

TUBERCULOSIS CHEMOTHERAPY CENTRE, MADRAS
The Beginning

PROLOGUE

Two happenings, separated by over five decades have provided the inspiration for this booklet, describing the early years of the Tuberculosis Chemotherapy Centre. The first was a mock fight with bamboo sticks that was organised by our innovative laboratory assistant Jayaraj on the occasion of an annual day celebration of the Centre. This displayed an unequal fight in which one individual (a weak patient) is trying to stave off unsuccessfully blows from a hefty individual (representing tuberculosis) until a third individual (representing chemotherapy) enters the fray and pulverises the individual representing the bacillus.

The second happening was the block-buster movie 'Bahubali' that I saw recently. There is a fierce war between a hitherto unvanquished tribal army of the Kalakeya chief and the Mahishmati army of the hero Amarendra Bahubali; in this, the foot soldiers may be likened to patients with smear-positive lung tuberculosis receiving a combination of PAS plus isoniazid. The Kalakeya chief's army on the left (symbolised by sanatorium treatment, comprising of a well-balanced diet, ensured drug compliance and plenty of rest in airy well-ventilated wards) was pitted against a weaker opposition of the Bahubali army on the right (home treatment, with a poor diet, greater physical activity and poorer drug compliance). When defeat seemed imminent for the home treatment series, Fox (like Bahubali) did some out-of-the box thinking, and challenged the bacillus (see picture), by devising some novel mechanisms to overcome it. The victory though was not his alone but that of several others as well, and their pictures are shown on pages 4 and 5. The back drop for this historic saga was the old building of the Tuberculosis Chemotherapy Centre. I have tried to get this concept across pictorially on the cover, and hope it provides some topical amusement!

S. Radhakrishna

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PREAMBLE

I believe I am the last surviving Titan of 1956, the year the Tuberculosis Chemotherapy Centre was established, and with me will pass away a lot of history regarding the Centre. The spirit of the early tempestuous and torrid days of the Centre was partly captured in two earlier booklets, one on the suave and smooth - operating physician Wallace Fox and the second one on his dynamic and imaginative bacteriologist Denis Mitchison. But there were several other events and persons who sweated it out and they are listed below, unfurling the full story of the Centre as it happened over six decades ago.

S. Radhakrishna

INTERNATIONAL STAFF AT THE START OF THE CENTRE



Wallace Fox



R H Andrews



D A Mitchison



K Daniels



C M Lomasney



A M Gerhardson



Elsa Holst



Ernborg

NATIONAL STAFF AT THE START OF THE CENTRE



S Velu



C V Ramakrishnan



S Devadatta



P R J Gangadharam



A L Bhatia



T V Subbaiah



S Radhakrishna



P R Somasundaram



M Samuels



M Jayalakshmi

OTHER STAFF WHO WORKED DURING 1956 – 1961

CLINIC

1. M.O.Y. Nazareth
2. Thangamma George
3. Parvathy Raghavan
4. Leelavathi Aaron
5. E.C. Williams
6. M.K.Murugesan
7. Mary Amalambal
8. Navamonie Paul
9. T.N.Paul (Registry Clerk)
10. Krishnan (X-ray Technician)

LABORATORY

1. S.Subbammal
2. Sarah Joseph
3. Alexander
4. K.Prema
5. S.Kailasam
6. P.Venkataraman
7. R.Raghunathan
8. V.Devaki
9. R.Radha
10. G.P.Appaswami
11. Jayaraj

STATISTICS

1. George Jacob
2. R.Saroja
3. K.Ramachandran
4. N.G.K.Nair
5. B.Janardhanam
6. S.Sivasubramanian
7. A.S.L.Narayana
8. D.Rajappa
9. S.Sambamurthy

ADMINISTRATION

1. R.Noronha
2. Sherman

TUBERCULOSIS CHEMOTHERAPY CENTRE – THE BEGINNING

In the 1950s, India's TB disease burden was 2½ million active cases, of which 1½ million were infectious. The accepted method of treatment was isolation in sanatorium, but only 23,000 sanatorium beds were available for the entire country, and resources for the TB control programme were scanty. In this scenario, treatment at home with effective anti-TB drugs was an attractive proposition. However, the Government of India was concerned that inadequate or ineffective therapy might result in large numbers of chronic excretors of drug-resistant bacilli, engendering a serious public health risk. It therefore sought advice and assistance from the World Health Organization (WHO), which sponsored a visit to India of three representatives of the British Medical Research Council (BMRC), Drs. P.D'Arcy Hart, J.G.Scadding and Wallace Fox, in October 1955. The trio had several discussions with Indian authorities, attended a meeting of the Tuberculosis Sub-Committee of the Indian Council of Medical Research (ICMR), and visited numerous venues in India. It was then decided that, in the existing state of knowledge, it was premature to initiate immediately a mass domiciliary treatment programme, and that controlled comparative trials needed to be undertaken in patients and their contacts. Madras City was chosen for the purpose as the local authorities were proactive, and English was widely spoken in the City. A research project named Tuberculosis Chemotherapy Centre (TCC) commenced activity in May 1956, with Dr. Wallace Fox (MRC Tuberculosis Research Unit, London) as the WHO Senior Medical Officer-in-charge until January 1961. Its initial mandate was for 5 years, and the first randomized control trial, often referred to as the Madras Classic, was a comparison of domiciliary chemotherapy with treatment in sanatorium, and commenced in September 1956, with a wide array of objectives, namely:

1. Determination of the success rates of home/sanatorium treatment with a standard daily regimen of isoniazid plus PAS for one year, and the relapse rates over 4 years.
2. Measuring the extent to which the infectivity of patients treated at home can be reduced by standard daily chemotherapy.

3. Estimation of the prevalence of TB in close family contacts, and the incidence of tuberculous disease over a 5-year period thereafter, with special reference to the drug sensitivity of the strains.
4. Determining the identity and virulence of the causative organisms, and comparing with strains of tubercle bacilli from England.
5. Evolving practical procedures in the mass application of chemotherapy, for sputum collection and monitoring drug compliance.
6. Evaluating the impact of traditional factors such as a well-balanced diet, plenty of rest and airy, well-ventilated accommodation on treatment outcome.

At the invitation of the ICMR and the WHO, the BMRC undertook scientific responsibility for the trial, and the WHO provided eight international staff and equipment and supplies (jeeps, ambulances, anti TB drugs). The local State Government provided the premises for the clinic and the laboratory and 100 beds in Government Tuberculosis Sanatorium, Tambaram, and shared the expenses with the ICMR. A Project Advisory Committee, comprising representatives from the four collaborating agencies (WHO, ICMR, BMRC, Madras State Government) and the WHO Senior Medical Officer, met at periodic intervals to guide the research activities.

To ensure universal acceptance of the findings of the Madras clinical trials, great efforts were made to preserve high quality in all aspects. Thus, detailed study protocols and procedures were drawn up with advice from Dr.I.Sutherland (MRC Statistical Research Unit, London). As bacteriology constituted a key index of progress, a first-rate laboratory was set up by Prof.D.A.Mitchison (MRC Group for Research in Drug Sensitivity in Tuberculosis, London), with assistance from WHO technician, Ms.E.Holst. Indian nationals who pitched in to this task were P.R.J. Gangadharam, A.L.Bhatia, and T.V.Subbaiah. X-rays were initially taken at the neighbouring State TB Institute, until an in-house X-ray unit was set up by WHO X-ray Technician Mr.Ernborg. The clinical assessment of patients was undertaken by Dr.Wallace Fox and Dr.R.H.Andrews, besides two national doctors initially, Dr.S.Velu and

Dr.C.V.Ramakrishnan, and later joined by Dr S.Devadatta. Efficient appointment and reminder systems and an effective domiciliary visiting service were put in place by two meticulous WHO public health nurses. Ms.C.M.Lomasney and Ms.A.M.Gerhardson, and their effervescent national counterpart Ms.Jayalakshmi, a tireless health visitor Mrs.Samuels, and a young statistician S.Radhakrishna, and the overall administration and liaison activities of the Centre were looked after by a dynamic WHO Administrative Officer, Mrs. Kay Daniels. A graphic description of the domiciliary chemotherapy set-up in Madras was published in 1958 by Dr.R.H.Andrews, a TB physician who initiated the proceedings with Dr.Fox (see Page 15). Its historic relevance at the time has been discussed in detail by Bharat Jayaram Venkat, a research scholar in his PhD. thesis (2014) of the University of California, Berkeley.

