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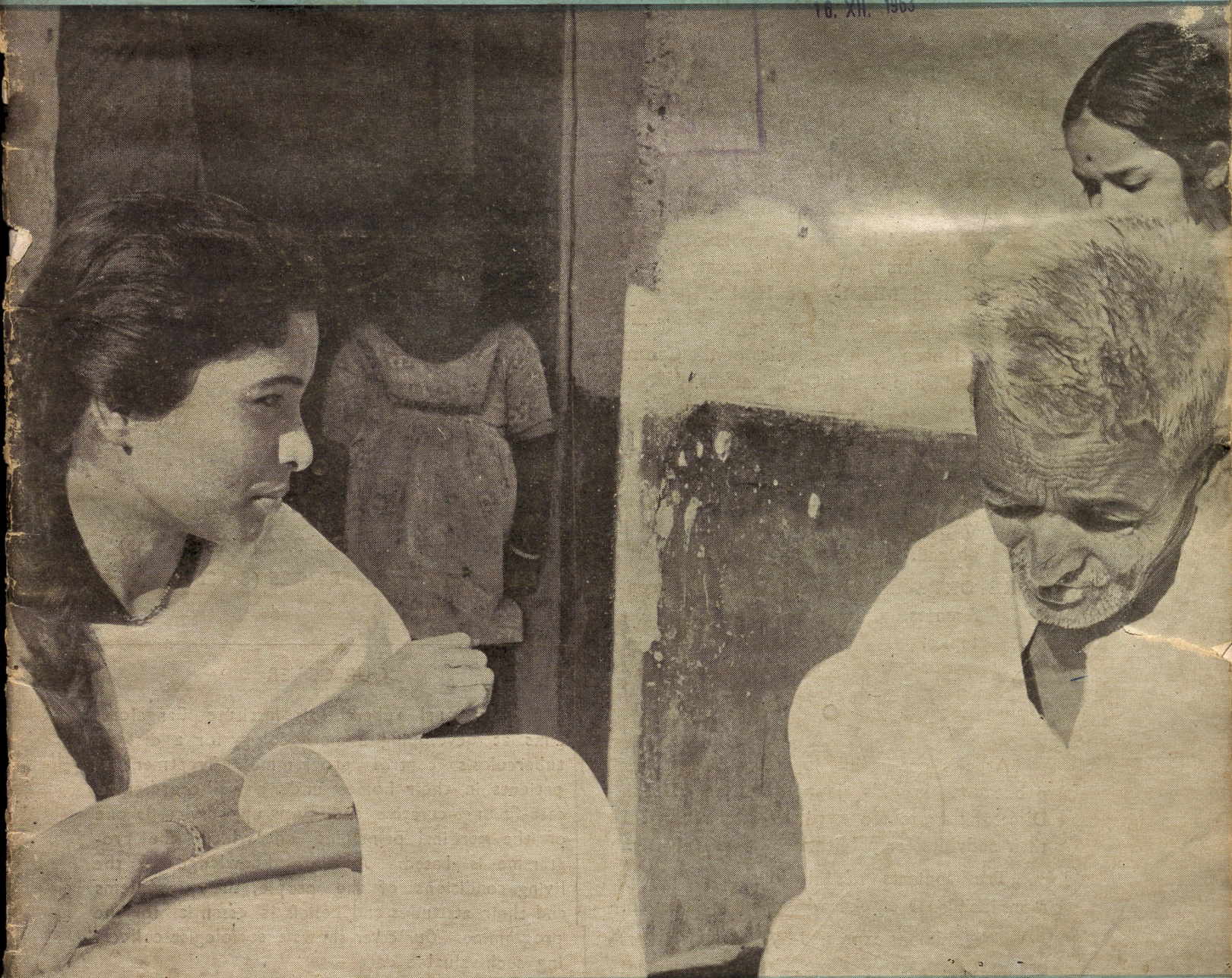
VOLUME VII

St. John's Medical College 34

OCTOBER 1963

NUMBER 10

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This Month

**Tuberculosis Control in India
Hospital for Mental Diseases**

SWASTH HIND

Objectives

Swasth Hind (Healthy India) is a monthly journal in English published by the Central Health Education Bureau, Directorate General of Health Services, Ministry of Health, Government of India, New Delhi. Some of its important objectives and aims are to :

REPORT and interpret the policies, plans, programmes and achievements of the Central Ministry of Health.

ACT as a medium of exchange of information on health activities of the Central and State Health Organizations.

FOCUS attention on the major public health problems in India and to report on the latest trends in public health.

KEEP in touch with health and welfare workers and agencies in India and abroad.

REPORT on important seminars, conferences, discussions, etc., on health topics.

Articles on health topics are invited for publication in this journal. State Health Directorates are requested to send reports of their activities for publication.

The contents of this journal are freely reproducible. Due acknowledgment is requested.

The opinions expressed by the contributors are not necessarily those of the Government of India.

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OUR COVER

The National Tuberculosis Institute, Bangalore, aims at developing a methodology for a district tuberculosis control programme. Treatment of patients in their homes under a well-coordinated case-finding, curative and follow-up service is one of the cardinal principles on which the programme is based. Accurate knowledge of the living conditions of the people, their problems and their attitudes and beliefs is essential for the programme. Our cover shows a sociologist collecting such valuable data.

Tuberculosis Control in India

Dr N.L. Bordia

It is a common knowledge that tuberculosis is a stupendous problem in our country. Its immensity can be judged by the fact that we have in our country a little over five million patients spread out not only in the towns and cities but also in the villages. Of the six lakh villages, almost no village is free from it.

Before independence, there were neither specific methods to control tuberculosis nor to effectively cure those who developed the disease. Even then, we had been developing our tuberculosis services by

undertaken to see how the newer drugs could be utilized.

By the end of the First Five Year Plan in 1956, a population of 170 million persons below the age of 25 was covered. Of this population, 71.5 million persons were tuberculin-tested and 24.5 million were vaccinated. We could achieve 82 per cent of the expected target. The United Nations Children's Fund and the World Health Organization assisted us in this campaign by providing equipment, by helping in the establishment of BCG Vaccine Labora-

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First Plan Schemes

The First Five Year Plan concentrated on nationwide mass BCG Campaign as it was considered to be the most widely applicable preventive against tuberculosis both in rural and urban community. Establishment of tuberculosis clinics and expansion of domiciliary treatment services was also planned. Training and Demonstration Centres at Delhi, Patna and Trivandrum were established and beds were provided to isolate advanced cases. Research was

provided subsidy to the State Governments for sixty clinics in the form of X-ray and laboratory equipment and the States in their turn provided the buildings for the clinics and technical staff to run them.

Training

In order to expedite the training of medical and para-medical personnel and to organize anti-tuberculosis work on scientific lines in the States, the National Tuberculosis Institute was established in Bangalore in 1959. At the same time, training and demonstration centres at Nagpur, Bangalore, Hyderabad, Amritsar and Agra were established.

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Before independence, there were neither specific methods to control tuberculosis nor to effectively cure those who developed the disease. Even then, we had been developing our tuberculosis services by opening clinics which were to be the centres of diagnosing tuberculosis in the early stages so that it could be cured readily. We had then only 6,000 beds in the tuberculosis hospitals and sanatoria to accommodate the sick.

Partition of the country considerably added to the tuberculosis problem of India. Post-war stress and strain, influx of refugees, poor housing, overcrowding, lack of nutrition and debilitating diseases like malaria added fuel to the fire. The National Government had then started drawing planned development schemes for the country. Better tools for the treatment and control of tuberculosis had by then been developed in the world. New drugs like streptomycin, paraminosalicylic acid and isoniazid had been discovered one after the other and BCG vaccination had been introduced.

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undertaken to see how the newer drugs could be utilized.

By the end of the First Five Year Plan in 1956, a population of 170 million persons below the age of 25 was covered. Of this population, 71.5 million persons were tuberculin-tested and 24.5 million were vaccinated. We could achieve 82 per cent of the expected target. The United Nations Children's Fund and the World Health Organization assisted us in this campaign by providing equipment, by helping in the establishment of BCG Vaccine Laboratory at Guindy, near Madras and by providing technical personnel to assist us. By the end of the First Five Year Plan, India's BCG Campaign was the world's largest one. During the same period, 55 new Tuberculosis Clinics were established.

Second Plan

During the Second Five Year Plan, the Campaign was intensified and the Central Government gave subsidy to the States for the development of tuberculosis services. By the end of the Second Five Year Plan, 150 million persons had been tuberculin-tested and 50 million vaccinated. The UNICEF continued to provide assistance for the Campaign.

During the Second Plan, the Central Government provided subsidy to the State Governments for sixty clinics in the form of X-ray and laboratory equipment and the States in their turn provided the buildings for the clinics and technical staff to run them.

Training

In order to expedite the training of medical and para-medical personnel and to organize anti-tuberculosis work on scientific lines in the States, the National Tuberculosis Institute was established in Bangalore in 1959. At the same time, training and demonstration centres at Nagpur, Bangalore, Hyderabad, Amritsar and Agra were established.

More beds were provided for treatment and isolation of tuberculosis patients. By the end of the Second Plan, our total bed strength was 25,748.

Research

All through the Plans, research in tuberculosis held an important field. The research consisted of two types: fundamental research and field research. Fundamental research was developed at the Chemotherapy Research Centre, Madras, with the help of the Indian Council of Medical Research, the British Medical Research Council and the World Health Organization. This centre has done fine work in revealing that if effective drugs are made available to patients, their treatment could be done as well in the home as in a sanatorium. Even the danger to the family members and other contacts of the home-treated patients is so minimised that there is no difference in the development of disease among them as compared with contacts of those patients treated in the sanatorium. Thus, the main problem today is effective drug treatment of patients. It is immaterial whether the patients stay in their homes or in sanatoria provided that they take effective drugs as long as necessary. Complicated cases or those requiring surgery have still to go to the hospitals, as such special measures cannot be carried out in the home. Thus, effective treatment of tuberculosis patient is the best applicable tool for prevention of tuberculosis in India.

For field research, a Centre was established at Madanapalle in South India where a population of about 50,000 within a radius of ten miles was chosen for determining the feasibility of application of tuberculosis control measures on a community basis. This study is still going on and has yielded very useful information on the epidemiology of tuberculosis. It has proved that if patients are treated by drugs even in their own homes, deaths due to the disease will be reduced to a very low percentage.

Model Programmes

The National Tuberculosis Institute is developing a methodology for the organization of anti-tuberculosis work in the community. It has developed model programmes to demonstrate the organization of a Tuberculosis Control Service in a district. So

far nearly 400 personnel including doctors, health visitors, laboratory technicians, X-ray technicians, statisticians, BCG workers, etc., have been trained in this Institute within the last three years. Training consists of team work whereby a team, consisting of trainees of various categories, works in a centre so that on return they could continue to work together, start a centre and apply the methods taught at the Institute to a new district.

Third Plan Progress

Health is a State subject. Execution of tuberculosis plan schemes is primarily the responsibility of the States. The Government of India is contributing 75 per cent of the cost of establishment and 50 per cent of the running cost of clinics and isolation beds during the Third Plan period. The Government of India also assists the State Governments in providing training facilities. In other words, the Tuberculosis Plan schemes are Centrally-aided schemes.

In the Third Plan, we have visualized a coverage of 100 million persons below the age of 25 years by BCG vaccination, establishment of 200 new clinics or upgrading them, development of five training and demonstration centres, provision of 25 Mobile X-ray Units and establishment of 5,000 isolation beds.

So far in the current Plan, 34 million persons have been tested and 13 million have been vaccinated. Newer methods of BCG vaccination by approaching the population in their homes by going from door-to-door has been introduced. This has achieved a higher percentage of coverage. Freeze-dried vaccine has been developed; this will not require refrigeration in contrast to liquid vaccine now in use.

Forty-three new clinics have been established. Many of these have been assisted by supplies from the UNICEF. Transportable X-ray units and laboratory equipment have been procured from the UNICEF and have been installed in 18 centres.

Tuberculosis Training and Demonstration Centres have started functioning at Agra, Calcutta and Ahmedabad. New buildings are ready at Cuttack, Srinagar and Ajmer for the establishment of new training centres. The Government of Madras has
(Continued on page 305)

National Institute of Communicable Diseases Inaugurated

DR Sushila Nayar, Union Health Minister, inaugurated the National Institute of Communicable Diseases in Delhi on 30 July, 1963.

