

REPORT
for the
QUADRENNIUM

1949—52

PART I—NARRATIVE

PART II—STATISTICAL ABSTRACT



DIRECTORATE GENERAL OF HEALTH SERVICES
MINISTRY OF HEALTH
NEW DELHI

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REPORT OF THE DIRECTOR GENERAL OF HEALTH SERVICES FOR THE QUADRENNIUM, 1949-52.

INTRODUCTION

'Health is wealth' may seem to be trite saying, but viewed in the context of conditions prevailing in India, the cliché assumes a significance of immeasurable importance. With the havoc caused by malaria and tuberculosis and 'fevers' and epidemic diseases, resulting in disability and death and economic loss, it will have to be conceded that health is the very basis of progress in any sphere of human activity. Since health is a positive state of well-being in which the harmonious development of physical and mental capacities of the individual leads to the enjoyment of a rich and full life—a complete adjustment, in other words, of the individual to his total environment—it follows that no progress is possible for a nation unless it integrates public health with other aspects of human endeavour because the goal of public health is not only to preserve as many lives as possible but also to keep the individual fit and active and happy.

THE CONSTITUTION OF INDIA (as modified up to 1st September, 1951) has, therefore, laid down certain directive principles of State policy for the protection of health of the people. It is a fundamental right of a child below the age of 14 years, according to its Article 24, that he shall not be employed to work in any factory or mine or engaged in any other hazardous employment. While the Union Government itself is responsible for looking after the port health including hospitals connected herewith, inter-State quarantine, and the co-ordination and determination of standards in medical institutions, it is the States which have to bear responsibility of public health and sanitation, hospitals and dispensaries, with their respective jurisdictions. According to Article 47, the States shall also regard the raising of the level of nutrition and the standard of living of their people and improvement of public health as among their primary duties. Article 39(e) of the Constitution lays down that the State shall in particular direct its policy towards securing that the health and strength of workers, men and women, and the tender age of children are not abused and that citizens are not forced by economic necessity to enter avocations unsuited to their age or strength. The concurrent list of health subjects includes lunacy and mental deficiency along with places for the reception or treatment of lunatics and mental deficient, adulteration of foodstuffs, drugs and poisons, welfare of labour including invalidity pensions and maternity benefits, medical relief of persons displaced owing to the partition in 1947 of the Indian sub-continent, prevention of extension from one State to another of infectious or contagious diseases or pests affecting men, and vital statistics including registration of births and deaths.

Granted that health is not a negative state of mere absence of disease, it is unconscious of itself and only when sickness appears does its absence become felt. So, in measuring the health of a people one has to be content with measuring ill-health, that is, its negative aspect because of the difficulty if not the impossibility of measuring positive well-being.

Statistically speaking, the infant mortality rate and death rate are pointers to the health-level of a community. Nearly 40% of the total deaths in India are among children under 10 years of age, and of the mortality in this group, one-half occurs within the first year of life. Epidemic diseases, such as cholera, small-pox and plague (happily on the decline) accounted for 5% of total mortality in the preceding decade; and since no proper diagnostic means existed, over 57% deaths were recorded under the convenient label of 'fevers'. Malaria, an eminently preventable disease, inflicts suffering on a hundred million people, 1.0% of whom ultimately succumb to it every year; and tuberculosis, another conquerable enemy, handicaps two and a half millions in its stride while it collects an annual toll of half a million young and promising human lives. The tragic consequence of this total bill of ill-health is a low output of the Indian agricultural and industrial worker when compared with that of his counterpart abroad. The loss of national wealth caused by morbidity is beyond reckoning.

Period	Birth rate	Death rate	Infant death rate
1952	24.8	13.6	116.3
1951	24.9	14.4	124.4
1950	24.9	16.1	127.1
1949	26.4	15.8	122.8

Period	Mortality per thousand of population from						
	Cholera	Small-pox	Plague	Fevers	Dys. & Dia-rrhoea	Resp. dis-eases	All other causes
1952	0.2	0.2	0.01	6.8	0.6	1.2	4.5
1951	0.2	0.6	0.05	7.2	0.6	1.2	4.6
1950	0.4	0.3	0.06	8.6	0.6	1.2	4.9
1949	0.3	0.1	0.07	8.5	0.6	1.3	4.9

The two tables above, reveal the trend of health conditions during the quadrennium. Birth rate registered during the period remained, more or less, constant, and was lower than the average for the decade, 1941—1950. Likewise lowered was the general death rate. Infant mortality rate showed a marked decline. The expectation of life at birth was 32.5 years for males and 31.7 for females as against 26.9 and 26.6 respectively, during the decade, 1921—30. This, no doubt, is a significant fall in infant mortality rate consequent on improvement in environmental sanitation and general standards of health; yet, it is sadly behind what obtains in the United Kingdom and the United States of America where the expectation of life is double that of India.

The causes of the low state of health in India are as varied as they are many. Lack of hygienic environment, low resistance to disease for want

of sufficient, balanced and nutritious diet, adverse housing conditions, unsafe water supply, improper disposal of wastes, meagre medical care—curative and preventive impoverished living standard and extreme illiteracy with ignorance of rules of hygiene as its natural corollary are some of the more important factors which impede the rapid progress towards proper health conditions. Add to these, the nation's limited financial resources and woeful lack of trained personnel, and the picture is virtually complete.

Of a set design, and not by any chance stroke of good fortune, fell at last on this sombre picture of the decennium gone by, a shaft of light to illumine its dark patches and relieve its general gloom; the First Five Year Plan came into operation during the latter half of the quadrennium, 1949—52, now under review. There will be much to say on this First Five Year Plan in the subsequent reports. Here it will suffice to mention only its basic factors which are :—

- (i) control of malaria;
- (ii) preventive health care of the rural population through health units and mobile units;
- (iii) health services for mothers and children;
- (iv) education and training, and health education;
- (v) provision of water supply and sanitation;
- (vi) self-sufficiency in drugs and equipment; and last, but not least,
- (vii) family-planning and population control.

A Central Council of Health was established in August, 1952 in accordance with the decision taken at the Third Health Ministers' Conference held in 1950. The Union Health Minister is the Chairman of this Council and the State Health Ministers are its members. Experts and technical advisers to the Central and State Governments are available to the Council to help taking decisions on health matters that come up for deliberation before the members.

The Council is an advisory body and performs the following duties :—

- (a) to consider and recommend broad lines of policy in regard to matters concerning health in all its aspects, such as, the provision of remedial and preventive care, environmental hygiene, nutrition, health education and the promotion of facilities for training and research;
- (b) to make proposals for legislation in fields of activity relating to medical and public health matters, laying down the pattern of development for the country as a whole;
- (c) to examine the whole field of possible cooperation on a wide basis in regard to inter-state quarantine during times of festivals, outbreaks of epidemic diseases and serious calamities, such as, earthquakes and famines and to draw up a common programme of action;
- (d) to make recommendations to the Central Government regarding distribution of available grants-in-aid for Health purposes to the States and to review periodically the work accomplished in different areas through the utilisation of these grants-in-aid; and

- (e) to establish any organisation or organisations invested with appropriate functions for promoting and maintaining cooperation between the Central and State Health administrations.

The following pages in broad outline and the subsequent chapters in detail show what progress has been made during 1949—52, what targets have been set, what objectives have been achieved and what remains yet to be attained.

MALARIA, the major-most health problem of India, is being tackled through the State malaria organisations which are formulating a plan of work for obtaining uniform data and for determining the most economical methods for the prevention of malaria transmission by the use of residual insecticides against different known vectors under different climatological conditions. Unlike smallpox or plague, the signs and symptoms of which are clear, it is not possible for a layman easily to recognise malaria; and, for want of diagnostic facilities in rural areas in particular, it is impossible to identify malaria from other diseases which give rise to fever. Thus the total number of deaths registered as being due to fevers may be and actually is, in some places, as high as 80%. Obviously, therefore, one is obliged to resort to this group of diseases designated as 'fevers' for making an estimate of malaria mortality which as already stated amounts to one million every year. Different States appear to have different malaria seasons: April to July in one State, July to September in another, July to November in the third, July to December elsewhere, or summer months, or post-monsoon months as in Bombay. In 1949, malaria control work in villages of Madhya Pradesh with a suspension of DDT powder was reported to have been effective in reducing sickness to the extent of 60%, and it is estimated that in the State of Bombay, over a million persons were saved from contracting malaria because of protection conferred during the year.

TUBERCULOSIS control demands improvement in the general standard of living, provision for detection, isolation and treatment of patients and evolution of appropriate preventive measures. While improvement in the general standard of living may well be considered as outside the scope of the Health authorities, efforts were directed to the preventive and clinical aspects of the problem. Main emphasis had to be on preventive measures however, as these were expected to yield the best returns for the limited resources available with the Government of India and the State Governments. B.C.G. Vaccination received top priority, the objective being to tuberculin-test the maximum number of persons in the shortest possible time and to vaccinate the 'negatives' therefrom within a period of 5—10 years. B.C.G. Vaccination on a mass scale was introduced in all the States except Madras and Andhra during the period. Over 4 million persons were vaccinated out of the 13 millions tuberculin-tested during the period under review. 99 teams were engaged in the operation. The mass campaign was helped by the International Tuberculosis Campaign (I.T.C.), the United Nations International Children's Emergency Fund (U.N.I.C.E.F.) and the World Health Organization (W.H.O.) with gifts of supplies, equipment and services of International experts. To ensure a fresh, standardised and regular supply for use in the field, a special laboratory was established at Guindy (Madras) for the preparation of vaccine and tuberculin.

As regards institutions, highest priority was accorded to the establishment of tuberculosis clinics, and the State Government were urged to establish one clinic at each of its district headquarters, at least.

Three model Tuberculosis Teaching and Demonstration Centres were established at Delhi, Trivandrum and Patna to provide comprehensive diagnostic service including laboratory and X-ray investigations.

In order to provide increased hospital accommodation for isolation and treatment of tuberculosis patients, efforts were made to add, at least, 2,000 beds per annum. It is gratifying to record that 6,219 beds were added during the period. To rehabilitate ex-tuberculosis patients, rehabilitation centres were established in association with Government and private institutions at several places.

While efforts were directed mainly to preventive and clinical aspects of the problem, importance of research and evaluation of effective methods to combat tuberculosis in India were not lost sight of. The Union Mission Tuberculosis Sanatorium at Madanapalle (South India) in cooperation with the W.H.O. and with financial assistance from the Government of India, commenced a research study in 1951 on the comparative efficacy of various methods used in tuberculosis control including B.C.G. Vaccination. Plans are also under way to conduct long-term epidemiological and follow-up studies in selected groups. Clinical trials were carried out in many tuberculosis institutions all over India to test the efficacy of certain drugs, particularly Isonicotinic Acid Hydrazide. In collaboration with the Ministry of Rehabilitation, relief in the form of anti-biotic drugs, provision of free beds in tuberculosis hospitals and pecuniary help was given to tuberculosis patients among displaced persons scattered all over India.

Close touch was maintained with international organizations. Adviser-in-Tuberculosis to the Government of India, Dr. P. V. Benjamin, attended a number of international conferences, read papers on tuberculosis and participated in discussions.

While on the subject of tuberculosis, it will not be out of place to record the valuable work of the Tuberculosis Association of India—a non-official organisation—and its affiliates spread all over India. The Association recommended development of teaching centres, massradiography and domiciliary treatment, employment of ex-tuberculosis patients, construction of cheap wards for isolation and treatment, and the raising of standards of post-graduate education in tuberculosis. Apart from giving medical aid in its three institutions, it has been training general medical practitioners in tuberculosis through refresher courses as also social workers and health visitors. Propaganda and publicity were, as usual, carried on and Tuberculosis Workers' Conferences annually held. During the quadrennium, this organisation launched a Tuberculosis Seal Sale Campaign in India and collected nearly Rs. 20 lakhs.

NUTRITION has rightly been receiving increasing attention in recent years as it is perhaps the most important single factor in the maintenance of health and resistance to disease. It is common knowledge that proper diet is a *sine qua non* for physical, mental and social well-being of a people.

An examination of the population figures (about 316.7 millions in 1941, and 361.1 millions in 1951) *vis-a-vis* the production of foodgrains (48,452,000 tons in 1941, and 50,022,000 tons in 1951) shows that whereas the total population increased by 1.1% during the decennium ending 1951, production of foodgrains failed to keep pace with the growth

of population, the annual increase in production during the same decennium being only 1.0%. In regard to quality foods-milk, meat, eggs, vegetables, fruits, etc., of which there was a heavy deficit in 1941, the increase in production was still far short of the increase in population. Hence the nutritional level of people remains very low, and malnutrition is widely prevalent.

Nutrition work as an integral part of public health programme was carried out by the State Health Directorates, and Nutrition Officers have been appointed in the States of Bihar, Bombay, Hyderabad, Madras, Punjab, Travancore-Cochin, Uttar Pradesh, Vindhya Pradesh and West Bengal.

Considerable progress has been made in this field in the quadrennium. The programme comprises mainly of diet and nutrition surveys in order to assess the degree and extent of prevalence of malnutrition, provision of supplementary foods for vulnerable groups through school-feeding and distribution of milk and vitamin tablets to expectant mothers and children. Nutrition education, training, production of nutritive foods and research have also been pursued. Diet surveys of about 1,500 families at various economic and social levels in different parts of the country, rural and urban, show that the diet is ill-balanced and generally lacks in the quality foods mentioned above. Lack of purchasing power, high prices, inadequacy of production and supplies have all contributed their share in shaping the diet.

Nutrition surveys of about 60,000 children and 10,000 adults carried out in different States have revealed widespread signs of malnutrition and various nutritional deficiencies, chiefly anæmia, vitamin A deficiency, and fluorosis in children. Endemic goitre is also prevalent in the sub-Himalayan belt. As an experimental measure, iodised salt has been used with some success in a small area of the Kangra district in Punjab.

During the post-partition days, large groups of population were accommodated in relief camps in different parts of the country, and officers of the Central Health Directorate paid visits for revising the scale of diets and for tendering medical advice and aid. Preventive measures were also undertaken to combat a serious outbreak of epidemic dropsy in Bihar State.

A diploma course in Dietetics was opened at the All India Institute of Hygiene and Public Health, Calcutta in May, 1949 to meet the need for trained dietitians in industrial canteens, hospitals, etc. A scheme for the establishment of diet kitchens in teaching hospitals in ten States for catering to patients suffering from chronic diseases, such as, diabetes, gastric ulcer, colitis, etc., has been formulated.

As an ameliorative measure, community-feeding was undertaken on a large scale in 1949-50 with the help of skim milk-powder supplied by the U.N.I.C.E.F. and distributed to expectant and nursing mothers and children under 14 years of age, in 18 States. The introduction of school-feeding programme and industrial canteens in some of the States, particularly Bombay, Madras, Mysore, Travancore-Cochin and Uttar Pradesh has largely benefited students and industrial workers.

The Nutrition Advisory Committee constituted by the Indian Council of Medical Research advises Government on measures for improving the

nutritional status of people, publishes special nutrition reports and formulates plans for research at Coonoor and other laboratories.

The role of publicity and propaganda in making the public nutrition-conscious is well recognised and performed through the press, radio broadcasts, lectures, exhibitions, posters and distribution of popular leaflets.

ADULTERATION OF FOODSTUFFS of everybody use has increased to constitute a serious public health menace. Due to adulteration of common articles of food, such as, milk, *dahi*, flour, *khoa*, butter, etc., health of the population is being undermined. So far, it has not been possible to control adulteration of food-stuffs through the medium of the existing laws of different States notwithstanding provision for deterrent punishment and fine, because the laws lack uniformity. It was, therefore, felt that in order to prevent food adulteration, a drastic Central legislative piece of enactment applicable to the country as a whole was essential, including the appointment of adequate staff and food inspectors. The Food Adulteration Bill was accordingly introduced in the Parliament by the Union Minister for Health in 1952.

An important measure undertaken by the Government to detect adulteration of ghee by means of a simple chemical test is the compulsory addition of 'Til'—oil to manufactured vegetable products. This measure has gone a long way in detecting adulteration of Vanaspathi, etc.

THE MATERNITY AND CHILD WELFARE SERVICES programme was initiated in 1920 as it was perfectly well recognised that the well-being of a child and the health and welfare of the mother are closely inter-related.

Since 1946, there has been a gradual promotion of maternal and child welfare services in the States, and this joint service is provided for within the framework of the general Health Service of a State. Its scope is vast : the direct services are maternal care, infant and child care and school health programme to protect and promote the mental, physical and social development of a child through infancy, at the pre-school age as well as during adolescence.

While taking stocks of the services established during the last few years, one cannot but remark at the progress made on account of assistance received from international organizations, namely, the W.H.O. and the U.N.I.C.E.F. Aid from these two organisations has contributed to a rapid stepping up of the services. Several States have undertaken maternal and child health programmes. The envisaged projects aim at creating increased facilities for training of health personnel and establishment of model Health Services. The W.H.O. has provided international technical staff to assist the national staff, while the U.N.I.C.E.F. has provided essential equipment, drugs and diet supplements necessary for successful implementation of the projects.

Besides the development of comprehensive programmes, the U.N.I.C.E.F. has assisted in augmenting services offered by the existing Maternal and Child Welfare Centres and in improving training facilities for various categories of personnel. Under these All India programmes most of the States received assistance for their Centres, equipment for midwives and *dais*, and teaching sets for training schools.

The First Five Year Plan has also been instrumental in augmenting and extending the scope of services to rural areas. This joint Health Service has received particular attention in the Community Project Development, and special provision has been made for its extension to the National Extension Blocks. State Governments have taken full advantage of the assistance offered by the Centre. Schemes under current aid provide also for increased facilities for training of Health workers to staff the Services.

There is dearth of statistical data in the field of maternity and child health for a periodical checking up on the improvements effected by the expansion of services. Several suggestions have been made to improve the collection of vital statistics in respect of maternal deaths. The available statistics indicate that there is a decline in infant mortality. At present, the existing programmes provide for services for approximately 12% of the population.

Since 1948, maternal and child welfare administration has been greatly strengthened and several State Governments have appointed special officers to assist in implementing schemes for the purpose. Seventeen States have such posts. Almost every State earmarks funds for direct services for children. With a view to provide various States with specially trained officers, the department of Maternal and Child Health at the All India Institute of Hygiene and Public Health has been further expanded to train more doctors and nurses.

NURSING has made progress in many directions during the quadrennium. The number of training centres was increased, and in most States sufficient candidates were available for training. The Indian Nursing Council, which was established in 1949, initiated measures for a uniform improvement in the training of nurses, midwives and health visitors, both in theory and in practice. The first group of nurses taking the B. Sc. degree course in Nursing, graduated in 1950. Nurses deputed for training in the U. K. also returned and were employed in different States. The inflow of these nurses with better basic training served as a stimulus to the whole profession. Much valuable help in improving the standard of teaching and practice was received from international nurses assigned to various projects by the W.H.O., the U.N.I.C.E.F. or the Colombo Plan. Post-certificate course in Nursing Administration was continued, and a Post-certificate course for Public Health Nurses was started in 1952. Refresher courses for nurses, midwives and health visitors met with a very enthusiastic response and helped to improve the general level of nursing practice. Shortage of nurses of all categories was still a feature of the Nursing Service in some of the States, even though in other States nurses were without employment. The reasons for shortage were as much the lack of living accommodation and unsatisfactory working conditions as the dearth of candidates. Inadequate and unsatisfactory living accommodation continued to be one of the major factors which hampered development of nursing in all its aspects.

THE INDIGENOUS SYSTEMS OF MEDICINE are passing through a period of renaissance.

Many States have launched programmes for augmenting medical aid, specially in rural areas, by setting up dispensaries for relief through the indigenous systems of medicine, and some States have created a separate administrative section in their Health Directorates.

INTERNATIONAL HEALTH is a subject of vital concern to India, and this country cooperates with the World Health Organisation—a specialised agency of the United Nations representing the culmination of efforts to establish a single inter-governmental health agency. The W.H.O. came into being in 1948 with the set objective of attainment by all people of the highest possible level of health. India has been a member of this organisation since its inception, and attends the World Health Assemblies and its Regional Committee meetings every year. During the quadrennium, four World Health Assemblies and four Regional Committee meetings were held besides the second and the third session of the W.H.O. Expert Committee on International Epidemiology and Quarantine as well as a conference of the Directors of Health Services of the South-East Asia Region.

India's chief delegate, Hon'ble Rajkumari Amrit Kaur, Union Minister of Health, was unanimously elected President of the 3rd World Health Assembly. Among the many matters considered by these bodies were the following subjects :—

Public Health Administration, environmental sanitation, nutrition, maternity and child health, infant mortality, school health, mental health, health education, and control of malaria, tuberculosis, small-pox, cholera, plague, leprosy venereal diseases, trachoma, filariasis and typhus.

Government of India's contribution to the W.H.O. during these four years amounted to \$9,00,000 while the contribution of that Organisation to India was nearly \$1.1 million.

As regards PORT QUARANTINE AND AIRPORT HEALTH, it became necessary to augment the health staff at ports and airports where health organisations existed, and to set up independent health organisations at Delhi and Tiruchirappalli airports because of increased activity in international traffic. All the ports and airports remained free from plague infection, and the 'Stegomyia index' throughout was nil or well below 1%. Greater attention was paid to medical treatment facilities for seamen at the ports of Bombay and Calcutta. Reservation of beds was made in the local hospitals for treatment of seamen suffering from tuberculosis, venereal and other diseases. Up to February 1950, occasional complaints were received that seamen suffering from infectious and contagious diseases, signed on at Indian ports, were held up for treatment for long periods at foreign ports. To remove this complaint, the Government of India introduced on 1st March, 1950, a scheme under which all seamen were to be medically examined by Government doctors and only those declared physically fit were to be engaged for sea service.

To facilitate international travel, the W.H.O. framed International Sanitary Regulations in 1951. These Regulations were accepted by member countries with or without reservations and came into force on 1st October, 1952, replacing the International Sanitary Conventions for maritime and aerial navigation. India made reservations to certain Articles of the Regulations to suit its requirements.

MEDICAL RELIEF continued to be provided by State Governments, local bodies and missionary organisations. Partly because of lack of funds and partly because of the fact that there was sufficient equipment and trained

medical and para-medical personnel not much improvement could be effected and the general level of hospitals and dispensaries raised. Most of the small hospitals and dispensaries lacked X-ray and clinical laboratory equipment; and even where such diagnostic aids were available, full-time trained staff to man these and other specialised departments did not exist. Actual integration of curative and preventive work made little progress even though actual direction at the headquarters of most of the States was unified. The total number of hospitals and dispensaries in 1952 was 9,500 as against nearly 8,800 in 1948. The number of hospital beds increased by 20,000. Nearly 4 million persons received in-door treatment and over 106 millions, out-door treatment during the year 1952. As against Rs. 12 crores spent in 1948, approximately Rs. 22 crores were spent by State Governments on medical relief in 1952. The State Governments took over administrative control and maintenance of 170 hospitals and dispensaries from the local bodies. Facilities for X-ray and Radium treatment remained inadequate; but compared with 1949 when radium treatment facilities were available only in 27 institutions, the number of institutions in 1952 had increased to 39, and more quantity of radium was available. As regards X-ray facilities, the total number of sets available in 1952 was 800—an increase of 200 sets over the figure for 1949. Although there has been some progress in the extension of blood transfusion service in various parts of India in the shape of an increased number of blood transfusion centres, the position is still far from satisfactory because the donors of blood are not readily available even on payment for fear of after-effects. Rural health has been receiving particular attention because the vast majority of people live in villages. It is gratifying to note that a forward step has been taken to ensure safe water-supply, good drainage, adequate disposal of refuse, through community effort and health education, the details of which may be seen in Chapter 5 of this volume. Industrial health also has been receiving attention though the economic resources of this country being relatively underdeveloped, very little could be done in the past either by legal enactment or in actually practice as is the case with industrialised nations of Europe and America. With increasing industrialization, however, more attention is being paid to the industrial worker, his health and his well-being.