There were many difficulties faced by the TCC in the early days. First, there was staunch scientific criticism from Dr.J.H.Frimodt-Moller (Director, Arogyavaram TB sanatorium, Madanapalle) to Fox distributing American CARE milk powder to all patients and putting in place checks and counter checks to ensure drug compliance of home patients, because he believed they muddied the pure comparison, a view apparently shared by Dr. Johannes Holm, Head of WHO's Communicable Diseases Division. Secondly, there was local competition from a TB expert, Dr.M.Santosham, who ran a TB-bedded hospital less than 500 metres from the Centre. Thirdly, there was a certain amount of professional animosity from established TB experts in other parts of the country such as Delhi and Calcutta. And lastly, on the social front, (a) there were swabs from the Centre that crows carried and dropped in neighbouring residential compounds, much to the ire of worried inmates and (b) an unanticipated problem of infidelity of wives of 'sanatorium' patients, some of whom ran away with their neighbours. But Fox faced all the problems with sangfroid and aplomb and came out on top, as he was wont to do in most situations

The results of the first trial demonstrated that domiciliary chemotherapy was by no means inferior to institutional treatment in terms of therapeutic

efficacy during drug intake¹, relapse during a 4-year follow-up period², and incidence of TB over 5 years in close family contacts³. One of the surprising spin-offs from the classic Madras trial was that a good diet⁴, diminished physical activity and plenty of rest were not essential for a good treatment outcome, as long as chemotherapy was taken regularly, a finding that bemused many a nutritionist of the time.

These startling findings peremptorily dismissed several time-honoured beliefs, and laid the foundation for India's policy of mass domiciliary chemotherapy. Next, as many medical authorities had recommended monotherapy with isoniazid for developing countries and as this was being widely practised in the country in any case, the second randomized trial compared three regimens of isoniazid alone with a control regimen of isoniazid plus PAS. This study established substantial superiority of combined chemotherapy, but suggested that isoniazid in a single dose was more effective than in two divided doses⁵. (The latter finding led to the evolution of a fully supervised twice-weekly regimen of high-dosage isoniazid plus streptomycin, the precursor of WHO's current Global DOTS strategy). However, despite these major achievements and against all expectations of a proclamation of an extended mandate for the Centre, newspaper headlines in Madras (now Chennai) flashed on one dark morning in 1961 announcing the imminent closure of the TB Centre in Madras and its transfer with staff to the National Tuberculosis Institute, Bangalore (see Annexure 1). Protests in newspapers by various agencies and by medical fraternity ensued in plenty, together with trenchant editorials in the local newspapers such as 'The Hindu' and 'The Mail', and deputations met the Union Ministry of Health (Annexure 2). As a last nail in the coffin, it was reported that there was an intervention at the level of the Prime Minister, Pandit Jawaharlal Nehru, by no less a person than Dr.P.V.Benjamin, the Government of India's TB Advisor, and this put a full-stop to this whole idea of immediate closure.

Subsequently, in 1964, the Centre was made a permanent establishment under the ICMR. Thereafter, in conformity with the general

policy of the WHO regarding the provision of technical expertise, WHO staff members were gradually withdrawn as and when national counterparts were identified and trained. The last WHO Medical Officer and the last WHO bacteriologist left the Centre towards the end of 1965. In April 1966, the staff members initially recruited by the Madras State Government were absorbed by the ICMR, and the last WHO Senior Medical Officer (Dr. Hugh Stott) was withdrawn in July 1966, whereupon the scientific direction of the research became entirely a national responsibility. WHO, however, continued its active interest in the Centre's research activities, and arranged for consultants and supplies that were not readily available within the country.

Looking back over six decades, something that started off as a temporary clinical unit with a staff of 80 in May 1956 and a one-point inquiry regarding the efficacy of domiciliary chemotherapy has grown over the years into a mammoth research institute with approximately 590 staff members and a plethora of activities. Throughout this period, the most important cause of success has been team work, a trait generously gifted by the Centre's founding father, Dr. Wallace Fox, and best described by Henry Ford's famous quote:

"Coming together is a beginning.
Staying together is progress.
Working together is success".

Team work was all the more important because four organisations were involved in running the Centre, namely, the Madras State Government (local body), the Indian Council of Medical Research (the national scientific research apex centre), the British Medical Research Council (globally well-known scientific body) and the World Health Organisation (international organisation). This type of coming together that does not quite fit in with the saying in St. Mathew's gospel (Chapter 6, Verse 24) "No man can serve two masters", was published subsequently by Kay Daniels, the first Administrative Officer, in the London School of Economics Society Magazine, as 'a model of collaboration and cooperation' (see Annexure 3)

After 5 successful years at Madras, Fox returned to his unit in London, and could well have proclaimed, like Julius Caesar did after vanquishing the king of Pontus, 'Veni, Vidi, Vici' (in Latin) that means 'I came, I saw, I conquered'. But Fox was modest and admitted that while he may have put Madras on the global TB map, it was just as true that the Madras experience, a baptism by fire, had led to his evolution as a mature research worker and prepared him for stiffer challenges in later years. A grateful horde of TCC staff bid him a very warm and memorable farewell at Hotel Woodlands on 20th January 1961 (see Page 20 and Photograph on the back cover).



BACKROOM SUPPORT IAN SUTHERLAND

Amidst the razzle-dazzle and sound and thunder produced by Fox and Mitchison of the early days, two persons who provided invaluable silent support have not got sufficient acknowledgement and publicity for their contributions. One of these was a Quaker by faith, a phlegmatic statistician of Scottish descent by name Ian Sutherland, who worked very silently in the background, designing experiments, drafting research protocols and suggesting appropriate analytical tools to the local staff, and editing the scientific reports. So good was his knowledge of paraphrasing and editing that all who came into contact with him improved their skills in these aspects substantially, apart from their pragmatic understanding of statistics. I had the good fortune of having him as my internal mentor for over 30 months while working on my Ph.D. thesis. When I eventually submitted my thesis, my external examiner, Dr. Cedric Smith remarked "Before I ask you any questions about your thesis Mr. Radhakrishna, I would like to congratulate you, on your English. Why, even our local lads do not write such excellent English"! I have been left wondering to this day whether it was my statistical skills or command of the English language that got me my Ph.D! The other task Sutherland gave me was to climb King Arthur's heights in Edinburgh on a Sunday morning in spring when I had not even crossed a puddle in all my life. On the happier side though, he was the one who introduced me to Hay Market and its ballerina queens such as Maya Plisetskaya. The most impressive aspects of his personality were his phenomenal memory for detail and his poker-faced Scottish ability to regale his colleagues with anecdotes from different walks of life.



GAYE FOX

Behind every great man there's a great woman-*Meryyl Frost (1945)*

The achievements of Wallace Fox are known globally but very few know these were made possible by the unstinted cooperation of his wife Gaye Fox. Gaye left London alone, starry eyed, one day in early 1956 with the intent of marrying Fox in India, but unfortunately one of the Rolls Royce engines of her BOAC plane developed a major snag and the plane was grounded in Beirut during the Suez crisis. In those days, no replacement engine was available locally and so another had to be flown all the way out of London, a process that took three days. During this period, she was put up in a posh hotel with good food and *belle dancers* to boot, but no communication was possible with her irate husband-to-be in Madras. Eventually, she landed in Madras on 8th August 1956. She had first met Fox at a supper party in February 1956. The two of them didn't let much grass grow under their feet and got married in a synagogue in Cochin on 9th September.

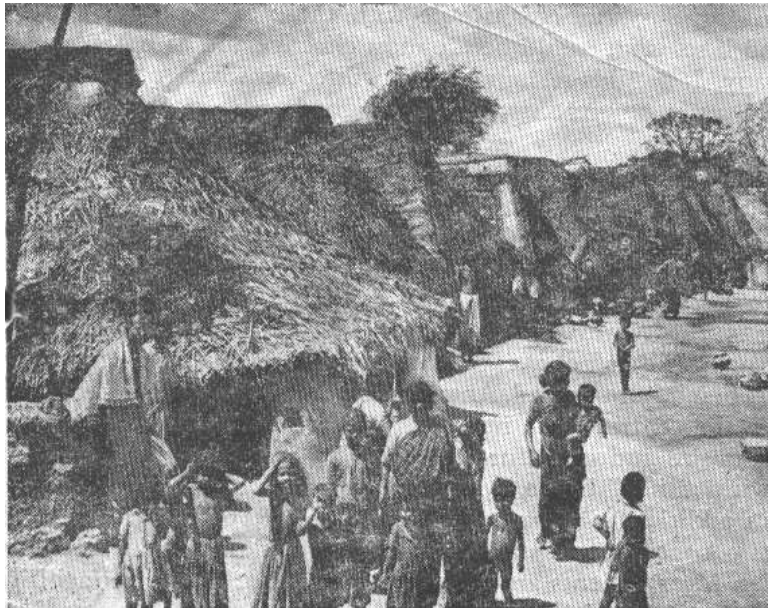
It is to her credit that Gaye understood the importance of the research her husband was involved in, and assisted him in situations when most wives would turn sour. For instance, on one occasion, when he was reading 70 mm x-rays for a fellow research worker (as a return favour) during breaks at home, she did the recording of his assessments scrupulously! She promoted bonding amongst the technical staff by hosting periodically parties in their mansion in Harrington road. She had to find her own methods of amusement (because Fox had no time), and these included visits to the Indian School of Fine Arts in Egmore for painting and culture shopping, and evolving a social circle of her own. She told me in one of her franker moments that she was horrified when she first came to Madras by the abject poverty and deplorable living conditions of its slum and pavement dwellers, but as time went on she got used to these until they stopped 'worrying her' and that was the moment she decided that 'enough was enough' and the time had come for her to go back. Accordingly, she left the shores of Madras in 1961, not to return, although her husband made annual visits until 2013, when she came with her second son Jason for a holiday trip by rail to many pilgrim centres of Tamil Nadu and Goa. This was followed by a memorable visit to the Centre next year in connection with the installation of a plaque of Fox in 2014 in the new state-of-the-art clinic building of the Centre, an event attended also by two of her sons and two grandchildren, besides innumerable staff of the Centre, which was then renamed as the National Institute for Research in Tuberculosis.