She said: One of the major tasks of the National Government since Independence has been the raising of the health standards of the people. Significant advances have been made towards the control of some diseases and human suffering is being progressively reduced. The inauguration of the National Institute of Communicable Diseases is a landmark in the history of health care in India.

malaria and smallpox eradication in the next few years and thus release our energies for taking up a vigorous fight against other enemies. For instance tuberculosis is being tackled on a national basis, but it cannot be said we have taken up tuberculosis control programme on a comprehensive national coverage basis. It might be possible to do so before too long. Programme for research and control of tuberculosis, filaria, leprosy, venereal diseases, and other communicable diseases is being advanced. The progress of the progress.

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The smallpox eradication programme is gaining momentum. It is hoped that we can make a success of

Advances in Disease Control

Spectacular advances have been made by many countries in control of most of the communicable diseases. So little is the incidence of some of these diseases in some of the advanced countries that the medical students and the average medical practitioners are totally unfamiliar with them. India has still far to go in the amelioration of human suffering and mortality due to preventable communicable diseases, not to talk of positive health. Apart from improvement in social and economic conditions, provision of protected water supply and drainage, there is an urgent need to determine the load of these communicable diseases in the country,

communicable diseases which our investigations have evolved. It remains to be seen whether the incidence of these diseases is scanty. The incidence of malaria in Mysore and intensive operations.

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She said: One of the major tasks of the National Government since Independence has been the raising of the health standards of the people. Significant advances have been made towards the control of some diseases and human suffering is being progressively reduced. The achievements so far are but a small proportion of what is yet to be accomplished.

India with a population of about 440 million, and with a rapid rate of increase has several major health problems. The Mudaliar Committee laid stress on health protection both by curative and preventive measures, provision of adequate supply of protected water, care of the mother and the child, improvement of nutritional standards and provision of suitable housing and environmental sanitation.

The load of communicable diseases in India is great. Diseases of various aetiological groups like viral, rickettsial, protozoal, helminthic, etc., are widely prevalent. The Malaria Eradication Programme is in an advanced stage and will be completed in the near future, if all goes well. Any complacency at this stage is dangerous. Though transmission has been arrested and the spraying of DDT withdrawn in areas covering a population of over 250 million and intensive surveillance operations are being carried out in those areas, the task of the National Malaria Eradication Programme is by no means complete. The next few years will be the most crucial period in the programme. As one eminent malariologist put it, there is no such thing as "malaria almost eradicated." This is as hazardous as saying, "Tapeworm infection has been almost eliminated—only the head has to be expelled."

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malaria and smallpox eradication in the next few years and thus release our energies for taking up a vigorous fight against other enemies. For instance tuberculosis is being tackled on a national basis, but it cannot be said we have taken up tuberculosis control programme on a comprehensive national coverage basis. It might be possible to do so before too long. Programme for research and control of tuberculosis, filaria, leprosy, venereal diseases, trachoma and endemic goitre, and some of the insect-borne virus diseases are also in progress.

There are a number of other communicable diseases prevalent in the country about which our knowledge is meagre. They need to be investigated and methods of their control have to be evolved. Even the problems connected with them remain to be defined. Our knowledge of the zoonotic reservoirs of some of the communicable diseases is scanty. Experience during the last decade on the incidence of certain viral diseases like the 'Jamshedpur disease' and 'the Kysanur forest disease' in Mysore have stressed the need for vigilance and intensive epidemiological studies of such local problems.

Advances in Disease Control

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investigate, formulate and implement measures for their control and train personnel therefor.

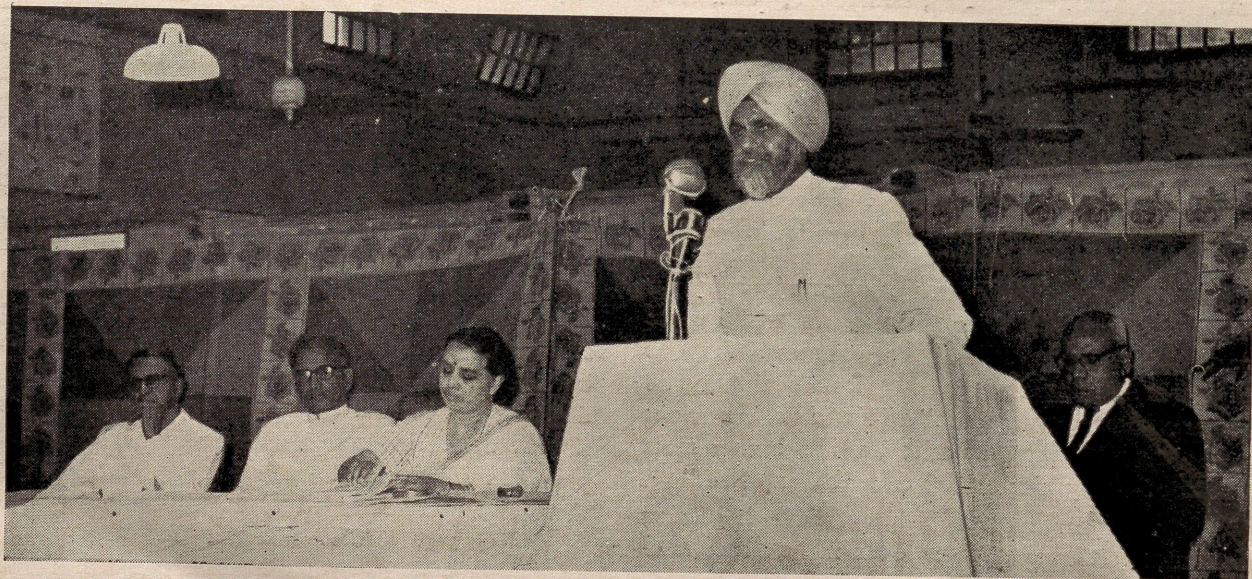
The Malaria Institute of India, which is today entering a new era in its record of service, with its research and teaching experience of more than half a century, will be taking up a new role and enter into a wider field of activities. The original objectives with which the Institute was established can be considered to have been fulfilled with the launching and progress of the National Malaria Eradication Programme. With malaria on the way to complete eradication, the scope of the Malaria Institute of India, whose activities have been mainly restricted during the last five decades to malaria and filaria, is today being widened and it is being reborn so to say as *The National Institute of Communicable Diseases*. The Institute will now be taking up research and training in the field of many communicable diseases other than malaria. It will continue to support the malaria eradication programme by research, training of personnel and evaluation of its progress, till the targets of complete eradication are achieved. The re-orientated objectives of the Institute have also been given in great detail by the Director. This Institute has a

very realistic scheme of work before it.

Environmental Sanitation

Environmental sanitation and personal hygiene have an important role to play in the prevention and control of communicable diseases. There is a tendency to resort to insecticides as a matter of routine for controlling insects, insect-borne diseases and insect pests of food and agriculture. The large-scale use of modern synthetic insecticides in vector control programmes and for control of agricultural pests is already producing its repercussions. A variety of insects like some mosquitoes, fleas, bed bugs and lice have shown resistance to one or more of such insecticides. This is posing operational difficulties for the present and is not good for the future. Analysis of a set of samples of human fat from India revealed that there was a greater range of DDT stored in these samples than was obtained in human fat samples from America or England. The quantity of DDE (a metabolite of DDT) was much less than DDT, while the findings in American fat samples were the reverse. What the cause and effect of these findings are have to be investigated. It is far better to prevent the breeding of insects than to kill them with insecticides.

Dr M.S. Chadha, Director-General of Health Services, welcoming the guests at the inauguration of National Institute of Communicable Diseases. Seen in the picture are (Left to Right) Shri R. K. Ramadhyani, Secretary, Ministry of Health, Dr D.S. Raju, Deputy Minister of Health, and Dr Sushila Nayar, Union Minister of Health.



Proper maintenance of environmental sanitation will by itself control the breeding of most of these insects, be they vectors of disease or mere pests. Insecticides should be used only as a supplementary measure and in emergencies.

The expansion of the Malaria Institute of India into the National Institute of Communicable Diseases is only the first step in the implementation of the country's determined fight against communicable diseases. The Mudaliar Committee has recommended that "there should be an organizational set-up representing the Central Government and the States in each Zone to deal with Communicable Diseases on the lines of the Regional Organizational set-up of the National Malaria Eradication Programme." Further expansion of the organization will be considered as time passes.

Outstanding Contributions

The Malaria Institute of India has maintained a uniformly high level of efficiency and has made outstanding contributions so far in the fields it has covered. There is no doubt that the new Communicable Diseases Institute with its established traditions, will play a great part in the study, teaching and evolution of methods of control of communicable diseases in the country.

The international and the bilateral organizations like the World Health Organization, the U.S.A.I.D., the Rockefeller Foundation, and others have played important role in the support of our enterprise in the field of health. The material aid from the U.S.A.I.D. in support of the National Malaria Eradication Programme is well-known and it is a matter of happiness that the interests of these organizations in the new objectives of the Institute remain sustained.

Dr. M.S. Chadha, Director-General of Health Services, welcomed the guests and read out messages received from the President, the Vice-President, the Prime Minister and other distinguished leaders. A number of former directors of the Institute had also sent messages.



A view of the audience at the inaugural function of the National Institute of Communicable Diseases

Dr S.P. Ramakrishnan, Director of the Institute, in his speech traced the evolution of the Institute. He paid tributes to Sir Rickard Christophers and said: "These functions of the Institute were laid down as long ago as 1909 by Sir Rickard Christophers. The only effort on my part has been to substitute the words "communicable diseases" instead of the word "malaria" in everyone of these objectives. The qualities of a seer were obviously combined in this great scientist—Sir Rickard Christophers—who foresaw long into the future and who happily is still actively contributing through research and whose inspiring guidance continues to be available to us. It will be the earnest endeavour of every member of the team associated with the present and future of this Institute to maintain its great traditions by their untiring and zealous work to accomplish the targets defined from time to time."

THE Hospital for Mental Diseases, Kanke, Ranchi, formerly the European Mental Hospital, is one of the premier institutions of its kind in India.

The Hospital for Mental Diseases was established in 1918. It was originally intended only for European mental patients. Since 1948, the hospital is open to all citizens of India. Up to the end of May 1954, the hospital was under the management of the Board of Trustees with representatives of the participating State Governments constituting the Board. From June 1954, the hospital was taken over by the Government of India. Since then improvements have been made to the Institution, and the hospital has been equipped and staffed today on the most progressive lines.

Administration

The hospital is administered by the Union Ministry of Health. It is assisted by an Advisory Committee, consisting of : Secretary of the Ministry of Health as Chairman ; Deputy Director-General of Health Services (Medical), New Delhi, eight representatives of West Bengal ; two representatives of Bihar and one representative each of Uttar Pradesh, Orissa, Assam and Delhi as members and Medical Superintendent of the Hospital as member-secretary.

The total expenditure of the hospital is borne by the Union Government. The participating State Governments, for whom beds have been reserved at the hospital, pay charges in respect of the patients admitted against the State quota of beds on per capita basis. The patients have to bear only a fraction of the charges. Charges in respect of independent patients are borne in full either by the patients or their relatives.

Distribution of Beds

The hospital has 503 beds. Thirteen beds are reserved for the Central Government employees and the members of their families. Four hundred and fourteen beds have been allocated to various States/ Administrations and filled through the Directors of Health Services. Eighty-nine beds are for independent patients.

Hospital for Mental Diseases

The hospital is meant primarily for the treatment of acute cases. Mental defectives and epileptics are not ordinarily admitted into the hospital unless they

Distribution of beds

Central Government (reserved for Central Government servants and members of their families).	...	...	13
West Bengal	...	...	280
Bihar	...	...	50
Uttar Pradesh	...	...	25
Madhya Pradesh	...	...	4
Maharashtra	...	...	3
Delhi	...	...	10
Assam	...	...	6
Tripura	...	...	10
Himachal Pradesh	...	...	5
Rajasthan	...	...	1
Panjab	...	...	1
NEFA	...	...	1
Nagaland	...	...	5
Beds for Independent patients	...	...	89
		Total	503

show behaviour disturbances. Children below 10 years are not admitted for want of suitable facilities in accommodation. Cases needing simple custodial care are not admitted. The guardians of mental

patients are advised to write to the Medical Superintendent in advance about the condition of their wards and seek his advice regarding the suitability of the case for admission and treatment in the hospital. Wherever possible, the patient may be brought to the hospital for preliminary examination in the Out-patient Department. This is naturally by far the best method of assessing the nature and severity of the case and advice regarding admission or treatment as an out-patient become easier and more satisfactory.

