomatics, acceptability & efficacy of drug regimens and case holding etc. have greatly contributed towards evolution of the programme. The section has recently conducted some important studies on profile of TB patients, utilization of peripheral health workers in treatment delivery and case holding etc.

With the emergence of RNTCP based on DOTS strategy, the focus on operational research has is now shifted largely towards operational studies to strengthen the RNTCP. The operational studies currently undertaken include, effectiveness of new and retreatment regimens, problem, causes and solutions for default, the pattern of initial drug resistance and current status of functioning and role of sanatoria in TB control. The operational research studies undertaken by the section from time to time befits the changing scenario in TB Control activities and offers continuous inputs for its further improvement.

### **TRAINING SECTION**

Training is one of the major activities of the Institute. The institute is responsible for imparting training to the in service medical and paramedical personnel working in the TB control programme. Training section plans, co-ordinates and executes the various training programmes. Large mass of medical and paramedical personnel starting from the district level through out the country has

been trained in managing the TB Control programme right from 1962. All the technical sections of the institute actively participate in training programmes, workshop and seminars.

With the emergence of **Revised National Tuberculosis Control Programme** in 1993, the focus of training has been shifted to RNTCP. The training is revised in the year 2002 with the emphasis on module based training which aims at achieving skills through self-learning process by using prescribed modules. The curriculum of training includes higher exposure to interpersonal communication skills, advocacy, management, field visits to model centres and presentation skills. The modular training in RNTCP is conducted from time to time depending upon the requirements of the states. The target group for training, comprises of STOs, Staff from STDCs, DTOs, MOs, STS, STLS and LTs from government and non-governmental organisations.

The section also organises **workshops, seminars, orientation and Continuing Medical Educational programmes** for state, national & international level officers, faculty from the medical colleges, health personnel from non-governmental organisations including private practitioners, undergraduate and postgraduate students respectively.

Besides, training schedules have been revised by emphasizing on training of the trainers at STDC levels and providing training in management of TB control at state level. As a WHO Collaborating Centre the Institute also organises training for WHO fellows. The Institute has also recently organised training for international participants sponsored by WHO, SEARO and SAARC TB centre, Kathmandu.

## *National Tuberculosis Institute*



*RNTCP Modular Training for District Tuberculosis Officers  
9-21<sup>st</sup> December 2002*

### **BACTERIOLOGY SECTION**

#### **1. Mycobacteriology Laboratory**

The Bacteriology Section was exclusively established as Mycobacteriology laboratory. It provides laboratory support to various research studies conducted by different sections. The facilities include direct sputum smear & fluorescent microscopy, isolation, identification and sensitivity testing of mycobacterium TB. Both conventional and rapid technique using MB/BacT -240 system are followed for isolation and identification. Both sputum and extra pulmonary samples/other body fluids collected from the field are examined using the above tests.

The section has conducted many important studies, which has helped in proper formulation of TB control programme. To mention a few: the yield of Acid fast bacilli (AFB) from multiple specimens both by culture and smear microscopy, sensitivity and specificity of smear microscopy as a diagnostic tool, limitations of fluorescent microscopy under programme conditions & antibody

estimation for diagnosis of TB and use of Tri Sodium Phosphate as transport media. The section is also involved in studies on surveillance of drug resistance and provides technical support to other agencies and states in drug resistance surveillance. Besides, the section is responsible for maintaining **quality assurance** programme in smear microscopy in eight (8) STDCs covered under RNTCP. The section is registered for **external quality assurance** activities with supra national reference laboratory, Belgium & Tuberculosis Research Centre, Chennai. The section actively participates in training activities of the Institute especially to the laboratory personnel.

The section has standardized the laboratory procedure for direct smear microscopy and culture, sensitivity & identification tests to be followed at the peripheral health institutions, district and state level respectively. In this context two documents viz. Guidelines for laboratory procedures and Manual on isolation identification and sensitivity testing of mycobacterium TB were published. The same is available on electronic media also.

*National Tuberculosis Institute*



*Primary Isolation of Mycobacteria*



*MB-Bact system for rapid culture & sensitivity testing*



*Drug sensitivity testing*

## *National Tuberculosis Institute*

### **2. Animal Model Research Unit**

Animal Model Research Unit (AMRU), under Bacteriology Section is registered under the committee for the purposes of Control & Supervision of Experiments on Animals (CPCSEA), Ministry of Social Justice & Empowerment. Studies involving Animal Experimentation is subject to approval by the Institutional Animal Ethics Committee (IAEC) constituted as per the prescribed guidelines of Government of India.

As a part of upgrading the facilities in the Institute, a Turnkey project has been awarded to National Dairy Development Board, Bangalore for establishment of Bio-Safety Level III facility, which is nearing completion. This will facilitate studies on evaluation of emerging anti-mycobacterium compounds / immunotherapeutics and potential vaccine candidates. A rational animal model, mimicking the conditions of human infection is used in research studies.



*Animal Model Research Unit*

### **X-RAY SECTION**

The X ray section established at the time of inception of the institute, provides support to various research studies undertaken by other sections. Both large and mass miniature radiographic (MMR) facilities are available. Besides two mobile MMR units are also available for studies conducted in the field.

