and stature over years. Due to this, TB patients came from far and near. He had created an aura around his centre that nearly 300 TB patients stood daily in silence in a queue to collect their anti TB drugs; their faces covered with masks. Its support base grew[53].

Unfortunately, when Dr Mehrotra left on superannuation after serving for 3 decades, the leadership weakened resulting in a laxity, that could be evidenced everywhere. The neglect in appropriate staffing and supply lines, poor patient attendance became almost a perennial reality. The infrastructure so carefully built over the years - buildings, equipment, facilities - stands there still, in contrast to the prevailing lack of effective TB services. The ups and downs are also seen in the life of such prestigious institutions of international fame.

The DTC was part of the Agra STC from its inception. The Agra DTC never developed to the expectations of NTI and PHIs also did not flourish even during the golden era of Dr Mehrotra. Was it lack of faith in the principles of NTP by Dr Mehrotra or he was too preoccupied with STC work?

3.5. The great next step

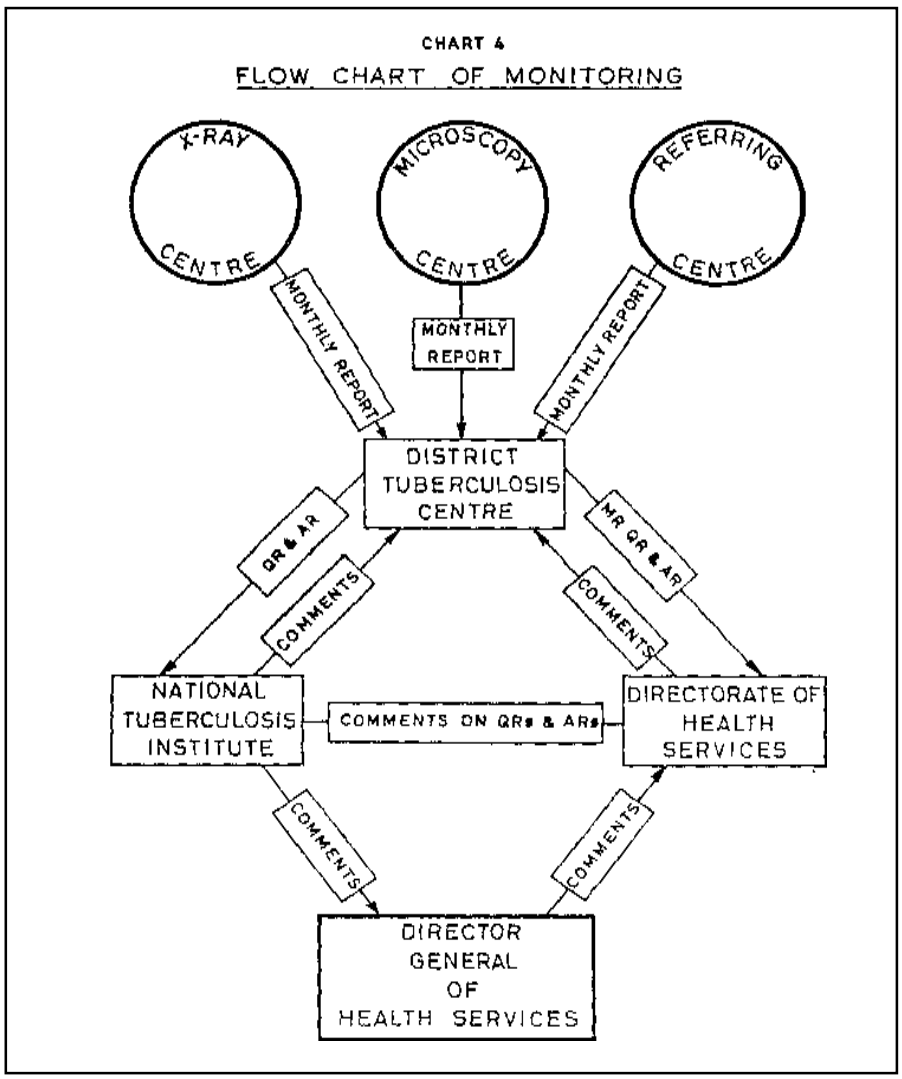
A key function of the NTI was to respond to problems and queries raised by various DTCs, STCs and programme managers situated all over the country. The NTP is a national programme. It should not function in scattered, discrete DTCs implemented around the country without technical links and ready support. There should be uniformity in work procedures.