Out-patient Department

An Out-patient Department has been started at the hospital since April 1958. The Out-patient Department is open from 10 a.m. to 12 noon on five days in a week from Monday to Friday. All the diagnostic and therapeutic facilities of the hospital and the services of the specialists are available for patients in the Out-patient Department. Most cases of psychoneuroses, early psychoses, psychosomatic problems, neurological cases, problem of psychological adjustment in home and professional life, problems in connection with vocational choice, etc., can be treated satisfactorily in the Out-patient Department.

Child Guidance Clinic

The hospital runs a Child Guidance Clinic at the Sadar Hospital, Ranchi, and the St. Xavier's College, Ranchi. The clinic is open once a week on Monday from 4 p.m. to 5.30 p.m. Children suffering from behaviour problems, learning difficulties, emotional maladjustment, etc., are examined, investigated and treated at the clinic by a specialist-team from the hospital, comprising a psychiatrist, two psychologists and a psychiatric social worker. If necessary, the patients attending the Child Guidance Clinic may be investigated at the hospital without any extra charges. The services at the Child Guidance Clinic are given free of charge.

Method of Admission

The patient can be admitted either as a voluntary boarder, or as a certified patient. When he comes as a voluntary boarder, he is required to sign an application form for admission in the presence of the medical officer. The guardian of the patient,

undertaking the payment of the maintenance charges, has to submit a written indemnity bond in the prescribed proforma, guaranteeing to pay the maintenance charges of his ward regularly.

A certified patient can be admitted after procuring a Reception Order from the Magistrate of the area the patient hails from. Details of methods of certification of the patient, may be obtained by writing to the Medical Superintendent of the Hospital. It is advisable to admit the patient on a voluntary basis wherever possible. (Details of documents to be produced while admitting a certified patient may be obtained from the hospital).

The following documents should be produced at the time of admission of a certified patient :

- (i) A Reception Order from a Magistrate, in the prescribed proforma, which should bear the Court Seal.
- (ii) Application for Reception Order with a statement of the particulars of the patient in the prescribed form.
- (iii) Two medical certificates in the prescribed form completed by two medical officers, one of whom should be a gazetted medical officer.
- (iv) An indemnity bond executed on stamped paper before the committing magistrate and to be registered guaranteeing regular payment of hospital charges.
- (v) A certificate of physical fitness of the patient to undertake journey to mental hospital.

Separate Wards

There are separate wards for the admission of male and female mental patients. The patients belonging to the States, who have been allocated beds at the hospital, can secure admission on production of a certificate from the Director of Health Services of the State sanctioning a bed out of the State quota. Patients can be allotted independent beds without any restriction of domicile in India. A patient who is unable to get a State quota bed can be admitted to an independent bed. He can be transferred to the State quota bed, if and when he is able to secure sanction from the Director of Health Services of his State. It is

advisable that the patient be accompanied by a close relative who will be able to give a detailed account of the history of the patient's illness and other points needed by the hospital authorities.

Hospital Charges

There are no free beds in the hospital. The charges, however, differ according to the nature of bed (State quota or independent) and the class of bed.

Class	Monthly charges inclusive of the cost of medicine, diets and attendants, where admissible.		No. of attendants provided
	Independent beds	Government quota beds	
I	Rs. 400	Rs. 350	Two
II	Rs. 320	Rs. 200	One
Inter-mediate		Rs. 100	Nil
III	Rs. 200	Rs. 50	Nil

The maintenance charges of the patient include treatment charges, special investigations and drugs, diet and bed-linen. The relatives are advised to deposit money in the hospital at the time of admission for incidental expenses of the patient, like cigarettes, *pan*, etc. Two months maintenance charges have to be paid at the time of admission.

Custody of Valuables

If there are valuables like jewellery, fountain pen, watch, etc., on the patients' person, they are advised to hand them over to their guardians. There is, however, provision for safe custody of these articles in the hospital, but the relatives are advised to leave as few of these valuable articles as possible in the hospital.

Patients' Welfare

The patients are encouraged to write as frequently as possible to their relatives and friends and it is also advised that close relatives of the patients should keep corresponding with them as frequently as possible. Patients can be visited on working days between 10 a.m. to 12 noon and 2:30 p.m. to 4:30 p.m. and on Sundays and holidays between 10 a.m. to 12 noon, unless a visit by the relatives

and friends is specifically prohibited by the medical officers in the interest of the patient.

Discharge

It is increasingly felt by the specialists all over the world that the hospitalization of mental patients would be restricted to the shortest possible time and early discharge of the patients is to be actively encouraged. Over-hospitalization, far from doing good to the patient, will be only prejudicial to his ultimate rehabilitation in society.

Voluntary boarder patients are discharged from the hospital on giving notice in writing of their intention to leave, at least 24 hours before the intended departure. Certified patients, if they are well enough are put up before the visitors' committee of the hospital which meets once a month, and if approved by them, they are discharged to the care of the guardian. Certified patients may also be taken out on parole for two months in the first instance if it is felt advisable by the Medical Superintendent of the Hospital and the Committee of Visitors.

Follow-up

The patients' relatives are requested to keep in touch with the hospital authorities and report periodically about the conditions of their wards and answer any specific questions that may be asked by the Medical Superintendent of the Hospital. This benefits the patients and also helps in assessing the long-term results of the various therapeutic programmes.

Hospital Services

The hospital has a well-equipped Psychological Department with a Psychologist and an Assistant Psychologist who carry out the various diagnostic tests and also participate in individual and group psychotherapy.

The Pathological Laboratory conducts routine and special clinico-pathological investigations.

The diagnostic and therapeutic facilities include: psychological testing with various tests, vocational radiography of the skull, including stereoscopic views of the skull, electro-cardiography guidance, electro-encephalography, B.M.R., estimation, narco-

analysis, psychoanalysis, Carbon-dioxide treatment, individual and group psychotherapy, electroconvulsive therapy, Insulin-coma-therapy, psychosurgery (including cingulectomy), pharmacotherapy, occupational therapy and recreational therapy.

Therapeutic Community Programmes

In line with more progressive institutions of this kind in the West, attempts are made to create a "therapeutic milieu" for the patient when he is in the hospital. With this idea in mind, active efforts are made by the staff to give him a sense of belonging with full considerations to him as an individual in his own right, and the patient is encouraged to voice his feelings through the media of suggestion boxes placed in wards and the patients' Welfare Committee.

Weekly cinema shows (English, Hindi and Bengali) are held in the Recreation Hall. Frequently, concerts, dramas, etc., are also arranged by the patients in the well-equipped stage of the hospital.

The guardians enquiring after the health of patients are promptly replied. Periodical reports are not sent automatically unless asked for each time.

Free and informal relationships with members of the staff are actively encouraged. The patients who are well enough to benefit by attending the staff club are allowed to do so, with a view to enable the patient to gain self-acceptance and prepare him for getting back into social circulation after discharge without any diffidence.

(Continued from page 298)

sanctioned a Training and Demonstration Centre for Madras. The aim is to have one such centre in each State.

Five Mobile X-ray Units are being procured. Of the 5,000 beds provided in the Plan target, about 1,300 have been established.

There are cottages situated outside the hospital where patients are allowed to stay before they are finally discharged. During this period they have the facilities of visiting friends and members of the staff.

Post-graduate Teaching

Since 1 July, 1962, the institution has undertaken training doctors and psychologists to qualify for the D.P.M. and D.M. & S.P. diplomas of Ranchi University. The number of trainees in the D.P.M. and D.M. & S.P. courses are eight and nine respectively.

The hospital staff have brought out a handbook for the training of Psychiatric Nursing Orderlies and it is proposed to conduct a regular course for this purpose in the hospital.

Home for Chronic Patients

The Government has approved of a scheme for admission, treatment and rehabilitation of chronic psychiatric patients. A separate building to house and treat a hundred patients is ready for occupation and the scheme is ready to be put into operation.

It is proposed to have another such Home made for another hundred patients.

All correspondence with regard to the admission of mental patients in the hospital and matters connected therewith should be addressed to the Medical Superintendent, Hospital for Mental Diseases, P.O. Kanke, Ranchi (Bihar). Telegraphic address is "Menthosp: Kanke" and telephone numbers are : Ranchi 707 and 708.

It is with public cooperation, health education of the people and our own determination to control tuberculosis that we hope to achieve our aim as has been done in some of the Western countries.

—*Courtesy* External Services, All India Radio

Hindustan Antibiotics, Pimpri

The Presidential Awards Committee for Public Sector Undertakings, which met in New Delhi on 30 May, 1963 under the chairmanship of Shri Khandubhai Desai, M.P., considered the performances of the Hindustan Antibiotics Limited, and the Indian Telephone Industries, 'Outstanding' but chose the antibiotics factory for the award of the silver and copper shields for the most outstanding performance. A brief report on the activities and working of the Hindustan Antibiotics Limited is published below.

THE Hindustan Antibiotics Limited situated on a 200-acre land at Pimpri, nine miles from Poona, is an undertaking of the Government of India. The factory came into being in 1955 as a result of the tripartite agreement between the Government of India, the World Health Organization and the United Nations International Children's Fund. The initial capacity of the plant was nine million mega units and with the technological development, achieved a capacity of 25 m.m.u. per year in 1957. Expansion of the plant in 1958 resulted in a production capacity of 40 m.m.u. per year which has further been increased to 50 m.m.u. in 1962-63 as a result of technical developments. The estimated production for 1963-64 is 60 m.m.u. which will go up to 84 m.m.u. after the introduction of new strains and plant expansion by 1964-65. The sales for the same period is estimated at Rs six crores.

The sterile finished bulk Penicillin in million mega units produced in the factory over the past five years are 25.20, 33.15, 40.24, 45.53 and 50.00.

Production of Antibiotics

The Streptomycin Plant of the company with a rated capacity of 40 tons per annum, established with the technical collaboration of Messrs. Merck and Company Inc., USA, was inaugurated on the 29 March, 1962 by the Prime Minister of India. This plant is now producing Dihydrostreptomycin Sulphate and Streptomycin Sulphate. Proposals

are afoot to double the production before the end of the financial year 1963-64. The capital cost of the plant which is now Rs 2.15 crores will be Rs 2.75 crores after completion of the expansion.

A plant for production of 1.5 tons of broad-spectrum antibiotics of the Tetracycline group at a cost of Rs 10 lakhs is now fully engaged on production of Chlortetracycline.

Another important development is the discovery of antifungal antibiotics like Hamycin and Dermos-tatin by the company's research laboratories. A project for establishing their manufacture costing Rs 30 lakhs has been approved for implementation. All these expansion activities including Streptomycin project have been financed from the company's earnings.

When all these schemes materialise, the company will be producing antibiotics worth Rs four crores a year.

The company has a complement of 1850 employees, more than 50 per cent of whom are housed in the company's residential colony having all modern amenities. The subscribed capital of the company is about Rs 2.47 crores but the block capital as on 31 March, 1963 stands at Rs 5.3 crores. These assets are created by ploughing back the surpluses into the industry, after meeting all statutory obligations like income-tax, property tax, super-tax, etc.

A production bonus of Rs. 2.83 lakhs was distributed to the staff and workers in respect of the working year 1961-62.

Quality Control

All raw materials required for penicillin manufacture are tested and used only if they are found acceptable.

During the process of fermentation and extraction samples are drawn every few hours and tested for proper growth, sterility and other properties.

The non-sterile penicillin, before preparation of the final products, is tested for potency, colour, etc., and only those batches which conform to standards are utilized for further processing.

After the final sterile product is ready in bulk, representative samples are drawn by the Quality Control Department from every container for the purpose of testing. There is, therefore, cent per cent sampling for Quality Control at the bulk stage.

Only those batches which pass all the tests prescribed for quality control are taken up for further sub-division and vialling. Others are rejected for re-processing.