The section has assumed the responsibility for giving technical advise in maintenance of MMR units and servicing, repair and replacements of the spare parts of

MMR units supplied by Government of India to the various DTC's through out the country. Roll Film Cassettes (RFCs)) received from various XCs / DTCs /STCs are also being serviced. This is a unique and the only facility available in the country. Besides the section periodically collects and compile the reports on condition of X-ray units of all the districts in the country

It actively participates in imparting training to the X-ray technicians at National and International level. Hitherto, Medical officers were also being given training in maintenance of MMR units.

## *National Tuberculosis Institute*

### **STATISTICS & MONITORING SECTION**

#### **Statistics**

This is an important and supporting wing of the institute. It has contributed immensely in training & research activities of the Institute. Initially the WHO and other experts at the national level nurtured the section. Later on the leadership of the section was taken over by the Indian Statistical Service (ISS) officers. It has a team of well qualified, trained, experienced and committed secondary level man power to sustain the higher standards of statistical support.

The section played vital role in formulating NTP and Health information System for DTP. The contribution of Statistics Section to Mathematical Modeling and Operational Research Techniques to improve NTP and projections for the future has been substantial. The section continues to play

pivotal role in the growth and functioning of the Institute.

The main function of the section is to render statistical help to technical sections in planning studies/surveys, collection, analysis & interpretation of data and preparation of reports of studies/surveys. It has also been entrusted with the responsibility of documenting and archiving the various research protocols approved and studies conducted in the institute so far.

Statistical section is also entrusted with the responsibility of training the TB personnel in computer literacy and utilization of the software meant for monitoring of the TB programme. The computer centre of the Institute is managed by this section and presently almost all statistical analysis are carried out using statistical software computers.



*Computer Centre*

#### **Monitoring**

The Statistics section is responsible for monitoring of the National Tuberculosis performance of NTP (Non-RNTCP Districts) is regularly brought out by the Institute. This report is also available on the NTI website.

Programme (NTP) since 1977 & had the credit for designing the formats for monitoring and supervision. The quarterly report on Besides the institute is also compiling reports received from RNTCP Districts for internal consumption and is fully geared to take up the

## *National Tuberculosis Institute*

monitoring of RNTCP districts, if the situation demands.

attempt is to bring the above organizations under the gamut of RNTCP.

### **TUBERCULOSIS & HIV SECTION**

This section was established in the year 2001 as a felt need in view of the rising trend of HIV infection in the community and its adverse implication on TB control. The activities envisaged to be carried out by the section include educating TB programme managers and para-medical staff undergoing training in NTI, on all aspects of TB Management in an HIV setting. It has undertaken a study to evaluate diagnosis of TB among HIV positive persons in collaboration with Voluntary Counseling and Testing Centre of Victoria Hospital, Bangalore.

The section liaisons with Karnataka State AIDS Prevention Society and provide technical inputs in training and research as & when required. In addition, the section is involved in developing a network of organizations involved in HIV care. Since TB is one of the most common opportunistic infection/disease in an HIV setting, the

### **SOCIOLOGY SECTION**

The section was created with the main objective of studying the behavioral aspects of TB patients to evolve socially acceptable methods of diagnosis and effective treatment of TB. Epoch making studies on awareness of symptoms and action taking behaviour among the patients greatly contributed to the formulation of NTP. The policy of diagnosis of TB among self-reporting chest symptomatics and treatment centred on domiciliary basis were largely based on the significant sociological studies conducted by this section.

Sociological studies on utilization pattern of TB services by the beneficiaries and the effectiveness of referral under RNTCP, TB among oppressed, those at disadvantage and women are the current areas of interest which needs to be explored.



*Social inquiry*

## *National Tuberculosis Institute*

### **LIBRARY & PUBLICATION SECTION**

Library at the National Tuberculosis Institute is a specialised health science library established in the year 1960. Its resources and services are focussed on TB and allied aspects. Its objective is to meet the information needs of personnel involved in TB control and research. It has a core collection of 6,500 historical, rare and important documents on TB & allied disciplines and back

volumes of periodicals. It subscribes to about 80 core periodicals and has a separate section maintained for reprints. Special collections include: reports, proceedings, souvenirs, WHO unpublished documents, selected papers and non-print media viz. slides, cassettes, transparencies, CD ROM's etc. Selected library holdings have been computerized and important studies have been digitized and hosted on the website.



*NTI Library*

### **Information Services**

The information services rendered are abstracting, bibliography, reprography and selective dissemination of information service. The unique feature of the library is its maintenance of large database of articles on TB generated at both national and international level, emanating from as early as 1939. The research information generated from developing countries specially from India has gratefully contributed the baseline information.

Library conducts user education programs for different levels of users. for effective utilization of resources available on print and non-print media. It disseminates the information generated at the local, regional,

national and international level through documentation services. A systematic mailing list has been maintained for effective and prompt dissemination of information. The services are offered free of cost.