DISPLACED PERSONS all over India continued particularly to receive medical attention. On disbandment of the Krukshetra Camp, which had been taken over by Central Government in May, 1949, a 100-bedded tuberculosis hospital was opened in PEPSU for the benefit exclusively of this class. After three years of useful service to about 32,000 displaced persons, the Jammu Relief Camp was closed. As before, medical and public health arrangements and Faridabad and Rajpura Relief Camps continued to be the responsibility of the Directorate General of Health Services till the camps were handed over to their respective Development Boards in the latter half of 1950. The Directorate, however, continued giving technical advice and assistance. Yol Relief Camp which accommodated displaced persons, had a well-equipped 50-bedded hospital. Assam had as many as 69 camps for displaced persons and there were similar camps in other States, viz., Bihar, Bombay, Punjab, Uttar Pradesh, West Bengal, Pepsu, Rajasthan, Delhi and Tripura. In-patients were provided with free diet and hospital clothing. Mothers and children under five, received extra quantity of milk. Vitamin tablets, milk-powder, fruit-juices, Paludrine tablets, etc., were distributed free. Over 330 displaced medical

students were provided with seats in medical colleges; and, by the third quarter of 1950, more than twice that number of displaced medical men had been absorbed in State Government services and elsewhere. 450 non-Muslim patients in the mental hospitals of Pakistan were exchanged for 271 Muslim mental patients in India.

MEDICAL EDUCATION has made progress during the period under review. At the end of the year 1952, there were 30 medical colleges in India admitting over 2,500 students annually as compared with 24 medical colleges at the end of 1948. A new medical college at Baroda was opened in 1949 and another in Travancore-Cochin State in 1951. In pursuance of the general policy to abolish the licentiate course in medicine, fresh admissions to the Miraj Medical School were stopped and the L.M.P. course at the Robertson Medical School, Nagpur was replaced by a three-year course of "Medical and Health Assistant" for rural workers. The question of upgrading or abolishing the remaining three medical schools, two at Ludhiana and one at Bangalore, was also under active consideration. Adequate care was taken to see that the medical colleges maintained proper standards of teaching and visits were paid by representatives of the Medical Council of India, accordingly. Certain Universities adopted revised recommendations of the Medical Council on professional education, the more important of which are : introduction of a course of preventive and social medicine; abolition of examination in hygiene and public health, as a separate subject; shortening of the academic course from 5 years to 4½ years before admission to final M.B.B.S. examination; and satisfactory completion of post-examination clinical training for one year in a recognised hospital and teaching institution including practice in public health work, preferably in rural areas. The Medical Council also appointed an *ad hoc* committee to suggest proper standards for various post-graduate qualifications and the means to exercise effective supervision over training and examinations. Certain institutions, such as, the Indian Cancer Research Centre at Bombay, the Department of Tuberculosis of Delhi University, the Physiology Department of the Prince of Wales Medical College, Patna, the Industrial Hygiene Institute at the All India Institute of Hygiene and Public Health, Calcutta, and the Thoracic Surgery Department of the Christian Medical College, Vellore, were upgraded. The overseas training scheme of 1946 was abandoned owing to financial stringency. A new scheme of fellowships, instead, was instituted under the auspices of various international organisations under which 145 Indians received training in a wide variety of subjects during the four years under review.

DENTAL EDUCATION has received a fillip during the period under report, and the year 1949 may be considered as a landmark in the history of dental profession in India. It was in this year that the Dental Council of India consisting of 29 members representing dental practitioners, dental colleges, universities, the Medical Council of India and Central and State Governments came into being. Rules of Ethics were framed and syllabuses and curricula were drawn up for the examination of unqualified dentists for permanent registration, for dental mechanics and dental hygienists, and for the recognition of dental qualifications granted in India and abroad.

The Dentists Act of 1948 had provided for the constitution of dental councils in various States of the Indian Union, but not much progress yet

can be reported in this direction. However, Dental Councils were constituted in West Bengal, Bombay, U.P., and Madras during the quadrennium. Dentists Registration Tribunals were formed in several States and, by the end of 1952, 3,742 dental practitioners had been registered.

New teaching institutions were opened in Punjab and U.P., and the West Bengal Government took over and upgraded the Calcutta Dental College. Madras State Government has in view the starting of dental degree course when structural additions to its General Hospital are complete and necessary equipment is received.

THE ALL INDIA INSTITUTE OF MEDICAL SCIENCES, the establishment of which is one of the most important steps undertaken by the Government of India in the field of Medical Education, is being built on a 150-acre site near the Safdarjang Hospital, Delhi at a cost Rs. 7 crores in order to promote facilities for post-graduate training and research of a high order, to develop and demonstrate high standards of undergraduate and post-graduate medical education and to train teachers for medical colleges. The Institute will be an autonomous body with the powers and functions of a University. To promote the growth of an academic atmosphere and a tradition of scholarship, all the staff and students will live on the campus. Training will be imparted in all the more important branches of health activity and, in addition, there will be a nursing college, a dental college and rural and urban health organisations for field training as well as for promoting research into health problems. In course of time, physiotherapists, occupational therapists and medical technicians of various kinds also will have the opportunity to receive specialised training.

It is hoped that the beneficial influence of the Institute on medical education in India will be immense and lasting in character.

MEDICAL RESEARCH in India, unlike in other countries where commercial enterprise and private endowments play a prominent part in its pursuit, is dependent entirely on Government support. While, therefore, the limited funds thus available do not permit of spectacular or epoch-making advances in this field, the period has been one rather of consolidation and re-organisation than of any new ventures. The Indian Council of Medical Research became the successor of the Indian Research Fund Association but on a more stable basis; improvements were effected in the general standard of the teaching and research institutions; and facilities at many institutions in the Western countries for post-graduate and research work were made available to Indian teachers and research workers.

The Indian Council of Medical Research carries on researches in the medical problems directly and also by assisting independent research workers and institutions, in communicable diseases particularly, with fellowships and temporary financial grants for specific investigations. Members of the Council staff work in its Nutrition Research Laboratories at Coonoor, the Nutrition Research Units at Bombay and Calcutta, the Clinical Neuropathological and Polio Research Units at Bombay and the Industrial Health Research Units at Calcutta. The Council has also created a Haematological Unit to fulfil the urgent need of evolving an organisation for the testing of liver extracts and for promoting haematological research. So also a Unit for the study of liver diseases. Industrial health is receiving the Council's attention at its Unit in the All India Institute of

Hygiene and Public Health at Calcutta. With aid from the Rockefeller Foundation, it has established a Virus Research Centre, Poona for investigating the epidemiology of Virus diseases peculiar to India, such as, small-pox, rabies and poliomyelitis.

To give it a proper orientation, the Nutrition Advisory Committee has examined the nutrition research problems and assigned priorities to those which are of special interest to this country. There is, still, a considerable lack of knowledge on the factors governing the endemicity of cholera in an area. After a thorough bacteriological examination that no cases of mild infection were noted in a community during the inter-epidemic period, its investigation has been made to include the subject of the role of fish and other aquatic animals in the maintenance of cholera in endemic areas. The histopathology, bacteriology, immunity and the role of orthopaedic surgery in leprosy have received due attention from the Council as also the effect of new remedies on the course of this disease. Filariasis has now come within the possibility of being controlled on a mass scale economically with the employment of Diethyl Carbamazine which causes disappearance of microfilariae in a majority of cases. Effect of noise on the efficiency of industrial labour, the accident-proneness of certain working classes, vital losses in women due to their occupation e.g., in jute industry, incidence of acute and sub-acute lead poisoning in printing presses and storage battery manufacturing concerns, industrial dermatitis, standards of environmental comfort and suitable disposal of industrial wastes have all been receiving attention of the Indian research worker in India.

With regard to indigenous drugs, a number of medicinal plants commonly used by Vaidis and Hakims have been investigated, chemically and biologically assayed for their active principles, and substitutes for some of the foreign pharmacopoeial drugs worked out. Some of the essential oil bearing plants growing in the natural state in Kashmir valley are being commercially exploited and a proposal for the establishment of a Central Institute for Research in Ayurved, in Jammu and Kashmir, is in the course of finalisation.

The Scientific Advisory Board of the Council appointed eleven Advisory Committees to help it to initiate and organise research in several fields such as, malaria, cholera, plague, leprosy, virus, nutrition, etc., besides setting up special committees on tuberculosis control, venereal diseases, etc.

For details of investigations made also in other fields a reference may be made to Chapter VIII on Medical Research in this volume and to the technical reports of the Scientific Advisory Board for the corresponding years.

VOLUNTARY ORGANISATIONS have continued, as in the years past, to do good and useful work in the cause of suffering humanity. Mention has already been made of the role of the Tuberculosis Association of India in its special field. The Indian Red Cross Society, another non-official organisation, has been of great assistance whenever natural calamities, such as, earthquakes, floods, fire and failure of monsoon occurred. It freely distributed foodgrains, medicines, milk, multi-vitamin tablets, etc., in the affected areas. *Ex-Service* personnel continued to receive aid from its Medical After-Care Fund. The health of mothers and children is a pioneer activity of the society, and it maintains a close contact with the

order of St. John of Jerusalem which has a brigade of a uniformed, disciplined body of men and women who can be counted upon during an emergency.

The Kasturba Gandhi National Memorial Trust had over 350 villages and provincial training centres and more than 500 trained workers engaged in maternity and child welfare work and leprosy relief at the end of 1952.

In the field of leprosy, a mention may be made of the 'Mission to Lepers' whose two projects for leprosy relief materialised in the final year of the quadrennium. Thousands of leprosy-stricken persons receive in-patient and out-patient attention at the Mission's centres. Hind Kusht Nivaran Sangh (Indian Leprosy Association) is the new name of the Indian Council of the British Empire Leprosy Relief Association, now a more representative and more popular body. The Sangh has branches in several States. It surveys endemic areas, provides up-to-date treatment, arranges segregation of infectious patients, trains doctors and social workers, carries on publicity and propaganda and assists in the rehabilitation of cured cases. It also publishes a quarterly journal, 'Leprosy in India'.

The All India Blind Relief Society of Delhi also has been doing very useful work in its own sphere by rendering surgical and medical aid in specially set-up Eye Relief Camps, besides public propaganda through printed literature, magic lantern lectures, etc., on the prevention of blindness.

INTERNATIONAL ORGANISATIONS also should receive due heed for the laudable help to the nation in its efforts at building a healthier India. Reference has already been made to the assistance received from the World Health Organisation amounting to over one million dollars during the period under report. The United Nations International Children's Emergency Fund is another body which has substantially helped India to the extent of some seven million dollars in equipment and supplies for various health development and emergency relief programmes. Assistance under the Point Four Programme has also come in the form of experts for public health consultation, cancer research and medical administration. In order to streamline the programmes in public health, medical sciences and medical education, the Rockefeller Foundation amalgamated its international health and medical sciences divisions in 1951. Long-range plans are being made by the Foundation for the development and assistance of post-graduate training centres to provide more and better teachers for augmenting the number of medical colleges. During the quadrennium under report, the Foundation gave over 60 fellowships to Indian workers.

CHAPTER I

ADMINISTRATIVE ORGANISATION

During the period under review, the scope of activities of the Union Ministry of Health remained the same as in the preceding two years.

Dr. K. C. K. E. Raja held the post of the Director General of Health Services up to 31st May, 1952. Thereafter, Lt. Col. C. K. Lakshmanan took charge of the post.

The Director General of Health Services is assisted by a member of Deputy and Assistant Directors General of Health Services besides technical advisers and other officers on important subjects relating to Public Health as may be seen in the chart given at the end of the chapter.

The report of the Environmental Hygiene Committee which was constituted by the Government of India, Ministry of Health, in June, 1948, primarily to consider the steps to be taken to implement the recommendation of the Health Survey and Development Committee as contained in Chapter XII, Vol. II of their report in regard to environmental hygiene, was published in October, 1959. The recommendations which were primarily the concern of State Governments were brought to their attention, and such of the recommendations as were essentially the concern of other Ministries of the Government of India were forwarded to them for implementation. The Ministry of Health themselves are taking appropriate action insofar as they are concerned.

Pursuant to the resolution passed by the Local Self-Government Minister's conference held in August, 1948, the Government of India in the Ministry of Health constituted a committee of officials and non-officials on 2nd April, 1949 to investigate the financial resources of Local Bodies including Improvement Trusts and to suggest measures for improvement of their finances. The Committee submitted its report on 23rd December, 1950. Copies of the report were sent to State Governments for necessary action, and the recommendations which were the concern of the Government of India were examined and dealt with by the Ministry of Health.

The third Health Minister's Conference was held in 1950 under the Chairmanship of the Union Health Minister and was inaugurated by the Prime Minister. The conference considered the following subjects :—

1. Report of the indigenous systems of Medicine Committee

A Committee was appointed to make recommendations regarding the steps to be taken for development and regulation of the indigenous systems of medicine. The report of the committee was submitted in February, 1949. The conference recommended the institution of two types of Courses, a five years period of training for the Degree Course and a four years' one for the Diploma Course. While making the above recommendation, the conference stipulated that all institutions training for the Diploma Course must be raised to the Degree standard within a period of ten years.

2. Report of the Homeopathic Enquiry Committee

The conference considered recommendations of the Homeopathic Enquiry Committee specifically in regard to the training courses to be adopted for teaching homeopathy, and the question of registration of those who would be permitted to practise this system of medicine. The conference was of opinion that there should be both a Degree and a Diploma course in homeopathy, the Diploma course being ultimately replaced by the Degree course.

3. Organisation of an All India Health Service

The third Health Minister's Conference discussed this question and appointed a sub-committee. On the recommendation of this sub-committee, it was resolved that in the field of health, active cooperation between the Centre and the States as well as inter-State cooperation should be developed and that the recruitment to senior administrative posts, higher research posts and senior teaching posts should be made by advertisement on all-India basis. This resolution while calling for cooperation between the Centre and the States and between the various States did not indicate or suggest the machinery through which the desired cooperation should be forthcoming.

4. The question of establishing a Central Council of Health under Section 263 of the Constitution

The Central Council of Health was established by the order of the President, *vide* Ministry of Health No. F. 6-1/51-P, dated the 9th August, 1952.

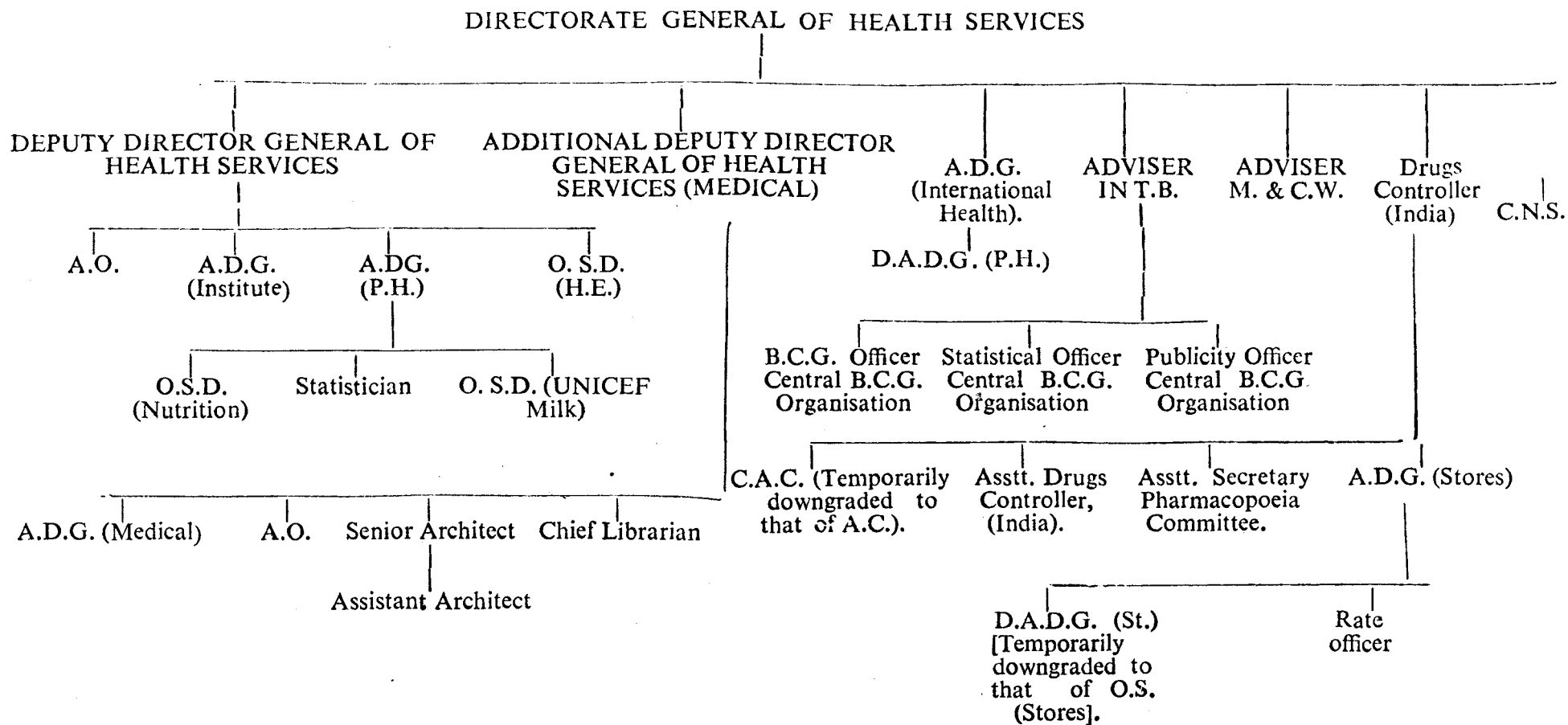
5. Integration of Services and Jail administration

The policy of integrating medical and public health departments in the States was pursued with the result that, by the end of 1952, there was only one administrative head for the two departments in all the States except in Assam, Bombay, Coorg, Madras, Bihar, Travancore-Cochin and Mysore. At the district level, however, functions of the Civil Surgeon varied from State to State. In some States, the Civil Surgeons looked after both the curative and preventive aspects, while in other States, they were responsible for curative measures only.

Jail Administration, in most of the States, was under the control of the heads of medical departments. Separate administrative heads existed only in Punjab, Madhya Bharat, Madras, Kutch, Bihar, Hyderabad, West Bengal, Travancore-Cochin, Bombay and Rajasthan.

Appendix Table No. 1 shows the number of Medical Officers employed in various States on 31st December, 1949 and on 31st December, 1952 while the Appendix Tables Nos. 2 and 3 show the number of Medical Officers employed solely in the Public Health and Jails Departments as on 31st December, 1949 and on 31st December, 1952, respectively.

ADMINISTRATIVE CHART OF THE DIRECTORATE GENERAL OF HEALTH SERVICES AS ON 31ST DECEMBER, 1952.



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N. B. —The posts of Additional Deputy Director General of Health Services (Public Health) and Deputy Assistant Director General, (Medical) which have been temporarily held in abeyance have not been included in the administrative Chart.

CHAPTER II

POPULATION VITAL STATISTICS, FOOD SCARCITY ETC.

1. Population
2. Live births
3. Deaths
4. Infant Mortality
5. Registration and compilation of Vital Statistics
6. Food Scarcity and Famine Relief
7. Rainfall

CHAPTER II

VITAL STATISTICS AND POPULATION

1. Population

The decennial census count of the population was taken on 1st March, 1951, *i.e.*, about the middle of the period under report. Population totals are made available for administrative units like States and Districts, and also according to various classifications, such as, rural and urban, sex, age grouping, community, occupation, marital status, etc. For a review of vital statistics of the period the base populations are thus known with reasonable accuracy. Statistics regarding all the vital events, *viz.*, births (live and still), deaths (including infant deaths, maternal deaths and foetal deaths), marriages (also desertion and divorce) are not available for the country or for any of the States as all the events are not registerable in any of the States; or all the registration uniformly registerable for the entire country. There is no provision, for example, for registration of marriages performed under the Hindu law and Muslim law which apply to an overwhelming majority of the population. A count of divorces and desertions is thus out of the question. Compulsory registration of births and deaths is in vogue in some States, voluntary in some others and altogether non-existent in the rest. Even in areas where registration, whether compulsory or voluntary obtains, the degree of completeness varies. While there are States where omissions form only a negligible percentage of the total number of events, there are areas where the registration is so deficient as to render the returns worthless. In the first category may be included the States of Madras, Coorg, Bombay, Madhya Pradesh, Punjab, Ajmer and Delhi. It may also be pointed out that the degree of accuracy of these statistics may not be the same for all parts of administrative divisions or sub-divisions of the States because some of these States have former princely States as their districts or sub-divisions. In the second category, where registration is not satisfactorily complete, may be included the States of Uttar Pradesh, Bihar, Orissa, West Bengal, Assam (Plains), Mysore, Hyderabad, Travancore-Cochin and Himachal Pradesh subject to the same qualification about the merged areas. No satisfactory system exists for Assam Hills, Manipur, Tripura, Sikkim, Saurashtra Kutch, Madhya Bharat, Bhopal, Vindhya Pradesh, Rajasthan, PEPSU, Bilaspur and Jammu & Kashmir. In these areas, either the registration does not exist or, if it does, it is so incomplete as to render the figures valueless. The estimate of under-registration of births and deaths in any areas has, more or less, been a matter of intelligent guess substantiated occasionally by a special study or enquiry or survey conducted by the State Government or census officials. About 75% of the population of India is scattered in areas having some sort of a reasonably satisfactory registration arrangement. It is perhaps a fortunate fact that the areas are so scattered geographically as to give, more or less, a representative picture regarding birth and death rates in the country, as a whole. Some other events, *viz.*, still-births, foetal, maternal and infant deaths, are not satisfactorily registered except for certain special sections of the population. The difficulties in this respect are two-fold. First, is the usual difficulty of agency for re-

gistration which includes lack of diagnostic facilities and secondly, the difficulties of standardisation and definitions.

2. Births and Birth Rates

The following Table gives the number of live births per one thousand of population registered in the States during each of the four years as also the distribution of total births by rural-urban divisions and the number of male children born per 100 of female children born. Information regarding the number of still-births registered is also shown. However, the degree of accuracy cannot be determined.

TABLE I

Name of State	Years	Birth rate per 1000 of population			No. of male Children born per 100 female children born	Number of Still births re- gistered
		(3)	(4)	(5)		
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Assam	1949	14.9	20.7	15.1	109	*
	1950	14.1	16.7	14.2	110	*
	1951	14.3	16.3	14.4	108	2,251
	1952	14.7	16.0	14.8	108	*
Bihar	1949	17.9	12.6	17.7	104	545
	1950	18.6	7.4	17.9	108	18,758
	1951	18.8	7.8	18.1	111	12,547
	1952	19.3	9.1	18.6	109	14,660
Bombay	1949	33.2	34.3	33.5	107	11,488
	1950	33.2	26.3	31.0	107	11,532
	1951	36.8	27.9	34.0	107	12,145
	1952	34.6	30.5	33.3	108	11,731
Madhya Pradesh	1949	35.2	37.3	35.5	108	15,355
	1950	28.3	30.9	28.6	109	15,591
	1951	28.5	28.5	28.5	110	15,751
	1952	25.3	27.6	25.6	111	12,248
Madras	1949	29.0	42.0	39.9	107	19,019
	1950	29.3	31.4	29.7	106	17,744
	1951	27.7	30.9	27.5	106	17,357
	1952	28.0	32.4	29.8	106	16,674
Orissa	1949	26.8	27.6	26.6	108	10,154
	1950	27.3	29.2	27.4	108	14,850
	1951	24.7	30.9	25.0	109	6,017
	1952	27.9	24.7	27.8	106	*
Punjab(1)	1949	38.9	35.8	38.4	116	1,011
	1950	39.9	30.3	38.1	115	922
	1951	41.8	30.5	39.7	114	902
	1952	42.8	33.0	44.0	114	1,177
Uttar Pradesh	1949	20.5	34.8	22.3	118	4,452
	1950	19.3	31.9	21.0	110	3,893
	1951	17.3	34.9	19.7	120	7,981
	1952	15.5	29.3	17.4	120	5,248

N.B.—The rates for 1951 and 1952 given above are only provisional.