Two-thirds of the bulk penicillin tested and passed, is supplied in bulk to bottlers like Glaxos,

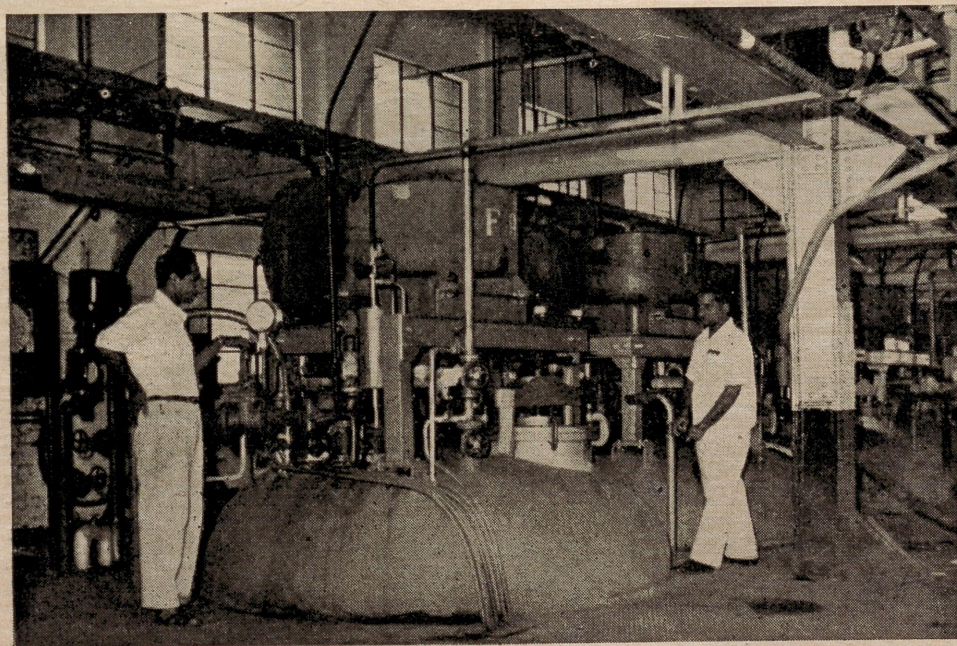
Pfizers, Sarabhai, etc. The bulk supplies are accompanied by test reports. The bottlers again test these supplies in their own laboratories and accept them if they conform to specifications.

The remaining one-third is taken up for vialling at Hindustan Antibiotics.

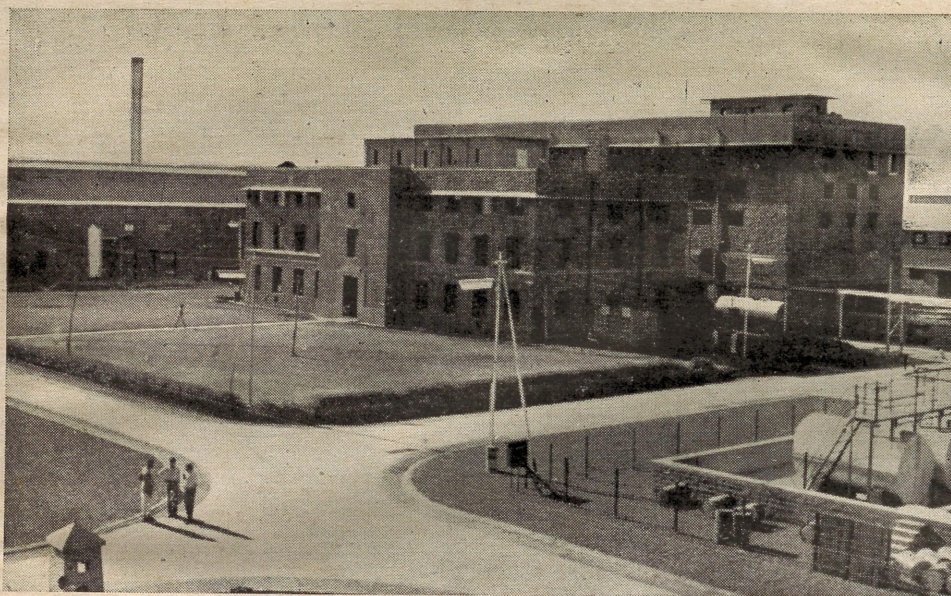
Vials of penicillin of different types are filled in sterile rooms in automatic and semi-automatic filling lines, entirely untouched by hands. As the vials come out of the filling line, two vials are drawn at regular intervals of about two minutes as representative samples of the batch for carrying out the tests once again. Each batch consists of about 30,000 vials.

All the vials after filling remain in quarantine until the test reports are received. Only those batches which pass all the tests are released for labelling, packaging and public consumption. Others are rejected as unfit.

The Indian Pharmacopoeia which generally follows the pattern of the British Pharmacopoeia, is adopted for testing standards and procedures. In addition to this, some desirable features of U.S. Pharmacopoeia are also incorporated. The decision of the Quality Control Laboratory on the quality of each batch is final.



**A view of the Fermentors
in the Fermentation Section.**



An exterior view of
Penicillin Factory at
Pimpri.

Besides the quality control exercised at Hindustan Antibiotics, samples are occasionally drawn and sent to Laboratories in India and abroad for testing. The reports received from these institutions generally confirm the good quality of Hindustan Antibiotics products.

Research Laboratory and New Antibiotics

A Research Laboratory well-equipped for research on antibiotics has been established as an important adjunct to the factory costing over Rs 20 lakhs. In the short span of six years of its existence, it has earned a name for itself in the field of Applied Microbiology. A series of high yielding strain of *Penicillium Chrysogenum* have been developed successfully and exploited industrially to increase the production. Imported raw materials have been substituted by indigenous raw materials. Modifications introduced in production techniques due to research efforts have caused substantial reduction in the price of antibiotics.

The discovery of antifungal antibiotics Hamycin and Dermostatin, and of new penicillin salt octacillin is an outstanding contribution of Hindustan Antibiotics Ltd. to the antibiotic research. As clinical results are most favourable their manufacture will start soon. "Antipen" an injectible type of

penicillinase has also been developed to treat cases of allergy due to penicillin reactions.

As part of the research, studies are carried out on the keeping qualities of the various types of penicillin manufactured and bottled by other pharmaceutical firms in relation to those manufactured by the Hindustan Antibiotics Ltd. The data helps to determine the maximum life periods for penicillin under storage in tropical condition and to make improvements from time to time in the filling and packaging conditions.

The Research Laboratory also developed new process for the manufacture of Tetracyclines using new raw materials, species and strains of microorganisms. The factory is now producing Chlorotetracycline.

Training

Besides the research work mentioned above, the Research Laboratory has been training students for post graduate research in mycology, biochemistry, organic chemistry and microbiology. It also publishes a technical quarterly journal called *Hindustan Antibiotics Bulletin*, which has received wide recognition both in India and abroad.

(Continued on page 321)

SMALLPOX ERADICATION IN GUJARAT

Dr T.B. Patel, Dr V.H. Thakore
and Dr P.A. Vora

GUJARAT State, like all other States in India, has also been having periodical peaks of high and low endemicity of smallpox. The year-wise statement given below indicates the number of deaths due to smallpox and the number of people vaccinated and re-vaccinated from 1951 to 1962.

TABLE I

Year-wise Statement of Recorded Deaths of Smallpox with Number of Vaccinations

Year	Population	Deaths	Death rate	Primary Vaccination	Re-vaccination
1951	11768583	656	0.05	412359	167615
1952	12182006	2070	0.16	446061	993649
1953	12492073	738	0.06	427975	729538
1954	12802140	339	0.03	439436	1321197
1955	13112207	735	0.05	435052	1687586
1956	13422274	1417	0.15	432507	2651974
1957	19030761*	3953	0.20	922565	1979179
1958	19067830	8256	0.43	627675	3217258
1959	19904899	1548	0.10	654621	2507482
1960	20341968	1548	0.10	671207	2501170
1961	20612285	6040	0.30	760299	3339248
1962	21216110	416	0.02	892635	4556026

*Sudden rise in population is due to the merger of six districts of Saurashtra and Kutch. In these districts protection by vaccination and registration of births were very unsatisfactory.

The main reason for such periodical endemicity is the periodical accumulation of a large number of unprotected child population. Once infection is introduced in such a population, there is the usual

flare-up, with more than 80 per cent of cases occurring among the unprotected child population and a few occurring among the older age-groups, many of whom were vaccinated during their early childhood. In the urban areas, it is found that on an average there was about 25 per cent under-registration of births, and of the registered births about 25 per cent escaped vaccination. In the rural areas, some of the villages were not visited even once during the year. In the villages visited by the vaccinators, a good number of children escaped vaccination either because of poor registration or because they were not available or were ill at the time of the vaccinator's visit. Since the vaccinators could not visit a village more than twice or thrice a year, the number of unprotected children went on accumulating, preparing the ground for an epidemic outbreak of smallpox. The table below shows the births registered with vaccinal status in urban areas of the State from 1957 to 1961.

TABLE II

Births Registered with Vaccinal Status in Urban Areas 1957-61

Year	No. of registered births	No. of vaccinated children below one year	Percentage of coverage
1957	39092	34381	87.90
1958	39640	30094	76.00
1959	69226	57354	82.80
1960	85413	70851	83.80
1961	91740	76362	83.20

Planning the Programme

The newly-formed Gujarat State has 17 districts with a total population of 20.6 million. As the mass vaccination of the entire State has to be completed within two years, it was decided to divide the districts into three groups and complete the programme in each group within eight months.

Proposals for sanctioning six teams were submitted to the Government. Each team (See Table III for the details of the staff) was to cover one million population within a period of eight months and thus it was anticipated to cover the entire State (1961 population of 20.26 million) within a period of two years. Detailed date-wise programme of visits by the enumeration, vaccination, mopping and checking teams was drawn up for each of the six districts, viz., Junagadh, Jamnagar, Rajkot, Surendranagar, Bhavnagar and Amreli. Arrangements were made so that each District Health Officer could indent directly his requirements of freeze-dried vaccine and store the same in the refrigerators at District or Taluk headquarters. From the headquarters, vaccine was supplied to the teams in thermos flasks.

Health Education

Two months prior to the starting of the actual campaign, an intensive health education programme was taken up in the six districts of Rajkot Division. Circular letters were addressed to all heads of departments, Presidents of District Local Boards, Members of Legislative Assembly and Members of Parliament, in the districts with a request to give their fullest cooperation to the campaign. At the regional and district level coordination meetings, opportunities were availed of to explain the objectives of the programme. Meetings were organized at district, taluk and village levels wherever possible. Voluntary organizations like Indian Medical Association, Bharat Sevak Samaj, etc., were also contacted to ensure their cooperation. Full use was made of posters, pamphlets and films to spread the message to as many people as possible.

In the pattern of staffing recommended by the Ministry of Health, there was no separate provision of staff for checking the results of vaccination and

for mopping up operations. Since both these operations were considered very important for the success of the programme, checking and mopping teams were formed from the regular staff of the district and from the staff deputed from the adjoining districts.

Implementation

The National Smallpox Eradication Programme was started on 1 July, 1962 in the six districts of Rajkot region; viz., Amreli, Bhavnagar, Jamnagar, Junagadh, Rajkot and Surendranagar.

TABLE III

Staffing Pattern of each Unit and Total Staff sanctioned in six Units in Gujarat State

Designation of the staff	No. of staff in each team	Total staff of six teams sanctioned
Supervising Medical Officer	1	6
Para-medical Assistant	1	6
Health Educators	2	12
Sanitary Inspectors	12	72
Vaccinators	60	360
Enumerators	12	72
Attendants	12	72
Senior Clerks	1	6

The total population of these districts is 5.7 million. The teams moved from village to village and house to house to vaccinate each and every person. In the early beginning, the total coverage was 45 per cent only. This was partly due to the unwillingness of the people to get themselves vaccinated and also due to the unfavourable reports about the Russian vaccine that appeared in the newspapers. However, by persuading the people and filing cases under Bombay District Vaccination Act and Epidemic Diseases Act, it was possible to achieve a coverage of 56 per cent within eight months. As the coverage was not satisfactory, the programme was extended for two months more, and special efforts were made to reach the target. Priority was given to villages where the coverage was less with special emphasis on those having low

primary vaccination coverage. The district-wise coverage of primary and re-vaccination in these six districts is given in Table IV.

are continued to reach 80 per cent target with the regular staff under the District Health Officers.