While it is hard for most people to think of a Tuberculosis Chemotherapy Centre without Fox, it is impossible for me to think of a Fox without Gaye!

S. Radhakrishna

DOMICILIARY TREATMENT IN INDIA*

by R.H.ANDREWS



Patients' homes in Madras City.

DELEGATES to the *NAPT* Fourth Commonwealth Conference in 1955 heard Dr. P. V. Benjamin, *Adviser in Tuberculosis to the Government of India*, describe the problem of tuberculosis in the country and the measures, preventive and therapeutic, being made to control it. He estimated that there were in the region of 2,500,000 cases of tuberculosis causing some 500,000 deaths per year. These figures may be revised as a result of the national survey of the disease now being undertaken, but it is evident that the number of available beds—some—20,000—is quite insufficient to offer in-patient treatment to the majority of cases, and that in the field of treatment the only immediate and practicable approach is some form of mass domiciliary chemotherapy. This method of attack upon tuberculosis in under-developed countries has been much discussed, but little experience has been obtained in practice; moreover each country presents its own peculiar problems—and it was felt that, before embarking upon a nation-wide scheme, further information should be obtained relevant to its use in India.

*Reproduced from *NAPT Bulletin*, June 1958, Vol XXI, No.3

It would first be necessary to know whether domiciliary treatment of tuberculosis under normal living conditions in India could be expected to produce results in any way comparable with those of standard hospital treatment, and if so, what would be the most effective and acceptable type of drug therapy. It would be important to discover what proportion of cases could be made non-infectious, what might be the rate of infection among contacts in the highly crowded conditions which prevail, and whether infection with drug resistant organisms might be a problem.

It was in the hope of providing an answer to these and other related questions that the Tuberculosis Chemotherapy Centre was established in Madras in 1956. Four bodies are concerned in this project – the Government of India (through the Indian Council of Medical Research), the Government of Madras, the World Health Organization and the British Medical Research Council. The staff of over one hundred is predominantly national, eight members being from abroad. An out-patient and domiciliary service is provided from the Centre which includes a department for social welfare, facilities for full-size and miniature radiography and tomography, and a laboratory, with animal house, where much bacteriological research is proceeding, in addition to the routine techniques of sputum culture and sensitivity tests. A records and statistics section provides for analysis of the clinical studies. Most patients are treated at home, but there are facilities for admitting up to a hundred to a sanatorium.

Using the Indian health visitors as interpreters, the WHO doctors and public health nurses seem to be able to communicate well and to build up a good relationship with the patients, practically none of whom speak English; and in the clinic and the home the language problem has been less than was anticipated. On the other hand it was soon evident that the most competent nurse, driver or other staff member was of limited use if unable to converse with the international members, and many months were spent in building up an English-speaking staff.

Patients are referred following diagnosis at local chest clinics and come entirely from the poorest section of the city community. The average family numbers five or six and, even when the earning member is well, have to manage on the most meagre income; all too often he is the patient and has been too ill to work for several weeks before reporting to a doctor. A life so close to the border of existence no doubt affects the attitude of these patients to disease; probably never having known perfect health, they accept

a gross degree of ill health before seeking advice—and even if they realise they are ill, they may see no alternative to working until they can work no longer. As a result, the majority have on diagnosis extensive and cavitated disease.

The patients and their relatives are much more co-operative than might be expected considering their outlook upon life, the conflicting advice they may receive from neighbours, and some of their customs and beliefs—and they are usually open to persuasion. We do not object if a patient asks to delay the start or finish of his treatment to avoid an 'inauspicious' day, but we cannot accept his belief that he must not take any internal medicine for three or four weeks after measles or any of the other exanthemata. They seem to have little idea of time, and while it does not matter much if they cannot recall their age or when their illness started, it can be more of a disadvantage that they often do not grasp what a year of treatment and three or four years of observation entail. We feel that constant reiteration that their disease is not yet healed, and that they must go on taking medicine, is an essential part of their management and prevents many patients from stopping treatment as soon as they feel better. It has become clear that to get any domiciliary patient to take medicine regularly over many months is in itself a major problem; ways must be devised to discover irregularity, and its cause, in each patient and to correct it. Here we find a further reflection of poverty in that a patient may stop taking his medicine because he finds it increases his appetite and he cannot afford to buy more food.



"Bed rest" at home

A public health worker visiting India is probably impressed most by housing conditions. While some of our patients live on the pavement, which is at least well ventilated, and a few in two-roomed brick buildings,

the majority occupy single-roomed mud or thatched-leaf huts without water or sanitation and usually without windows. Public taps and latrines are available within a few hundred yards of most dwellings and, although sanitary facilities are often not used and spitting is universal, the houses are remarkably clean inside with few flies. Closely packed groups of huts exist side by side with modern business and residential premises throughout the city, and one has only to turn off from any main thoroughfare to arrive in the middle of such a 'village'. Overcrowding is usual and one may find six or more people of all ages sleeping in a room ten feet by six feet, so that it is almost impossible to suggest adequate segregation. In the hot season the patient may be persuaded to sleep outside, but in the cooler weather or rainy season he will join the rest of the family inside, and one can only improvise some sort of screen between the patient and contacts. Neighbours live so close together and intermingle so freely that the difficulty is not to discover who are contacts, but to decide who are not. In practice we follow up all members of the patient's household, and have been able to get a high proportion of re-attendances for three-monthly examinations. From the start we stress that we want to look after the whole family and not just the patient; they are encouraged to discuss domestic or other problems with the social worker, health visitors and doctors, and seem to welcome home visits, whether by Indian or European staff. A patient pays weekly visits to the Centre throughout the first year of treatment and is visited at home at least once a week during the first few months – less frequently thereafter.

Bearing in mind the use to which it is hoped to put the results of the work, it is important to retain a sense of proportion regarding the facilities available in a project such as this. The large staff, the comprehensive radiological and bacteriological facilities, the detailed documentation are all required for the accuracy and completeness of a controlled clinical study, and would not be available or even necessary for a mass therapy campaign. Regardless of any research going on, the regime of treatment adopted for study must be simple and capable of application on a wide scale. Nor must the standard of living of the individual patient under study be altered from what would be found in a mass campaign.

The studies are likely to continue for several years yet. No attempt has been made here to describe them in detail and it is far too early to draw conclusions; these will be reported later. The findings will be related directly to tuberculosis in India but we hope that information will emerge which will be of value to workers elsewhere.

'A MODEL OF COLLABORATION AND CO-OPERATION'

by KAY DANIELS – EXCERPTS*

'No man can serve two masters' is a well-known biblical quotation that the Tuberculosis Chemotherapy Centre had defied for over 25 years, by coordinating successfully its research programme with four diverse agencies, namely, the Madras Government, the Indian Council of Medical Research, the British Medical Research Council and the World Health Organization. This is a shining example of national and international collaboration and cooperation. An extremely valuable appraisal of the modalities of achievement was made by Mrs. Kay Daniels, the first Administrative Officer of the Centre in 1962 in a paper published in the London School of Economics Society Magazine. Some excerpts from her paper are reproduced below.

This rare cooperation between the four agencies was possible because each one was genuinely concerned about the finding to the problems concerned. *Regulations which might have interfered with the day-to-day operation of the Centre were often waived by the individual agencies.* The lessons to be learnt from Madras are applicable to a wide range of international work. First, the Centre was established in response to a felt-need. Secondly, the possibility of research was assessed in advance. Thirdly, precise protocols were undertaken for each study undertaken. Fourthly, a vitally important role was played by the Statistics Department. Finally, it was established early that the staff was to operate as an integrated unit *under a single chain of command* without reference to which of the four cooperating agencies was the employing authority. This made possible a real delegation of responsibility linked to authority – the administrator's dream.

Less precisely defined, but very significant, was the insistence on maintaining high standards of work. In Madras, no concessions were made in any department – in the clinic, the laboratory or statistics department - to the highest standards of achievement that were conceivably possible.