*Not available.

TABLE I (contd.)

(1)	(2)	(3)	(4)	(5)	(6)	(7)
West Bengal . . .	1949	18.7	50.5	21.1	108	12,313
	1950	19.0	17.6	18.7	109	9,905
	1951	22.8	18.6	21.9	108	10,000
	1952	24.4	18.8	23.1	109	10,869
Ajmer	1949	25.2	28.8	26.6	124	75
	1950	22.9	37.8	29.2	115	77
	1951	25.6	36.9	30.5	115	63
	1952	21.2	22.6	21.8	120	48
Coorg	1949	12.9	80.9	17.6	111	46
	1950	12.9	72.2	17.1	106	*
	1951	11.0	76.0	15.7	105	25
	1952	11.3	82.8	16.4	118	*
Delhi	1949	30.5	31.4	31.2	111	493
	1950	35.8	30.7	31.6	111	508
	1951	40.0	31.6	33.1	111	534
	1952	37.4	29.0	30.4	112	458
India	1949	24.9	36.1	26.4	110	
	1950	24.5	27.1	24.9	110	
	1951	24.3	27.9	24.9	111	
	1952	24.2	27.8	24.8	111	

As already pointed out, the registered number of births is always less than the actual number. This applies to all the States. The difference is only one of degree. In some States, some efforts have been made to estimate the under-registration of births and deaths by special check-up or verification. A brief description will be given for some of them :—

(1) The Statistical department of the State Government of Uttar Pradesh carried out a sample survey, in 1949, in 44 districts of the State. About 200 villages were selected in each district. It was estimated that under-registration was of the order of 29.3% in case of births and 24.3% in case of deaths, for the whole State.

(2) The Superintendent of Census Operations in U.P. arranged for calculation of birth-rate and death-rate by the differencing method. This had led him to the conclusion that during the decade, 1941—50, there was under-registration of births to the extent of 28.5%, and of deaths to the extent of 32% and that the true birth-rate was 34.6 and death-rate 24.3. These results are subject to revision as migrants to Pakistan have not been taken into account.

(3) The efficiency of registration in Orissa is said to have deteriorated during and after the World War II. It is an intelligent guess that the under-registration of births may be of the order of 45% to 50% and of deaths of 30 to 40%.

(4) The Director of Public Health, West Bengal carried out a survey in 1948 and obtained data regarding births and deaths, and omissions in registration. According to the area considered, the birth-rate was estimated to vary from 34 to 43 and death-rate was estimated at 29.

(5) The results of the experimental census showed that in Madras, under-registration of births was to the extent of 10.7% and that of deaths 15.7%.

(6) The Health Department staff of Mysore in the various health centre areas collected Vital Statistics by house-to-house enquiry. They took special care to ensure a 100 per cent accuracy. The survey revealed a crude birth-rate of 39.5 and death-rate of 15.6.

(7) In 1948, the Department of Public Health conducted a survey in 30,535 houses scattered over 303 centres in Travancore-Cochin. The birth and death rates were estimated to be 34.0 and 11.4 respectively. Registration is stated to be practically complete in the urban areas of Trivandrum.

(8) An experimental census of births and deaths in sample households disclosed an under-registration of 17.7% of registered births and 16.4% of registered deaths in Bombay States.

(9) Another experimental census of births and deaths in sample house-holds held in 1952 in Madhya Pradesh showed in under-registration of 10.3% of registered births and 14.2% of registered deaths.

(10) Under-registration of births and deaths is stated to be 14.7% of registered births and 18.1% of registered deaths in Punjab. These results were obtained in the experimental census of births and deaths in sample house-holds held in 1953.

The Table given on pages 20 and 21 will show that birth-rates in Assam, Bihar and Coorg are too low as compared with other States in India. In case of Coorg, it is stated that registration of births and deaths is more or less, complete. It is felt that in the other two States, these figures do not show the true picture and may be the result of omissions in the registration of births. The birth-rates have remained more or less, constant during these four years in the States except for a slight downward tendency noticeable, here and there. Reports from the Census Superintendents indicate that there has been an actual fall in the birth-rate during the last decade attributable to the changing age structure of the population. These short-term fluctuations shown by the Table above may perhaps be due to variation in under-registration and a year may perhaps be too short a period to indicate long-term trends.

In all States for which figures for registered births are available, the number of males among children born is greater than the number of female children. The fact of under-registration cannot be denied. Even so, we see no reason why the registration of children of one sex should have been more complete than that of the other. Thus, the registered figures are indicative of the true situation. In this context, the following passage in the report on the Census of India for 1951 may not be out of place :—

“The occurrence of an excess of male births is not an accident, nor is the fact that this excess is much more pronounced in Uttar Pradesh than in the other States. It should seem that we are face to face with the working of some biological law. Is that conclusion valid or is it vitiated by the fact that all births do not get registered? We know there are omissions in the registration of births. It is also true that the extent of such omissions is not the same in all the States. It cannot,

therefore be denied that it is difficult to be certain on the conclusion. The causes which lead to the omissions of registration of births are not peculiar to female births. Female births are not much more likely to get omitted than male births. It is difficult to think of any kind of systematic bias which would lead to continuous and universal suppression of female births in such large numbers."

3. Deaths

As already indicated, the registration of deaths in the country started earlier than that of births. There has long been a standing presumption that registration of deaths is more complete. But some recent investigations have shown that it may not be correct in all cases and the position regarding registration of births and deaths is much the same in the States and subject to practically the same inaccuracy or bias. It is not possible to go into details of the causes of deaths because of the circumstances obtaining in the country. At present, deaths are registered according to four specific causes and three other groups of causes. The W.H.O. have recommended the recording of deaths according to (1) 50 causes (2) 150 causes and have specified particular age groupings for the purpose. The cause of death, according to these lists of causes, cannot be ascertained without the help of a medical attendant who is not available for a large majority of deaths. The present list of causes is based on two considerations: (1) available reporting agency; and (2) importance of disease. It is noticed that diseases like cholera, plague and smallpox, which caused havoc in the past, are now under control. Respiratory diseases and fevers are not diminishing. The part each one of these diseases plays is given elsewhere. The table attached shows death-rates per 1,000 of the estimated mid-year population in various States during each of the four years under report. These rates are, more or less, constant and only in some cases a downward trend is observed. It is possible to state definitely whether the change in the rates shows a definite tendency or is just the result of fluctuations in registration. However, it has been assumed that the bias due to under-registration *i.e.*, more or less of a constant nature, and long term comparisons may perhaps be valid. The degree of under-registration varying from State to State, inter-State comparisons should not be justified.

The following Table gives total death-rates, and death-rates by sex:—

TABLE II
DEATH RATE PER, 1000 POPULATION

	Years	Male	Female	Total
Assam	1949	8.3	8.6	8.4
	1950	7.8	8.6	7.9
	1951	7.1	7.3	7.2
	1952	7.1	7.3	7.1
Bihar	1949	10.5	9.6	10.1
	1950	12.3	10.8	11.5
	1951	12.7	11.4	12.1
	1952	10.5	9.1	9.8

TABLE II (contd.)

	Years	Male	Female	Total
Bombay	1949	20.9	21.2	21.0
	1950	17.4	17.3	17.3
	1951	15.9	16.0	15.9
	1952	16.7	16.8	16.8
Madhya Pradesh	1949	25.8	27.3	24.3
	1950	22.0	23.3	20.7
	1951	+	18.3	23.4
	1952	17.2	18.3	16.1
Madras	1949	17.1	16.3	16.7
	1950	19.3	18.6	18.9
	1951	16.6	15.9	16.2
	1952	16.1	15.3	15.7
Orissa	1949	23.8	21.7	22.7
	1950	21.9	20.0	20.9
	1951	22.3	21.6	21.0
	1952	21.0	19.8	20.3
Punjab(1)	1949	17.0	17.1	17.1
	1950	21.4	21.5	21.5
	1951	16.5	16.7	16.5
	1952	17.2	17.5	17.1
Uttar Pradesh	1949	13.5	11.8	12.7
	1950	14.2	12.7	13.5
	1951	12.1	10.8	11.5
	1952	11.3	10.1	10.7
West Bengal	1949	15.4	17.8	16.5
	1950	14.5	15.6	15.0
	1951	12.7	13.3	13.0
	1952	10.8	10.9	10.8
Ajmer	1949	17.7	17.6	17.7
	1950	17.9	16.4	17.2
	1951	13.0	12.1	12.6
	1952	17.4	14.2	17.3
Coorg	1949	10.4	8.8	9.6
	1950	7.4	7.5	7.4
	1951	7.7	7.2	7.5
	1952	8.2	7.6	7.9
Delhi	1949	9.3	11.9	10.4
	1950	10.2	12.1	11.0
	1951	7.9	9.4	8.9
	1952	9.1	10.9	9.9

From the Table it will be seen that Bihar, Madras, Orissa, Uttar Pradesh, Ajmer and Coorg are the States which have always recorded a higher mortality rate among the males whereas in the States of Assam, Madhya Pradesh, Bombay, Punjab, West Bengal and Delhi, reverse is the case.

A Table showing deaths recorded under various age groups expressed as a percentage of total deaths and the age structure of the population in 1941 and 1951 censuses is appended for information :—

TABLE III

Age groups	Percentage Registered Deaths 1941—50	Percentage 1951 Census	Population 1941 Census
Under 1 year	19.9	13.3	13.6
1—4 Years	17.5	12.8	13.6
5—9	6.2	12.8	13.0
10—14	3.9	11.3	11.1
15—19	3.9	10.1	9.4
20—24	8.0	9.0	8.8
25—29		8.1	8.5
30—34	7.9	7.2	7.6
35—39		6.3	6.4
40—49	7.5	9.8	9.8
50—59	7.8	6.4	6.3
60 and over	17.4	5.7	4.9

From the Table it will be apparent that in almost all the States and in the country in general, about 40% of total deaths occur below the age of 5 though the population in this age-group is a little below 14%. Of these deaths among children under the age of 5, roughly half the number die before completing the first year of life.

4. Infant Mortality

The following Table gives the infant mortality rates for total rural and urban areas in various States from 1946 to 1952 :—

TABLE IV

Name of State (1)	Year (2)	Infant Mortality rate per 1,000 live births		
		Rural (3)	Urban (4)	Total (5)
Assam	1946	114.9	65.3	113.1
	1947	92.6	56.7	91.1
	1948	105.2	62.4	103.0
	1949	97.3	62.6	95.9
	1950	102.7	55.4	100.5
	1951	91.1	55.8	89.4
	1952	83.8	59.4	82.7
Bihar	1946	89.4	115.0	90.0
	1947	82.0	122.7	83.3
	1948	78.2	137.2	80.2
	1949	75.7	94.5	76.3
	1950	78.8	131.5	80.3
	1951	88.8	103.9	89.3
	1952	68.8	73.3	68.9
Bombay	1946	155.8	182.2	162.8
	1947	159.3	169.2	161.9
	1948	137.0	153.3	141.4
	1949	140.0	142.2	140.6
	1950	124.8	132.1	126.7
	1951	112.7	124.6	115.8
	1952	113.9	122.1	116.3

TABLE IV (contd.)

(1)	(2)	(3)	(4)	(5)
Madhya Pradesh	1946	206.6	176.0	202.7
	1947	246.5	270.2	243.0
	1948	212.5	192.3	209.7
	1949	189.0	167.2	186.0
	1950	201.9	161.7	196.1
	1951	198.8	163.1	194.0
	1952	174.0	137.1	168.4
Madras	1946	147.5	144.5	146.9
	1947	147.3	144.5	146.8
	1948	128.8	125.4	128.1
	1949	119.7	120.1	119.8
	1950	128.8	135.4	130.1
	1951	116.9	124.2	113.5
	1952	106.6	113.8	108.1
Orissa	1946	172.2	144.9	171.2
	1947	202.2	151.9	200.6
	1948	177.3	126.2	175.3
	1949	177.3	138.3	175.7
	1950	159.2	120.4	157.6
	1951	191.4	136.4	188.7
	1952	160.5	115.9	159.2
Punjab (I)	1946	+	+	133.6
	1947	152.8	161.9	154.1
	1948	130.6	128.4	130.3
	1949	134.7	111.8	131.5
	1950	166.4	124.9	160.3
	1951	127.3	99.6	123.4
	1952	131.8	97.2	126.5
Uttar Pradesh	1946	83.4	169.6	110.5
	1947	101.1	180.8	116.5
	1948	92.8	168.7	108.7
	1949	79.9	157.6	95.2
	1950	92.1	150.8	104.3
	1951	189.3	129.4	129.3
	1952	124.6	143.8	129.0
West Bengal	1946	135.6	191.5	143.3
	1947	133.0	203.2	144.8
	1948	121.8	209.2	136.7
	1949	122.6	179.3	132.8
	1950	112.4	175.3	126.2
	1951	93.1	175.6	109.5
	1952	86.0	156.8	99.6
Ajmer	1946	125.8	175.5	148.6
	1947	149.6	188.8	169.6
	1948	144.6	193.9	164.1
	1949	146.8	171.0	157.1
	1950	13.2	108.0	121.1
	1951	96.4	75.8	85.6
	1952	132.8	146.0	139.1
Coorg	1946	145.1	117.4	115.5
	1947	102.3	48.6	86.5
	1948	78.6	24.0	61.8
	1949	82.5	31.3	66.0
	1950	84.2	13.9	63.2
	1951	78.4	24.0	59.6
	1952	74.2	6.4	49.8

TABLE IV (contd.)

(1)	(2)	(3)	(4)	(5)
Delhi	1946	123.2	129.2	127.7
	1947	139.8	142.6	141.9
	1948	114.2	101.8	104.2
	1949	109.6	93.6	96.8
	1950	125.4	91.2	98.1
	1951	206.0	51.0	84.0
	1952	121.8	77.3	86.7
INDIA	1946	133.2	163.0	137.2
	1947	141.1	168.6	145.6
	1948	125.6	152.1	130.1
	1949	119.2	139.2	122.8
	1950	124.2	140.0	127.1
	1951	123.8	127.2	124.4
	1952	114.5	123.5	116.3

N.B.—The rates given above for 1951 and 1952 are provisional.

The infant mortality rate is perhaps the most important health indicator and easy to work out from readily available material. There was a long-term downward tendency in infant mortality in all the States with a slight upward fluctuation in 1943 or 1944. The same trend was maintained during the four years under report except for a slight upward swing in 1950 in Assam, Bihar, Madhya Pradesh, Madras, Punjab, Uttar Pradesh and Delhi and in 1951 in Bihar, Orissa and Uttar Pradesh. In Assam, Bihar, Coorg and Delhi, the rate reduced to a figure well below 100 whereas in the case of other States, it still continued to be slightly above this figure except in Madhya Pradesh where it decreased to below 200—a limit never crossed before. In the States of Assam, Madhya Pradesh, Orissa, Delhi and Coorg, the infant mortality rate for rural areas is markedly higher than that for urban areas whereas the position reversed in Bihar, Bombay, Madras, Uttar Pradesh, West Bengal and Ajmer, and this tendency seems to persist from year to year. In case of Delhi and Punjab, the urban and rural rates are much the same. It is difficult to determine whether the difference is real and significant or a sequel to faulty registration.

For a study of Vital Statistics, we take into account the estimated mid-year populations. During the period under report, 1951 census was taken and actual figures are available as on 1st March, 1951. Estimates for post-censal years are obtained by assuming constant net increase during the intercensal period. No attempt has been made to justify the rationale of the procedure. Its simplicity is perhaps the most important factor weighing in its favour. Any departures in respect of age structure of the population, inter-State migration or rural-urban seasonal variation from the conditions obtaining during the intercensal period will be left out of account. Inter-State migration during this period may be negligible. So far as rural-urban migration whether of a permanent or a seasonal nature is concerned, it is difficult to assess its effect on population variation.

The following Table gives the mean decennial growth rate and the decennial rate of natural increase (registered) in respect of some States for the decade, 1941—50, together with the natural increase rate (registered) for the years 1949 to 1952.

TABLE V

Name of State	Period or Year	Mean Decennial Growth rate	Decennial rate of natural increase (registered)
Assam	1941—50	+17.4	*
	1949		+ 6.7
	1950		+ 6.4
	1951		+ 7.2
	1952		+ 7.7
Bihar	1941—50	+ 9.6	+ 5.8
	1949		+ 7.6
	1950		+ 6.3
	1951		+ 6.0
	1952		+ 8.8
Bombay	1941—50	+20.8	+10.3
	1949		+12.5
	1950		+13.7
	1951		+18.1
	1952		+16.5
Madhya Pradesh	1941—50	+ 7.9	+ 6.7
	1949		
	1950		
	1951		
	1952		+ 8.4
Madras	1941—50	+13.4	+10.2
	1949		+14.2
	1950		+10.8
	1951		+11.3
	1952		+13.6
Orissa	1941—50	+ 6.2	+ 2.2
	1949		+ 4.2
	1950		+ 6.5
	1951		+ 4.0
	1952		+ 7.5
Punjab	1941—50	+ 0.5	+15.6
	1949		+21.3
	1950		+16.7
	1951		+23.2
	1952		+23.9
Uttar Pradesh	1941—50	+11.2	+ 8.3
	1949		+ 9.6
	1950		+ 7.5
	1951		+ 8.2
	1952		+ 6.7
West Bengal	1941—50	+12.7	+ 1.6
	1949		+ 4.6
	1950		+ 3.7
	1951		+ 8.9
	1952		+ 2.3

TABLE V (contd.)

(1)	(2)	(3)	(4)
Ajmer	1941—50	+17.2	*
	1949		+ 9.0
	1950		+12.0
	1951		+17.9
	1952		+ 4.5
Coorg	1941—50	+30.5	*
	1949		+ 8.0
	1950		+ 9.6
	1951		+ 8.2
	1952		+ 8.5
Delhi	1941—50	+62.1	*
	1949		+20.8
	1950		+20.6
	1951		+24.1
	1952		+20.5

*Figures not available. + Increase

Age-structure of the population is an important characteristic, and expectation of life an important health indicator. Expectation of life worked out for 1951 census population on the basis of mortality experienced of previous decade along with age-structure of population at the time of 1951 census is reproduced below from the available census publications :—

	Age-group	Percentage
Infant and young children	0 to 4	13.5
Boys and girls	5 to 14	24.8
Young men and women	15 to 24	17.4
	25 to 34	15.6
Middle-aged men and women	35 to 44	11.9
	45 to 54	8.5
Elderly persons	55 to 64	5.1
	65 to 74	2.2
	75 and over	1.0

TABLE VI

All India	For 1941—50		1921—30	
	Male	Female	Male	Female
Expectation of Life at age				
0	32.45	31.65	26.91	26.56
1	39.00	37.30	34.68	33.48
5	40.86	40.91	38.96	36.61
10	38.97	39.45	36.38	33.61

TABLE VII

Zones	Expectation of Life (1941—50) at ages				
		0	1	5	10
North India	Males	34·00	39·41	41·33	39·30
	Females	34·36	39·34	42·04	40·17
East India	Males	28·1	35·2	38·19	37·26
	Females	27·41	33·00	36·63	35·96
South India	Males	36·22	42·58	44·26	42·04
	Females	37·23	43·00	45·47	43·32
West India	Males	31·33	37·56	40·27	38·33
	Females	30·93	36·65	39·89	38·00
Central India	Males	25·55	32·96	37·30	36·37
	Females	25·09	32·03	38·54	38·00

The table given shows the expectation of life at various ages in other countries according to the latest figures available in the Demographic Year Book, 1951, issued by the U.N.O. The countries are arranged in the descending order of their expectation of life at birth for males. It is sad to find that India still figures at the bottom, at all ages. Egypt is our nearest neighbour in this respect with figures considerably better off, at all ages.

Country	Period	Males			- Females		
		Age:— 0	5	10	0	5	10
Netherlands	1947—49	69·4	67·4	62·7	71·5	60·0	84·1
Sweden	1941—45	67·06	95·07	60·45	69·71	67·12	62·40
England & Wales	1948	66·39	84·14	59·76	71·15	68·75	63·94
Australia	1946—48	66·07	83·77	59·04	70·63	67·91	63·11
Denmark	1941—45	65·62	65·16	60·46	67·70	66·27	61·52
Canada	1947	65·18	64·43	59·70	69·05	67·52	82·78
U. S. A.	1939—41	61·60	60·76	56·12	65·89	64·43	59·73
Ireland	1940—42	59·01	60·68	56·25	61·02	61·43	56·94
Finland	1941—45	54·62	55·41	51·27	61·14	61·61	57·42
Japan	1947	50·06	53·61	49·49	53·96	57·45	53·31
Egypt	1936—38	35·65	49·75	46·86	41·48	58·33	54·47
India	1941—50	32·45	40·86	38·97	31·66	40·91	39·45

5. Food Scarcity and Famine Relief

Crop situation in the country mainly depends on weather conditions, particularly rainfall, and an account elsewhere has been given of the vagaries of the weather during the period under consideration. Crop failure usually

occurs due to uneven distribution of rainfall over the crop season or to crop pests.

Crop situation was fairly satisfactory in the State of Assam in the two years 1948-49 and 1949-50 except for the failure of paddy crop in one sub-division in 1948-49 and damage in a few districts due to hailstorm floods and wild beasts in 1949-50. In 1950-51, the State experienced a devastating earthquake resulting in floods and crop pests. Unfavourable weather conditions caused acute distress in two divisions in the State in 1951-52. In Bihar, crop failure was due to floods, hailstorm and insufficient rainfall. Nine districts were affected in each of the first two years and there was heavy damage in the year 1950-51. Five outbreaks of fire caused some loss in six districts during the first year. In the year 1948-49, there were scarcity conditions in six districts of Bombay State. There was heavy damage to crops in five districts due to cyclonic rainfall. Crops pests were reported from certain other districts. During the second year, crops were adversely affected in fifteen districts of the State by floods, untimely rain and pests. Some parts of the State experienced a cold wave. The outturn of crops was much reduced in 1950-51. Food crops were damaged in West Madhya Pradesh, particularly in the rice tracts, in the first year. The situation was generally good in the second year. Drought conditions were experienced in a few districts of the State during the Kharif season of 1950-51. Pests were reported from two districts during the same year. Adverse weather conditions affected the crops in 1951-52, the effect being more pronounced in the case of Rabi crop. Extremes of rainfall were responsible for crop failure in the greater part of Madras State during the period. Drought conditions were experienced in most of the districts in 1948-49, in southern districts in 1949-50 and in eight out of twenty-four districts in 1950-51. There were flood conditions in the northern districts during the second year, and in most of the districts of the State during the third year. There were drought conditions and consequent crop failure in two districts of Orissa in 1948-49. Crops were damaged in seven districts of the State due to cyclone, floods, drought or pests. Crop situation was reported to be bad in the third year. Eight districts were affected by pests and others by drought or floods. Weather conditions were reported to be unfavourable in 1951-52. In the year 1948-49, winter crops were bad in the unirrigated areas of Uttar Pradesh. Damage to crops was mainly due to hailstorm in some districts and flood in one-fourth the number of districts. Kharif crop in the later three years was affected by floods or drought. Rabi crop was affected by hailstorm in 1949-50 and by drought in 1951-52. There was decrease in crop area in West Bengal in 1948-49 due to unfavourable season. Extensive damage to crops was caused by floods and hailstorm at places in the first year, heavy rain in certain areas in the second, and drought, excessive rain and or cyclone in the last two years. In Ajmer, the crop situation was bad in the first, second and fourth year. It was fairly satisfactory in the third year. Damage was mainly due to drought and pests during these years. Crop situation in Bhopal was generally good. There was some damage to Kharif crop due to scarcity of rainfall in the later two years. In the last year, the soil moisture was inadequate for Rabi crop. Coorg had a good crop during the first year but a poor one in the second, owing to the failure of monsoon. Rains proved to be excessive for the rice crop of 1950-51 but were scarce and untimely for these crops in the last year. No pests were reported from Delhi State during the period, and the crop situation was mainly controlled by climatic factors. Whereas, the Kharif crop were generally satisfactory,

Rabi crop were affected by inadequacy of rainfall or by hailstorm. Crops situation was satisfactory in Vindhya Pradesh in 1948-49. During the other three years, hailstorm, cold wave or drought conditions were experienced in parts of the State. Whereas, the crops failed in 1948-49 in Kutch, they were satisfactory during the next two years. Pests and locust menace were reported in some areas. Untimely rain and unfavourable seasonal conditions affected the crop-yield in Hyderabad State during the years 1949-51. Rainfall was uneven and untimely and resulted in partial failure of crops in Mysore 1950-51. Crop situation was generally good in PEPSU during the years 1949-51. Two districts were affected by cold waves and excessive rains in 1949-50, and crops in four districts were damaged by heavy rains, floods, locusts and hailstorms. Crops were somewhat damaged by floods in Saurashtra during the second year under report and by drought in the fourth year. In 1949-50, crops were poor in Himachal Pradesh but satisfactory in Manipur and Tripura. The late arrival of monsoon had adverse effect in Bilaspur. There were drought conditions in two districts of Travancore-Cochin, heavy rain in another district and sea-tide in still another. In 1950-51, crop situation was satisfactory in Travancore-Cochin, Himachal Pradesh and Manipur. It was below normal in Bilaspur and was adversely affected by untimely rains and unfavourable weather conditions in Madhya Bharat, Jammu and Kashmir and Rajasthan. Locust menace also was reported from Rajasthan. Agricultural situation was satisfactory in Travancore-Cochin, Bilaspur and Himachal Pradesh in 1951-52 notwithstanding some damage by locusts, floods and hailstorm in Himachal Pradesh. Rainfall was unfavourable in Manipur and Madhya Bharat.