TABLE IV
Coverage of Primary and Re-vaccination in six Districts (Phase I), Gujarat State

Name of the District	Population Covered	Primary Vaccination	Percentage	Re-vaccination	Percentage	Total	Percentage
Amreli	667823	49571	7.4	371846	55.8	421417	63.2
Bhavnagar	1119485	88289	7.8	561460	50.2	649749	58.0
Jamnagar	828419	80578	9.7	479936	58.0	560514	67.7
Junagadh	1245643	113500	9.1	696518	55.9	810018	65.0
Rajkot	1208519	93227	7.7	637652	52.8	730879	60.5
Surendranagar	663208	51908	7.9	396036	59.7	447944	67.6
Railway Colonies		10696		53947		64643	
Total	5733047	487769	8.5	3197395	55.8	3685164	64.3

It will be apparent from the Table IV that primary vaccination coverage has been 8.5 per cent while the normal birth-rate is four per cent (40 per thousand population). This would suggest that all children under one year of age have been vaccinated and in addition the same number of children over one year which might have left out have also been vaccinated. This figure practically comes to a coverage of all primary vaccination in the region.

Prior to the implementation of the Eradication Programme in the above mentioned districts, smallpox was prevailing in an epidemic form in many of these districts, and 1.3 million people (23 per cent of the total population) were covered by mass vaccination. It is quite possible that some of these persons who were vaccinated during the epidemic might have also been re-vaccinated during the Programme period. However, since no family records of persons vaccinated were maintained and the work was done with liquid lymph, these figures have not been included in the total coverage of population during the programme. A complete analysis of town-wise and village-wise coverage has been carried out and attempts

During the second phase which was started from 1 May, 1963, five districts of Baroda Division, viz., Ahmedabad, Banaskantha, Kaira, Panchmahals and Sabarkantha, were taken up under the Eradication Programme. The total population of these districts is 7.5 million.

One of the important developments during this period was the establishment of Panchayat Raj. District Panchayats' Presidents and Chairmen of the Health Committees were contacted and the objectives of the Programme were discussed with them.

Circulars were issued by the District Panchayat Presidents to all the Sarpanchas asking them to give active cooperation and to see that desired target is achieved. In the meeting of the Taluka Presidents, a special lecture was given by the Assistant Director of the Scheme and all Taluk Presidents were requested to prevail upon the Panchayats to give their active cooperation. Meetings of the Sarpanchas were also arranged in various Taluks before starting of the programme.

The cooperation received so far has been encouraging and it is expected that the output of work will be much better in these districts. Actual vaccination work done in these districts is shown in Table V.

TABLE V
Coverage of Primary and Re-vaccination in Five Districts (Phase II), Gujarat State

Name of the district	Census population	Population covered	Primary Vaccination	Re-vaccination	Total	Percentage
Ahmedabad	1060281	628820	16438	349114	365552	56.5
Banaskantha	996144	429107	11213	231330	242543	56.5
Kaira	1977540	827862	27218	398517	425735	51.4
Panchmahals	918587	571636	27639	336380	364019	63.7
Sabarkantha	1468946	317177	22168	183793	205961	64.9
Total	6421498	2774602	104676	1499134	1603810	58.7

The work is still in progress in these districts and will be completed by the end of February 1964 when the remaining districts of the State will be taken up and entire programme will be completed by December 1964.

Age-wise Coverage

With a view to impress upon workers the need for better coverage in specific age-groups, an analysis of 573 cases and 185 deaths due to smallpox was carried out and the results are given below in Table VI.

TABLE VI
Cases and Deaths due to Smallpox by Age and Vaccinal Status

Age-Group	Among vaccinated			Among un-vaccinated			Total	
	Cases	Deaths	Case fata- lity rate	Cases	Deaths	Case fata- lity rate	Cases	Deaths
0 to 1	0	0	0	114	55	48.2	114	55
2 to 10	23	3	13.0	405	135	33.3	428	138
Above 10	8	1	12.5	41	5	12.2	49	6
Total	31	4	12.9	560	195	34.9	591	199

It will be seen from the analysis of the above Table that out of 591 cases and 199 deaths, 542 cases and 193 deaths have occurred in age-group 0-10 years, *i.e.*, 91.7 per cent cases and 97 per cent of deaths occurred in age-group of 0-10 years only. This shows the great need for 100 per cent coverage in this age-group. An analysis of the age-wise

coverage in all the districts has been undertaken and the figures of analysis in some of the districts are given in Table VII.

It can also be seen from Table VI, that out of 591 attacks and 199 deaths, 560 cases and 195 deaths, *i.e.*, 94.7 per cent cases and 98 per cent deaths occurred in unprotected persons only. This shows the need for complete coverage of primary vaccination. Efforts are being made to cover up the primary vaccination of left-over and new-borns with the existing staff which no doubt will have to be strengthened by providing additional staff as required under the maintenance phase.

It is not only necessary to find out the left-out primary vaccinations and vaccinate them but is also necessary to have a correct record of unsuccessful primary vaccinations to ensure protection of such children by secondary vaccination. For this a new form has been recently devised and the age-group 0-10 years is further split up into 0-1 year and two to 10 years. The primary vaccination column has also been divided into successful and unsuccessful primary vaccinations. This gives a very clear picture of left-over and unsuccessful primary vaccination in each village. The revised form is as shown in Table VIII.

Technique

Till the availability of freeze-dried vaccine, usual liquid lymph was used in the entire State and as such the problem of reconstitution of lymph did not arise. However, after the receipt of freeze-dried

TABLE VII
Percentage Coverage of Population in some Districts by Different Age-groups

Name of the District	0 to 10 years					10 to 40 years					Above 40 years				
	Popula- tion enum- erated	Pri- mary vacci- nation	Revac- cination	Total	Per- cent- age	Popula- tion enum- erated	Pri- mary vacci- nation	Revac- cination	Total	Per- cent- age	Popu- lation enum- erated	Pri- mary vacci- nation	Revac- cination	Total	Per- cent- age
Junagadh	436508	97558	241594	339152	77.7	574195	4155	336267	340422	59.3	174298	—	74398	74398	43.2
Amreli	212980	28561	129790	158351	74.3	268513	212	186371	186583	69.6	89502	77	45632	45709	51.0
Rajkot	499411	94248	357535	451783	90.3	311150	107	268141	268248	86.1	148902	—	96030	96030	64.4

TABLE VIII
Revised Proforma

0 to 1 year						2 to 10 years					11 to 40 years				
No. of persons enum- erated	Primary vacci- nation done be- fore the pro- gramme	Primary vacci- nation done du- ring the pro- gramme	Success- ful	Unsuc- cessful	Per- centage	No. of persons enum- erated	Primary vacci- nation done du- ring the pro- gramme	Success- ful	Unsuc- cessful	Per- centage	No. of persons enum- erated	Primary vacci- nation done du- ring the pro- gramme	Suc- cess- ful	Unsuc- cessful	Per- centage
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

vaccine, the work of dissolving the vaccine was required to be done by the field staff. Great care has to be exercised in this operation because if there is any wastage of glycerine due to improper technique the dissolved vaccine is very concentrated. Vaccinations with this concentrated vaccine result in very severe reactions. The field staff was, therefore, given training in dissolving the vaccine, laying special emphasis on drawing to the last drop of glycerine from the ampoule and avoiding wastage due to spilling.

Sterilization of lancets and the whole operation of vaccination being of equally great importance, great stress was laid on this aspect also during training. All vaccinators are supplied with vaccination kits containing necessary accessories for

sterilization. During field inspections frequent checking is done to find out whether the staff is following the instructions rigidly. In a mass campaign of this type, one is apt to be led away by figures of total coverage without worrying much about successful vaccination. While one cannot minimize the importance of total coverage, the success of the campaign will largely depend upon the extent of successful vaccinations. Endeavour was therefore made to find out the causes of unsuccessful vaccination in the field and the following probable causes for unsuccessful vaccination were found out.

- (i) Inexperience of vaccination work (the staff is newly appointed and it took some-time to develop proper technique),

- (ii) Improper preservation of lymph,
- (iii) Want of proper care and attention in carrying out the vaccination operation, and
- (iv) In some cases the result was seen too early by the inspecting staff and declared as unsuccessful.

The success rate of primary and re-vaccinations in the certain districts of Rajkot division is given in Table IX A and IX B.

TABLE IX A

Results of Primary Vaccination in the Districts of Rajkot Region during the National Smallpox Eradication Programme

Name of District	Popula- tion targets	Enume- rated popula- tion	Primary vaccina- tion verified	Primary vaccina- tion found successful	Percen- tage of success- ful 'takes'
Amreli	667823	598435	33807	31805	94.0
Bhavnagar	1119435	998959	56126	54574	97.4
Jamnagar	828419	618355	38182	36611	96.0
Junagadh	1245643	1184585	32341	28460	88.0
Rajkot	1208519	1033267	13995	12176	93.7
Surendranagar	663208	619204	14491	13421	95.8

TABLE IX B

Results of Re-vaccinations in some Districts of Rajkot Region during the Eradication Programme

Name of District	No. of re- vaccinations verified	No. of re- vaccinations found successful	Percentage of successful 'takes'
Bhavnagar	472973	311970	66.0
Rajkot	214343	113604	53.0
Surendranagar	237192	116881	49.3

SPECIAL FEATURES

(1) Checking and Mopping Parties

As per pattern laid down by the Government of India, no provision for the staff under this head has been made. Since checking of the results of vaccination was considered very important for the success of the programme, checking teams were created by drawing sanitary inspectors and vaccinators from

other districts. As the vaccination teams have to visit villages and towns as per set time-schedule, it was obvious that some persons who were not available at the time of the visit of the teams would escape vaccination. It was, therefore, decided to provide mopping teams also. In the beginning mopping parties visited the village on the third day after vaccination and checking party on the sixth day but later on mopping and checking teams were combined and this combined team visited the village on the sixth day after vaccination. In view of the complaints about severe reactions following vaccination, this party was supplied with first aid boxes containing boric powder, sulphanilamide powder, A.P.C. tablets, etc., to treat the complications, if any.

(2) Assessment Teams

Independent assessment of the programme while in action was also considered very essential. Six assessment teams were therefore formed comprising an Assistant Director or District Health Officer and some senior Sanitary Inspectors of the other districts. The line on which assessment should be carried out was first discussed by the various senior officers of the Directorate and an assessment form was evolved. From the recommendations of the assessment teams, necessary changes were made in the working of the programme and instructions as required were given to the field staff. Another advantage of the assessment teams was the field experience gained by the staff of other districts in the implementation of the programme.

Difficulties

As has been stated earlier there was much opposition to vaccination from the people in the early stages. Reports about severe reactions due to the use of the Russian vaccine were also published in local newspapers and this gave a setback to the vaccination drive and consequently the coverage was only 45 per cent in the early stages. However, by a concerted education and by taking legal action under Bombay District Vaccination Act and Epidemic Diseases Act, it was possible to achieve a coverage of nearly 64 per cent in these districts. Efforts are still continuing to protest those who have escaped vaccination with special

emphasis on hundred per cent primary coverage and thus reach the target of 80 per cent with the regular staff of vaccination in each district.

The Bombay District Vaccination Act is applicable in all the six districts which were taken up under National Smallpox Eradication Programme in the first phase. Under the Bombay District Vaccination Act prosecutions can be launched against parents or guardians if they do not get their children vaccinated after the child is six months old. Nothing can be done under the Act for re-vaccinations or for vaccinating a child who is less than six months old. 4,326 notices were issued by the District Health Officers under the Bombay District Vaccination Act and even by simple issue of notices 3,145 children could be vaccinated. 1,081 cases had to be filed before the Taluk Magistrate. Subsequently all these children were protected.

In the districts where a few cases of smallpox were reported, temporary smallpox regulations under the Epidemic Diseases Act were applied and prosecutions were launched under provisions of this Act. It may be mentioned however that the procedure under both these Acts is very lengthy and cumbersome and is of very little help in achieving the objectives in a time-scheduled programme.

It is, therefore, quite essential that there should be some Act applicable throughout the country making primary and re-vaccinations compulsory. The legal procedure under this Act should also be simplified like summary trials for violation of traffic rules.

Maintenance Phase

It can be seen from Table VI that 94.7 per cent cases and 98.0 per cent deaths occurred in unprotected persons only. This shows the very great importance of hundred per cent coverage of primary vaccination. During the programme it is rather difficult to achieve a hundred per cent coverage of primary vaccination. Some of the parents do not bring their children for vaccination under a plea of unfavourable season or on the plea that they would get their children protected by the regular vaccinators. Also some children may not be physically available or may be ill at the time of the visit of the vaccination teams.