Institution building in international work means leaving behind in the aided country a reservoir of techniques and attitudes which will be applicable in other fields or to other tasks.

The Madras experience provides encouraging evidence of what can be achieved by well-planned and suitably directed programmes of international aid. Professional, scientific and technical staff willingly submitted themselves to the strict discipline and demands of a co-operative effort. Their spirit was reflected in a sentence inside the medicine cabinet of one of the local medical officers (for his own rather than public observation) "Our best work is done not in isolation but in collaboration with others".

* For full text, see Annexure 3

EXCERPTS FROM FAREWELL ADDRESS TO FOX**

Dear Dr.Fox,

When you came to India, you were already an established expert of the British Medical Research Council, fresh from the triumphs of the East African studies. It is difficult to imagine why you chose to come to India, other than the thrill of helping the country in its problem of tuberculosis, and the satisfaction of establishing a first-rate tuberculosis project in India. How well you have succeeded in your mission is now known to workers in the field of tuberculosis all over the world.

It has often been said *no man can serve two masters* but you have won the admiration of not one, or two but four organisations.

With the publication of another 20 good reports from this Centre in the next 6 months, you will have acquired for it a permanent place of importance in the field of tuberculosis. During your term of office, the X-ray department has won prizes for the quality of films it produces and the laboratory has gained the reputation of being one of the finest in the world. *Your contributions to the advancement of the treatment of tuberculosis are no doubt immense but a more important achievement of yours is that you have moulded and trained the national staff so successfully that, in the years to come, the Centre will acquire more fame.*

The great personal interest you took in seeing that the patients attended the clinic regularly and the numerous and tedious trips you made with health visitors and social workers to persuade the patients will remain green in the memory of all of us. As a scientific worker, you thrilled us with your superb logic and clear exposition. Your readiness to discuss even the minutest of details concerning laboratory experiments and the practical suggestions you often made have been invaluable.

In your eyes, no one was unimportant or insignificant. You always had a disarming smile, a boisterous greeting and a mischievous comment for everybody. Your indefatigable interest and your insistence on perfection at this Centre were exemplary. *Your magnanimity in giving people the impression that they were doing you a great favour, even when you were doing a major part of the work, certainly needs to be emulated.*

On the personal side, your name will always conjure up in our mind the vision of a tall handsome man with long strides, a button-less handloom shirt, a basket containing three flasks of tea, a pocket bulging with correspondence and a mouth full of chewing gum.

We feel that the best way in which we could express our appreciation of all that you have done for us and our country is to maintain the very high standards you have set for us.

** For full text, see Annexure 4

EPILOGUE

There can be no formal end to a research Centre that has grown exponentially over six decades, but if we regard 1961 as the end of the Fox era, perhaps the group photograph taken at the Farewell party given to him at The Woodlands Hotel, Mylapore, in January 1961 may be regarded as a symbolic end of the first phase. It has captured very many happy faces, and is reproduced on the back cover.

On this historic occasion, the staff presented to Dr. Fox a very touching 'Farewell Address', printed on a silk scroll (see Annexure 4).

CONCLUDING REMARKS

There are now three informative and significant publications of the TCC/TRC/NIRT. The first was the outcome of a felt-need by over 500 staff members for a write-up of the life and achievements of Wallace Fox⁶, who not only founded the Centre, but nurtured it over several decades by short-term consultant visits and reams and reams of detailed correspondence with its staff members. When this booklet was released, the Director-in-charge Dr. Srikanth Prasad Tripathy requested me to produce a similar one on Denis Mitchison⁷, Fox's fellow knight-in-arms. This was a more onerous responsibility considering that Mitchison's contact with the Centre was intermittent, and many of his fellow companions of the early days had passed away. But this was still done, against all odds, by assiduously tracing old stories and photographs from retired staff and his children. In my mind, though, there was always a feeling that the early history of the Centre was not all documented, and it is to meet this felt-need that I took up this task.

It is not possible for me to mention the names of all those who gave a helping hand, but some that deserve special mention are Paul Somasundaram who helped in assembling this booklet, Gaye Fox for jogging her memory along to recall incidents of by-gone years, and my son Prasad for his skill in designing the pictorial cover page. To all of them and my other TCC colleagues, and gen-next personalities Jason Fox, Terence and Clare Mitchison, and Maia Sutherland for providing me rare photographs, I express my gratitude, and hope this booklet will throw light on the early history of the Tuberculosis Chemotherapy Centre.

To conclude, Fox (physician), Mitchison (bacteriologist) and Sutherland (statistician) constituted a remarkable trinity that immensely developed treatment procedures in tuberculosis research in India and globally over several decades. Their contributions must be etched in letters of gold in the annals of TB history, and provide inspiration to all TB research workers, reinforcing Henry Wadsworth Longfellow's famous lines in his 'Psalm of Life' (1838):

"Lives of great men all remind us
We can make our lives sublime,
And departing, leave behind us,
Footprints on the sands of time"

The Tuberculosis Chemotherapy Centre was established in 1956. My lone surviving companion of that year is Gaye Fox, and I have great pleasure in dedicating this booklet to this vivacious personality.

S. Radhakrishna

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DECISION FOR CLOSURE

The MAIL 10-7-1961

MONDAY, JULY 10, 1961 8 PAGES

MADRAS TB RESEARCH CENTRE TO BE CLOSED

Work to Be Carried on in Bangalore

EXPERTS PERTURBED OVER GOVT DECISION

By A Staff Reporter

MADRAS, July 10.

THE five-year-old, internationally known, Tuberculosis Chemotherapy Centre at Egmore is to be closed by the end of the year.

The reported decision of the Union Health Ministry is a sequel to its desire to centralise all higher research in TB in Bangalore.

This decision, if given effect to, would mean throwing away five years' valuable research in the field of domiciliary treatment of tubercular patients and establishing basic principles in the treatment of tuberculosis in India from the economic aspect.

The decision of the Health Ministry has caused serious misgivings in medical circles in India and abroad, particularly among specialists in tuberculosis and others interested in evolving a suitable method and discovering an effective and cheap drug or combination of drugs to cure an estimated 2 million sufferers from tuberculosis, with only 23,000 sanatorium and hospital beds in the country.

Although experts do not want to express their reactions to what they evidently feel "is an unwise decision," they are evidently greatly perturbed by it.

Set Up in 1956

The TB Chemotherapy Centre at Egmore was started in 1956 as a joint enterprise of the Madras Government, the Government of India, the World Health Organisation and the British Medical Research Council.

It has for its main object the finding out by means of controlled investigation and research whether the "home treatment" method can be as good as hospital or sanatorium treatment.

The centre has, during the past three years and more, carried out intensive investigations and treated nearly 2,000 TB patients in the city by the new method and maintained a very scientific and fool-proof follow-up programme.

Reports on the follow-up studies of a tuberculosis control project initiated by a study team at the Madras centre has convinced the earlier conviction that the results of home treatment by drugs approach sufficiently close to the results of sanatorium treatment and suggested that it would be proper to treat the majority of tuberculosis sufferers in their own homes.

The centre at present has covered a systematic scientific study of nearly 600 tubercular patients and 2,500 contacts under various studies connected with the objects of the centre. The follow-up studies are in various stages and according to a worker, unless the centre continued, where it does not at least till 1961, all the devoted efforts and large expenditure on the project would be wasted.

According to an expert, the threatened closure of the centre would mean "we will lose all our material. We cannot continue the follow-up studies on nearly 600 patients and 2,500 contacts in the families of the patients and what is more important, we cannot take our patients with us wherever we may be shifted and we will have to start from scratch in a new place."

Dr H. Sivas, Senior Medical Officer of the Madras centre, today told me: "This is the only centre in the world which has undertaken this type of research work as applied to the economic requirements of a country. By the result of its investigations and studies, it has brought great credit to the Indian national associated with its work."

He explained the technique of studies undertaken and the results obtained and said "it is very important to follow-up patients and the contacts for four years after the first year's treatment. It was all prizes for the cooperation of the patients."

A research study of this type, according to him, a continuous process and he was convinced that for the present investigations to bear positive results, "it will be necessary to continue the follow-up till the end of 1961."

WHO Spending

There were indications from the Union Government that it would continue the project, with the assistance offered, at least till the end of 1961. The Indian Council of Medical Research, the body representing the Government of

the project, is understood to have favoured a proposal that the centre should be made permanent by the Government, at one stage reported to be of a similar nature.

It is learnt that the WHO has spent about Rs 2 lakhs on the Madras centre, while the Indian Research Council about Rs 4 lakhs a year on it. British help has been in the form of services of experts and supervision of office work.