The following Table shows the concessions granted by the State Governments by way of relief, remissions and loans :

Name of State	Amount of financial relief in rupees sanctioned by State Governments.		
	1948-49	1949-50	1950-51
Assam	1,191,243	1,096,604	1,121,830
Bombay	51,482,657	*	*
Bihar	4,308,409	3,837,545	*
Madhya Pradesh	10,157,198	10,198,074	11,245,226
Madras	21,133,020	26,854,367	34,520,626
Orissa	3,231,033	409,952	1,004,456
Punjab	1,941,655	2,319,494	8,342,969
Uttar Pradesh	6,401,528	10,623,455	13,779,242
West Bengal	4,198,367	3,520,675	6,305,229
Ajmer	82,241	197,458	723,747
Bhopal	2,134,008	622,479	422,229
Coorg	250,353	197,796	105,472
Delhi	166,026	*	764,672

(1)	(2)	(3)	(4)
	1948-49	1949-50	1950-51
Himachal Pradesh	3,300	11,861	39,929
Kutch	2,277,345	*	907,775
Vindhya Pradesh	*	437,319	798,118
Hyderabad	*	1,975,531	4,984,591
Mysore	*	195,400	416,503
Pepsu	*	19,659	829,015
Saurashtra	*	13,079,983	*
Travancore-Cochin	*	37,063	*
Jammu & Kashmir	*	*	482,765
Madhya Bharat	*	*	4,111,597

*Not available.

Information for 1951-52 is not available.

6. Rainfall and Weather in India

Climate and weather are important geographical factors and have direct bearing on health. Tropical maritime air makes heat-loss difficult whereas the cold continental climate makes it too rapid, both extremes resulting in decrease in human comfort. Certain meteorological conditions are favourable for spread of certain diseases. Excessive rain, in the absence of proper drainage, renders certain areas malarial. Uneven distribution of rainfall adversely affects the agricultural situation and food position. For the study of rainfall and other weather conditions in India, a year should be divided into four seasons, viz., winter season (December—February), hot season (March—May), monsoon season (June—September) and post-monsoon season (October-November). However, for convenience, the month of December is included in the post-monsoon season. Rainfall situation in the country during the summer months is controlled by the South-West Monsoon and the Eastern depressions associated with it. Winter rainfall depends on the North-East Monsoon and the Western disturbances. The other two seasons can be regarded as periods of transition. Following is a brief resume of rainfall and weather conditions in India as affecting public health during the four years under report.

1949

Winter Season—In the winter months of January and February, the Western disturbances (W.D.) were feeble and the N. E. monsoon weak. Consequently rainfall in the country for the season was less. There was some rain in N. W. India, while weather was mostly dry in south peninsula. A cold wave affected Rajasthan, East Punjab, U.P., Madhya Bharat, Vindhya Pradesh and Bihar in January. In February, a solitary active

W.D. gave wide-spread and locally heavy rain in North India and heavy snowfall in Simla Hills resulting in disruption of communication with the town of that name. It was followed by a cold wave affecting Saurashtra, Gujerat, Rajputana, central parts of the country, northern half of peninsula and West Bengal. North-East India had local showers. Rainfall for the season was, more or less, normal in Bihar, East Uttar Pradesh, West U.P., East Punjab, Assam, Chhota Nagpur, West Rajputana, Saurashtra, Kutch and Vindhya Pradesh. There was no rain in Gujerat, the Bombay Deccan, South-Hyderabad, Mysore and Madras. At any place, the total rainfall of the season was spread in a few spells of short duration. The mean temperature was above normal in East Punjab, Rajputana, and Central India while it was normal elsewhere. Relative humidity was in excess in Central India and deficit in Assam. Elsewhere, it was normal, cloud amount was normal in Assam, U.P., Bombay, Central India and Madras, and in defect elsewhere.

Hot Season—The chief features of the weather during the weather period, March to May, were a marked thunder storm activity in north-East India and the south peninsula during April and May, a depression in the Bay of Bengal and an unusually early advance of monsoon along the West coast. The weather in the peninsula and N.W. India was practically dry. The depression caused wide-spread and locally heavy rain along the north Coromandel and south Circars coast and was responsible for early advance of monsoon on the West coast. The monsoon extended as far north as Gujerat, by the end of the month. Rainfall for the season was above normal in West Bengal, Chhota Nagpur, Bihar, the Konkan, the Bombay Deccan, more or less normal in Assam, Madhya Bharat and Bhopal, Berar, and Madras Presidency except Madras Deccan, East U.P., East Central Province, Mysore and the Madras Deccan, in Orissa, West U.P., Vindhya Pradesh, West C. P. and Hyderabad. Saurashtra and Kutch had no rain. The mean temperature was above normal in East Punjab, Rajputana, and Central India, and below normal in East Punjab, Rajputana, Central India, and West Bengal. Elsewhere, it was normal. Relative humidity was in excess in Bihar, U.P., and Mysore, and normal elsewhere. Cloud amount was above normal in Assam, West Bengal and Bihar, below normal in East Punjab, and normal elsewhere.

Monsoon Season—Though its arrival on West coast was early, monsoon advanced slowly into the interior of the country. It was generally active over the country after the 10th of July, with only a temporary break between the 19th and the 23rd of the month. During August, all parts of India experienced a break in the intensity of monsoon at one or the other time. During the first fortnight of September, it again revived under the influence of two shallow depressions. During the third week, South Deccan and North Konkan had very heavy rainfall, Bombay recording 32 inches in 24 hours. Rainfall during the monsoon was, more or less, normal over the country. Averaged, it was 3% in excess over the plains of India. The mean temperature was normal over the whole country. Relative humidity and cloud amount were in excess in Hyderabad and normal elsewhere.

Post-monsoon Season—The outstanding feature of the weather during the post-monsoon period (October-December) was a severe cyclonic storm

in the Bay of Bengal. It gave torrential rains in Andhra, Hyderabad, Orissa and Bihar and caused loss of property, crops and live-stock estimated at several crores of rupees. N.E. monsoon failed except for one brief spell in the third week of November which gave fairly widespread rain. Rainfall in N.W. India also was scanty. East Punjab hills had some rain in December. The total rainfall of the season was above normal in Orissa and the Central Provinces, Bihar, east U.P., Vindhya Pradesh and Berar. It was normal in Assam, West Bengal, Madhya Bharat, Bhopal, Mysore and the north Madras coast, and below normal elsewhere. Averaged, the season's rainfall was 8% deficit over the plains of India. The mean temperature and relative humidity were normal over the whole country. Cloud amount was below normal in West Bengal, East Punjab and Rajputana, and normal elsewhere.

1950

Winter Season—Punjab (India) and Uttar Pradesh had good rain or snow fall during the second fortnight of January and February. There were fairly widespread thundershowers in Vindhya Pradesh and Bihar also towards the end of the month, and in Assam, Madhya Pradesh and extreme South peninsula in February. The rainfall for this season was above normal in Jammu and Kashmir, Tamilnad, Malabar and South Kanara, Mysore, Assam, east Uttar Pradesh, north Hyderabad and Travancore-Cochin. It was below normal in Orissa, Bihar, west U.P., west Madhya Pradesh, south Rayalaseema. Averaged the season's rainfall was seven per cent in defect over the plains of India. A remarkable feature of the weather during February was the passage of a cold wave affecting north and central India for 3 days, when temperature dropped to near or below freezing point in Rajasthan adjoining Punjab (India) and Uttar Pradesh and Gujarat. A few deaths due to exposure to cold were reported from Punjab (India), Uttar Pradesh and Gujarat. The mean temperature and relative humidity were normal throughout the country. Cloud amount was deficit in West Bengal, Orissa, Bihar, Rajasthan, Central parts of the country, Bombay State, Saurashtra, Kutch and Hyderabad, and normal elsewhere.

Hot Season—Thunderstorm activity was widespread in north India during the month of March. The entire North India—Punjab (I) to Assam and also the extreme south of peninsula had rain during one or the other week. April was a month of scanty rainfall, on the whole. Weather in May was characterised by moderate thunderstorm activity in N.E. India, Mysore and extreme south during the first half, and severe Nor'westers in N.E. India, duststorm in Rajasthan, Punjab and Uttar Pradesh during the second half. Towards the end of the month, monsoon advanced into Travancore-Cochin, and Malabar, South Kanara. It gave widespread rain in south peninsula. Rainfall for the season was above normal in Madhya Bharat, normal in Orissa, U.P., Punjab, Jammu and Kashmir, Vindhya Pradesh, east Madhya Pradesh, coastal Andhradesh, and Travancore-Cochin, and below normal elsewhere. On the whole, it was 20% deficit. Day temperatures were appreciably below normal in most of the northern India region and in the central parts of the country throughout the month of March, particularly during the last ten days. They were abnormally high in north-east India on most of the days of April while north-west

India had usually cool weather during the month. As a result of rains, the south peninsula had cooler days in the last week. On the whole, the mean temperature and relative humidity over the country were normal. Cloud amount was in excess in Uttar Pradesh, and Central parts of the country, and normal elsewhere.

Monsoon Season—The South-West Monsoon gave generally well-disturbed rain over the greater part of India, but it had its usual vagaries. Although, it arrived along the west coast earlier than usual, it remained weak during June and did not penetrate into the interior of the peninsula. It was ushered into north-east India in the second week of June by a cyclone which broke up against Nepal hills, giving very heavy rain and causing landslides. About one hundred people were killed and several other injured in Darjeeling District alone. The monsoon remained active over N.E. India till the end of June. By the 10th of July, it established itself over the whole country and remained active till 25th July specially in Saurashtra where over 45 persons lost their lives in floods on the 13th. The peninsula experienced a spell of practically dry weather from the end of July to the third week of August. There was also a break in the monsoon over the rest of the country in the third week of August. It revived thereafter, giving good rain upto the end of September. West Madhya Pradesh, north Gujarat and Punjab (I) and Kashmir experienced heavy rain resulting in extensive floods during the third week of September. Monsoon began to withdraw from N.W. India after the 20th and had completely withdrawn from the country by 2nd October. Rainfall was above normal in Jammu and Kashmir, Punjab (I), Chhota Nagpur, Kutch, Deccan, south Hyderabad, Malabar and South Kanara, Travancore-Cochin, normal in Assam, West Bengal, Orissa, Bihar, east U.P., Madhya Bharat, Vindhya Pradesh, Konkan, coastal Andhradesh and Mysore; and below normal elsewhere. As a whole, it was slightly above normal. The mean temperature, relative humidity and cloud amount were normal over the whole country.

Post-Monsoon Season—There were three active spells of North-East Monsoon—the first after mid-October, the next during the second week of November, and the last just before the middle of December. There was a deficiency of rainfall in the peninsula. A cyclonic storm gave heavy rain along the Orissa coast and Gangetic West Bengal in the third week of November resulting in some loss of life and property. Another cyclone gave heavy rains in Andamans during the first week of December. N.W. India was dry during October and November. In the third week of December, there was some rain in Punjab, a few showers in U.P. and Madhya Bharat and some thunderstorm in U.P., Madhya Pradesh and Vindhya Pradesh. Rainfall for the season was above normal in Assam, West Bengal, and Orissa, normal in Mysore and below normal elsewhere. Rajasthan, Saurashtra, and Kutch remained dry. Nights were unusually cold over most of the country during the second half of November and the first half of December. North-west India, Saurashtra, Kutch and north Gujarat experienced abnormally low temperature during the second half of December so much so that at places in north Rajasthan, the temperature fell to below freezing point as early as the 18th December. On the whole, the mean temperature was below normal in Rajasthan and normal elsewhere in the country. Relative humidity was in defect in U.P., Madhya Bharat,

Vindhya Pradesh, and Hyderabad and normal elsewhere. Cloud amount was above normal in north-west India, Bombay State, Saurashtra and Kutch. Elsewhere, it was normal.

1951

Winter Season—There was widespread rain in west Uttar Pradesh and Punjab (I) during the second week, and local or widespread thundershowers in west Madhya Pradesh, Vindhya Pradesh, Uttar Pradesh and Punjab hills during the third week of January. Again, there was widespread rain or snow in Punjab (I) and west Uttar Pradesh, and widespread thundershowers in east Uttar Pradesh, Vindhya Pradesh and adjoining north Madhya Pradesh in the beginning of February. North-East Monsoon was weak and there was practically no rainfall in the south. Rainfall for the season was nearly normal in Uttar Pradesh and below normal elsewhere. The cold spell experienced during December last year continued in the first week of the year and temperatures were appreciably below normal in N.W. India, central India and U.P., particularly in east Rajasthan, Madhya Bharat and Madhya Pradesh. Again, in the last two weeks of February, there were two cold waves affecting north-west India, when temperature fell to freezing point at some places in Rajasthan. Instances of persons dying of exposure to cold were also reported from certain parts of Saurashtra. The mean temperature was normal throughout the country. Relative humidity was in defect in N.E. India, west Rajasthan, east Madhya Pradesh, north Hyderabad, Rayalaseema and Tamilnad, but normal elsewhere. The cloud amount was in excess in Bay Islands, Rayalaseema, Southern parts of the west coast, normal in east U.P., Vindhya Pradesh, Hyderabad, Tamilnad and Mysore, and in defect elsewhere.

Hot Season—Widespread local thundershowers occurred over most part of northern India, in the central parts of the country, Hyderabad and Simla—Kumaon hills during the last week of March, and in Punjab (I), west Uttar Pradesh and east Uttar Pradesh in the first week of April. There was moderate thunderstorm activity in east peninsula, north-east India and Assam on some days in April. Widespread thunderstorms occurred in Tamilnad, Travancore-Cochin, South Kanara and scattered thundershowers in the peninsula during the second and third weeks. There were moderate thundershowers in north and central India during the last three weeks of May, and in Assam throughout the month. Assam experienced floods which caused loss of life and property. Monsoon burst on Travancore-Cochin on the last day. Rainfall for the season was in large deficit in Bihar, Gujarat, Saurashtra and Kutch, being more or less, normal elsewhere. On the whole, it was 19% in excess for the plains of India. Another important feature of the month was a heatwave which affected the Gangetic, West Bengal, Bihar, east Uttar Pradesh and North Orissa between the 11th and 20th. A few deaths due to heat-stroke were also reported. Day temperatures were abnormally low over most of the country, especially in northern and central India, during the latter fortnight of March and the first half of April. On the whole, the mean temperature was normal over the country. The mean relative humidity was in excess in Punjab (I), west Rajasthan, and the central parts of the country outside Madhya Bharat, remaining normal elsewhere. Mean cloud amount was normal or above normal over parts of the country.

Monsoon Season—The monsoon advanced into the interior of the peninsula by the middle of June. It extended into the central parts of the country, Uttar Pradesh and north-western India by the end of June. During June and July, the monsoon was active in Assam, West Bengal and Orissa and in the peninsula. It was weak during the August and September and there were drought conditions in Gujarat, Saurashtra, Kutch, north Deccan, parts of Rajasthan and Madhya Bharat. There was a spell of very heavy rainfall in Assam in each of the three months of June, July and August, resulting in local floods. During August, there was general rain over the central parts of the country. During the last days of August, there was a break in the monsoon, and the rainfall was confined to Assam and sub-Himalayan West Bengal only. The monsoon began to recede from north-west India by the 15th September and had completely withdrawn from the country by 21st September, *i.e.*, much before the usual date. Rainfall for the season was below normal in Punjab (I), Rajasthan, Madhya Bharat, Gujarat, Saurashtra and Kutch whereas it was, more or less, normal elsewhere. Averaged over the plains of India, it was 17% deficit. The mean temperature, relative humidity, and cloud amount were normal over the whole country except in east Rajasthan where mean relative humidity was deficit and Punjab (I) and west Rajasthan where the mean cloud amount was deficit.

Post-Monsoon Season—There was fairly wide-spread rain during the first half of October in the region extending from Assam and sub-Himalayan West Bengal to Hyderabad, coastal Andhradesh, Deccan (Desh) and along the west coast. North Deccan Desh and north Konkan experienced floods which resulted in loss of life and property, but heavy rain made up deficiency of water in the area. Thunderstorm continued in Deccan (Desh) even during the third week of October. The North-West Monsoon set in during the last week of October and affected weather in Orissa and north Madras coast. The entire peninsula experienced locally very heavy rain during November, the rainfall belt extending into Assam, as well. Fourteen persons lost their lives in Dwarka alone. During the last week of November, north Gujarat, south Rajasthan, Punjab (I) and west Uttar Pradesh had very heavy rainfall (5 inches at some places in 24 hours.) Whether remained mainly dry during December. Rainfall for the season was below normal in the interior of the south peninsula. Elsewhere, it was, more or less, normal. A feature of the weather during post-monsoon period was a spell of abnormally warm weather over north-west India and Uttar Pradesh during October when day temperature was 8—18° F above normal. The mean temperature was above normal in West Bengal, Bihar, U.P., Punjab (I), Rajasthan, Madhya Bharat, Vindhya Pradesh, west Madhya Pradesh, Gujarat, Saurashtra and Kutch, and normal elsewhere. The mean relative humidity was normal over the country outside Gujarat and Rayalaseema where it was in defect. The mean cloud amount was in excess in the Bay Island, Malabar, South Kanara and Travancore-Cochin, and deficit in Chhota Nagpur, west Uttar Pradesh, Punjab (I), Vindhya Pradesh, and east Madhya Pradesh. Elsewhere it was normal.

1952

Winter Season—There were local or fairly widespread thundershowers in Punjab (I), Uttar Pradesh, the central parts of the country and east

Rajasthan during the first half of January and the first week of February. Well-marked thunderstorm activity, associated with hail-storms at places, continued over the central parts of the country during the second week of February. There were short spells of activity of the North-East Monsoon over the south peninsula during the first and the last week of January and the last week of February. Rainfall for the season was, more or less, normal in Tamilnad, Malabar, South Kanara, Travancore-Cochin, north Hyderabad, Jammu & Kashmir, west Madhya Pradesh. There was no rain in Gujarat, Saurashtra, Kutch, Deccan (Desh) and Mysore. Elsewhere, it was below normal. During the first ten days of January, nights were abnormally cold in south Rajasthan, Madhya Bharat, Gujarat, Saurashtra and Kutch. On the whole, the mean temperatures were normal or above normal over parts of the country. Mean relative humidity was in defect in parts of central India and Gujarat, but was normal elsewhere. Averaged cloud amount was in excess in the Bay Island, Orissa, Madhya Bharat, Madhya Pradesh the peninsula outside Gujarat, Saurashtra and Kutch. It was deficit in Assam, Bihar, and West Rajasthan, and normal elsewhere.

Hot Season—During March, there was extensive thunder-rain in Punjab (I), Uttar Pradesh and north-east India. The showers in Kashmir and Simla—Kumaon Hills were accompanied by hail and snow. North Madhya Bharat, east Madhya Pradesh and north-west Uttar Pradesh also experienced hailstorms. Scattered thundershowers occurred in South Tamilnad, Travancore-Cochin and coastal Andhradesh. There were scattered rainshowers over most of the country during the first half of the month. There was good rainfall over north-east India during the last ten days of April. Punjab (I) and north-west Uttar Pradesh and wide-spread rainshowers during the second week of May. There was well spread thunderstorm activity in north-east India on most days of the month. Assam had locally heavy rains resulting in floods. North-west India had some severe duststorms. During the third week of the month, east peninsula was affected by cyclone and had very heavy rain. This cyclone ushered in the monsoon on the Malabar Coast, ten days before time. Over most of the country, the rainfall was, more or less, normal. Summer was somewhat severe in the north-west and central India. Three cases of sun-stroke from Nagpur and three from Kanpur were reported on two days in May. Unusually warm weather was experienced over south Madhya Pradesh, north Gujarat and Hyderabad during the last week of March. Day temperature was high on some days of April along the north Konkan and Kathiawad coast. The mean relative humidity was in excess in Bihar, Saurashtra and Kutch, and normal elsewhere. The mean cloud amount was in excess in the Bay Island, Chhota Nagpur, Bihar, east Uttar Pradesh, north Hyderabad, Tamilnad, Malabar South Kanara and Travancore-Cochin, deficit in Rajasthan, Vindhya Pradesh, and Gujarat, and normal elsewhere.

Monsoon Season—The monsoon established itself over the greater part of the country only towards the end of June. It was fairly active in north-east India, the central parts of the country and along the west coast during the second half of June. North Konkan, Vindhya Pradesh and south-west Uttar Pradesh had abnormally heavy falls during the last week of June. North-east Assam experienced local floods. The monsoon was markedly

active in Gujarat, east Rajasthan and Madhya Bharat during the second fortnight of July. With fairly good rain in north India (outside Bihar), in Vindhya Pradesh, Madhya Pradesh, Saurashtra, Kutch, the Konkan, Deccan (Desh) and north Hyderabad, very severe floods were experienced in Assam between the 10th and 13th of July whereas parts of the country suffered a break in monsoon. Towards the end of the month, local floods were reported from Gujarat. The monsoon remained feeble in Bihar and the southern half of the peninsula (outside Malabar) and South Kanara for most of the month. During August, the monsoon was active in north-east India and the central parts of the country, but was generally weak in the peninsula. Local floods were reported from Punjab (I) and Uttar Pradesh during the third week, and from north Bihar and Assam during the last week. Fairly widespread but generally moderate rain occurred in the Konkan and Malabar, in South Kanara on most days of the month, in Travancore-Cochin during the first half, and in Hyderabad on a few days. The monsoon practically withdrew from north-west India and West Uttar Pradesh by the beginning of September and continued to be generally weak over the peninsula. In the beginning of the month, fairly widespread rain occurred in north-east India, east Uttar Pradesh, Vindhya Pradesh and east Madhya Pradesh resulting in floods in north Bihar and upper Assam. During the latter half of the month, these areas experienced floods. By the end of the month, the monsoon completely withdrew from the country. The rainfall for the season, as a whole, was normal over most of the country. Averaged over the plains of India, it was 9% deficit. It was not well distributed over the period and sporadic spells of rainfall and floods were interspread with drought conditions. The mean temperature, mean relative humidity and mean cloud amount were normal throughout the country.