If the left-out primary vaccinations, newborns after the programme is completed in a given village or town and unsuccessfully vaccinated children are not covered immediately, it would lead to a good accumulation of unprotected children with a possibility of smallpox outbreak. The achievements of the Eradication Programme might be vitiated by these factors.

In districts where the Eradication Programme has been completed, the work is being carried out by regular permanent vaccinators. The work load per vaccinator in this State varies from 40,000 to 60,000 population. It is, therefore, difficult for any vaccinator to cover up efficiently such a large population. During the maintenance phase it is also essential to cover the left-out vaccinations as also those in whom primary or re-vaccination was unsuccessful. For this purpose, immediate provision of the staff of maintenance phase will have to be made.

Registration of births and deaths throughout the State is far from satisfactory and this also leads to incomplete coverage of primary vaccination.

As such, unless the population per vaccinator is reduced to 20,000 it will be almost impossible to achieve the objectives laid down by the Expert Committee for the maintenance phase. Proper coverage of primary vaccination can only be achieved by asking the vaccinator to carry out repeated house to house visits on the lines of Malaria Eradication Programme. He can easily visit 100 houses per day and each house at least six times in a year. He would then be in a position to protect all newborn children and all the left-out primary and re-vaccinations. There should also be a net work of supervisory staff with at least one Sanitary Inspector to supervise the work of every five to six vaccinators and a para-medical assistant and supervising medical officer at the district level. As medical personnel are not easily available, science graduates may be appointed after proper training.

The State Government has been requested to sanction the staff on the above lines. In view of the tight budgetary position of the State Government it will, however, be difficult to accommodate it within the plan ceiling. It is, therefore, strongly

felt that Central assistance to the extent of 75 per cent as a Centrally-sponsored scheme should be made available to the States for appointment of additional staff and successful implementation of the recommendations of the Expert Committee.

GENERAL OBSERVATIONS

Seasonal Variation

It has been our experience that in the months of rainy season there is good deal of resistance to vaccination from the people specially in villages, as they are very busy with their agricultural operations. Due to this all the available big cities were taken up during this period first. In big cities also people have got a notion that it is better to avoid vaccination during the rainy season. In view of the above facts, the coverage in rainy season suffers to some extent. Figures of month-wise coverage from July 1962 to December 1962 are given in Table X. It can be seen from the table that there is a perpendicular rise after November, *i.e.*, after rainy season. The educational and other efforts

TABLE X

Month-wise Vaccinations Performed in Six Districts, Gujarat State

Name of the district	July	August	Sept.	Oct.	Nov.	Dec.
Amreli	58088	63730	56104	47433	54075	64714
Bhavnagar	30111	29794	41688	47576	66894	108388
Jamnagar	84851	27343	61217	30381	120956	48851
Junagadh	46399	68976	49291	77061	87688	112463
Rajkot	46695	62422	108895	25932	72282	79429
Surendranagar	36543	38893	79162	58015	51650	78060

during the entire period were the same. But one got better response from the people after October.

Health Education

Other important point that has been noticed is that during second round the coverage achieved is not encouraging. Up to February 1963, total coverage was 56 per cent and by extending the programme by two months, the coverage could only be increased by six per cent. Hence it is highly essential to get the maximum coverage during the first round. For this intensive health education must be carried out by providing a complete health education unit equipped with projector for each unit.

One feels that unless immediate steps are taken for consolidating our gains of the eradication programme, all these efforts are likely to be nullified to a great extent. The idea of a nation-wide legislation for a health measure of such great importance seems to be repugnant to many. While some may agree with this view, one must face the fact that as a number of people are not willing to accept vaccination some sort of legal backing has to be provided to the staff to tackle obdurate cases of wilful opposition. Another suggestion would be to issue a directive to all employing agencies—Government as well as private—to insist upon a vaccination certificate prior to employment. Vaccination certificates should also be a pre-requisite before admissions to primary and secondary schools, technical schools and colleges. This would help in keeping the immunity status of the whole population at a high level without incurring additional expenditure on special staff, equipment and other ancillaries.

THIRTY-EIGHT MILLION YAWS CASES TREATED

From 1950 to 1962, some 285 million persons have been examined in internationally assisted campaigns against yaws. Thirty-eight million of them were treated with long-acting penicillin, which is highly effective against this crippling disease. In campaign areas, the proportion of active cases in the populations dropped from between 10 and 20 per cent a decade ago to generally less than 0.5 per cent by the end of 1962. Some 100 million people, however, still live at risk in endemic areas where little or no systematic work has yet been undertaken.

Health Education for Smallpox Eradication

NATIONAL Smallpox Eradication Week was observed from 25 September to 1 October, 1963. Mass vaccination and re-vaccination programme was launched during the Week. Health education plays an important role to inform the people about the hazards of the disease and motivate them to accept vaccination. Many States had organized health education programmes from time to time. We publish below short reports of health education work organized for the smallpox eradication in Gujarat, Madras, Manipur and West Bengal.

GUJARAT

HEALTH Education Programme was conducted for enlisting the support and active participation of the people in the Pilot Project of Smallpox Eradication Programme, launched in Mehsana District of Gujarat State.

The Pilot Project was discussed in the Divisional Development Council, and the MLA from the Mehsana District was particularly requested to give his fullest cooperation. The Collector of the Mehsana District, the President of the District Local Board, the Chairman of the District School Board, were personally contacted by the Deputy Director of Public Health Services and the whole scheme was

explained and their full cooperation and help were sought. He also attended the coordination meeting of all the District Officers for the purpose.

Later the circular letters were sent to all the District Heads of various Departments requesting for the full cooperation in getting the members of the staff and their families vaccinated.

A meeting to enlist the cooperation of the Chief Officers of all the Municipalities was called by the Collector where the objectives of the programme were discussed. In this meeting the Municipal Officers decided to have a small *ad hoc* Committee consisting of officials and non-officials in each Municipal Town. The *ad hoc* Committee was entrusted with the work of carrying out wide publicity for the campaign by calling a meeting of local citizens and bringing out a small pamphlet on the campaign.

The material for the pamphlet was supplied by the Deputy Director of Public Health Services. The Municipal authorities were also supplied with posters on smallpox for exhibition at various places.

Public Meetings

Meetings were also organized in all municipal towns and many of the larger villages and the programme was discussed with the members and the committees were formed in towns and villages to assist the vaccination staff. Voluntary organizations like Rotary Club, Bharat Sevak Samaj, Indian Medical Association, and Mahila Mandal were also contacted to make the programme a success.

The staff of the Primary Health Centres and other staff of the Public Health Department in Mehsana District also carried out health education work.

The Director, All India Radio, Ahmedabad and the Press representatives of local newspapers were contacted and requested to give wide publicity to the campaign.

Circular was issued to all the medical practitioners who were also contacted personally for giving cooperation. Each medical practitioner was also supplied with posters on smallpox for exhibiting it in his dispensary.

Two Publicity Units were specially deputed to Mehsana District. These Units visited the villages

a couple of days in advance with the Vaccination Teams and showed films to the village people and explained to them the Smallpox Eradication Programme. The District Health Officer, Mehsana, visited the larger village Panchayats to explain the programme.

Pamphlets and posters were freely used to carry out the message in as many villages as possible.

Cinema slides were supplied for exhibiting them in the cinema halls for carrying out health education in all municipal towns.

MADRAS

SMALLPOX Eradication Programme was launched in Madras State on the basic principle that if the State is covered by primary vaccination and re-vaccination at least to the extent of 85 per cent at one and the same time and if this status is maintained for a period of five years, smallpox will be completely eradicated.

Area of Operation

The Government of Madras have launched the programme from March 1963. It will be in operation for 1963-64 in eight development districts, and two revenue districts of Kanyakumari and Nilgiris. Rest of the eight development districts will be taken up during 1964-65.

Staff

In each development district the work is entrusted to the health staff of the Panchayat Union and a special additional staff posted to the Panchayat Union at the rate of one Health Inspector for the Panchayat Union area and one Health Assistant each for a population of 15,000. The entire scheme in the district is under direct control of District Health Officers and is guided by Assistant Director of Public Health at the State level. The existing staff and the additional special staff are directly responsible for carrying out the programme in a planned way.

Plan of Work in Each Village

Each Unit of approximately 2,500 population is covered during a period of one week.

Enumeration

At the beginning of the week, enumeration of all people in the village is taken up and the villagers are informed about the programme so as to win their cooperation for it.

Vaccination

During the second part of the week, vaccinations are done to cover the entire population in this unit.

Mopping up

On the last day of the week, temporary absentees are given vaccination.

Preparation in a Village

One week before the visit of the special staff, the Health Inspector of the Panchayat Union visits the village. He meets the leaders and makes preparations for the staff to stay in the village for one week for the operations. When the special staff reaches the village the people are ready to receive them and the programme.

Verification of Results

After the operation the Health Inspectors of the Smallpox Eradication Programme and the Health Inspectors of the Panchayat Union level visit the village to verify the results of vaccinations. This pattern of work is followed in all the villages in the Panchayat Union area.

Previous experience of the Smallpox Eradication Programme in the pilot districts of Chingleput, North Arcot and in the city of Madras shows the difficulty in getting adequate response from the people. The expected 85 percentage of coverage of population was not reached in any of the three areas mentioned above. The actual percentage reached was as follows :

Chingleput District	—70%	} (Approximate figures)
North Arcot	—60%	
Madras City	—60%	

It was decided to have an educational programme to go hand in hand with the service programme. This resulted in people other than health workers

giving their active support to educate the people. This approach is essential in order to reach the expected percentage coverage in all the villages in this State within a period of two years.

To begin with, some special activities were taken up in Tanjore District for developing a good educational programme with the local district staff.

At the request of Director of Public Health, the Collector convened a conference of District Officers. The District Superintendent of Police, the District Medical Officer, the Revenue Divisional Officers and other District Officers were present at this conference.

The Collector in his presidential address observed that while other countries in the world eradicated smallpox, India and Pakistan alone are the reservoirs of the disease. All channels of publicity should be used at all levels. To educate the people about this disease and its prevention, the radio can play an effective part. There are about 12,500 radio sets in all the panchayats. Health Education on Smallpox can be done through Radio Rural Forums. The aim of these Forums is to get people into listening, discussing and planning for action. People actually listen to the programmes in an organized way and come out with interesting questions. Instructive films on smallpox should also be used as media for educating the people.

The Director of Public Health in her inaugural address pointed out how even 1,500 years ago, professional Brahmin inoculators in our country voluntarily inoculated persons against smallpox, using smallpox pustule material. These voluntary workers were in great demand and according to estimates it appears that 81 per cent of the people took to such smallpox inoculations.

As demand went up, other persons took up this work and the quality of the work suffered. Today in Smallpox Eradication Programme, trained professional vaccinators are employed to give vaccination and a coverage of 85 per cent of the population is expected.

She said that eradication programme is not just a programme for the health department. It should be viewed as a national movement in which all other departmental officers, people's representatives,

representatives of women's organizations and of schools have an important part to play.

At the end of the meeting, a flashcard story dealing with how to get support of other people was demonstrated.

The Director of Public Health and other health staff addressed the Women's Welfare staff meeting. An interesting flashcard story developed by house surgeons working in Poonamallee Health Unit area during the Public Health internship was demonstrated by the Personal Assistant, Research-cum-Action Project, Poonamallee.

On 23 July, the training programme in health education for the Health Inspectors of Panchayat Union Councils and Smallpox Eradication Health Inspectors was conducted.

Persuasion and not Persecution

The Director of Public Health in her inaugural speech said that Smallpox Eradication Programme was a special programme and appealed to all the Health Inspectors for their active cooperation. She said that the slogan should be *Persuasion and not Persecution, Education and not Legislation*.

Training in Technique of Vaccination

Practical training was given on proper techniques of vaccination and actual demonstration on improved health education methods to educate individuals, groups and the mass, using simple, effective educational aids, like flashcard and flannelgraph stories. These demonstrations were followed by practice sessions as a part of the training.

Field Training

The most important part of the training was the field training given in one of the villages on the third day, where the trainees applied in real field situation what they had learnt during the training period.

Meeting Village Leaders and Women Leaders

In the forenoon of the third day, there was a general session when the local village volunteers, the school teachers and panchayat members, the leaders of the village and the women of the village were

present at the local high school premises in Idamalayur village (Nidamangalam Block) to discuss the scheme of the eradication programme and the educational aspects of the programme.