The National Tuberculosis Training Institute, Bangalore, to which the Chemotherapy Centre proposed to be shifted, started its first course on May 15 to train doctors, health visitors, laboratory and X-ray technicians and B.C.G. workers, for the implementation

REASONS FOR CLOSURE

Madras Refusal to Bear Expense

From Our Correspondent

NEW DELHI, July 10: The TB Chemotherapy Centre in Madras will be closed in October and the staff engaged in the centre will be moved to Bangalore where research in tuberculosis therapy is centralised.

A Union Government official today said that he was aware of the criticism of the move to close down the centre in Madras. The Union Government had considered the matter carefully. The original research programme for which agreements with the WHO and the British Medical Council had been entered into for a five-year period, had been completed and any further research could be carried on at the institute in Bangalore. The work still left in Madras was only to check up periodically the patients who had been treated. The number of such patients was about 700. A small staff was being retained in Madras for the purpose.

It is stated that the move for shifting the Madras centre started only after the Madras Government had said it could not continue to bear the expenses on staff, etc. which it had been meeting. The Central Government con-

sequently felt there was no use in maintaining a small unit in Madras when research in TB was being carried out on a big scale in Bangalore and those engaged in research in Madras could very well carry on work from Bangalore.

The Central Government spokesman said that no member of the staff of the Madras centre would be affected, except two foreigners. The WHO had given some equipment to the centre. These would be shifted to Bangalore if the WHO agreed. Otherwise the equipment would be returned to it.

A

T.B. Chemotherapy Centre

When the first report of the Tuberculosis Chemotherapy project in Madras was made public, it was hailed as a significant contribution to the treatment of this dread disease in underdeveloped countries. Jointly sponsored by the World Health Organisation, the British Medical Council, the Indian Council of Medical Research and the Government of Madras, the project studied the effect of modern anti-bacterial drugs in the treatment of T.B. patients in their homes in crowded areas in cities. The experts' finding was that such domiciliary treatment, as it is known, approximated closely to sanatorium treatment, even though the environmental conditions in urban slums appeared hostile to the patient's recovery. Equally important was the conclusion that, under proper supervision, the risk of infection of other inmates of the patient's home was negligible. In a country where there are hardly 23,000 sanatoria or hospital beds to tackle some five million sufferers, the Madras project's report brought new hope of controlling the scourge in this country. The present decision of the Government of India to shift the Chemotherapy Centre has to be judged in the light of the importance of the work done therein and what effect it will have on the continuity of the research work. Though the project has run its appointed term of five years, the follow-up programme relating to the patients who had been under supervision has to be continued.

The National Tuberculosis Institute at Bangalore to which the Madras Centre is to be shifted, no doubt, has the same aims as the Madras Centre and may provide a wider base to the task of facilitating the new approach to tuberculosis on a community basis. But it is for the experts associated with the Madras project to judge whether the research done so far will suffer in any way by the shift. The immediate decision of the Union Government seems to have been influenced not so much by expert opinion as by the unwillingness of the Madras Government to continue to bear their share of the cost. It is not within the competence of the administrator to decide whether all this admittedly high-quality research should be allowed to be interrupted. Considering the comparatively small cost to the Madras Government, it

State Government to provide, possibly at greater cost, should have persuaded them to pay gladly the Rs. 2 or 3 lakhs as their contribution. Failure to do so only shows the low priority that public health seems to have in the thinking of our administrators.

The Hindu
12-7-1961

PROTESTS OVER CLOSURE

TB RESEARCH

THOUGH Mr Manickavel, the Madras Health Minister, was not quite explicit in the matter, there is no ground to believe earlier reports that one of the contributory reasons for the decision to close down the chemotherapy centre in Egmore is lack of support from the State Government. While Mr Manickavel's announcement that the Madras Government will pursue the matter is welcome, the Madras Tuberculosis Association has made its view quite clear that valuable research work done at the centre will be lost to science if the Central Government persists in its decision and that the proposal to shift the chemotherapy centre to Bangalore "is not in the best interests of the people and research." There is certainly need for greater and more intensive research in problems connected with a disease that has scourged India in relentless fashion for centuries; the experience gained by the Madras centre during the last five years is a valuable contribution in the battle against tuberculosis, and the research centre should be saved for Madras.

How there can be any conflict between the Madras centre and the proposed National Tuberculosis Institute in Bangalore it is a little difficult to understand. As a matter of fact, work in these two places should be complementary in nature. Dr Sanjiv pertinently pointed out that work in the Madras centre was concentrated on research problems connected with the practical aspects of using modern anti-tuberculosis drugs suitable to Indian socio-economic conditions, whereas the Bangalore institute, though concerned with the same disease, was for epidemiological research. It is admitted that the Madras centre has justified the confidence reposed in it by experts and it is to be sincerely hoped that the Central Government would drop the proposal to close it down and transfer its work to Bangalore. It will be a serious loss to science if the valuable follow-up work undertaken by the Madras centre cannot be completed successfully.

The Mail
18-7-1961

The Mail

19-7-1961

(MADRAS 10, 1961) KERALA

CALENDAR—JULY 1961

	1961	1961	1961	1961	1961
Tue	11th	18th	25th	1st	8th
Wed	12th	19th	26th	2nd	9th
Thurs	13th	20th	27th	3rd	10th
Fri	14th	21st	28th	4th	11th
Sat	15th	22nd	29th	5th	12th
Sun	16th	23rd	30th	6th	13th
Mon	17th	24th	31st	7th	14th

PHASES OF THE MOON

The 1st New Moon is on 19th 11.55

UNJUSTIFIED

THE unexpected decision of the Central Government to close down the International Tuberculosis Chemotherapy Centre in Madras by October 1961, will be deplored. It seems to be an instance of proved results being sacrificed for nothing more important than administrative convenience. If convenience there is, the facts are simple. It is generally agreed that the Madras Centre has been doing outstanding work. The object is to investigate methods of treatment of tuberculosis at home with cheap, but effective, drugs which would present no danger to the community. It is obvious that this is cheaper than building sanatoriums. But there is need to combine these results by systematically organized programmes which are now in actual progress. The importance of this may be judged from the fact that there are thereby opened up possibilities of treating in mass about five million tuberculosis patients in this country. It has been expected that one of the most important results obtained at the Centre is that the Indian tubercle bacilli differ in many respects from similar bacilli in Europe and America. These discoveries fully justify the continuance of the Centre in Madras. For this kind of what might be called field research cannot be uprooted without much loss. Actually, it has been stated, any transfer of the Institute would mean the loss of nothing less than five years' research. Obviously, it would be impossible to expect the many patients and their families to remove themselves to Bangalore.

For the Government's proposal is to "centralise" (broadly used, as noted by international tuberculosis research in that city under the auspices of the National Tuberculosis Institute. This may be a laudable purpose, but surely mere bureaucratic convenience should not interfere with vital research. It might become necessary in a few years that all inquiries into the disease should be conducted from one particular place. But that time is not yet. It will come when the research at Madras reaches a particular term. It might be that there is no such thing as a final conclusion to medical inquiries, for knowledge is always expanding. But certainly one particular study must come to an end when it would be perfectly reasonable to change the venue if it is found absolutely necessary. The fact that the W.H.O., the British Medical Research Council and its Indian counterpart are willing to continue the experiments at Madras at no little cost, strongly suggests that the Centre should not be removed elsewhere.

CONTINUANCE OF TB RESEARCH CENTRE

Madras Medical Men's Bid

By A Staff Reporter

MADRAS, July 18.

LEADING medical men in the city, agitated over the proposal to close the Tuberculosis Chemotherapy Centre at Egmore within the next three months, are making strenuous efforts to persuade the Union Government to retain it.

The centre, started in 1932 as a joint enterprise of the Madras Government, the Union Government, the World Health Organisation and the British Medical Research Council, had won international appreciation for the research work it had been carrying on.

The Union Health Ministry's decision to close the centre at Madras and shift the research activity to the National Tuberculosis Training Institute in Bangalore has evoked much criticism. At the time the centre was started at Egmore, the Madras Government had agreed to meet a portion of the expenditure on the centre for five years, ended Mar. 31, 1951.

Queries in Vain

Sufficiently ahead of the five-year period, the Madras Government had several times inquired of the Union Government what it proposed to do for the continuance of the centre here and every time the issue had been raised, there was no direct answer to it. The State's representative on the Indian Council of Medical Research, early this year posed the question again, but with no result.

The Madras Government which was keen on the continuance of the centre in the city, while expressing willingness to bear any portion of the expenditure on it, had offered to give every facility, building and capital equipment for it. In this context, the takeover of the B.C.G. Vaccine Laboratory at Chinty by the Madras

Government was related to an relevant for the State Government had paid for the last six the value of the building and capital equipment demanded of it by the Union Government for the take-over.

On the same basis, it was suggested, the Union Government could take-over the centre at Egmore and continue to run it. Furthermore, the suggestion also fitted in with the all-India pattern of planning for research and training, which was the responsibility of the Union Government.