Post-Monsoon Season—During first three weeks of October, Assam, West Bengal and the eastern parts of the peninsula received good rainfall. Assam again suffered floods resulting in damage to life and property. There was local or fairly widespread rain in the south Konkan, south Deccan (Desh), Malabar, South Kanara, Mysore and Travancore-Cochin during the period. These were few local showers in Hyderabad, Tamilnad, Mysore and Travancore-Cochin during the rest of the month. November was practically dry. There were few light showers in Assam, Gangetic West Bengal, Punjab hills, Kutch and north Gujarat for a day or so in the month. Widespread rain occurred in Tamilnad, Rayalaseema, Malabar, South Kanara, Mysore and Travancore-Cochin during the first two days of December. The North-East Monsoon was active in the second week of the month over south peninsula and gave very heavy rain in coastal Andhra Desh and Tamilnad. There were local showers in Punjab hills, Uttar Pradesh, north Madhya Bharat, Vindhya Pradesh, south-east and west Rajasthan during the second half of the month. Over most of the country, the rainfall was practically normal. The mean temperature was above normal in Gujarat, and normal over rest of the country. The mean relative humidity was deficit in east Uttar Pradesh and Madhya Bharat, and normal elsewhere. The mean cloud amount was in excess in the Bay Island, Madhya Bharat and Travancore-Cochin, deficit in Vindhya Pradesh, and normal elsewhere.

CHAPTER III

1. Chief Diseases :

- Smallpox
- Plague
- Cholera
- Malaria
- Dysentery and Diarrhoea
- Respiratory Diseases
- Typhus
- Enteric group of fevers
- Kala-azar
- Cerebrospinal fever
- Deaths by violence

2. Venereal Diseases

3. Leprosy

4. Blindness and Eye diseases

5. Tuberculosis

CHAPTER III

CHIEF DISEASES

SMALLPOX

Smallpox was reported to be endemic in some states of India notably, Punjab, Madhya Pradesh and Rajasthan, and was imported into other States. Compared with other major causes of death, it stands, more or less, on the same footing as cholera. Reported deaths from smallpox in the country form about 1—4% of total mortality from all causes. Deaths accounted for by this disease were 0—2% in case of Assam, Madhya Pradesh and Coorg, 1-2% in Bihar, Bombay and Madras, 1—3% in Uttar Pradesh, West Bengal and Delhi, 1—4% in the case of Orissa and 1—5% in Ajmer during the period under review. In Punjab, smallpox claimed only a very small percentage of deaths. The year 1951 was rather exceptional in that 9% of deaths in Bihar, 7% in Uttar Pradesh, 9% in West Bengal, 13% in Ajmer and 4% in the entire country were caused by smallpox. Vaccination against smallpox is known to be the most effective preventive measure. It has been practised now for a fairly long time; still, much has to be done for the eradication of this disease. A peculiar fact noticed is that a large majority of cases occur in children and infants. In fact, the question of complete vaccination is interlinked with the proper registration of births. Many new-born babies remain unregistered and unvaccinated.

Though the disease is notifiable in most of the States, the reported figures are not quite reliable and may not even be as reliable as the figures available for deaths.

In Punjab, the incidence was reported to be maximum in 1950 whereas the number of deaths was maximum in 1949. The Epidemic Diseases Act was enforced in all the districts. Primary vaccination was stated to be defective mainly due to lack of registration of new-born babies. Nevertheless, the number of primary vaccinations progressively increased during the period. The maximum number of deaths in Uttar Pradesh occurred in 1951 and the seasonal peak was usually reached in April or May. The Epidemic Disease Act was promulgated and vaccination was made compulsory in certain places in 1952. Madhya Pradesh reported the highest number of deaths, usually in March, whereas the maximum in 1950 was seen in the month of December. The case fatality rate was reported to be 25—50%. All districts of Bihar were affected during each of the four years. There was a progressive increase in primary vaccination. Whereas, only five districts of Bombay were affected in 1949, cases were reported from all districts in 1951 and 1952. Deaths among infants and children formed about 66% of total deaths from smallpox. Case fatality was 30—40%. The disease was prevalent throughout the year though early summer was generally the peak period. Under the Epidemic Diseases Act, vaccination was made compulsory in rural areas. From 1949 to 1951, almost all the district of Madras State were reported to be infected. There was substantial improvement in 1952 when the disease was confined to 13 districts only. The maximum number of deaths was reported in March. Vaccination was made

compulsory throughout the State except in a few partially excluded areas. Most of the districts of West Bengal reported cases and deaths from smallpox in each of these years. Contrary to observations made in the case of other States, the deaths among children and infants were less. Delhi State showed a higher incidence in 1949, a large majority of cases occurring in infants and children. Smallpox epidemics are stated to be periodic, the last one occurring five years previously, in 1944. Peak period varied from year to year. Figures from the remaining States are far too defective to admit of reliable inference.

PLAGUE

Thanks to the persistent efforts of public health authorities and research workers, plague which, at one time, was one of the major killing diseases in India has considerably lost its frightfulness now.

During the period under report, the States of Assam, Orissa, Ajmer, Delhi, Coorg, Rajasthan, and Tripura remained completely free from it. A few cases and deaths were reported from Punjab, Madhya Bharat, Himachal Pradesh only in 1949. In the remaining period, no incidence was reported. The disease was, of course, observed to be endemic in Uttar Pradesh, Madhya Pradesh, Hyderabad and some mountain areas of the Ambala District in Punjab. Less than 1% of deaths were reported to be due to this disease in all the States except in Madhya Pradesh and Uttar Pradesh and where the percentage was 1 and 1-2, respectively. In Punjab, the disease reached its peak in the months of March and April. In 1949, the State Government enforced the Epidemic Diseases Act in six districts adjoining the endemic centre, established inspection posts, performed mass inoculations and rigorously carried out anti-rat measures. Additional funds and extra staff were allotted to these districts. Of the anti-rat measures adopted in Punjab, mention may be made of destruction by baiting, cyanogassing of rat-holes and employing D.D.T. and Gammoxene as well as insecticides. Uttar Pradesh was the most affected of all the States. The disease persisted throughout the quadrennium, the maximum number of deaths being reported during March of each year. In 1951, which was the peak year of the period, twenty-eight districts were affected. Considerable improvement was shown in 1952 when the disease remained confined to five districts only. The Government set up 26 plague hospitals in 13 districts of the State in 1949, 13 temporary plague hospitals in 6 districts in 1950 and 11 temporary plague hospitals in 8 districts in 1951. The next most affected State was that of Madhya Pradesh where the maximum number of cases were recorded in 1950. Though the disease continued throughout the year 1951, the number of deaths recorded was only 10% of the previous year. The extent of disease progressively decreased and the number of affected districts decreased from 11 in 1949 to 6 in 1952. Case fatality rate was about 20%. The disease was present in Bihar throughout the period but remained confined to 3 to 5 districts only. In 1949, fourteen districts of Bombay were infected with plague, but the infection was mild. The total incidence was reported to be the lowest since 1944. The number of affected districts rapidly decreased to 8, 2, 1 and 1 in the subsequent years. Case fatality rate was quite high, being 49% in 1949 and 46% in 1950. In 1949, a Plague Demonstration Team was deputed to this State by the W.H.O. for carrying out a Plague Survey for epidemiological investigations and trying out a new treatment. The Government sanctioned a grant of Rs. 2,58,978 in 1950 for epidemic control measures, about 60% of which was spent on

cholera and plague vaccines and insecticides. About Rs. 1,67,000 were sanctioned in 1951 for inoculation against cholera and plague. Plague Organisation, established in 1947, continued its activities during the period under report.

Plague infection was carried to Madras from Hyderabad, and a few districts were infected. Special Plague Officers toured these endemic districts. Plague control with cyanogas fumigation was replaced by the use of D.D.T. Among the other States, Vindhya Pradesh, Hyderabad and Mysore showed a gradual decline in deaths due to this disease. In Hyderabad, January was noticed to be the peak month.

CHOLERA

Cholera was one of the notifiable diseases in almost all the States during the period under report. Statistics of cases and deaths, though not accurate and reliable, are good enough for year to year comparison for the same State. The disease was reported to be, more or less, endemic in Assam, Madras, Manipur and Bengal. It was imported into other neighbouring States from these endemic centres. For instance, the infection was usually carried from Madras to Travancore-Cochin, from Madras to Mysore, Hyderabad and thence to Bombay, from Nepal and Bihar to Uttar Pradesh and thence to Punjab, from Orissa to Madhya Pradesh, and from Bengal to Andamans and Orissa. The disease was imported into Vindhya Pradesh, Saurashtra, Himachal Pradesh and Ajmer from the adjacent areas. Disastrous cholera epidemics are now, more or less, occurrences of the past. No major epidemic was experienced during the period. However, the mortality was slightly higher in the year 1950, particularly in Bihar, Bengal, Bombay and Madras. Cholera is not one of the major killers and so it accounts only for a small percentage of total deaths. 1-2% deaths in Assam, 1—3% in Madras, Bihar and Uttar Pradesh, less than 1% in Bombay, Madhya Pradesh, Ajmer, Coorg and Delhi, 2—4% in West Bengal, Orissa, and 1-2% in the country, as a whole, were generally accounted as due to this disease during the years under report. The percentage was slightly higher for 1950 in almost all the States.

Of the measures adopted for its prevention, mention may be made of the following: The Epidemic Diseases Act of 1897 was enforced in most of the States. Anti-fly months were observed and, during the cholera season, additional cholera hospitals were opened and additional staff deputed for its control. The most effective preventive measures, *i.e.*, inoculation against cholera, was adopted by all the States. Fairs and festivals have long been recognised as trouble-spots for the spread of cholera and preventive measures in that connection are detailed elsewhere in the report. Appendix table 4, gives special distribution of the disease, its comparative incidence and mortality, progress in inoculations and the peak period of the year.

It will be observed that the maximum mortality due to cholera is experienced in summer months in most of the States except in Madras where the maximum is reached in January.

Punjab—Eleven, six, three and five districts respectively were affected during the four years under review. The number of notified cases was only 20 in 1951. Barring 1952, when there was a slight increase, the disease showed a progressive decline from 1949 to 1951. It accounted for a negligible percentage of total deaths in the State. The disease attains its

maximum severity during June, July or August. The epidemic Diseases Act of 1897 is usually enforced, and anti-fly months are observed to improve general hygiene. The case fatality rate was near about 50% generally.

Uttar Pradesh—The disease showed a progressive decline in mortality from 1949 to 1951, and an increase in 1952. In 1950, it was confined to the eastern districts only. In the affected districts, cholera hospitals were usually opened. Nine such hospitals functioned in 4 districts in 1949 and 5 such hospitals in 3 districts in 1952.

Madhya Pradesh—A large majority of the districts was affected. Mortality from cholera was substantially less as compared to that in 1948, the lowest being only 9% in 1951. It was at its maximum in the month of August. On the basis of Roger's Formula, an attempt was made to forecast the cholera epidemic in 1951.

Orissa—Whereas, other States recorded a peak mortality in 1950, Orissa recorded a minimum of the period in that year, it being 53% of that in 1948. Maximum mortality was noticed in March to June, April being the more probable month. It is reported that increase in cholera mortality during the period 1950—52 was due to peculiar meteorological conditions.

Assam—In Assam, there was a marked decline so much so that the total mortality in 1952 was 22% of that in 1949. The peak period is in the month of May.

Bombay—Of the 28 districts in this State, some seven or eight were severely affected during each of these years. The disease showed higher incidence in 1950 which was more than twice the average for the period under consideration. The case fatality rates ranged from 45% to 60%. Usual preventive measures were adopted in all the affected districts. Motor transport was made available to the District Health Officers for quick movement of the staff and material to the affected areas. Three mobile Hospital Units played an important part in checking the disease in 1950. The peak period in case of this State was the months of March in 1952, July in 1949, August in 1951 and October in 1950.

Madras—The disease was prevalent, more or less, throughout the year 1951. About 10 districts of the State were usually affected except in 1951 when only one district escaped, and cholera mortality was more than twice the usual. Another important feature of the 1950 epidemic was its peak period which occurred in June unlike in other years when 50% of the total mortality is experienced in January. This epidemic was regarded as a periodic occurrence having a six-yearly cycle. Since October 1949, a Research Team financed by the Indian Council of Medical Research has been working in some selected villages in the Cauvery Delta trying to trace the factors which cause the disease to be endemic in that area.

West Bengal—All the districts of West Bengal were affected during the period, the maximum mortality occurring in April. There was a substantial decrease in 1952. The Government enforced the Epidemic Act of 1897 in all the affected districts, and in one year (1949-50), Rs. 1,50,000 were spent to combat the disease.

In part B and C States, though the disease is notifiable the available figures may not give a correct picture except for Hyderabad and Mysore where a marked increase in cholera mortality was noticed during 1951 and 1950-51, respectively.

MALARIA

Malaria is one of the many diseases which cannot be recognised by a layman as easily as plague or smallpox, the signs and symptoms of which are clear. Lack of diagnostic facilities in general, and in rural areas in particular, makes it impossible to distinguish malaria from other diseases that give rise to fever. Attempt has been made in some of the States, viz., Bombay, Madhya Pradesh, Uttar Pradesh, West Bengal, Delhi, Madras and Punjab to register malaria deaths separately; but it is not possible to assess how far statistics regarding malaria are dependable even for these States. In some other States, malaria mortality figures are available only for certain municipal areas or towns, but here also it is not possible to draw conclusions regarding the prevalence of disease among the general population. We are, therefore, obliged to resort to that group of diseases which is designated as "fevers" for making an estimate or for drawing an inference.

In Madras and Delhi, about 20% of the total deaths are registered as being due to fevers. In the case of all the other Part A States and the States of Coorg and Ajmer, percentage of deaths accounted for by this group may be anything from 50 to 80. It is not possible to hazard a guess regarding the number of deaths due actually to malaria in the deaths shown in the "fever" group. In the case of States where malaria deaths have been registered as distinct from deaths, due to other fevers, the proportion of the former to the latter varies from one State to another. It was nearly 1% in Punjab and more than 80% in Madhya Pradesh. It is not possible to assess whether the year-to-year variations in the same State are due to variations in incidence or to misclassification. However, year-to-year variations during this particular period were more marked only in Uttar Pradesh where the percentage decreased from 87 in 1949 to 32 in 1952.

During the period under report, malaria was reported to be endemic in Madhya Pradesh, Uttar Pradesh, Assam, Orissa, Madras, Tripura and Bhopal. Different States appear to have different malaria seasons. For example, July—December in Madhya Pradesh, July—November in Manipur, July—September in Tripura and April—July in Andamans were the peak months. All summer months are malarial in Bhopal, while post-monsoon months were noticed to be favourable for malaria in Bombay.

In Madhya Pradesh, about 60% of the total deaths were accounted for by "fevers" of which about 80% were due to malaria. There was a general downward trend in "fever" deaths as well as in malaria deaths during the period. Nine anti-malaria units were working in the State in 1949. The number was increased to 10 in 1950 and to eleven later. Extensive surveys were undertaken by anti-malaria units to determine the vector species and the malaria transmission periods. In 1949, malaria control work in villages with D.D.T. suspension powder at two monthly intervals during the malaria season was reported to have been effective in reducing sickness to the extent of 60% as seen from the dispensary returns. Two Medical Officers and one Sanitary Inspector were trained in Malariology at the Malaria Institute, Delhi in 1950. Four districts of the State having a population of 1,066,914 were in the hyper-endemic areas where the disease was exceedingly prevalent in 1951.

Malaria deaths formed about 87% of "fever" deaths in Uttar Pradesh in 1949. The percentage declined to 31 in 1952. There was a rise in

fever mortality as well as in malaria mortality in 1950; but during the latter two years, there was a substantial fall which may perhaps be due to vigorous anti-malaria measures in the State. An account of the anti-malarials distributed is given below :—

	Injectable Quinine.	Quinine Sulph	Chinchona	Totaquina	Quinine Tablets
	boxes	lbs.	lbs.	lbs.	
1949	1,864	3,955	1,697	45	3,333,000
1950	2,296	2,379	8,050	23	5,843,500
1951	674	3,325	76	1,051	3,152,000

Surveys were conducted in 12 places in 1950 and in 1951; of the seven anti-malaria Units, one unit worked in co-operation with the W.H.O. in Terai areas of Nainital district. 526 villages having a population of 80,000 were covered. The main control measure was spraying of residual D.D.T. indoors with single doses of 200 mgm per sq. ft. The measure was extended to 24 districts with the sanction of the Government from 1-9-1952.

Malaria deaths formed 30 to 40% of fever deaths in West Bengal. A general downward trend was noticeable both in "fever" deaths and malaria deaths, the decline being steeper in case of the latter. About 40—50% of the total deaths were accounted for by this group of causes, the percentage gradually declining during the period. Surveys were conducted in 61 villages. 21,441 lbs., 20,717 lbs. and 30,432 lbs. of quinine were distributed during the years 1949, 1950 and 1951, respectively. In the year 1949, fourteen districts were reported to have been affected and the cost of quinine and quinine products utilised for free distribution to malaria patients amounted to Rs. 4,83,400.

Malaria deaths were 10 to 13% of "fever" deaths in Bombay State. About 40% of total deaths were registered under "fevers". As compared with 1948, there was a slight rise both in malarial and "fever" deaths in 1949; but during the period under report, a definite downward trend persisted. Whereas malarial deaths in 1949 were 105% of the corresponding figure for 1948, the percentage came down to 72 in 1952. Nine, eight and seven surveys respectively were conducted during the first three years of the quadrennium. Expenditure incurred on the distribution of quinine, paludrine, etc., was as under :—

	Quinine	Paludrine	Mepacrine & Quinacrine
	Rs.	Rs.	Rs.
1949	4,232	39,324	7,025
1950	7,783	30,623	—
1951	—	34,341	7,025
1952	—	8,432	5,646

Due to malaria control operations in all the districts of the State, it is estimated that, in the public dispensaries alone, there was a reduction of cases to the extent of 1,20,000 in 1949 and 1,50,000 in 1950. On this basis, reduction in malaria morbidity in Bombay State, as a whole, may be estimated at 7,20,000 in 1949. Out of a total population of 35 millions, nearly 20 millions lived in malarial areas, and about one-half of them had the benefit of effective malaria control in 1952. It is estimated that over a million persons were saved from contracting malaria because of protection conferred during the year.

As stated earlier, Delhi is one of the States where attempt has been made to register malaria deaths separately from deaths due to "fevers". But the former is only 3 to 7% of the latter. It appears to be the only State in North India where "fevers" are not the first killer "fever" deaths being only about 20% of the total. During the period, the maximum number of deaths due both to "fevers" and malaria was registered in 1950. A significant reduction was noticed in subsequent years. 3,716 cases of malaria were treated in various hospitals and dispensaries during (July to November) 1951 against 6,593 cases in 1950. Forty-seven villages, showing a spleen rate of less than 5%, were sprayed as the risk of malaria was low.

In Madras State, malaria deaths were only a small percentage (3-4%) of "fever" deaths. Separate figures for malaria deaths were, however, available only from 1950 onwards. Whereas, there was a gradual fall in deaths due to "fevers", malaria deaths showed a peak in 1951. Like Delhi, "fevers" accounted for 22—24% of total deaths. 68 surveys were carried out in 1949. Chapter IX of the Madras Public Health Act relating to mosquito control was extended to a number of municipalities and panchayat boards in 1949. The same year, the W.H.O. selected Ernad taluks for malaria control demonstration. 24 anti-malaria schemes were in operation during the year, and spectacular reduction in morbidity and mortality was recorded in numerous operational areas the following year. Thirty-four schemes functioned in the districts covering an area of about 10,000 sq. miles containing 6,600 villages, and protecting a population of 20,70,000 at a cost of about Rs. 20 lakhs. A similar population benefited from indoor residual spraying with D.D.T. in 1952. Four new anti-malaria schemes were sanctioned.

In Punjab, a very large percentage (70—80) of total deaths are attributed to "fevers", and only a trifling percentage (0.5—1.6) of it was registered under malaria. 1950 was the peak year of the period for "fevers" whereas the maximum number of malaria deaths was registered in 1952 though almost all districts were affected during the whole period under report. Twelve anti-malaria units functioned in 1949; the number was raised to 13 in 1951; it came down to 5 in the following year. Five surveys during each of the years, 1949 to 1951, and nine surveys in 1952 were reported to have been conducted by malaria control units to determine the incidence of malaria and the factors responsible for its prevalence. In 1949, 246,152 tablets, 416 lbs. and 708 ampoules of quinine and 980,497 Paludrine tablets and 531,390 Mepacrine tablets were distributed.

In none of the remaining States (except Mysore), malaria deaths are registered separately but are included in the deaths under "fevers". From the experience of other States, notably, Punjab, we find that a peak year for "fevers" may not necessarily be the same for malaria too, and indications

given by total figures for "fevers" may in some cases be only a rough approximate for malaria. "Fever" deaths as percentage of total deaths for some of the States are given below:—

	1949	1950	1951	1952
Assam	62.2	62.9	63.2	60.7
Bihar	81.8	78.3	76.8	79.5
Orissa	54.8	52.6	48.5	59.1
Ajmer	75.4	65.0	70.0	76.5
Coorg	69.0	57.1	56.0	*

*Not available

Available figures for deaths from "fevers" show a definite fall for Assam, Madhya Bharat and Coorg. A similar tendency is noticeable for malaria deaths recorded in Mysore. Information regarding other States is not available.

In Assam seven anti-malaria units functioned, and 12 surveys were conducted in 1949. Three surveys were conducted in 1951 and seven in 1952. Of the anti-malarials distributed, mention may be made of the following:—

Quinine

	lbs.	boxes.	tablets
1949	5,979	1,186	304,451
1950	4,793	8,796	2,797,500
1951	6,057	9,950	3,540,692

About 1½ million people out of a total of 9 millions were reported to have suffered from malaria in 1951.

Three control units were functioning in Bihar under a pilot Anti-malaria Scheme with headquarters at Patna in 1949; all the districts were reported to be infected during the year. Three surveys were conducted in 1950. Quinine and Paludrine were the anti-malarials distributed. The quantities, distributed were :—

	<i>Quinine</i>	<i>Mepacrine</i>	<i>Paludrine</i>
	lbs.	tablets	tablets
1949	2,962	7,889,600	6,251,200
1950	2,254	7,246,528	—

There was just one anti-malaria unit functioning in Orissa. Two surveys, one in 1950 and the other in 1952, were conducted. D.D.T. operations were carried out in some of the areas. The State Government sanctioned anti-malaria demonstration scheme for Jeypore Hill tracts of Koraput district in 1951 under the supervision of W.H.O. personnel. The W.H.O.

team was withdrawn in 1951. Government of India gave a free gift of 81,000 lbs. of D.D.T. in 1952 for malaria control in the endemic areas of the State. The State Government contributed a sum of Rs. 1 lakhs. In 1949, 1,326 lbs., 4,463 boxes and 2,115,550 tablets of quinine were distributed. A mark decrease in the incidence of the disease was reported. Four anti-malaria units were functioning in Madhya Bharat in 1949. The number was raised to 16 in 1950 and to 30 in 1952. Anti-malarials like Mepacrine and Paludrine were distributed. The number of tablets distributed were :—

Year	Mepacrine	Paludrine
1949	1,244,200	11,000
1950	779,819	23,904
1951	780,000	23,000
1952	503,668	235,746

13 Units were functioning in Hyderabad State during the period. As a result of control measures, 50—60% reduction was noticeable in the malaria incidence. In 1952, the State received a free gift of 24 tons of D.D.T. from U.N.I.C.E.F. and T.C.A. Five anti-malaria units were functioning in Saurashtra in 1950. A population of 2,80,000 in 359 villages of the State was protected in 1949 under a scheme which cost the Government about Rs. 1½ lakhs. D.D.T. spray and distribution of Paludrine tablets were the two control measures adopted. Usual control measures were adopted in Travancore-Cochin and a large number of villages enjoyed the benefit. Reduction in malaria incidence was estimated at 50—60%. Anti-malaria measures were confined to three districts in the endemic area of Jaipur in Rajasthan in 1949. The W.H.O. team at the malaria control demonstration project was withdrawn in June, 1951. Ten anti-malaria units were functioning in the State. Realising the danger of malaria epidemic in the flooded areas of the State due to abnormal rainfall, the PEPSU Government sanctioned a sum of Rs. 1 lakh in 1949 and the services of 97 anti-malaria units were made available by the Government of India. 101,574 Paludrine tablets and 81,778 Mepacrine tablets were distributed and 310 quinine injections given. Compared to 1946 when the spleen-rate was 30—80%, the control measures brought it down to less than 10% as well as reduced the incidence of the disease. Anti-malaria organisation for Himachal Pradesh, sanctioned by the Government of India, started functioning in 1949. Dispensaries in the rural areas of the State were equipped with additional supplies of anti-malaria drugs. The number of malaria deaths in 1952 was 66% of that in 1950 in two out of four districts of the State. The Director, Malaria Institute of India visited the State of Kutch in 1949 and anti-malaria measures were undertaken according to his suggestions which reduced the malaria incidence appreciably. No planned anti-malaria measures could be undertaken in Tripura and Vindhya Pradesh in 1949 and 1950. A malaria survey was undertaken in Tripura in 1951, and in Bhopal in 1952. One permanent malaria unit was raised in Vindhya Pradesh towards the end of the period. Incidence of malaria was reported to be of moderate severity in Bilaspur State in 1951. About five lakh tablets of anti-malarials in 1951 and 1½ lakhs in 1952 were distributed free.