Role of Village Leaders

The role of the various village leaders and other sections of the community were explained and the demonstrations were given by the Health Inspectors (trainees) using the simple flashcard stories demonstrated to them on the previous day.

There was a very good response from the people in the village during the afternoon.

Work in Streets of Villages

The Health Inspectors under training went in four groups in different streets of the village with their trainees, met the leaders, men and women individually, and discussed with them the educational aspects of the programme and how they can help to achieve 100 per cent response during the vaccination week in that village.

School Visits

Then there were visits to the schools and to the women's groups in the village.

This programme will be continued throughout the eradication phase so that people will be prepared to give their maximum cooperation and active help to reach the expected percentage of coverage. Tanjore has so far given a very good lead and it is hoped all our districts will follow the lead in this difficult but important work of education, along with the eradication programme to wipe out the deadly scourge—smallpox—from our State.

WEST BENGAL

THE Government of West Bengal have been taking large-scale measures to eradicate smallpox from the State and make people conscious about the dangers of the disease and how it can be prevented.

Important among these is a Smallpox Eradication Pilot Project launched in the Birbhum district. Work on the project was started on 31 October, 1960. Attention was paid from the initial stages to enlist

popular support for the programme. At district, sub-divisional and thana levels, anti-epidemic committees were formed with influential local persons.

Supervising medical officers organized publicity to the Project in villages immediately before and during a campaign. Response from the public was favourable and there was visible consciousness among the villagers. Local papers welcomed the project in the editorials. Handbills, leaflets, posters and booklets in Bangla and local Santhali languages were freely distributed through schools and colleges. Slides were exhibited at all cinema houses in the districts. The Block Development Officers, Presidents of Union Boards and Panchayats, and school authorities generally cooperated with the field staff. Work proceeded with a base target of 100 vaccinations daily. Till 31 March 1961, about 13·22 lakh people were enumerated, of whom 10·32 lakhs were vaccinated.

An assessment revealed that there has been no case of smallpox among those vaccinated. 78·07 per cent of the district population was immunized against smallpox. This is considered to be very near the significant figure, necessary for the establishment of herd (mass) immunity in a community.

Between 1 April, 1961 to 3 December, 1962, about 9·86 lakh people were enumerated of whom 8·56 lakhs were vaccinated.

MANIPUR

THE territory of Manipur has an area of 22,347·2 sq. km. and population of 7,78,318. It is divided into the valley area (1813 sq. km.) surrounded by hills comprising the rest of the area. The valley is inhabited by *Meiteis* and an average person has its own belief about smallpox and offers some resistance to the vaccination drive. The hill areas inhabited by tribal population like *Kukis* and *Nagas* has a difficult and defective communication infested here and there with the hostile elements. All these create difficulties for the field workers to achieve the desired coverage.

The Smallpox Eradication Programme was started in this Territory of Manipur from 1 February, 1962

and a total allocation of Rs 1.40 lakhs was made during the Third Plan. This is exclusive of the expenditure incurred on the maintenance of the normal staff consisting of one Inspector of Vaccination, nine Assistant Sanitary Inspectors and 50 Sanitary Assistants. From the inception of the programme 60,704 primary vaccinations and 2,87,329 revaccinations were performed to the end of July, 1963.

Press Features

A vigorous health education campaign was started before the inception of this programme in the form of press articles in Manipuri, leaflets, posters and handbills mostly received from the Central organizations. Cinema slides also were made in local language and displayed in all the cinema houses impressing upon the public the usefulness of the smallpox vaccination. A very big Industrial and Agricultural Exhibition was held in Imphal in January 1962, attended by all the sections of population in this territory. A big stall was put up at the Exhibition by the Health Department explaining to the

visitors what smallpox is, how the infection is spread, what disabilities it could cause, and it can be prevented by vaccination. Large number of persons were vaccinated during the course of exhibition lasting 18 days.

When the programme was started in February 1962, the vaccination staff went round the villages with public address equipment and gave a talk on the subject before the actual start of vaccination. The resistance to the smallpox vaccination drive has not been overcome. It was only when 23 persons were attacked by this dreadful disease with 17.39 percentage of mortality that the public health education was stepped up, we could overcome the resistance to a considerable extent. Human memory is very short-lived and once the adversity passes off people become less careful.

Two megaphones received through the UNICEF are being fully utilized but if some public address equipment is supplied, this may help considerably in our smallpox eradication programme.

(Continued from page 308)

Penicillin G Sodium, Penicillin G Procaine, Penicillin G Procaine Fort, Penicillin V Tablets, and Streptopenicillin are the Penicillin preparations manufactured by the Hindustan Antibiotics Ltd. Streptomycin preparations are streptomycin sulphate, dihydrostreptomycin sulphate and streptodigin—a combination of streptomycin sulphate and dihydrostreptomycin sulphate.

Amenities for Workers

* More than 50 per cent of the employees stay in the Company's Residential Colony, consisting of 886 quarters.

* 544 children study in the Company's School, where the education is free for all.

* 84,700 D.P. cases and 300 I.D.P. cases were treated in Company's Hospital. Besides, 130 maternity cases were also attended to, and free milk distributed to children and expectant mothers.

* The Recreation Club looks after a Gymnasium, Badminton Hall, Tennis Courts, Volleyball Courts, etc., and screens on an average four films a month at a nominal subscription of Rs 1.25 per family per month in the Company's Open-air-theatre with a sitting capacity of 2500.

* The Company runs its own Transport buses between Pimpri and Poona.

* The Hindustan Antibiotics Ltd., Natya Sangh, Ladies Club, Tennis Club, Cooperative Credit Society, and Consumers' Cooperative Stores are some of the other Clubs and Societies of the Hindustan Antibiotics Colony.

HEALTH AND WELFARE PROJECT FOR BANGALORE—A REPORT

Dr H. Krishna Rao

MANY significant changes have occurred in Bangalore in the recent past. There has been a tremendous expansion of population, rapid urbanization and industrialization. While many benefits have resulted from these changes they have brought certain problems in their wake.

The changing pattern of social, economic and education characteristics, the way of life and the new aspects of an Industrial age, demand a continuous evolution in methodology and creation and functioning of varied services to the people.

In the past as well as in the present time attention was given to provide the population with different impersonal services, namely, maintenance of a clean environment, provision of water supply, drainage, etc. Lately, attention is bestowed on the development of maternal and child health services. It has been the endeavour of the Corporation to intensify the impersonal services. It has also been the aim to step up and create new health facilities.

There is a great need for upgrading, expanding and integrating the various health facilities on a rational basis. Therefore, the Urban Health and Welfare Project was approved by the Corporation, and the State Government. This was forwarded to the Union Government as assistance was requested for from the Centre and the various International Agencies like WHO and the UNICEF. The project is being implemented on a planned basis.

The Project is designed to be executed in two parts, *i.e.*, Health Project (Part I) and Welfare Project (Part II).

Health Project

The Health Project envisages the expansion of Health Centres, provision of Maternity and Child Health Centre and of Maternity Homes.

Expansion in the number of Health Centres :

It is planned to develop 12 Health Centres, out of which, nine have been established. Each Health Centre is planned for a population of 60,000 to 75,000.

At six of the Health Centres, in addition to the usual public health activities, Tuberculosis Diagnostic Treatment Centre has been established with the cooperation of the National Tuberculosis Institute, Government of India and the Tuberculosis Training and Demonstration Centre of the Government of Mysore. During the last 23 months, 50,108 miniature X-ray pictures were taken and 3,452 or 6.8 per cent were put on treatment. This is a unique programme for control of tuberculosis in Bangalore.

Recently, the Director-General of Health Services, offered 20,000 doses of oral Polio vaccines to Bangalore. Ten thousand children are being immunized against Poliomyelitis.

Provision of Maternity and Child Health Centre : One Maternity and Child Health Centre is planned for 20,000 population. So far 23 centres have been developed.

At the Child Health Centre, Thimmiah Road, a unique experiment is under way wherein the staff of the Medical College, (Professors of Paediatrics, WHO Nurse and the Medical Officers) and the staff of the Corporation have started a Project to keep under their care every infant born at the Maternity Home, Thimmiah Road and through the new-born, the children of the family and ultimately the adult population of the area.

Provision of Maternity Homes: It is envisaged to provide one Unit of 24 beds for a population of 60,000 to 75,000 or a group of three Maternity and Child Health Centres. Sixteen Maternity Homes are planned, of which 15 have been constructed. Thirteen Homes are functioning at present. Dr Sushila Nayar, Union Health Minister, opened the 13th centre on 2 September, 1963. Two more will be opened very soon. The Maternity Homes are provided with quarters for doctors, nurses and other auxiliary staff.

Out of 37,000 births in Bangalore during 1962-63, 34,000 deliveries were in Medical Institutions of the Government, Corporation or private. 2,500 deliveries were conducted in homes of mothers by domiciliary midwives of the Corporation. This is a record figure for any city in the country.

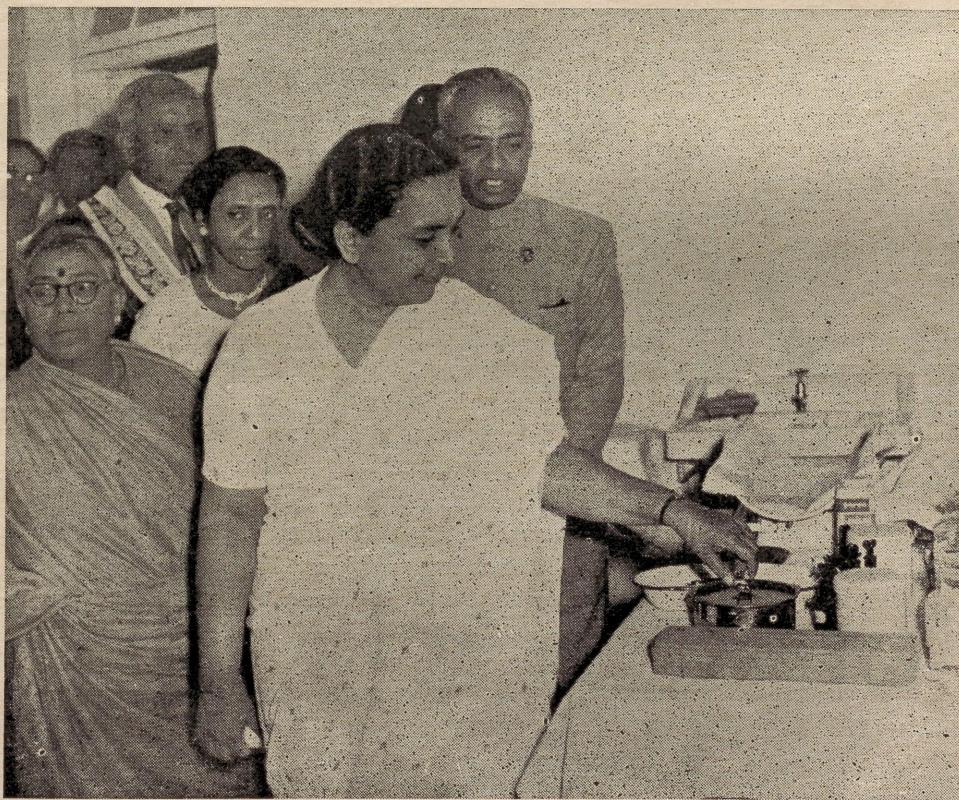
Establishment of Urban Health Centre: The Urban Health Centre will be the hub of all public health activity. The Urban Health Centre is to contain a Public Health Laboratory, a Bureau of Vital Statistics, Health Education and specialized

clinics which will upgrade the work of peripheral units of Health Centres, Maternity Homes, Maternity and Child Health Centres, School Health Units, etc. The Centre will also house a Health Museum. In addition to the services provided, the Centre will serve as a training institution for the undergraduates of the Medical College in the teaching of Preventive and Social Medicine and other auxiliary health personnel like lady health visitors, public health nurses, midwives, etc.