If freedom of action, according to discretion of DTOs was encouraged or flexibility allowed to an extent that different DTCs follow different procedures, then supervision and assessment of the NTP would be rendered difficult. As one progresses, changes for the betterment of the programme methodology or strategy may become necessary. These should be accommodated judiciously after considerable deliberations by the NTI or chosen centres.

The NTI's work, therefore, did not end in training of DTP key personnel, implementation and energising the concerned. It also had to keep a scientific eye on its actual functioning and growth. This task was to be executed in many ways. One was, work done in the various DTCs had to be recorded in standard cards, records and forms which were amenable for inferential statistical computing. In 1963, index cards, treatment cards, quarterly reporting forms were designed and distributed to certain districts on a pilot basis. These were then modified to be used for the national recording and reporting system. In 1964, these were printed with UNICEF assistance and distributed to all DTCs.

3.5.1. Monitoring/Reporting by DTCs

Based on the principles of NTP and in line with the "job-oriented" training given at the NTI, seven manuals were prescribed to programme workers. The first five were meant to guide the DTC key staff. The sixth manual was for the staff of PHIs. The seventh was the BCG manual. These manuals were to facilitate the execution of activities. These were therefore to be referred too frequently. The DTO, being the team leader, had to be fully conversant with all manuals. The DTO, TO and LT should be conversant with the PHI manual, in addition to their own manuals in order to guide and supervise others. Familiarity with SA manual would be an advantage to every member of the DTC team. The work completed should be reported regularly in the prescribed periodic returns. Extreme caution should be exercised not to deviate from the manual. These should be registered as every form and procedure introduced in the working of NTP had origins in methodical operations research. Each would contain certain vital data which could be used for a variety of scrutiny and analyses. Initially, the NTP was not target oriented. Its working and functions embodied evolutionary seeds wherein both the structure and programme grew steadily under an ongoing evaluation process. The reporting system of DTCs facilitated



Flow chart of DTP Reports

measurement of achievements or work done and gave the necessary inputs for expectations. These could be used to critically review operational and technical performance. Hence, a technically trained SA assisted the DTO. He was not a mere clerk who could compute monthly data and file periodic returns. In a certain sense, the SA at the DTC would be the evaluator of its functioning. She/he would receive reports of activity from all the PHIs of the district, consolidate them. She/he would assist the DTO in assessment and constructive analysis before filing periodic

reports to the state and the NTI. The reports are analysed at the NTI which are then sent with comments to the DGHS, New Delhi, state authorities, individual DTCs, for corrective actions to be taken.

3.5.2. Birth of regional centres for monitoring of the programme

In 1965, the proposal was mooted to create two centres: *the Northern Regional Centre (NRC) at DGHS in New Delhi and the Southern Regional Centre (SRC) at NTI,* Bangalore to examine these reports systematically and to provide the necessary guidelines and assistance in assessment. The SRC was asked to receive and analyse reports from 64 districts of the four southern states of Tamil Nadu, Karnataka (Mysore), Andhra Pradesh and Kerala besides Goa and Pondicherry. The number of sanctioned programmes stood at 47 and of these, 39 were functioning in 1966. As keen as ever in guiding every new effort, in October 1965, Dr Nagpaul initiated the work of the section. He was ably assisted by Dr Gothi as section officer in-charge, with a SA, LT, clerk, to help in this voluminous data processing work. The rest of the country's reports went to the NRC, New Delhi. Dr SD Maqbool was in-charge of it[54].