Centre's Stand

The Union Government, however, did not seem to be influenced by the relevant issues raised by the Madras Government, but drew the curtain on the subject with communicating its decision to close down the centre in Madras, giving a short extension from April to October for the course by which time it expected to complete the work on hand.

The Madras Government was also informed that the centre had achieved the purpose for which it was started in Madras, and, therefore, there was no need for its continuance here.

Shifting of Madras Centre to Bangalore Opposed

By A Staff Reporter

MADRAS, July 28.

THE Tuberculosis Association of Madras yesterday, Mr M. A. Manickavelu, Health Minister, presiding, urged the Madras and Union Governments to retain the Domiciliary Chemotherapy Centre at Madras as a permanent research centre. The association felt that the decision to shift the centre to Bangalore was "not in the best interests of the people and research."

The reported decision to close down the centre in Madras and shift it to Bangalore dominated the discussions at the 22nd annual meeting of the association at the Medical College.

The Minister said the decision had come as a surprise both to the State Government and the people. He assured the meeting that the State Government would pursue the matter, and suggested to the members of the association and the medical profession to represent the matter to the Union Health Minister who would be in the city in connexion with the Malariaologists' Conference.

Expenditure

The Minister said that the centre had been started on the understanding that the expenditure was to be shared by the State and the Centre in a particular ratio. That period had now come to an end. The State Government had now pointed out to the Centre that, according to the new pattern of research schemes, it was entirely the responsibility of the Union Government to finance the research work at the Madras centre. On this point, nothing had been heard from Delhi. Further, representatives of the Indian Council of Medical Research and the Government recently had a discussion with the head of the department regarding the centre, and had promised to send a plan about the future of the institution. So far, nothing had been received. Only they heard that the centre was to be closed. The State Government would take necessary steps in the matter.

The resolution proposed by Dr M. Sathisham was passed un-

the widespread distribution of modern drugs could be studied.

Dr Sanjivi also said the concept of a National Tuberculosis Institute at Bangalore was for a totally different type of training and epidemiological research, and it would require considerable reorganisation to take the additional responsibility of continuing the work now done in Madras, which had been commended at every session of the tuberculosis sub-committee of the I.C.M.R. The factor of upsetting the calculations of international agencies, and the possible embitterment of international relationship in the field of medical research should also be considered.

Preventive Aspect

Dr Sanjivi appealed to every citizen to contribute to the T.B. Seals sales.

The Minister stressed the need for a tuberculosis eradication programme. He asked the association to pay attention to the preventive aspect, and advise people on their diet and other habits.

Mrs Chibwala Jadhav welcomed the Minister and others. Dr B. V. Sundara Babu proposed a vote of thanks.

28-7-1961

The Hindu 19-7-1961

**CHEMO-THERAPY CENTRE
SHIFTING FROM CITY
OPPOSED**

MADRAS, July 27. The Tuberculosis Association of Madras today expressed its opposition to the reported decision to shift up the Chemotherapy Centre at Egmore and urged its continuation as a permanent research centre in the City.

The Association, which held its 22nd annual general meeting here this evening, was of the view that the decision to shift the Centre from Madras to Bangalore was "not in the best interests of the people and research."

Addressing the meeting, Dr. K. S. Sanjiv, retired Professor of Medicine, said that the Tuberculosis Chemotherapy Centre at Egmore had laid the sound foundation for the study of the intricate bacteriological problems connected with the widespread dissemination of modern drugs. He was afraid that "scientific disintegration" would follow if the members of the Centre were uprooted and scattered in the five Health Ministries in metropolitan cities. The Union Government, he said, should be asked for Madras.

REPLY TO GOVT.
Mr. M. A. Manickavelu, Minister for Health, said that the reported decision to shift the Centre from Madras was as much a surprise to the Government as to the public. While the Government, he said, would pursue the matter, he mentioned that the members of the profession would make representations to the Union Health Minister, who will be in the City on July 29 and 30.

Mr. Manickavelu explained that the Centre was started in Madras five years ago on an understanding that the expenditure on the project was to be shared by the State and Union Governments on a certain proportion. In the terms of the scheme, he said, the Government had now come to a close.

Under the new pattern of research, all research work was to be done by the Government of India and the research centres were to be financed by them. The State Government had only drawn the attention of the Union Government to the new pattern of research. They were surprised to learn that the Centre would be removed from Madras.

The Minister stressed the need for a comprehensive scheme of control and eradication of T.B. Dr. Sanjiv said that the Centre at Egmore was extremely well equipped and had been able to carry out important research connected with the practical aspects of using modern anti-tuberculous drugs under the Indian socio-economic conditions.

Dr. Sanjiv said that Madras was chosen as the centre for chemotherapy research on the advice of three British Medical Research Council representatives who had undertaken an extensive tour of India. The confidence of the experts had been amply justified and the follow up of the Madras patients and their contacts had been practically 100 per cent and was not equalled in the studies of any other group in the other parts of the world.

Dr. Sanjiv felt that the eminent of the National Tuberculosis Institute at Bangalore was for a totally different type of training and epidemiological research. Though concerned with the same disease, and it would require considerable reorganisation to take the additional responsibility of continuing the work now being done at the Madras Centre.

Calling upon every citizen to take an active interest in the control of tuberculosis, Dr. Sanjiv said that the apathy of the public in India to the danger of T.B. infection was "shocking". The resolution opposing the proposed shifting of the Chemotherapy Centre from Madras was moved by Dr. M. Santhosham and adopted.

Mrs. Mary Clubwala Jadhav, Honorary Secretary, earlier welcomed the gathering, and Dr. B. V. Sundareshan, proposed a vote of thanks.

27-7-1961

DEPUTATIONS, PETITIONS etc

The HINDU 27-7-1961

T.B. RESEARCH CENTRE 3/7 DEPUTATION TO UNION HEALTH MINISTER
MADRAS, July 27. On behalf of the Tuberculosis Association of Madras, a Deputation met Mr. D. P. Karmarkar, Union Health Minister, at the House, Government, this afternoon and presented for the consideration of the Tuberculosis Chemotherapy Centre at Egmore as a permanent research institution.

The deputations who included Dr. K. S. Sanjiv, Dr. M. Santhosham and Mrs. Clubwala Jadhav, Honorary Secretary, held discussions with the Minister for nearly an hour and explained the work done during the last five years. The Centre had done valuable research on bacteriological problems connected with the use of modern drugs. They pleaded that it should not be shifted up and down the five States at the end of the five-year term.

Mr. Karmarkar then held a representative of the Union Ministry of Health had discussions with the representatives of the World Health Organisation on the subject and there had been a general agreement that so far as the "immediate" work was concerned, the spill-over of the five-year experiment carried on at the Centre should be continued. As regards the future work, the question of organising it on a "rational basis" was under examination.

Mr. Karmarkar added that it was not a question of closing any centre. Many more such centres would have to be started. But how to reorganise the work will depend on T.B. research without encouraging duplication was the goal of the Government.

The Hindu
31-7-1961

**TB RESEARCH CENTRE
Minister's Reply to Representation**

By A Staff Reporter
MADRAS, July 31: The Tuberculosis Association of Madras, yesterday, pleaded with Mr. D. P. Karmarkar, Union Health Minister, for the continuance of the Tuberculosis Chemotherapy Centre at Egmore. A deputation comprising Dr. K. S. Sanjiv, Dr. M. Santhosham and Mrs. Clubwala Jadhav, M.L.C. and honorary Secretary of the Association, conferred with the Minister for over an hour. They explained to him that the centre had done valuable research work and pleaded that it should not be moved from Madras.

Mr. Karmarkar later told Pressmen that the Government's intention was not to put a stop to the good work of the centre. The idea was to organise future work on a rational basis. The representatives of the Health Ministry had discussed the subject with WHO officials and there was general agreement that so far as the immediate work was concerned the spill-over of the five-year experiment should be continued. There was no question of closing the centre. In fact, many more such centres should be started.

The MAIL 28-8-1961

FOLLOW-UP WORK AT TB CENTRE

Continuance Suggested by Madras Govt

By A Staff Reporter

MADRAS, Aug. 28.

THE State Government is trying to see whether further follow-up work cannot be carried on at the Tuberculosis Chemotherapy Centre at Egmore.

Mr M. A. Manickavelu, Health Minister, who disclosed this during question-time in the Assembly today, said the Union Government had stated that the centre might be wound up by the end of October, as the chemotherapy experiments conducted by the centre had concluded.

He said the centre, which was started in 1956, was conducting

research as to how the new anti-bacterial drugs could be used effectively in treating TB patients in their homes. The study was also utilised to ascertain the prevalence of TB in family contacts as well as the attack-rates in subsequent years.

The centre was concerned with a particular aspect, namely, what would be the results and benefits of the domiciliary treatments. That research, according to experts, had been concluded and other kinds of research were going to be conducted at Bangalore.