DYSENTERY AND DIARRHOEA

As it is not possible for a layman to distinguish between dysentery and diarrhoea, the practice is to take deaths, reported as due to both, together. The percentage of total deaths accounted for by these diseases in the various States of India is markedly variable. But in the same State, it has remained much the same during these four years indicating only slight variations in incidence. For instance, the percentage figure for Bihar was on the average 0.6, varying from 0.5 to 0.8. At the other extreme, we find that in Delhi State about 7% of deaths were registered under this disease. This percentage varied from 6 to 9. These two diseases are bowel diseases and the supply of food and water has much to do with their incidence. Measures adopted by various States to ensure wholesome food and protected water supply have already been related elsewhere. The two diseases have certain symptoms in common with cholera and may sometimes be confused by the reporting agency. The tables 5 and 6 in the Appendix depict the mortality indices and the per cent deaths from the diseases.

It will be observed that the mortality due to these diseases compares favourably with the 1948 figures in case of Punjab, Madhya Pradesh and Delhi. No systematic downward trend seems to persist in any State.

RESPIRATORY DISEASES

This group includes some of the important diseases, such as, tuberculosis, pneumonia and bronchitis, the first named assuming an increased importance. As the figures for individual diseases are not available in all the States or in the whole of any State, apparently due to diagnostic difficulties, these diseases too are considered as a group. The percentages of persons dying of these diseases varies from State to State.

Name of State	Death from Respiratory Diseases as percentage of deaths from all causes			
	1949	1950	1951	1952
Assam	5.0	5.2	5.5	5.3
Bihar	0.6	10.7	0.7	0.7
Bombay	15.5	14.8	15.3	15.5
Madhya Pradesh	6.9	6.6	6.1	6.6
Madras	9.6	9.1	9.4	10.5
Orissa	3.3	3.0	2.7	2.6
Punjab	11.4	8.9	10.4	12.2
Uttar Pradesh	3.8	3.9	7.1	7.8
West Bengal	9.3	9.6	10.1	11.4
Ajmer	8.8	8.9	11.1	8.9
Coorg	2.3	4.4	3.6	7.4
Delhi	22.1	23.9	27.7	28.7

The above table reveals two significant facts. Firstly, the percentage of deaths due to these diseases varies so much from State to State as to render inter-State comparison misleading. One is at a loss to explain how the respiratory diseases group could be responsible for 25% of all deaths in Delhi State and for less than 1% in Bihar. Secondly, this percentage in case of almost all the States seems to be remarkably consistent which may perhaps be indicative of a persistent bias. The following table No. 7 in Appendix shows the comparison of each year deaths with the mean for

the period 1945—48 for those States for which information is available. An account of the preventive measures against tuberculosis appears elsewhere in this report.

TYPHUS

Typhus is a notifiable disease under the International conventions. Therefore, the case of typhus should be promptly notified. In spite of this, the figures reported seem to be doubtful. This may be due either to a lack of proper diagnostic facilities or to public indifference. The available figures do not give the actual level of its incidence in the country. The following figures for typhus are compiled from the State Public Health reports, as far as are available:—

TABLE

Name of State	Years	Number of deaths reported from typhus
Bombay	1949	2
	1950	1
	1951	—
	1952	1
Madhya Pradesh	1949	313
	1950	389
	1951	1,071
Madras	1949	17
West Bengal	1949	17
	1950	—
	1951	20
	1952	4
Utter Pradesh	1949	80
	1950	87
	1951	3,103
	1952	3,659

ENTERIC GROUP OF FEVERS

Complete and reliable statistics regarding the incidence of this group of fevers are not available. All the same, mortality from this group of fevers in municipal areas and some rural areas of the States is included. The recorded figures in these areas may not show the true picture. However, the following table showing reported deaths from fever as compared with mean of the period for some of the States is appended:—

TABLE

Name of State	Number of deaths recorded from Enteric fever				
	Mean of the period	1949	1950	1951	1952
Bombay	4,267	5,382	3,961	3,853	3,871
Uttar Pradesh	22,138	8,803	10,878	40,292	28,578
West Bengal	3,734	4,434	4,086	3,572	2,844
Madhya Pradesh	1,113	728	947	1,665	*
Punjab	1,532	1,204	1,389	1,154	2,380
Assam (for towns only)	25	*	44	14	27
Bihar (for municipalities only)	*	249	*	*	*
Madras (,,)	1,892	1,665	2,134	1,877	*
Orissa (,,)	55	44	66	*	*
Ajmer (for towns only)	251	*	*	222	280

*Information not received.

N.B. Mean is for these years for which the figures are given above.

The most important among the control measures was inoculation with T.A.B. vaccine. This was reported to have been adopted, especially, by Bombay, Madras, Bihar, Travancore-Cochin, Saurashtra, PEPSU and Coorg. Other important measures included the improvement of water supply and environmental sanitation.

KALA-AZAR

This disease is confined mainly to the eastern States of India, viz., Assam, West Bengal, Bihar, U.P. and Tripura. It is endemic in certain areas of these States, and constitutes a major public health problem. However, cases are reported from Bombay, Madhya Pradesh, Madras and Andaman also; but the number is insignificant. The following tables shows the mortality due to this disease in the eastern States :—

TABLE

States	Deaths				Percentage compared with the mean of the period			
	1949	1950	1951	1952	1949	1950	1951	1952
Assam . . .	466	346	299	303	131.6	97.7	84.5	85.6
Bombay . . .	3	1	5	3	100.0	33.3	166.7	100.0
Madhya Pradesh	15	4	41	*	75.0	20.0	205.0	*
Madras (for municipalities)	*	3	6	*	*	60.0	120.0	*
Uttar Pradesh .	178	181	3,045	2,985	11.1	11.3	190.7	186.9
West Bengal .	2,595	2,009	1,476	1,128	144.4	111.5	81.9	62.5

*Information not received.

In U.P. twelve mobile dispensaries and all other dispensaries were equipped for treatment of this disease in 1949. Twelve travelling medical units surveyed 1,132 villages and carried out flood examinations in 17,245 cases, of which 11,900 were found to be positive. In 1951, ten travelling medical units surveyed 994 villages and treated 14,124 persons. Again in 1952, 945 villages were surveyed and 7,855 cases treated. Special control measures were reported to have been taken in West Bengal and anti-Kala-azar work continued as heretofore.

The State Government granted Rs. 13,900, Rs. 65,000, Rs. 19,700 and Rs. 14,700 to the District Boards for Anti-Kala-azar work during these four years, respectively. The disease was reported to be endemic in certain areas of Madras in 1949. The area was surveyed in subsequent years. A mobile treatment unit was sanctioned for systematic treatment with D.D.T. The disease remained endemic in Assam though there was a decrease in its incidence. Some new dispensaries were opened for its treatment. Kala-azar Treatment Act, 1949, was used for prevention of treatment by unauthorised people. Kala-azar cases were treated at special Kala-azar and malaria centres in Bihar. 9,800 grammes of urea stibamine were distributed free for Kala-azar treatment.

CEREBROSPINAL FEVER

Statistics regarding this disease as in case of so many other diseases, should be interpreted with caution because of the usual lack of diagnostic facilities. Deaths due to this disease have been comparatively few. It is not possible to say whether it is due to misclassification or to a decrease in incidence. Only in case of U.P. and West Bengal are the numbers somewhat significant. Uttar Pradesh reported 998 deaths in 1951 and 948 in 1952 whereas in West Bengal there were 4,434 deaths in 1949. The following table details the available information:—

State	No. of deaths			
	1949	1950	1951	1952
Bombay	35	28	25	41
Madhya Pradesh	37	16	5	*
Punjab	2	—	2	3
Uttar Pradesh	54	63	998	943
West Bengal	369	323	341	327
Madras	*	48	44	*

(In certain Municipalities).

*Information not received.

DEATHS BY VIOLENCE

Table 8 in Appendix would show that deaths under this heading usually account for one to two per cent of the total deaths from all causes registered in any State. Though few in number, they are of special interest because these causes arise out of certain social and environmental conditions. It will be seen that, out of the four causes included in this group, suicide, homicide, wounds and accidents account for a large percentage of the total deaths. Percentage due to any of these two in any State does not show any large variations from year to year. The number of deaths due to attacks from wild beasts and snakes forms a significant proportion of deaths by violence in Bihar, Bombay, Madhya Pradesh, Madras, Orissa, Uttar Pradesh and West Bengal while it is negligible in case of Assam, Punjab and Delhi. In this connection, a passage from an article on snake-bite mortality published by the World Health Organisation may not be out of place:—

“The incidence of snake-bite mortality depends on the chance of a person being bitten by a poisonous snake, which naturally is related to the number of the prevalent poisonous species of snakes and other factors. More deaths from snake-bite occur in India than in any other country. Approximately 15,000 deaths were recorded there before partition corresponding to a rate of 5.4 per 100,000 of population. There are great variations in snake-bite mortality between the provinces and the Ganges delta is the most dangerous region, highest death rate reported from a district there being 12.6.”

Deaths recorded under rabies are not many but they have an importance from the point of view of the activities of Public Health Department. No definite trend is noticeable in the mortality under this head.

2. Venereal Diseases

It is difficult to give any estimate of the overall incidence of venereal diseases in the country in the absence of any country-wide survey and also in view of the fact that a majority of the well-to-do persons suffering from venereal disease go to private practitioners, and many in the lower strata resort to quacks for treatment to escape the social stigma attached to this group of diseases.

Considerable interest in the promotion of anti-V. D. activities continued to be taken by the W.H.O. and U.N.I.C.E.F., and a number of clinics, static and mobile, functioned with laboratory equipment and supplies of P.A.M. donated by these agencies. The use of P.A.M. from this source was, however, restricted to women and children. Except in industrial areas and in mountainous and sub-mountainous regions where the incidence of V.D. is known to be high, the Anti-V.D. programme generally lacked in vigour, and in their pre-occupation with other public health activities, the States were generally averse to divert these resources from more urgent activities to this field. There remained quantitative and qualitative deficiencies in the organisation against V.D. Facilities for case-finding, contact tracing, follow-up and medico social work did not exist in most of the places even where V.D. clinics were in operation. The training facilities provided by W.H.O. Demonstration Centres helped in training a number of workers from many parts of the country in clinical and laboratory work. The new regimen of treatment has, more or less, wholly replaced the arsenicals. Self-medication with sulphonamides, etc., is suspected to be prevalent with the result that cases are generally seen in late stages.

Facilities for treatment through special institutions, clinics and specialists exist in some States only, whereas many of the States do not have any special clinics for the treatment of venereal diseases; however, adequate facilities do exist at many of the larger general hospitals in various States.

A brief account of the work done in various States during the period under review follows :—

Assam—Facilities for the treatment of venereal diseases existed in the Genito-Urinary Clinic attached to the Shillong Civil Hospital and V.D. Clinic, Assam Medical College Hospital Dibrugarh. Most of the Government and Local Board Dispensaries in the State also treated this class of patients. In view of the absence of any official survey and the fact that a majority of such cases seek private advice and treatment, no figures indicating the extent of prevalence of venereal diseases were available.

Bihar—Venereal diseases were common in all the districts of Bihar but its incidence was particularly high in the district of Saran. As a preventive measure, the State Government did not allow the camping of prostitutes during the Sonapur Mela, which is perhaps the biggest fair in India.

The Patna Medical College Hospital and the Ranchi Sadar Hospital had an attached 50 bedded and a 15 bedded V.D. Ward, respectively. Besides, two V.D. Clinics were functioning at the Darbhanga Medical College Hospital and the Tata Main Hospital, Jamshedpur.

Bombay—It is difficult to ascertain even the approximate figure about the prevalence of venereal diseases in the State. Well-to-do patients get themselves treated privately so as not to disclose this ailment because of the social stigma attaching it. Besides, the disease not being notifiable, no reports are received from private practitioners. The only figures available were, therefore, those relating to poor patients attending certain hospitals. However, it is a well-known fact that venereal diseases are more common in seaport cities like Bombay than in other inland towns of the State.

The Government sanctioned an annual grant of Rs. 90,000 for the free supply of anti-V.D. drugs to the poor patients attending Government hospitals and dispensaries.

A number of venereal diseases specialists were appointed in different hospitals; 9 doctors held the post of Skin and Venereal Diseases House Physician during 1952. After having received training at the Seth G. S. Medical College and the Skin and Venereal Diseases Department of the K.E.M. Hospital, one Doctor passed the D.V.D. and another the D.D.V. examination in 1952 and three more passed the D.V.D. examination in 1951. Three graduates were trained in V.D. work during 1952 as against one during 1951 at the J. J. Hospital, Bombay.

As a preventive measure, posters were displayed in big cities and leaflets and pamphlets were distributed to patients attending the clinics.

Madhya Pradesh—The incidence of venereal diseases was high in the districts of Bastar, Surguja Raigarh and Chanda. There being no special V. D. hospitals or clinics in the State, patients were given treatment in general hospitals and dispensaries. As a preventive measure, the Assistant Health Officer carried out propaganda during his tour in the interior and educated the public in the prevention of this disease. A special V.D. team was posted to Jagdalpur for the treatment of V.D. and yaws.

Madras—It is surmised that for every patient seeking treatment in a hospital for venereal disease, twenty persons, similarly afflicted, do not go to a hospital but get treated instead by quacks or by private practitioners. It was estimated that nearly 14% of the population suffered from one or the other kind of venereal disease of which syphilis and gonorrhoea alone accounted for 11%. The areas which were most affected were (1) Guntur, (2) Ramnad, (3) East Godavari, (4) Mathurai, (5) West Godavari and (6) Nellore.

Facilities for the treatment of venereal diseases existed in the hospitals of Madras city as well as in many hospitals in the mofussil. Three new clinics were opened during 1952.

Orissa—The Sri Ram Ch. Bhanj Medical College Hospital has a V.D. Clinic attached to it. Afternoon clinics were held at the various district headquarter hospitals twice a week. Facilities also existed at the Infectious Diseases Hospital, Puri, and the Medical College Hospital, Cuttack.

The disease ranked high as one of the most important public health problems. A scheme was formulated to establish a model clinic at Cuttack, but it did not materialise. At the instance of the Medical and Public Health Departments of the State, the Department of Police took up an inexpensive but effective scheme to prevent the spread of disease among the police personnel. Literature indicating the latest therapeutics and up-to-date

methods of treatment obtained from the Army, the W.H.O., etc., was circulated among the medical officers.

Punjab—The incidence of venereal diseases was on the decline. The Ripon Hospital, Simla and the Victoria Jubilee Hospital, Amritsar had separate wards for venereal diseases the latter being in charge of a Venereal and Skin Diseases Specialist. Also, there existed a stationary clinic at Kulu. Besides this, a V.D. team, in charge of a trained venerologist was working in Kangra District with its headquarters at Kulu. The team visited villages in the interior of the hills for 7—10 days in a month and treated patients.

U.P.—Venereal diseases were very common in the primitive population of Jaunsar-Bewar tracts in the district of Dehra Dun and Dudhi in the Mirzapur district. In the former, it was assumed that about 60% of the population was affected with V.D.

Besides the establishment of a Mobile V. D. Control Unit, V. D. Clinics were opened at Chakrata in Dehra Dun district, Dudhi in Mirzapur district and U.M.H. Hospital, Kanpur, during the period under review.

Facilities for the scientific treatment of V. D. existed in the V. D. clinics and other hospitals and dispensaries in the State which were stocked with the requisite drugs.

One lecturer in Skin and Venereal Diseases of the Medical College, Agra, was deputed by the State Government to study the working of the W.H.O. Venereal Diseases Reference Laboratory at Simla in August—September 1951, and the Medical Officer Incharge, U.M.H. Hospital, Kanpur, was deputed for special training in V. D. at the Combined Military Hospital, Lucknow.

West Bengal—Forty V. D. Clinics were functioning in West Bengal at the end of the period under review. Of these, 12 were located in the metropolis itself, 14 were attached to different hospitals in the districts, and the remaining 14 in the mofussil.

The Serological Laboratory examined, free of charge, specimens of blood for Kahn, Meinicke, V.D.R.L. Cardiolipin and W.R.

The 'pay clinic' system introduced in the year 1951 for diagnosis, periodical checks and complete course of confidential treatment on payment only of Rs. 15, was working well; it existed at four hospitals, viz., Medical Colleges Hospitals, S. N. P. Hospital, Lady Dufferin Hospital and R. G. Kar Hospital. Eight social workers were doing active medical social work at the various V. D. Clinics.

Efforts were made to popularise V. D. clinics among the labour population. With the cooperation of the Indian Jute Mills Association and the local trade unions, a system was evolved whereby 10 workers per week were examined. By the end of 1952, the scheme had been extended to the Howrah Jute Mill.

The West Bengal Undersirable Advertisement (Control) Act—1948, which came into force with effect from 15th August, 1951, has done much to check undesirable advertising.

Hyderabad—The incidence of V.D. is quite high in the State. Adequate facilities existed for the curative treatment of V. D. patients at the three V.D. clinics, well equipped for microscopic, serological and cultural examinations.

Jammu and Kashmir—Venereal diseases were very prevalent in the hilly areas of Jammu province and in Leh. In some parts of the tehsils of Ramnagar, Basohli, Bhaderwah, Ramban and Reasi, more than 40% of the population were infected with syphilis; other types of venereal disease also were prevalent. The incidence of congenital syphilis in the remote inaccessible hilly areas was quite high.

A central V. D. Unit comprising of a model V.D. clinic and laboratory was functioning in S.M.G.S. Hospital, Jammu. This team was split up into two parts, one looking after the field work, the other working at the headquarters.

Madhya Bharat—The incidence of venereal diseases is high in the State specially in its hilly areas. Notable districts in this respect are Ujjain, Dhar, Ratlam, Khargone, Barwani and Rajgarh.

No special facilities existed for the treatment of V. D. General Hospitals and dispensaries provided for ordinary treatment. Besides sulphur drugs, the indigent patients were given diet.

Mysore—The incidence of venereal diseases appeared to be on the increase. From the attendance at the Victoria Hospital, it was noted that about 10% of the cases came from the bordering States.

Facilities for the treatment of venereal diseases were available at the Victoria and Bowring Hospital, Bangalore and the Krishna-Rajendra Hospital, Mysore. The Venereal Diseases Centre—clinical and Serological—located in the Victoria Hospital, Bangalore, is aided by W.H.O. and U.N.I.C.E.F. who supplied serological equipment (Field Unit) and free P.A.M. for women and children. The clinical and serological sections were manned by the W.H.O.—trained personnel, trained at Simla. Full equipment for serology, dark-ground illumination and other laboratory diagnostic aids (bacteriological and histological) were available at this centre. Regarding serology, two Flocculation tests (MKLR II—Slides) and (V.D.R.L.—Slides) and one Complement Fixation Test (W.R. British IV method M.R.C.) are being done, as a routine, at this centre. The centre assisted the Rockefeller Foundation Nutrition survey by conducting serological tests for syphilis for the particular group.

Two Medical Officers of Health from the Public Health Institute were trained in the technique and reading of (M.K.L.R. II—slide) and (V.D.R.L.—slide) tests.

PEPSU—Venereal diseases are prevalent in the hilly areas of this State, specially in Kandaghat district. The recent survey carried out in the Simla Hills under the auspices of the W.H.O. revealed that about 65—70% of the adult population were suffering from syphilis in its active or latent stage.

Besides the Skin and V.D. Clinic attached to the Rajindra Hospital, Patiala, another V.D. clinic was opened at Kandaghat during 1951. One doctor was trained for the Diploma of D.V.D. from the Grant Medical College, Bombay during 1952.

Rajasthan—The incidence of V.D. is not high in this State. It is higher though in big cities and in areas near military cantonments in comparison to rural areas.

There were no special V. D. clinics or Hospitals in the State but facilities did exist for standard routine treatment with arsenicals, sulpha drugs, penicillin, etc., at some of the larger hospitals for both in-door and out-door patients.

Saurashtra—The incidence of venereal diseases is not high in this State. The 8-bedded venereal ward attached to Shri Takhat Singhji Hospital, Bhavnagar, continued providing treatment during the period under report.

Travancore-Cochin—The General Hospital at Ernakulam and Trivandrum had each a V. D. clinic attached. Routine treatment in V. D. was also given in all the General Hospitals in the State.

Vindhya Pradesh—The incidence of venereal diseases was on the increase, especially in the colliery areas of Sahdol District. No special facilities existed for the treatment of V. D. patients.

Ajmer—The only V. D. clinic in the State is attached to the Victoria Hospital, Ajmer.

Bhopal—Venereal diseases were fairly prevalent in the State but no adequate facilities existed for their treatment before the opening of a V. D. clinic at the General Hospital, Bhopal in 1950, and another at the Hamidia Hospital, Bhopal, in 1951. The attendance at the V. D. clinics was, however, much less than would be warranted by the prevalence of the disease.

Delhi—There were two V. D. clinics one each in Delhi and New Delhi. Some of the large hospitals also provided out-door treatment to V. D. patients, but these facilities were considered very inadequate.

Himachal Pradesh—The incidence of V. D. was the highest in this State of India. Serological survey conducted in various places of the State has shown an average of 20 to 25% seropositives. About 5% of this have shown clinical evidence of early infectious syphilis (primary and secondary). Latent syphilis has accounted for the major proportion of seropositives (about 93%), late syphilis (1.5%) and congenital syphilis (about 0.5%). The incidence of syphilis is particularly high in some areas, viz., Mahasu, Sirmur, Chamba and Mandi. In the areas where active treatment and control were carried out, the number of cases decreased. In the Ghund areas of Mahasu District, where an average of 12 cases of syphilis per month were reported previously, there were practically no new cases now.

Investigations were being carried out in the Pangi area of Chamba District where a high incidence of gonorrhoea was reported; granuloma inguinale, lymphogranuloma venereum and chancroid were relatively less prevalent. A few cases of trichomonas vaginalis infection in the females were also seen and treated in the clinics. As a result of free treatment facilities, the number of new cases of venereal diseases from the mofussil areas was diminishing.

Till December, 1952, the V. D. Organisation consisted of the head-quarter's main clinic and laboratory at Simla with a subsidiary clinic and laboratory at Nahan in Sirmur District. Later, towards the fall of the year,

subsidiary units were formed at Chamba and Mandi headquarters hospitals.

Additional clinical and laboratory equipments were given to the different units to supplement the W.H.O. and U.N.I.C.E.F. gift supplies, viz., MEINICKE and VDRL Antigens and PAM. Free blood-testing and treatment facilities with P.A.M. were also extended to many of the out-lying dispensaries in the State. Five joint papers by the venereologist and members of the W.H.O.—V.D. Demonstration Team were published during the year 1952 as also an article on “The V.D.R.L. Cardioli-pin” slide test—a modified technique.