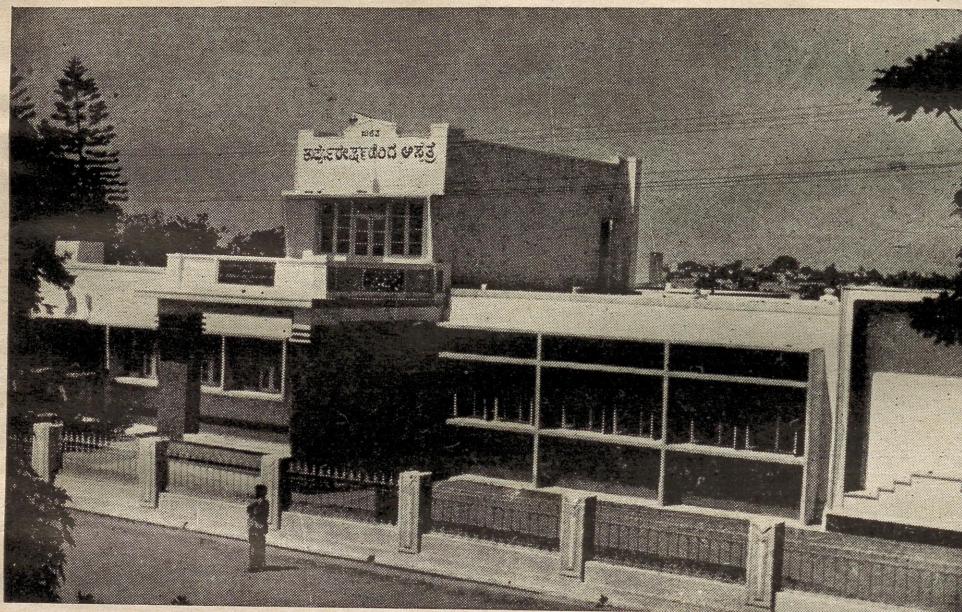
The Centre area will also be used as a Pilot Project area to study various factors before projects are adopted for the whole city.

Various Health Programmes in operation need appraisal from time to time. This Centre, it is hoped, will be able to do it.

The other public health activity of some magnitude is the control of mosquitoes in the city. Besides mosquitoes being a nuisance to the people, there is a danger of filaria. Therefore, efforts are made to tackle the problem.



Dr Sushila Nayar, Union Health Minister, examining the equipment at the Maternity Home which she inaugurated on 2 September at Bangalore



A view of the building of Corporation Maternity Hospital

Welfare Project

In an Urban Welfare Project, the emphasis is laid in getting the people within the particular area together and assisting them in discussing their problems, pooling their resources and to make effort to help themselves to the maximum extent possible without looking up to the Government or Municipal Administration. The main objects of the Urban Community Projects are :

- (i) To inculcate and develop a deep and abiding sense of civic conscience—a pride in the locality in which they live and a willingness to participate in promoting better conditions and environment in the locality.
- (ii) To provide an opportunity for active participation along with others in the community in recognizing problems.
- (iii) To find out the solution to the problems.
- (iv) To survey and pool all the available

resources in implementing the agreed programmes.

Cost of Project : It is estimated that the project will cost about Rs 40 lakhs of which the Corporation share is about Rs 30 lakhs. The Corporation has already spent about Rs 20 lakhs in the establishment of peripheral units.

Assistance ; Assistance is sought for the establishment of the Laboratory ; Health Education and Vital Statistics Units ; equipment for specialized clinics ; equipment and drugs, etc., for Maternity Homes and Maternity and Child Health Centres and School Health Clinics ; vehicles and equipment for environmental sanitation ; and drainage cleaning equipment and training of the staff.

Assistance has been requested from International Agencies through the Central Government.

Health and Welfare Project is an integrated programme in the service of the people of Bangalore. Its success depends on the close cooperation of the authorities and the people.

Around the states



GUJARAT

New Experiment in Medical Teaching

THE World Health Organization has arranged for the visit of six professors of medicine from Edinburgh University to the Medical College at Baroda.

Over a period of six years Edinburgh University will provide six of its faculty members as full-time teachers. In addition, professors and technicians from Edinburgh will visit Baroda from time to time. Through fellowships, opportunity will be given to teachers at Baroda to acquire teaching experience in Edinburgh University.

The activities of the visiting professors will not be confined to Baroda alone. There are two other medical colleges within easy reach—at Ahmedabad and at Jamnagar. A third one is to be established at Surat. It is expected that the Edinburgh professors will visit these colleges.

This scheme, according to the South-East Asia Regional Office, has grown out of the need for expansion of medical education to meet the demands of developing countries for better health services. Since independence the number of medical colleges in India has grown from 17 to 71. But the number of teachers has not kept pace with this expansion. WHO and other agencies have tried to help, partly by getting professors from abroad seconded from their universities for a few terms, and partly by awarding fellowships to future teachers for study abroad.

The first members of the Edinburgh University faculty at Baroda are : Dr J.G. Collee (Bacterio-

logy), Dr I.W. Delamore (Internal Medicine and Therapeutics), Dr J.W. Farquhar (Paediatrics), Dr A.R. Mills (Public Health and Social Medicine), Dr P.R. Myerscough (Obstetrics and Gynaecology) and Dr E.G. Walsh (Neurophysiology).

DELHI

Social Work in Medical Field

A Seminar on the concepts and practices of Medico Social Work was inaugurated in New Delhi on 31 August, 1963 by the Union Health Minister, Dr Sushila Nayar. The Seminar was held under the joint auspices of the Delhi Branch of the Indian Public Health Association and the Delhi Chapter of Indian Association of Alumni of Schools of Social Work. Speakers at the Seminar discussed the growing importance of the social workers in the fields of medicine and public health.

In her inaugural speech, Dr Nayar said that the work of the Medico Social Workers was growing in importance with the development of the sociological aspects of medicine specially in the field of preventive medicine and the various nation-wide programmes of control and eradication of communicable diseases. She said that the doctors could not deal with the human problems that arose out of ignorance and prejudices of the people and only social workers could make the preventive programmes as well as general public health measures acceptable to the people. The most important task of the Medico Social Workers was to mobilize the community to accept the measures taken for their benefit without which their benefit would be completely lost.

provide it. Medical and non-medical men would be ever vigilant to this great humanitarian duty. Moreover the availability of the service should be well known to the public so that they could benefit by it.

Capping Ceremony of Nursing College

THE Union Health Minister, Dr Sushila Nayar, appealed to the nurses to work among people in urban and rural areas. Rural people, she said, believed not in words but in deeds. The nurses should perform the dual role of a nurse and a health educator.

Dr Nayar was presiding over the Capping Ceremony of the College of Nursing, New Delhi, on 20 August. This was the 16th capping ceremony of the college when 22 second-year students were admitted as full-fledged nurses.

She spoke of the single-handed fight of Florence Nightingale, "the lady with the lamp" against entire mess of filth, insanitation and corruption during the Cremean War. She expected each one of the nurses passing out of the college to "create order even if there was chaos and confusion", wherever they went to work, in hospitals or among people in urban and rural areas.

She said that nursing profession was more important than that of a doctor. The doctor might be compared with the brain and the nurse with the heart. Brain was essential but without the heart the brain was useless. Life itself depended on the heart and a hospital could not run without nurses. A doctor

prescribed the treatment while it was the nurse who administered it. Unless proper care and right treatment were given, the patient could not benefit from the treatment.

Earlier, giving away the prizes to the 11 students of the college adjudged best in 1963, Dr C.D. Deshmukh, Vice-Chancellor of the Delhi University, referred to the function as unique and meaningful. Dr Deshmukh commended the good results from the college and said that Delhi University was proud to have such an institution.

Miss T.K. Adranvala, Nursing Adviser to the Government of India, said that the cap completed the uniform of a nurse. She said that "a patient first sees the appearance of a nurse and a well-groomed and a pleasing appearance makes the patient feel confident."

Miss Adranvala said that the nursing profession in India, which is only 80 years old, has made a great progress.

The Principal of the college, Mrs Gupta, in her report, announced the grant of four scholarships to the students of the college by the American Women's Club.

Towards the close of the function, the second-year students in pairs went up the dais and knelt down to be capped. They returned with lamps which were soon 'lighted to lighten' and passed out of the hall in a procession with 30 members of the staff and the guests.

Shri C.D. Deshmukh, Vice-Chancellor, Delhi University, gave away the prizes to students of the college adjudged best in 1963 during the Capping ceremony of the College of Nursing on 20 August



Emergency and Casualty Service

SHRI Lal Bahadur Shastri, Union Home Minister, inaugurated the Re-organized Emergency and Casualty Service in the Capital on 8 July, 1963.

The centralized service has been introduced for the prompt removal of a casualty to a hospital and prompt attendance by the doctors at the emergency wards. A central control room has been set up at Safdarjang Hospital which can be contacted by dialling 102.

Direct telephone lines have linked the control room with the casualty departments of Delhi hospitals. The control room will inform the nearest hospital about the case and an ambulance will be rushed to the scene. The hospitals will keep the control room informed of the bed position from time to time.

The inauguration of the service was preceded by an appeal to the young doctors by Shri Shastri to develop a humane approach in treating patients. The doctors should understand the value of human life and should not differentiate between a Minister or a highly-placed man and a common man.

Shri Shastri said more than 30,000 patients were admitted every year in the casualty wards of the hospitals. Because of disorganized service they had to face hardships.

Shri Shastri added that the incidence of accidents in Delhi was rather high and asked the people not to violate the traffic rules. He also stressed the need to educate the people on the rules of the road.

Shri Shastri hoped with the introduction of new service, casualty cases would be given prompt attention by senior doctors and will not be left at the mercy of junior doctors.



Shri Lal Bahadur Shastri who inaugurated the Re-organized Emergency and Casualty Service in Delhi on 8 July, 1963 has dialled 102 for prompt removal of a 'casualty' to the hospital

Dr Sushila Nayar, Union Health Minister, who also spoke on the occasion, sought the cooperation of doctors, police and citizens to make the new service a success. Referring to the present state of affairs in this regard, she said that the casualty was directed from one hospital to another which many a time proved fatal. The tragedy was deepened because much time was lost by the police enquiries and other procedural action. The new service was organized to remove the various difficulties which had so far been encountered by the people needing prompt medical attention. The Health Minister hoped that the police and the doctors would cooperate to make the service a success and relieve the people of their anxiety and inconvenience in time of serious illness or injury. It was more the responsibility of the doctors to handle the case with compassion, care and efficiency. The sole aim was to save the life of the people and provide them relief in their distress.

"It is the duty of the doctors to tell the police that their first duty was to save the life and then they can complete the formalities," Dr Nayar said.

She hoped the service would not be misused by those not requiring emergency admission in a hospital.

Earlier, welcoming the guests, Shri R. K. Ramadhyani, Secretary, Ministry of Health, said the Re-organized Service was put at the disposal of the people of Delhi who were in urgent need of it. The growth of city and its traffic with the rising tempo of life had made the re-organization of the service very essential. The serious cases of illness and accident require prompt admission to the hospitals which were already under great pressure because of lack of facilities. The people claimed for the prompt needed relief and it was the duty of the Government to

Silver Jubilee Research Award--1964

TO commemorate its Silver Jubilee, the Medical Council of India has created a Silver Jubilee Research Award Fund. The first award will be made in November-December 1964. This award would be open to all citizens of India and foreign nationals who have spent considerable time for research in India, male or female, and who have distinguished themselves by outstanding original research in the field of medical and allied sciences. The value of the award would be Rs 15,000 and a Gold Medal which may be of the value of upto Rs 1,000. These awards for the present will be presented once in two years at a ceremonial function at which the successful candidates would be required to make an oration.

The award will be made on the basis of nominations of candidates to be submitted along with copies of monographs or reprints of nominees, special study and research. These would be scrutinized by an Expert Committee which will be constituted by the Committee of Management as and when necessary and then it would make recommendations in due course. The decision of the Committee of Manage-

ment of the Silver Jubilee Research Award Fund of the Council shall be final.

In the case of a joint research work the award shall be divided between the workers in such proportion as may be decided. The role of the person nominated for the award should be clearly indicated so as to make it easy to determine whether the major part of the work has been done by that person.

Nominators are requested to forward nomination forms complete in all respects as indicated in the instructions.

Blank nomination forms can be had from the Secretary, Medical Council of India, Kotla Road, New Delhi and completed nomination forms should reach him not later than 1st May, 1964 through registered Post A.D.

College for Catering

THE capital will have a food polytechnic, in which advanced training in baking, cooking and food preservation will be imparted alongwith catering and allied subjects. This first institute of its kind is being set up by the Union Ministry of Food, Government of India.

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SMALLPOX AND SWASTH HIND

Swasth Hind has published a number of articles on smallpox. A list of these articles is published below for ready reference.

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WORLD HEALTH DAY



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