In January 1967, the SRC was

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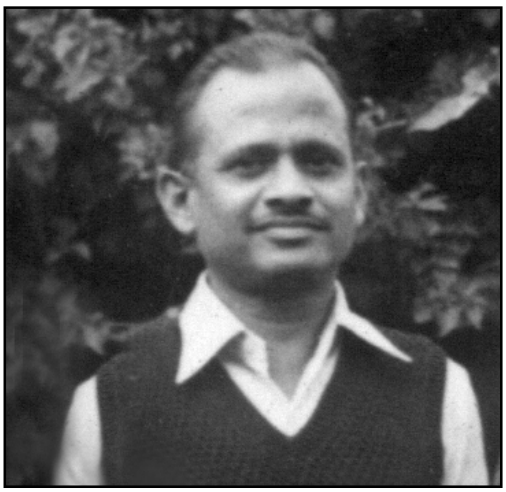
Officer I/c Southern Regional Centre



Mr. CV Shyamasundara
Statistician

made administratively independent under the control of the Director, NTI. It was entrusted with the responsibility of comprehensive indexing, monitoring and supervision of the southern region. Dr Arora took over as Regional TB Officer (RTO) of SRC. Dr Nagpaul introduced a system of critical evaluation which encouraged improvement. This was greatly cherished by Dr Arora who began to work energetically in evolving a standard methodology, wherein the SRC would improve the functioning of DTPs under his charge. The section began to review every report critically and sent back educative and encouraging comments wherever necessary.

During March 1968, Dr. SD Maqbool, (RTO, NRC) came to the NTI along with his SA and LT for consultation and training. They attended the 16th training course, toured along with Dr Arora and his SRC team to consolidate their experiences. They developed a 'blue print' of activities of the regional centres[55]. However, there were a myriad of practical details to be attended to besides paper work. The NTP was a living programme replete with problems. For e.g., the DTC personnel keep on changing. They would have queries. The newly installed MMR (X-ray) machines were imported. If these developed problems, the X-ray work would stop. Occasionally, even the microscope may become defective. The drug supply line may develop a missing link. These problems had to be addressed. Since it was a policy of the NTI to extend as much help and guidance as possible, some of these jobs were assigned to the SRC. There were, as usual difficulties. For e.g., the staff allotted to the SRC was limited. It had only two technically competent persons viz., the SA and the LT besides the section officer. The LT was therefore trained as an XT so that he would be of some practical use at the DTC when he visited it. The LT, in addition to his normal duties also undertook fault repair work of microscopes. He brought back the irreparable ones to NTI for replacement. Since he was also trained as an XT, he assessed repair work/replacement parts needed for the X-ray machine. Upon return to NTI, the X-ray

section was intimated for suitable action.

The budget allotted was also limited and the SRC had to plan team visits frugally. Therefore, Dr Arora had to study all the reports and arrange the teams itinerary so as to visit the ailing DTCs on priority or where the teams' personal guidance would be most useful. Sometimes, he would split the team into two so that more DTCs were covered by personal visits. During the visits, the team worked systematically, and even visited far flung PHIs to get the first hand knowledge of its working and problems. They offered solutions wherever possible and made lists of the unresolved ones. These were presented to the STO at the state headquarters. The teams also took note of a host of new ideas of a minor nature. These were brought to the notice of NTI for further discussions. If valid, these were kept in reserve to be included in the concerned manuals when revision took place. Till he attained superannuation, Dr Arora worked tirelessly. Like majority of the Central Health Services (CHS) MOs in those days, he too retired without getting a single promotion. Thanks to Tikku Commission; today the MOs have time bound promotions. During his tenure he was in touch with every DTC under his charge either through correspondence or personal visits. He gathered voluminous data continuously some of which were fit for scrutiny and incorporation when the manuals were revised.

3.6. Milestones in BCG work

From 1951 onwards, India was covered by the BCG Mass Campaign. Approximately 170 (more than 190 at times) full-fledged teams, toured the country setting up BCG vaccination centres in both rural and urban parts, offering BCG vaccination to all. It was the first organised effort outside Europe and was the biggest campaign undertaken by any country in medical history. Even though jeeps were provided, it was to the credit of the teams that they set up camps in so many inaccessible places. India's vast network of rural areas had no pliable roads. Sometimes, even bigger towns could be reached