Andaman and Nicobar Islands—The frequency of positive Kahn test amongst women attending ante-natal clinics, the number of marasmus infants, still-births and skin sores pointed to a high incidence of disease. Soon after the Japanese forces left these Islands, military doctors estimated its incidence at more than 40%. Since then, a large number have had treatment which, in a majority of the cases, consisted of a short course of six N.A.B. injections without a proper follow-up. On account of poor communications between the various islands and the central hospital where proper laboratory facilities for diagnosis and treatment existed, only a small number of persons could attend the hospital. Other hospitals did not have laboratory facilities for serological work.

Appendix Table No. 9 shows the number of venereal diseases patients treated in various States during 1949-52 and Table No. 13 gives the number of institutions and bed strength where such facilities are available. Expenditure incurred is shown in Table No. 14.

3. Leprosy

Leprosy is a major public health problem in India, the worst affected areas being Assam, Travancore-Cochin, Madhya Pradesh, Himachal Pradesh, West Bengal, Madras, Uttar Pradesh, Bombay and Orissa. Realising the importance of this disease, the Indian Delegation to the Second World Health Assembly, held in Rome in 1949, brought up the subject for consideration by the Assembly; a brief account of which is given in Chapter IV of this report.

Tables Nos. 10, 13 and 14 give statistical information about the number of leprosy patients treated, the number of institutions with bed strength and the expenditure incurred during the period respectively.

The following brief account gives the prevalence of this disease and facilities for its treatment and control in the various States of India :—

Assam—Leprosy is fairly widespread in this State. A Leprosy Relief Committee was formed with the Minister in charge of the Medical and Public Health Department as its President to work in close cooperation with the health department. A Provincial Leprosy Officer carried out surveys and health education on the subject. The newly appointed Assistant Surgeons (Grade II) were given a short training in the technique of leprosy treatment by district Public Health Officers.

In all the institutions, whether Government or Private, patients are segregated, as far as possible, and kept occupied in vegetable gardening, handloom work, etc., in order to maintain an active interest in life. A school is also run in the Santipara Leprosy Colony.

The Government sanctioned grants-in-aid amounting to Rs. 49,790 during each of the years 1950 and 1951 and Rs. 58,050 during 1952 to the five institutions run by Missionaries and Municipal Boards. A further sum of Rs. 2,160 was distributed amongst some of these institutions for the maintenance of leprosy patients from Sylhet (East Pakistan). The Mikir Seva Kendra (Tribal Association) helped in the establishment of a Leprosy Colony in Mikir Hills for which a grant-in-aid of Rs. 5,000 was provided by the Government during 1951. The Government also arranged for the training of one literate young Mikir in the treatment of leprosy at Wardha Moha Rogi Seva Mandal for a period of 3 months.

Nine new leprosy treatment centres were opened during the period under report.

Bihar—The incidence of leprosy is fairly high throughout the State—Manbhum and Santhal Parganas being the worst affected.

An Anti-Leprosy Officer was appointed in March 1952, to coordinate, organise and supervise the anti-leprosy work. Government gave capitation grants to all the leper asylums and leper colonies run by private organisations in the State. The usual capitation grant of Rs. 3/8/- was raised to Rs. 10 per bed, per month. Occasional grants were also sanctioned by Government to meet deficit in the budget of certain asylums.

Bombay—There are estimated to be nearly 90,000 leprosy patients in the State. The incidence is particularly high in East Khandesh and North Satara.

The post of Special Leprosy Officer, which was held in abeyance during the period of war, was revived during 1950. The main duties of this officer are to survey and plan the leprosy work by paying periodical visits to places where leprosy is prevalent, to advise various bodies on anti-leprosy measures and to train doctors in leprosy work. A honorary propaganda officer for leprosy has also been appointed. His duties are to organise leprosy work and to advise hospital authorities, social workers and leprosy patients on all social matters connected with leprosy. The State Government has also sanctioned a scheme under which 15 social workers were appointed for doing leprosy work.

Each social worker is required to visit villages in the area allotted to him, to take census of the persons suffering from leprosy, to explain to the public, the patients and their families what precautions are required to be taken for checking the spread of disease, and finally to advise treatment. Since 1951, Hind Kusht Nivaran Sangh, Bombay State Council has, in consultation with the Government of Bombay, adopted the policy of concentrating its activities on propaganda, survey and other social measures leaving most of the curative work to be carried out in Government hospitals and dispensaries. Arrangements have been made in all the Government District Local Board dispensaries and allopathic S.M.P. centres, besides the seven Government controlled Leprosy Homes to treat leprosy cases with D.D.S.

Occupational activity, such as, gardening, tailoring, carpentry, poultry farming, etc., has also been introduced in the leprosy hospitals as much to encourage the patient to earn pocket expenses as to keep his mind off his ailment, raise his morale and enable him to take real and active interest in life.

Madras—The Health Officer in charge of the Provincial Leprosy Survey Unit surveyed 71 villages extensively and 29 villages intensively in the District of South Arcot, North Arcot, Chingleput, Tiruchirapalli, Salem and Cuddapah. The Health Officer in charge of the District Survey Unit surveyed 20 villages intensively in South Arcot. The incidence of leprosy in the State, according to their survey, ranges from 1% to 10% the most endemic areas having about 5% sufferers from this disease.

A Publicity and Welfare Organisation for Leprosy was established by the State Government in 1949. This organisation carried out its activities through exhibitions, public meetings, radio broadcasts, articles in newspapers and periodicals, and distribution of pamphlets. It also helped to rehabilitate *ex-patients* by finding them employment or setting them up in independent lines of gainful occupation.

Three leprosy units, one each at Vellore Town, Saidapet and Podambakkam were functioning under the Assistant Director, Leprosy Campaign during the year 1951. The unit at Podambakkam has since been closed down.

In view of the high prevalence of leprosy in the State and the particular importance of social factors in the spread as well as control of the disease, Government accepted the principle of utilising the services of non-official workers in the prevention, control and treatment of leprosy, and sanctioned their training for a period of one month to enable them to spot leprosy cases, advise on proper treatment, arrange institutionalization of highly infective cases and help introduction of preventive measures. Accordingly, a batch of six lay workers was trained during 1952 and posted to different centres. Non-official workers, though paid only an honorarium of Rs. 50 per mensem, have been giving full-time service and playing a very useful part in the campaign.

Madhya Pradesh—Leprosy is a major public health problem in this State as the incidence of disease ranges from 0.38 to 1.04%. The districts most affected are (1) Amravati, (2) Wardha, (3) Durg, (4) Raipur, (5) Chanda, (6) Yeotmal, (7) Akola and (8) Buldana. Seoni, Betul and Sagar show relatively low incidence. The total number of leprosy cases in the State was estimated at about one lakh. There is a higher percentage of infective cases in Chattisgarh and Berar (30% and 18% respectively), while the incidence in children below 15 is higher in Berar.

The Government gave capitation grants to 9 in-patient institutions where about 2,000 lepers were isolated every year. There were also four isolation centres in the State where 30, 49, and 66 lepers were isolated during 1949, 1950, 1951 and 1952 respectively.

A new leprosy institution at Amravati and 31 leprosy treatment centres in different parts of the State were opened during the period under report.

Orissa—The coastal districts of the State have a particularly high incidence of leprosy. Sample surveys conducted in 1952 in certain parts of the State revealed 920 cases of leprosy out of 2.19 lakhs of people examined. The incidence of leprosy in those areas comes to 0.42%. From the sample survey previously conducted in different parts of the State, a rough average estimate of incidence for the whole State would be 1.2%. *i.e.*, 1.75 lakhs patients, over 44,000 of whom would perhaps be infective.

The scheme for anti-leprosy campaign was formulated in 1938, put into operation through the Orissa branch of the Hind Kusht Nivaran Sangh, and administered by the Public Health Department. A senior member of that department was appointed as the Provincial Leprosy and Health Publicity Officer to supervise and co-ordinate anti-leprosy work in the State.

The State Government gave an annual grant-in-aid of Rs. 27,000 to the Orissa Branch of the Hind Kusht Nivaran Sangh for preventive and curative measures, for doing propaganda in the rural areas, and for meeting the expenditure on salaries, etc., of the staff engaged in the campaign. Capitation grants were also given to voluntary organisations in the State.

There is a network of rural clinics and colonies for treatment and isolation of leprosy patients in different parts of the State. Besides, leprosy clinics are also attached to several hospitals and dispensaries.

Nine new leprosy clinics were opened during the period under report.

Punjab—In this State, leprosy is mainly confined to the hilly districts of Kangra, Simla and Hoshiarpur. A continued survey, carried out in the pre-1947 Punjab and extending over a number of years, revealed the presence of 1,481 leprosy patients in East Punjab in addition to the patients receiving treatment at various leprosy homes. More than half of them were in the district of Kangra alone where the disease was endemic. Leprosy patients found in the plains of this State were mostly beggars who had migrated from other States.

The anti-leprosy campaign in the State was organised by the provincial Leprosy Officer and his staff consisting of one Assistant Leprosy Officer, three dispensers and one nurse-dai. The expenditure on treatment and prevention of leprosy was shared by the State Government, the Hind Kusht Nivaran Sangh, (Punjab Branch) and the Mission of Lepers. In addition, there were three District Leprosy Boards in Kangra, in Hoshiarpur and in Ludhiana districts. The Leprosy Board in Kangra distributed milk, clothes, blankets and small gifts to patients attending the various clinics in that district. The needy were also sometimes given monetary help to enable them to repair their residential huts, etc.

Three new clinics were opened during the period under report. The Leprosy Home at Subathu was taken over by the PEPSU Government.

In the Leprosy Homes, the old routine treatment with Hydnocarpus oil or its preparation was given. However, the encouraging results of treatment with sulphone are attracting the attention of the authorities.

The Government has decided to increase the per capita maintenance grant to all the three Leprosy Homes with effect from 1st April, 1953.

During the years 1951 and 1952, courses of instruction were periodically held at Ludhiana and Ambala for training doctors in the treatment of leprosy.

There were 5 unofficial leprosy colonies which were run by local panchayats (from amongst the patients) at Dinanagar, Jagadhri, Taran Taran, Hoshiarpur and Ludhiana. The last two were well organized.

Uttar Pradesh—Though prevalent in, more or less, the whole State, Leprosy is endemic in the northern hilly districts, the district of the Tarai

Region, the Eastern districts and certain central districts. In the dry and comparatively healthy districts of the western part of the State, it exists in a lesser degree. As no state-wide leprosy survey was ever undertaken in the State, no reliable statistics are available. However, it is estimated that about 2 to 2½ lakhs are suffering from the disease.

The post of the Provincial Leprosy Officer which was created in the year 1948 was abolished after June 1950 owing to financial stringency; but the services of its incumbent were utilized for the treatment of leprosy cases and other hospital work at the district hospital, Deoria. The Anti-Leprosy Unit, established in 1951, continued survey and propaganda work during 1952.

Grace Mayre Leprosy Hospital was closed down during 1949. On account of its unsound financial position, the Aman Sabha Leper Asylum, Baharich, which was managed by a local committee, was taken over by the Government at Gouripur in the district of Bankura for the segregation and a provision for further expansion to 500 beds was under Government consideration. Two leprosy clinics were opened in each of the districts of Tehri-Garhwal and Deoria where the incidence of the disease is pretty high.

Hyderabad Deccan—The State covers an area of 82,693 sq. miles and has a population of 18.6 millions. The incidence of leprosy varies, the lowest being 1 per thousand of the population and the highest, 12. Some villages in the highly endemic areas have shown incidence as high as 50 to 100 per thousand of population.

The Special Leprosy Officer attached to the office of the Director, Medical and Health Services, Hyderabad supervised the working of various clinics and colonies in the State and gave expert advice during his monthly tours in the districts. He held a course of training in leprosy to two batches of the final year students of Osmania Medical College in the years 1951 and 1952.

Besides a new leprosy village isolation and treatment centre at Ghounsi, district Bidar, many leprosy clinics were opened in different parts of the State during the period under report.

Modern treatment of leprosy with Sulphone and Diazone (parenteral and oral) was given to selected cases in different institutions and clinical improvement was noticed in all cases. The Victoria Leprosy Hospital, Dichpalli, besides hospitalisation of cases provided educational, social, occupational and other activities for the patients.

West Bengal—The incidence of leprosy is very high in the western part of the State, particularly in the districts of Bankura, Midnapur, Birbhum, Bhurdwan, Hooghly, Murshidabad and Jalpaiguri.

Sreeniketan (BISHWA VARATI) Leprosy clinic was opened in 1950. A 100-bedded leprosy colony was also opened in 1949 by the State Government. The question of its expansion to admit 100 patients with treatment of infectious cases. Its bed strength was raised to 212 during 1951, and 100 more beds were to be added during 1952—the target being 500 beds, in all. The out-door clinics attached to Sadar Hospitals at Howrah, Krishnegore and Berhampore and one Municipal clinic at Bhurdwan were provincialised.

Sulphone treatment was introduced in various institutions with encouraging results.

The Hind Kusht Nivaran Sangh undertook survey in 192 villages, Kanchrapara Refugee Camp, 4 Welfare Centres, in the districts of Birbhum, Midnapur and 24 Parganas. Incidence detected was 1%.

Survey was also carried out in collieries, factories and adjoining villages within the jurisdiction of Asansol Mines Board of Health; in the districts of Birbhum, Midnapur, 24 Parganas and Hoogly; Titagarh Paper Mills, Chantinasole area including 34 villages and 163 Calcutta Corporation free Primary Schools.

A special leprosy training class was also organized by the Hind Kusht Nivaran Sangh in 1951 and 1952.

Four clinics were closed during 1952.

Jammu and Kashmir—The prevalence of leprosy infection is more prominent in the northern side of the State, *i.e.*, in Lolab Valley and Gurez. A few cases were also detected to Gojars who generally live on hill-tops during summer and move down to plains during winter.

Madhya Bharat—Sporadic cases of leprosy were observed all over the State; the disease was not, however, concentrated in any particular area.

Segregation of lepers, particularly the infectious ones, was done in the four Leper Homes of the State.

Mysore—The incidence of leprosy in the State was 0.37 per 1,000 of the population. The disease was prevalent mostly in the districts of Bangalore, Kolar, Mysore and Mandya. The District Medical Officer of Bangalore was the Secretary of the Hind Kusht Nivaran Sangh of this State and was also the Medical Officer of the Central Leprosy Asylum. He supervised and inspected all the clinics attached to Local Fund dispensaries in the endemic areas. The infective cases were segregated and treated in the Leprosy Asylum.

Pepsu—The disease was comparatively more prevalent in the Kohistan district than elsewhere.

The Leprosy Home and Hospital at Sabathu was the only leprosy institution in the State. This hospital carried out research in the treatment of trophic ulcers by the rest method of applying the Plaster of Paris bandage. Trophic ulcers healed much quicker under this method than by daily application of dressings. It was found that the best treatment of "Lepra Reaction" was to give combined injections of Potassium Antimony Tartrate and Calcium Gluconate by the intravenous route. The old treatment with P.A.T. alone was not considered as efficacious as the combined treatment. D.D.S. treatment has now almost completely replaced Hydrocreol. The use of Sulphetrone and Avulosuplone (I.C.I.) tablets has given promising results.

Rajasthan—The incidence of leprosy was quite low in Rajasthan under the Jaipur Lepers Act No. XXV of 1947, compulsory segregation was in force in Jaipur.

Facilities for the scientific treatment of lepers existed only at the Leprosy Asylums at Jaipur and Jodhpur. Routine treatment was given at other general hospitals and dispensaries also.

Saurashtra—The incidence of leprosy is believed not to be high in Saurashtra. There were two Leper Asylums at Junagadh and Bhavnagar providing scientific treatment. An out-door leprosy clinic was opened at Porbunder during the period.

Travancore-Cochin—Since the last leprosy survey in 1938, incidence of leprosy in this State has been on the increase—the most affected areas being the coastal regions. A Special Leprosy Officer was appointed in 1951. Adequate facilities for the treatment of lepers existed at five Leprosy Hospitals and three clinics. Sulphone drugs gave very encouraging results.

Part "C" and "D" States—Incidence of Leprosy is believed to be low in these States except in Himachal Pradesh, Manipur, Vindhya Pradesh and certain hill-tracts in Tripura. In Himachal Pradesh, there were two Leper Homes, and in Manipur there were two Leper Asylums and one clinic with adequate facilities for treatment and segregation. In Vindhya Pradesh, facilities at almost all the hospitals existed, but only for out-door treatment. In Tripura State, only the V. M. Hospital, Agartala, had an out-door clinic attached to it.

4. Blindness and eye diseases

Until recently, blindness was regarded as a terrible affliction, and the blind person was looked upon as a useless encumbrance on society; but practical experience in Europe and America has conclusively shown that a blind person not only can help himself but also be in a position to contribute to the welfare of the community given normal upbringing, schooling and training in a useful occupation. This is proved by the fact that nowadays, the blind are successfully engaged in a great many occupations.

Apart from lack of finance and other material resources, promotion of activities for the welfare of the blind has been handicapped in this country by a fatalistic attitude. The blind person himself, too, accepts his future in a fatalistic spirit, and is content, in most cases, to play the role of a useless, unwanted beggar. Till rational sympathy replaces sentimental pity, and we cease to consider the blind merely as objects for compassion to whom alms are to be thrown at the temple-gate or by the road-side, this state of affairs is bound to continue indefinitely. The course is clear, progressive, occupational and vocational institutions have to be established so that education and opportunities for the development of personality under proper guidance of qualified, experienced and understanding teachers of whom, unfortunately, there is great dearth are made available to these handicapped people.

There are only 30 institutions for training of the blind at the end of the year 1952 (Table No. 11). Training is given in some handicraft and literary education by means of Braille embossed characters. The institutions depend mostly on private philanthropy.

Incidence of eye diseases in India is fairly high. Only a few of the larger States have hospitals exclusively for the treatment of eye diseases. Other States have well-equipped ophthalmic departments attached to their

bigger hospitals where adequate facilities are available. In other States, general routine treatment is available. (Table No. 12).

With a view to carrying ophthalmic relief right up to the doors of the rural population, eye-camps are organised in many States, year after year, either by the State Governments or by the All India Blind Relief Society.

The following brief account together with statistical data on the facilities available for treatment of eye diseases in various States may be pursued with interest. (Tables No. 13 and 14).

Assam—Eye-relief work, including eye-operations, was done in all the Civil Hospitals at the District and Sub-divisional headquarters. Minor eye-complaints were attended to in all the dispensaries of the Medical and Public Health Department. There was no Government hospital established exclusively for the treatment of eye-diseases. Sreemanta Sankar Mission Eye Hospital, Nowgong, a private institution, opened in 1951 with 25 beds, continued its activity. Adequate facilities were also available at the ophthalmic department of the Assam Medical College Hospital, Dibrugarh.

In 1949, the Government of Assam sanctioned a sum of Rs. 8,000 as grant-in-aid to the All India Blind Relief Society which organised eye camps at Gauhati and Silchar. In 1950, 1951 and 1952, the Sreemanta Sankar Mission of Assam, a private Eye Relief Society organised, with Government grants-in-aid, eye-camps at different places in the State.

Bihar—There was no Eye Hospital in the State but adequate facilities for treatment of eye diseases existed at the Patna Medical College and the Darbhanga Medical College Hospitals. Eye-camps too were held throughout the period under review at various places.

Bombay—Blindness is widespread in this State but mostly confined to the remote villages and towns. With the object of preventing blindness, treating eye diseases and affording facilities for education and employment of the blind, the Health and Local Government of the State formed a State Council on Blindness on 1st October 1947. The Council meets regularly every three months and does its best for uplift of the blind.

As a preventive measure, Government held three eye-camps in three different districts every year. The camps were very popular and were largely attended by the poor. There is one Mobile Ophthalmic Unit in the Southern Division of the State doing excellent work for the last four years.

Madhya Pradesh—During the period under report, the four private Eye Hospitals continued working satisfactorily. Besides, eye diseases were treated in almost all hospitals and dispensaries except such cases as required detailed examination, operations, etc. for which they were directed to the Mayo Hospital, Nagpur. The Government Eye Dispensary attached to the Mayo Hospital, Nagpur, provided eye treatment to roadside villages within a radius of 60 miles from Nagpur. Later, during 1952, it was converted into a Tuberculosis Mobile Dispensary.

Eye Relief Camps were held by the Blind Relief Mission, Nagpur, at various villages and towns of Madhya Pradesh from time to time and cataract operations, *en masse* were performed.

Madras—In addition to the well-equipped Ophthalmic Hospital maintained by the Government, special departments under qualified and trained

eye-specialists existed in three other hospitals in the city of Madras with provision for accommodating inpatients. In all, seven Eye Hospitals were functioning in the State. In the mofussil, eye clinics under the charge of trained doctors existed at many district headquarters hospitals and in some of the taluk headquarters hospitals.

The Eye Bank for the transplantation of cornea which was opened in the Government Ophthalmic Hospital, Madras in 1948, continued functioning satisfactorily during the period under review. As the supply of cornea from the Stanley Hospital, Madras was inadequate, the scheme for the supply of eyes of destitute patients dying in hospitals was extended in 1951 to other State Hospitals in Madras city. The Ophthalmic Department of the Stanley Hospital, Madras is now well-equipped for all types of work and has an Eye Bank since 1951. The technique for preserving under proper temperature conditions and the period of viability of the eyes removed from unclaimed cadavers for keratoplasty (corneal transplantation) have been satisfactorily worked out, and vision has been restored to most of the patients.

Cases of trachoma treated with antibiotic drugs were cured within a fortnight. There were no relapses.

Orissa—A special hospital for the treatment of eye diseases did not exist in this State. However, excellent facilities were available at the Sriram Ch. Bhanj Medical College Hospital, Cuttack, for treatment of all kinds of eye diseases by specialists. Facilities were available in all the district headquarters hospitals, as well.

Lectures on the "Prevention of Blindness" were delivered in the secondary schools of the old districts of the State for which the Orissa Branch of the Indian Red Cross Society makes an annual contribution of Rs. 1,000 with financial aid from the Government, eye-camps were organised by the All India Blind Relief Society and other Blind Relief Missions at different places.

Punjab—Adequate facilities were provided during the period under report for the treatment of eye diseases in various hospitals and dispensaries of the State. Services of a qualified doctor were lent to a charitable organisation (Bhagwant Bhakti Ashram, Rampur) in Gurgaon District for surgical work whenever eye-camps were arranged by that organisation, while other Missionary and charitable institutions having their own medical staff were paid grants for the purpose. Widespread propaganda was done in the State for the prevention of blindness (care of eyes) by various official agencies, e.g., touring officers of the Medical, Public Health and Education Departments. The public were specially warned against quacks.

In order to meet the great demand for qualified ophthalmic surgeons, a one-year Diploma course in Ophthalmology (D.O.M.S.—Diploma in Ophthalmic Medicine and Surgery) was introduced in the Medical College, Amritsar in 1951. Facilities were also available for doing the Mastership (M.S. Ophthalmology).

No eye institution, school or home for the blind was opened or closed during the period under report.

Uttar Pradesh—In the year 1939, an Eye Relief Scheme was formulated but due to the outbreak of II World War and consequent abnormal conditions and shortage of medical personnel, it could be carried out but partially. Relief work, particularly in the rural areas, has been in progress since, though on a small scale. The scheme has been expanded to cover all the districts. The State Government has been placing a sum of Rs. 30,000 annually (Rs. 50,000 since 1951) at the disposal of the Director of Medical and Health Services, U.P., supplemented by additional grants, as and when needed, for utilizing as grants to the civil surgeons, private Eye Hospitals, Eye Specialists and their staff and Blind Relief Associations on the basis of work performed during the preceding years. The various agencies, such as R. D. Staff, Sanitary Inspectors, Tehsildars, etc., working in rural areas are required to advise patients suffering from eye diseases to visit the nearest eye centres. The civil surgeons are also authorised to incur expenditure up to Rs. 10 per patient to meet conveyance charges of the poor and deserving patients and to provide glasses for operated cataract cases free of cost. Under this scheme, grants to private eye hospitals are given on a per capita basis of Rs. 7-8-0 per dieted case, and Rs. 4-8-0 per non-dieted case. During 1950, two eye hospitals were opened, and one was closed. The chief medical officers of the Eye Hospital at Sitapur and Gandhi Eye Hospital at Aligarh conducted eye relief camps at various places in the Pradesh. An eye relief camp was also organised in each of the three districts of Bisalpur, Pilibhit and Ballia.