In collaboration with **WHO sponsored project -Health InterNetwork for Tuberculosis**, database of all the papers & publications brought out by premier institutes viz., NTI, Bangalore; TRC, Chennai; VPCI & LRS institute of TB & Allied sciences, New Delhi and full text of important studies have been hosted on the HIN website. The objective of the project is to disseminate the research generated in developing countries and to bridge the digital gap with the developed countries.

## *National Tuberculosis Institute*

### **PUBLICATION SECTION**

The publication section created in 2002 aims at generating and documenting different types of research publication for the benefit of TB workers. Library plays a key role in publication activities of the institute by standardising the procedures for preparation of documents, formats for publication, quality of presentation etc.

The institute's publications are

- 1. Serial:** NTI Bulletin: This was started in 1963 and is a forum of communication on all programme aspects to all programme workers at various levels. Since 2001, this is also available on the NTI Website.
- 2. Non serial:** It has brought out so far 35 publications which includes, programme, manuals under DTP, Guidelines for laboratory procedures and Manual on isolation, identification and sensitivity testing of mycobacterium TB. All these documents are digitized and are available on Intranet of NTI.

### **INFORMATION, EDUCATION & COMMUNICATION**

The section was launched on 24<sup>th</sup> March 2003 - World TB Day. The main objective of the section is to develop Information, Education and Communication (IEC) and advocacy skills among specific groups to combat the TB disease. The section highlighted the need to involve "cured patients" as advocates on TB and its control by their active participation. An innovative approach of involving school children and teachers in TB advocacy has been taken up recently. The section is in the process of developing a **Scientific Gallery** on TB and its control in the Avalon building.

### **ESTABLISHMENT & ACCOUNTS**

The establishment section has three sub divisions viz., (1) Administration, 2.Accounts and 3. Stores.

**Administration** section is entrusted with the responsibilities of general - Upkeep of office. (Recruitment, posting, transfers, retirements and all the other service matters), Maintenance of hostel facilities, garden, lawn etc, maintenance and allotment of staff quarters, implementation of official language policy, providing secretarial assistance and other supportive services to all the sections.

**Accounts** Section is responsible for maintenance of accounts & scheduling of expenditure under different heads. It plays an important role in giving financial backing for research & training facilities undertaken by the Institute.

**Stores** is responsible for processing of indents, inviting quotations and tenders for articles and maintenance contracts for equipment, purchase, replenishment of stores, stock of general requirements in anticipation of demand for immediate supply. Maintenance of stores, annual physical verification and disposal of condemned items received from different sections as per Government procedure also constitutes the function of stores.

### **TRANSPORT**

The Transport section provides the necessary transport facilities for field oriented studies & training within and outside Headquarters. The transport section has contributed its might in ensuring the smooth conduct of research & training undertaken by NTI. The section has sufficient fleet of vehicles to meet the above needs.

The section is also capable of taking up minor repairs of vehicles at the institute.



## *National Tuberculosis Institute*



*Transport Section*

### **Hostel**

The hostel is located within the campus. The hostels provide comfortable boarding and lodging facilities at nominal rates to the trainees and delegates. The two wings of the hostel with separate mess facilities are

named "Cauvery Nivas & Krishna Nivas" with 23 single & 31 double bed rooms respectively. Besides three-guest rooms are also available for visiting officials. Common recreation room with Television and Newspaper facility is also available.

*National Tuberculosis Institute*



*Krishna Nivas*



*Cauvery Nivas*

## *National Tuberculosis Institute*

### **6. FUTURE PLANS**

1. The Institute has ambitious plans to carryout research studies in different fields of concern as mentioned below.
  - Annual Risk of Tuberculous Infection in urban and rural areas in selected states
  - Accessibility and utilization of TB control services by special groups/gender differentials
  - Utilization pattern of Anti-TB services by age, Gender and spatial differentials in rural areas of Bellary district & availability and utilization of Anti-TB services by residents of urban slums.
  - Efficacy of implementation of diagnostic algorithm and DOTS under RNTCP
  - Behaviour of chest symptomatics and TB patients with reference to private and public sector health facilities.
  - Impact of RNTCP on mortality
  - Expansion of TB & HIV network.
  - Developing a model DOTS area.
  - The institute will take a lead role in development of external quality assurance in smear microscopy network under RNTCP, studies on drug resistance surveillance and capacity building of selected STDCs in the country.
2. Efforts are on to streamline the training curriculum that helps the programme managers to perform their jobs efficiently
3. It is proposed to conduct WHO-SEARO course on TB Control in February 2004 for TB control managers of WHO SEARO region under SEATC and Fellowship programme
4. It is proposed to collect quarterly reports on TB programme online from the districts to expedite the receipt, preparation of reports and transmission of feedback to district and state level.
5. It is proposed to create Open Access Public Catalogue of library holdings and undertake E publication of future publications.
6. Establishment of a scientific gallery on TB is envisaged.
7. The Bio-safety level-III laboratory facility is nearing completion and is expected to enhance the quality of research in Animal models.
8. As a part of expansion of infrastructure facilities, additional residential quarters for staff & officers are under construction and modernized facilities are being provided to the Hostel and mess.

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*NTI Staff Quarters*



*Quarters under construction*

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*National Tuberculosis Institute - Entrance*