Costly Work

Asked whether the Government proposed to utilise the buildings and other materials available at the centre, the Minister said that would arise only when it was actually closed.

To a question whether the State Government would come forward to take over the centre, the Minister said research work was a costly business. Especially when the research was going to be carried on at Bangalore on a large scale, he did not think it would be worthwhile to continue the research at Madras. "Let us wait. We have not given up hope."

The State Government felt there was further scope for follow-up work. It had drawn the attention of the Union Government to this.

The HINDU 28-8-1961

T.B. RESEARCH CENTRE AT EGMORE 1961

MADRAS, Aug. 28.

The State Government have drawn the attention of the Government of India that there is scope for "follow-up" of the research done at the Tuberculosis Chemotherapy Centre at Egmore and are trying their best to see if the "follow-up" work could not be carried on there.

Mr. M. A. Manickavelu, Minister in charge of Health, gave the information during question time in the Legislative Assembly today.

Replying to questions tabled by Messrs. A. A. Rasheed, N. K. Palaniswami and M. P. Sarathi, the Minister said that the Government of India had stated that the research centre might be wound up October 1961 as the Chemotherapy experiments conducted there had concluded.

The Centre, which was started in 1956 had conducted research as to how effectively the new anti-bacterial drugs could be used in treating Tuberculosis patients in their homes as compared to the treatment in hospitals. The study was also utilised to ascertain the prevalence of Tuberculosis in family contacts as well as the attack rates in subsequent years. Many papers embodying the results of the researches and surveys undertaken at the Centre were published in Indian and foreign medical journals.

Replying to a number of supplementary questions, Mr. Manickavelu said that when the Union Minister for Health was in Madras, a deputation waited on him and made representations to him on the question. The Centre was started for a specific purpose and it was over. But the State Government felt that there was scope for further follow-up in the matter.

The Hindu

The HINDU 30-10-1961

**WORK OF MADRAS
T.B. CENTRE**

BRITISH TRIBUTE

LONDON, Oct. 28.

The work of the Tuberculosis Chemotherapy Centre, founded in Madras a few years ago in an effort to develop new techniques of treatment and prevention of tuberculosis, is praised in a three-column article in the current issue of the "British Medical Journal."

"This imaginative and far-sighted enterprise is a remarkable example of international co-operation," the journal said. "Within a few years, it has produced results of great importance, not only for India but for every country in which tuberculosis is not under control."

The journal said: "All the Governments and agencies concerned deserve high praise for the success of the Madras experiment... while, in additional research, the highest scientific standards have been applied."

"But perhaps the most remarkable achievement of the Madras team," the article concluded, "is to have followed up all the patients now for more than three years."—NAFEN.

The Hindu 30-10-1961

A MODEL OF COLLABORATION AND COOPERATION

A MODEL OF COLLABORATION AND CO-OPERATION

No man can serve two masters— St. Matthew, chapter 6, verse 24.

This is a well-known quotation from the Bible that administrators mention frequently and laymen sometimes employ, in a light-hearted vein, as an argument against bigamy! For over 25 years, however, the Tuberculosis Research Centre has proved that an institution can serve the interests of 4 diverse agencies (the Indian Council of Medical Research, funded by the Ministry of Health and Family Welfare, Government of India; the Tamil Nadu State Government; the World Health Organization; the British Medical Research Council), and yet bring all of them and itself great glory. This is a remarkable achievement in itself, and a shining example of national and international collaboration and co-operation.

An extremely valuable appraisal of the modalities of this achievement was made by Mrs. K. Daniels (WHO), the first Administrative Officer of the Centre, in 1962 in a paper published in the London School of Economics Society Magazine. Some abstracts from her article are published below, and afford much food for thought.

"It would be unrealistic to think the unit's success derived from a single factor. The extraordinary co-operation achieved by four independent agencies, each functioning under its own regulations, was certainly the key, and this rare co-operation was possible only because each of the agencies was genuinely concerned about finding the answer to the problems posed. Regulations which might have interfered with the day-to-day operation of the Centre were often waived by the agency concerned. When the Medical Research Council, acting as recruiting agent for W. H. O., were not satisfied with the calibre of candidates for the post of Director of the Unit, they seconded a key worker from their own Tuberculosis Research Unit to do the job. It has been suggested by some that the success achieved was directly attributable to that man, and it is undoubtedly true that it is difficult to imagine the work having been done without him. His scientific integrity, his indefatigable

energy, his ability to imbue staff with a sense of the worth of the effort, were sustained over a period of almost five years. But even his effectiveness was dependent on many other people. How to assess the contribution of the senior health visitor who has served the Madras Government for 25 years, who seemed to know all the tuberculous patients in the city and all the members of their families, including those still in the village to which the patient could be traced if he absconded? There was the young Indian statistician, with a fresh post-graduate degree, who created a first-class statistical department from very raw material, with an occasional consultant's visit from the M. R. C's Statistical Research Unit and frequent correspondence with London to help him. There were also the London public health nurse who vitalized the clinic, the Norwegian public health nurse who established the principles of a home visiting service that bears comparison with any in England, the \$10-a-month local clerk who willingly undertook any responsibility thrown on him, the brilliant bacteriologist loaned by the Post-graduate Medical School, London, who designed and set up a laboratory and animal house on a site which was mere rubble and maintained a watchful eye on the bacteriological work even after he returned to London, the local medical officers and dozens of junior local staff who, in contrast to the normal government working conditions of six hours a day and 30 to 35 official holidays a year, worked from 7 a.m. to 6 p.m. or not infrequently later, throughout the twelve months of tropical heat and humidity, and settled for ten to twelve official holidays a year.

"This was, and no doubt still is, the spirit in Madras. But the achievements are attributable, I believe, to more specific causes. The lessons to be learned from Madras are applicable to a wide range of international work. First, the Centre was established in response to a "felt need". This need was acknowledged by the Government and appreci-

ated by the agencies asked to help. Secondly, the possibility of carrying out the research was assessed in advance. A three-man M.R.C. team visited India very briefly in the autumn of 1955, studied the problem and made recommendations about specific limited goals which they felt confident could be achieved (all of which have been more than fulfilled), and their recommendations were accepted. Thirdly, precise protocols were prepared for each study undertaken; and these protocols were strictly adhered to; if it was thought necessary, brief and very limited pilot studies were undertaken. Fourthly, a vitally important role was played by the statisticians; they were involved from the very beginning in all planning and were not, as often regrettably happens, called in at the end of a study, handed volumes of data, and asked to analyse them. Fifthly, in the operation of the Centre, the principle was early established that the staff was to function as an integrated unit, under a single chain of command, without reference to which of the four co-operating agencies was the employing authority. This made possible a real delegation of responsibility linked to authority—the administrator's dream. In a situation where, even as between Central and State Government employees called upon to do equivalent work, widely differing salaries, conditions of service and security of tenure often applied, this was a principle of some importance.

"Less precisely defined, but very significant, was the insistence on maintaining high standards of work. There is a tendency today, a kind of perverted paternalism, to excuse any failure in the "developing" countries on the grounds of their economic backwardness. To the lack of certain natural resources, hydro-electric power, irrigation facilities and other advantages found in the technically advanced countries, are attributable some of the difficulties encountered in the less technically advanced countries. There are, however, opportunities for development where the quality or standard of work done is not dependent on the availability of anything but discipline. In Madras no concessions were made in any department—in the clinic, the laboratory or the statistics department to the highest standards of achievement that were conceivably possible Loss of a patient from the follow-up was never accepted; 100 per cent follow-up of patients was set as a goal and has been achieved in each of the

studies. Even among contacts over 95 per cent follow-up has been achieved.

"Accuracy in statistical recording can be insisted upon even in the absence of expensive equipment. In order to help the senior medical, laboratory and administrative staff to appreciate fully the value of the statistical aspects of the work, the senior statistician gave two courses of lectures in elementary statistics, using Professor Bradford Hill's classic as a text. One direct benefit was that this staff, with no prior statistical background, were able to read and criticise intelligently draft reports prepared at the Centre. This kind of training and experience is extremely valuable for scientific workers: many a scientist's best work may be undervalued because of his inability to communicate his ideas and his findings in a scientifically acceptable way.

"Institution building in international work means leaving behind in the aided country a reservoir of techniques and attitudes which will be applicable in other fields or to other tasks. This was certainly achieved in Madras. The doctor who, while exercising his enhanced clinical acumen, has learned to distrust "scientific" conclusions based on solely clinical impressions, the laboratory technicians who know and aim at the minimum contamination rate possible to achieve in traditionally difficult tropical conditions—even the typist who now, in pride, refuses to prepare a badly set-out letter—all are part of the enrichment of India, achieved by one relatively small programme of international aid. The few W.H.O. international staff who had the privilege of working on the project have been similarly enriched, and benefit from the experience in the same way as the national staff. Institution building may, in fact, be a multi-directional function, creating techniques and attitudes which are applicable to other international tasks.

"The Madras experience provides encouraging evidence of what can be achieved by well-planned and suitably directed programmes of international aid. Professional scientific and technical staff willingly submitted themselves to the strict discipline and demands of a co-operative effort. Their spirit was reflected in a sentence posted inside the medicine cabinet of one of the local medical officers (for his own rather than public observation), *"Our best work is done not in isolation but in collaboration with others."*

FAREWELL ADDRESS BY STAFF

FAREWELL ADDRESS PRESENTED TO
DR. WALLACE FOX
Senior Medical Officer
 ON THE EVE OF HIS DEPARTURE TO LONDON

Dear Dr. Fox,

ON every occasion that we had a farewell party in the past we wondered what our feelings would be when the day of your departure dawned. We always pushed the thought to the back of our mind hoping that the day would recede like a mirage. However, now that it has come so close, we are all so confused and saddened that we do not quite know how to express our gratitude and indebtedness for all that you have done to us and our country.

WHEN you came to India about four and a half years ago, you were already an established expert of the British Medical Research Council, fresh from the triumphs of the East African studies. It is difficult to imagine why you chose to come to India, other than perhaps for the thrill of helping the country in its problem of tuberculosis and the satisfaction of establishing a first rate tuberculosis research project in India.

HOW well you have succeeded in your mission is now known to workers in the field of tuberculosis all over the world. No praise can be too great for your achievements. It has often been said that no man can please two masters but you have won the admiration of not one, or two, but four organisations. Thanks to your all round efficiency, the Tuberculosis Chemotherapy Centre has now acquired world-wide renown. Indeed, with the publication of another 20 good reports in the next 6 months, you will have acquired for this Centre a permanent place of importance in the field of tuberculosis. During your term of office the x-ray department has won prizes for the quality of films it produces and the laboratory has gained the reputation of being one of the finest in the world. Your contributions through this Centre to the advancement of the treatment of tuberculosis are no doubt immense, but a more important achievement of yours is that you have moulded and trained the national staff to successfully that, in the years to come, the Centre is sure to acquire more fame.

WE are amazed at the many facets of your astonishing personality. The great personal interest you took in seeing that the patients attended the clinic regularly and the numerous and tedious trips you made with health visitors and social workers to persuade the patients to cooperate with us will ever remain green in the memory of all of us in the clinic. As a scientific worker, you thrilled us with your superb logic, clear exposition and that extra punch which could make even a bad argument look good and a good argument quite irrefutable. As a report-writer, your ability and speed were extraordinary. The difficult and seemingly impossible targets you set yourself and us for the completion of reports, the frantic rush and pandemonium that followed and the final sigh of relief from one and all when the reports started on their inter-continental travels cannot be forgotten too soon, particularly by those of us in the statistics department. Your readiness to discuss even the minutest of details concerning laboratory experiments and the practical suggestions you often made have been invaluable. Though you were never directly involved in problems of administration, the speed and rapidity with which you got things done by government departments always evoked admiration from those of us in the office. The great care you took in seeing that the transport facilities at the Centre were well organised deserves special mention.

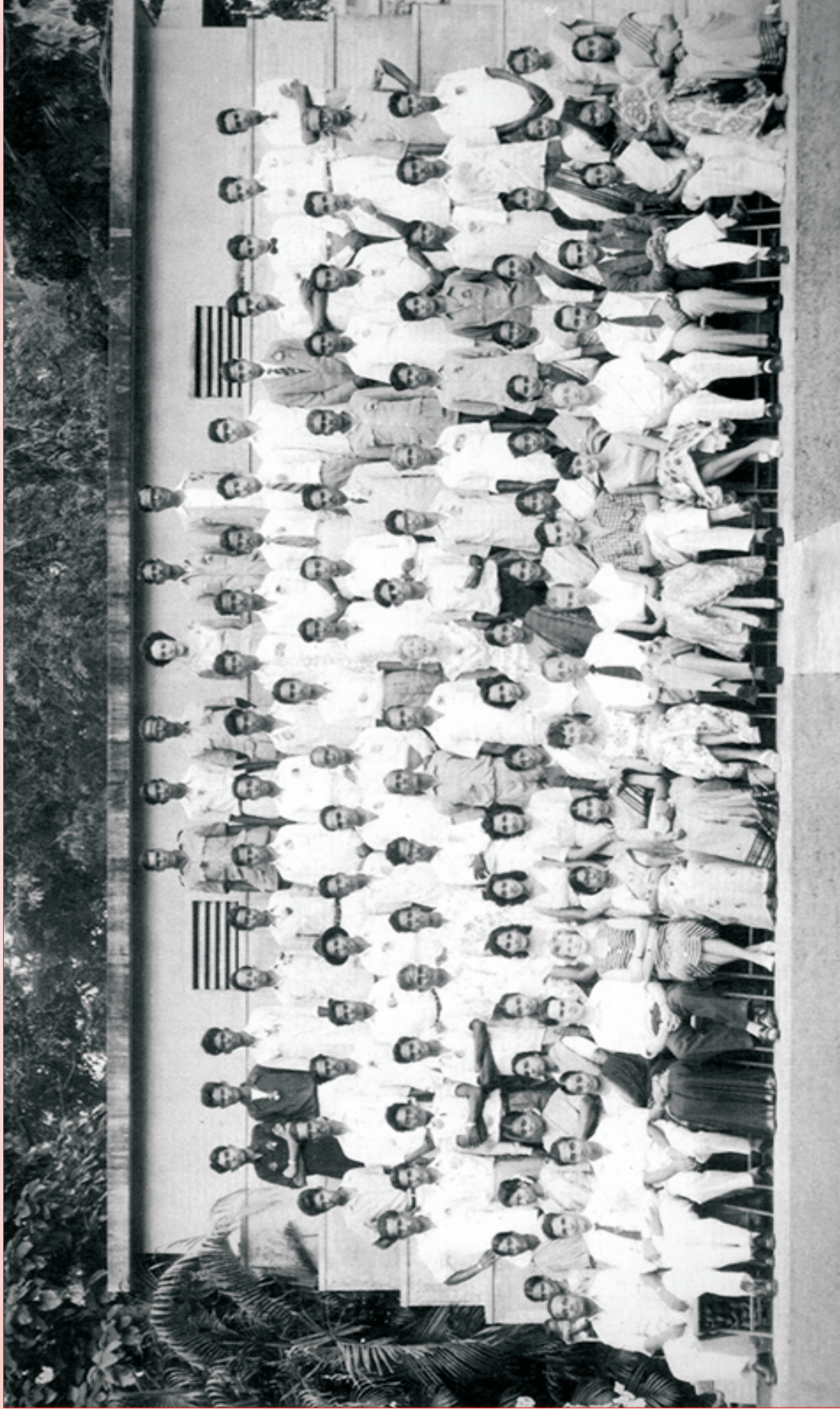
WE are all very grateful for the personal interest you took in every one of us. In your eyes no one was unimportant or insignificant. You always had a disarming smile, a boisterous greeting and a mischievous comment for everybody. Your indefatigable industry, your insistence on perfection and your ability to create team spirit have mainly contributed to the fame of this Centre. Your excessive zeal and drive, while they might have upset us occasionally, certainly taught us that the road to success is not an easy one. Your magnanimity in giving people the impression that they were doing you a great favour, even when you were doing the major part of the work, certainly needs to be emulated. Your far-sighted policies, balanced and unemotional judgment, ability to make your point lucid with plenty of figurative language and sarcasm added in for good measure and, above all, your tact in handling all sorts of delicate situations can never be forgotten by any of us.

ON the personal side, your name will always conjure up in our mind the vision of a tall, handsome man with long strides, a buttonless handloom shirt, a basket containing three flasks of tea, a pocket bulging with correspondence and a mouth full of chewing gum. We are sure your first love is working in the field of tuberculosis and when you are not writing up reports you are probably driving to Madanapalle at break-neck speed with pretty Mrs. Fox by your side. In this connection we would like to thank Mrs. Fox for the very great interest she took in your work and in our project. We are very sure that without her active cooperation, this Centre would not have won so many plaudits from people all over the world.

IN conclusion, we feel that the best way in which we could express our appreciation of all that you have done for us and our country is to maintain the very high standards you have set for us, to toil hard and long with your successor Dr. Stott, and to add fresh laurels to the fame of the Tuberculosis Chemotherapy Centre. We hope that, though in England, you will continue to give us the benefit of your advice and experience and that, in the not too distant future, you will visit us in the capacity of a WHO consultant. For the present, however, we would just say Bon Voyage and Au revoir to both you and Mrs. Fox.

MADRAS
 20th January, 1961

Very cordially yours,
 Staff of the Tuberculosis Chemotherapy Centre



**Tuberculosis Chemotherapy Centre,
Spur Tank Road, Madras**