West Bengal—There was no eye hospital in the State but arrangements existed for treatment in the eye-wards attached to important State hospitals.

As regards preventive measures, the Association for the Prevention of Blindness in Bengal rendered very useful service through its three Government subsidised Travelling Eye Dispensaries.

Hyderabad (Deccan)—The long-felt need for an eye hospital in Hyderabad State was fulfilled in 1951 when a combined Eye and E.N.T. hospital, the Sarojini Devi Hospital, was opened at Asaf Nagar.

A touring Ophthalmic Unit is attached to the S. D. Hospital and it holds camps twice a year in different parts of the State. During 1952, two camps were held at Nalgonda and Gulberga with the cooperation of local officials and the public. Facilities also existed for in-door and out-door treatment at the K.E.M. Hospital, Secunderabad, and for out-door treatment at the Osmania Hospital. At all the district and taluka headquarters hospitals, facilities were available for routine treatment while cases requiring special treatment were directed to the Sarojini Devi Hospital.

There is one Government School for the Blind and Deaf. For the first time in the history of education in Hyderabad, three blind boys passed the A.S.C. (Matriculation) examination with high second class marks. They are now pursuing higher education in local colleges. The Headmaster, who had secured a United Nations Fellowship, returned after an extensive tour of study in the U.S.A.

Jammu & Kashmir—There is no separate eye hospital in the State but the main hospitals at Jammu and Srinagar have an Ophthalmic Department attached in charge of a Specialist.

Madhya Bharat—Facilities for the treatment of eye diseases existed in the Eye Departments attached to eight general hospitals in the State. At

Lashkar and Indore, the Ophthalmic Sections were adequately equipped for all types of work, and even the latest operations, such as corneal grafting were done with a fair amount of success. Foreign qualified Ophthalmic Surgeons were in charge of these Sections. The Ophthalmic Sections at other places were under the charge of doctors who either possessed post-graduate qualifications or were trained in this branch. With a view to extending the facilities to remote places, eye-camps were held at different places.

. The Deaf, Dumb and Blind School, Indore continued functioning.

Mysore—Besides one ophthalmic hospital at Bangalore, the well-equipped Ophthalmic Blocks, attached to Krishnarajendra Hospital, Mysore and Bowring Hospital, Bangalore continued functioning during the period under report. All the district hospitals, particularly at Shimoga and Chickmagalur were in charge of trained Assistant Surgeons and were fairly well-equipped to treat eye cases.

The Mysore Eye Department is a teaching institution for M.B., B.S. students while the Bangalore Eye Hospital provides instruction to undergraduates as well as post-graduates. The Royal College of Surgeons of England and the University of Oxford recognise the post-graduate course of this hospital and grant a remission in studies up to a period of six months for their own Diploma courses.

The Mysore Ophthalmological Society organised eye-camps in the various districts and rendered useful service in the mofussil.

The School for Deaf and Blind Boys at Mysore continued imparting, as before, three-fold training, viz., literary, musical and industrial, to its inmates. Industrial training has only a secondary place in the curriculum, the blind-music being their special field. Most of the students are able to compete successfully for the highest departmental examination in music, viz., the Vidwat or Proficiency.

Pepsu—The Eye-ward attached to the Rajindra Hospital, Patiala provided facilities for the treatment of eye diseases during the period under review. No hospitals, exclusively for the treatment of eye diseases, existed in the State but general hospitals and dispensaries gave all the available treatment in routine cases.

Rajasthan—The incidence of blindness is fairly high in Rajasthan. It is mainly attributed to trachoma and its sequelae, small-pox, corneal ulcer, injuries to the eye, cataract and glaucoma. Trachoma is prevalent in all parts of Rajasthan, more so in the Bikaner Division on account of extreme heat, frequent sandstorms, unhygienic living conditions and above all, ignorance of the general public. Myopia in school-going children and adults is also very common.

During the period under review were three private eye hospitals, but none owned by the Government. Nine general hospitals had Ophthalmic Departments of which particularly the ones at Jaipur, Jodhpur, Bikaner and Udaipur were equipped with almost all the latest diagnostic instruments and appliances. Sewai Mansingh Hospital, Jaipur was provided in 1952 with one Crainotomy Operation set, one general Grafting Instrument and one Green electric corneal trephine. One silt-lap microscope of the latest design was ordered in 1952.

One Eye-camp was held at Kansli (Jaipur Division) during 1951, and three in 1952 at Kansli, Sri Mahavirji (Hindaun District) and Ladnun (Najaur District). Besides this, a surgical camp was organised at Sikar by the Bazaz Memorial Trust in 1951 and 1952 expenses being borne by philanthropic persons of the city. As a preventive measure, film shows, magic lantern shows and Health exhibitions were periodically arranged. During 1952, lectures were delivered on the preventive aspects of blindness and First Aid to 200 mofussil teachers assembled at Jodhpur for First Aid training and examination, under the auspices of the Indian Red Cross Society.

Saurashtra—During the period under review, there was no separate eye hospital in the State. However, facilities for treatment existed in the district hospitals and each hospital had an eye specialist attached to it. Also, Eye-Relief Camps were organised in villages.

The Krishna Kumarsinhji School and Home for the Blind at Bhavnagar, and Andh Vidyarthi Bhuvan at Visavadar in Surat District continued imparting training to the blind boys in reading by Braille, music, cane-work, tape making, etc.

Travancore-Cochin—The Government Eye Hospital at Trivandrum and the Thamarapally Eye Hospital, Kottayama, a private institution, continued functioning under the charge of an Eye Specialist. Besides the eye departments attached to five major general hospitals in charge of eye specialists, provided treatment to both in-door and out-door patients. At the other general hospitals and dispensaries, only outdoor routine treatment was available.

Ajmer—There was no eye hospital in the State. Eye cases were treated in general hospitals and dispensaries. In the Victoria Hospital, Ajmer, routine eye-work was carried out in the eye department with 20 beds (10 male and 10 female) for eye cases. The Ajmer branch of the Indian Red Cross Society used to organise lectures on prevention of blindness in different villages of the State. Since 1952, this activity has been discontinued.

Bhopal—Facilities for the treatment of eye diseases existed in the General Hospital, Bhopal. A qualified eye-surgeon attended the patients. There were 15 beds reserved exclusively for ophthalmic cases. The eye-surgeon sometimes toured the interior of the State and performed operations.

Coorg—There were no eye hospitals in the State. Eye relief work was done in the general hospitals and dispensaries. However, an eye specialist working at the headquarters hospital has since 1952 started conducting eye-clinics at Mercara, thrice a week, and at Virajpet once a week. Somvarpet is visited by him once a fortnight.

Instructions on the prevention of eye diseases were given by medical officers to out-patients in the hospitals and dispensaries and to school children in schools against the use of irritant remedies and so-called herbal medicines.

Delhi—Dr. Shroff's Charity Eye Hospital was the only eye hospital in Delhi State till April 1951 when another institution, viz., Banarasidas

Chandiwala Netra Swasthya Sadan was opened at Kalkaji. The former is a private institution managed by a Board of Trustees and receives grant-in-aid from the Government. The latter is a Government institution. The Sant Parmanand Blind Relief Mission, New Delhi, a private charitable institution, was opened in 1952. In addition, 22 beds were kept reserved for eye-cases in the Irwin Hospital, a further 20 beds being added during the "Cataract Season". The Lady Hardinge Medical College and Hospital also has a bed strength of 26.

Himachal Pradesh—No separate eye hospital existed in Himachal Pradesh during the period under review. Necessary relief was provided at the district hospitals, and minor ailments were treated also at dispensaries. Eye-camps were held every year at suitable places. During 1949, eight blind relief camps were organised in Mahasu District by a foreign qualified ophthalmic surgeon. About 98% of the cases operated upon, had their sight restored.

Kutch—The Haji Mehji Pradhan Free Eye Hospital and the ophthalmic departments attached to three general hospitals provided adequate facilities.

The Mehta Eye Clinic and Hospital at Mandvi, a private institution, treated paying patients only.

Manipur—There being no separate eye hospital, eye diseases were treated in general hospitals where facilities for the treatment of indoor and outdoor patients were available.

Tripura—Till 1951, special facilities did not exist for the treatment of eye diseases, the general hospital in the State and dispensaries provided for minor eye ailments only. During 1952, a temporary eye hospital functioned for 15 days at Agartala. It was very popular. An ophthalmic clinic working once a week under the charge of an honorary medical officer was opened at the V.M. Hospital, Agartala. Some indigent patients were also supplied with spectacles at Government expense following cataract operation.

Vindhya Pradesh—The incidence of eye disease was fairly high. Many are blinded every year by small-pox which is highly prevalent in this State.

Facilities for the treatment of eye diseases existed in the eye-wards attached to most of the district hospitals. During 1952, an Ophthalmic Department was opened in the G. M. Hospital. An Eye Relief Camp was held by Sant Parmanand Blind Relief Mission, Delhi in cooperation with the State Government.

Andaman and Nicobar Islands—There was no eye hospital in the State. Eye cases were attended to in the civil Hospital, Port Blair and other smaller hospitals.

5. Tuberculosis

The Problem—As early as 1933, the Public Health Commissioner with the Government of India had stated: "Tuberculosis is now almost certainly one of the main public health problems in India. In fact, it may be regarded as an epidemic disease". Further studies confirmed the correctness of this statement. It is estimated that nearly five hundred thousand deaths take place in India from tuberculosis annually and that there exist

some 2½ million active cases of tuberculosis. As against this estimate of 2½ million active patients, the total number of beds available for treatment and isolation prior to 1947 was around 7,500 against the estimated requirement of 500,000 beds. There were only about one hundred tuberculosis clinics as against the estimated requirement of four thousand. The number of doctors, adequately trained for tuberculosis work, did not exceed 150, while thoroughly trained tuberculosis health visitors did not exceed 150 in number. The above figures would reveal the magnitude of the problem and the total inadequacy of the facilities available.

Calculating on an average of Rs. 1,00,000 per clinic including X-ray and other equipment, the total cost of establishing the required number of clinics would amount to Rs. 40 crores. The building and equipping of hospitals and sanatoria to provide five hundred thousand beds at Rs. 10,000 per bed would require Rupees five hundred crores. If these two items are planned for over a period of 15 years, we need an annual expenditure of about Rs. 36 crores or roughly Re. 1 per head of the population. To this has to be added annual expenditure for the running of these institutions which will be roughly Rupees one hundred crores. This will bring the expenditure to Rs. 2-12-0 per head of the population. The amount needed for the improvement of housing and sanitary conditions would be enormous. The expenditure on public health and medical relief in all the States of India during the period 1949-50 was about Rs. 20 crores. The amount spent for tuberculosis alone was much less, being a tiny fraction, say, about 1/150 of the amount necessary to carry out the full programme mentioned above. A sub-committee of the Health Panel of the Planning Commission was, therefore, entrusted with the task of formulating a scheme for anti-tuberculosis work, and it drew up a list of priorities indicating the minimum that was needed in the field of anti-tuberculosis work.

These priorities were:—

1. BCG Vaccination,
2. Tuberculosis Clinics,
3. Teaching and Demonstration Centres,
4. Beds for isolation and treatment,
5. After-care, and
6. Research.

Work done during the years, 1949—52, under the items mentioned above may be summarised as follows:—

1. *B.C.G. Vaccination*—In deciding on the priorities, emphasis was laid on preventive measures as that was the most logical approach to health problems and likely to yield the best returns for the limited resources available. The only known method of increasing specific resistance against tuberculosis is BCG vaccination. This is receiving a large measure of attention in India. In a country like India where the population is exposed to rapid spread of infection and where other methods of tuberculosis control cannot be effectively introduced in the near future, BCG vaccination seems to be the method of choice for stemming the spread of the disease.

B.C.G. Vaccination was introduced in India on a limited scale in 1948, and up to the end of 1949, 526,000 persons were tuberculin-tested and 176,000 vaccinated. The work was intensified in 1950. As many as 46 teams had started working and, by the end of the year, over 20 lakhs

population had been tested and about 7 lakhs vaccinated. By the end of 1952, the number of such teams had risen to 99 and since the start of the scheme up to the end of 1952, the total number of tested and vaccinated was counted at 13,126,743 and 4,173,813, respectively. It was, however, soon realised that if this programme was to have any significant influence on the epidemiology of tuberculosis, it required to be extended so as to cover all the young population in the shortest possible time. It was, therefore, decided to continue and extend the BCG vaccination on a mass scale, and the W.H.O./U.N.I.C.E.F. undertook to render assistance. A mass campaign was thus started in April 1951, in Madhya Bharat, Punjab and Uttar Pradesh. The number of persons tuberculin-tested and BCG-vaccinated during 1951 was 3,717,069 and 1,170,285, respectively. Eight more States started this campaign on a mass scale in 1952, and the number of those tested and vaccinated during that year came to 6,823,488 and 2,145,417, respectively. In so far as mass B.C.G. vaccination is concerned, the States of Madras and Andhra did not begin until the close of 1952. The programme was reviewed again at a conference of the State Administrative Medical Officers and B.C.G. Workers convened by the Director General of Health Services on the 18th and 19th December, 1952. Suitable recommendations were made at this Conference for intensifying the campaign with a view to completing the first round in a period of 5—7 years.

With the expansion of B.C.G. Vaccination Programme practically to the whole of India, the BCG-vaccine Laboratory at Guindy opened in 1948, was called upon to supply an increasingly larger quantity of vaccine and tuberculin to the various States. It had also to meet the requirements of Malaya, Singapore, Burma and Ceylon. 14,91,150 c.c. of BCG Vaccine and 29,99,240 c.c. of P. P. D. Dilution were manufactured and issued during 1952-53 as against 2,73,138 c.c. of BCG Vaccine and 11,25,810 c.c. of P. P. D. dilution during the period September 1948 to March 1950.

2. *Tuberculosis Clinics*—Among the institutions, the highest priority was accorded to the establishment of clinics. The main function of a clinic is diagnosis and advice; but, because of shortage of hospital beds and the difficulty of adequately providing them in the near future, it is inevitable that these clinics should have to undertake a certain amount of therapy work also. The State Governments were, hence, urged to arrange for the establishment of, at least, one clinic at each of its district headquarter hospitals during the period of the Five Year Plan.

3. *Teaching and Demonstration Centres*—The establishment of a certain number of model tuberculosis Centres, which should serve the purpose of teaching and demonstration, was considered to be important because of shortage of personnel for manning the tuberculosis services. Each Centre was planned to consist of a clinic with a number of associated beds; to provide a thoroughly comprehensive diagnostic service including laboratory and X-ray diagnoses; and, lastly, to train all categories of medical and ancillary personnel in tuberculosis work. Three such Centres were established during 1951 and 1952 in Delhi, Trivandrum and Patna with the assistance of W.H.O. and U.N.I.C.E.F.

4. *Beds for isolation and treatment*—The target aimed at by the Health Panel of the Planning Commission was to add two thousand beds per annum in the country, as a whole, during the period of the First Five Year Plan. This target is being realised: 6,219 beds were added during the period under report.

5. *After-care*—The need for after-care colonies and rehabilitation centres was recognised but could not be met on a large scale. Even in wealthier countries, provision for after-care has proved inadequate and development in this respect has been slow. Even so, it was planned to establish a few rehabilitation centres in association with the existing or new tuberculosis institutions. By the end of 1952, three such centres had been established in association with the T.B. Sanatorium at Bhowali, U.M.T. Sanatorium, Madnapalli and Government T.B. Hospital, Tambaram. For this, the help of voluntary organisations and industrialists was sought. Also, suitable grants were paid by the Central Government in deserving cases.

6. *Research*—The importance of research and the evolution of the methods to combat tuberculosis in India has been duly recognised. In the absence of morbidity and mortality returns, the effectiveness of various control measures that are now being introduced is difficult to appraise. Epidemiological and follow-up studies alone can provide useful information on this point. Plans were drawn up to conduct long-term epidemiological and follow-up studies in selected groups and some of the studies were planned to be directed from one or more of the anti-tuberculosis demonstrations and teaching centres.

The U.M.T. Sanatorium, Madnapalle began study in 1951 on the problem of tuberculosis morbidity and mortality in India conditions by applying various tuberculosis measures to a typical rural population of a limited selected area. Clinical research was carried out under the auspices of the Directorate General of Health Services in 1952 in 28 selected sanatoria and hospitals in various parts of India on the efficacy of a new anti-tuberculosis drug "Isonicotinic acid hydrazide". Having been found to be of value, it was released for public sale on the prescription of a registered medical practitioner.

Mention may also be made of the following activities in anti-tuberculosis field :—

1. *Treatment of displaced tuberculous patients*—After the partition of India in 1947, the number of displaced persons who were given relief in camps was, at one time, about 9 lakhs. Attention of the Government of India was drawn early in 1949 to the high incidence of tuberculosis among displaced persons. It was considered desirable to segregate such persons from the healthy ones and also to give them adequate treatment. The Union Ministry of Rehabilitation gave Rs. 5 lakhs during 1949-50 to the Ministry of Health for the purpose. This grant was distributed in both eastern and western zones as follows :—

	Rs.
1. Jadavpore T. B. Hospital, Calcutta	1,00,000
2. K. E. Sanatorium, Dharampore	6,300
3. Madar Union Sanatorium, Ajmer	4,875
4. Kurukshetra T.B. Hospital	1,02,000,
5. Uttar Pradesh	10,000
6. Cost of treatment of displaced T.B. Patients in hospitals and sanatoria	4,289
7. Construction of additional 96 beds in the S.J.T.B. Hospital, Delhi	2,59,000
8. Purchase of Streptomycin and PAS for Displaced T.B. Patients	13,536
TOTAL	<u>5,00,000</u>

Similarly, the Ministry of Rehabilitation provided a sum of Rs. 9,25,913 to the Ministry of Health for the treatment of displaced T.B. patients during 1950-51 which was utilised as under :—

	Rs.
1. Madar Union Sanatorium, Ajmer	8,000
2. Purchase of Streptomycin & PAS	33,685
3. Rajasthan	50,000
4. Bombay	1,02,500
5. T.B. Hospital, Sangrur	2,10,200
6. L.L. Sanatorium, Kasauli	18,000
7. Uttar Pradesh	25,000
8. Cost of treatment of T.B. Patients in other Sanatoria and hospitals.	2,615
9. Saurashtra	30,000
10. West Bengal	4,45,913
Total	9,25,913

In an inter-departmental meeting held on 2nd April, 1951 between the Ministries of Rehabilitation and Health, the question regarding treatment of displaced T.B. patients during 1951-52 was considered at length. It was decided that a beginning should be made by having 500 beds for treatment of advanced cases, the proposed 500 beds to be distributed for displaced persons from West and East Pakistan in the ratio of 3 : 2. A total expenditure of Rs. 13,65,000 was sanctioned for the year 1951-52. It was utilised as follows :—

Repeated from previous years

	No. of beds.	Rec. Exp.	N. Rec. Exp.	Total
		Rs.	Rs.	Rs.
Bombay	80	1,44,000	—	1,44,000
Rajasthan (Durg)	35	63,000	10,500	73,500
West Bengal	250	4,00,000	—	4,00,000
Pepsu (Sangrur)	100	1,80,000	—	1,80,000
Punjab (Kasauli)	10	18,000	—	18,000
Ajmer (Madar)	10	15,000	—	15,000
Saurashtra	23	63,000	—	63,000
Purchase of medicines by D. G. H. S.	—	50,000	—	50,000
	508	9,33,000	10,500	9,43,500

Additional facilities as provided during the same year 1951-52

State	No. of beds	Recurring Expenditure	Non-Recurring Expenditure	Total
(1)	(2)	(3)	(4)	(5)
		Rs.	Rs.	Rs.
Rajasthan (Jaipur)	15	27,000	4,500	31,500
Punjab (Tanda Hosp.)	50	87,500	1,00,000	1,87,500
Punjab (Amritsar)	25	37,500	50,000	87,500
R. K. Mission Sanatorium, Ranchi, (Bihar)	10	15,000	—	15,000
TOTAL	100	1,67,000	1,54,500	3,21,500
Reserved for any emergency				1,00,000
GRAND TOTAL	608	—	—	13,65,000

These facilities were augmented in the year 1952-53 and a total expenditure of Rs. 14,61,000 was sanctioned by the Ministry of Rehabilitation during that years. This allotment was distributed in different States in both the zones as under :—

State	No. of beds	Recurring Expenditure	Non-Recurring Expenditure	Total
(1)	(2)	(3)	(4)	(5)
		Rs.	Rs.	Rs.
Bombay	80	1,44,000	—	1,44,000
Rajasthan	50	90,000	—	90,000
West Bengal	250	5,55,770	—	5,55,770
Assam	—	5,000	—	5,000
Pepsu (Sangrur)	100	1,80,000	—	1,80,000
Uttar Pradesh	18	25,000	—	25,000
Punjab	85	1,43,000	—	1,43,000
Ajmer (Madar)	20	30,000	—	30,000
Saurashtra	23	63,000	—	63,000
Orissa	—	5,430	—	5,430
R. K. Mission T. B. Sanatorium, Ranchi	10	15,000	—	15,000
Purchase of medicines by D. G. H. S.	—	85,000	—	85,000
TOTAL	636	13,41,200	—	13,41,200
Reserve for meeting emergent demands	—	—	—	50,0
Reserve for rendering financial assistance to indigent families depending upon T. B. patients admitted in Hospitals/Sanatoria	—	—	—	70,000
GRAND TOTAL			or say	14,61,200 14,61,000

Liaison with international organisations—Close liaison was maintained with international organisations, particularly, the W.H.O. and the U.N.I.C.E.F. which rendered valuable assistance in the anti-tuberculosis programmes. The Tuberculosis Adviser to the Government of India was a member of the W.H.O. Tuberculosis Committee. He was elected Chairman of the International BCG Conference convened by the W.H.O./U.N.I.C.E.F. in Rangoon in September, 1951. He also attended several international conferences during the period under report.

International assistance in anti-tuberculosis programme—(i) The International Tuberculosis Campaign provided six foreign teams each consisting of one doctor and two nurses, during 1949 and 1950, for training local personnel and for actual field work. This organisation also supplied equipment consisting of vehicles, public address equipments, syringes, etc. worth \$ 3,50,000. In connection with the expansion of B.C.G. Vaccination Programme in India on a mass scale, the W.H.O. provided during 1951 the services of one Senior B.C.G. Adviser, one Administrative Officer and one Statistical Officer to help the Central B.C.G. Organisation. Three foreign doctors and four nurses were also provided for field work and for training local BCG teams. The U.N.I.C.E.F. helped with medical equipment, motor vehicles for transport, public address equipment, etc., valued at \$ 2,50,000. During 1952, the W.H.O. provided nine foreign experts and the U.N.I.C.E.F. allocated an additional amount of \$ 1,35,000 for equipment.

(ii) *Anti-Tuberculosis Centres*—The U.N.I.C.E.F. assisted by supplying equipment worth one lakh dollars for each of the three anti-tuberculosis Centres established during 1951 and 1952 at New Delhi, Patna and Trivandrum. The W.H.O. assigned four to five experts for each Centre for a period of about one year and also awarded a few fellowships to the local staff for study in Western countries.

(iii) *Research Project at U.M.T. Sanatorium, Madanapalle*—The W.H.O. Tuberculosis Research Office provided equipment worth \$ 35,500 and the U.N.I.C.E.F. allocated a stationary X-ray and 15 K.W. Generator costing \$ 5,000 to this sanatorium in connection with the studies it undertook in 1951 on the problems of tuberculosis morbidity and mortality in Indian conditions.

Two statements Tables No. 13 and 14 will be found in the Appendix—one showing the number of special institutions for the treatment of T.B. V.D., leprosy and eye diseases with the number of beds in the various States for the years 1949—52, and the other showing the expenditure incurred in the various States on T.B., leprosy and eye hospitals for the year 1949—52.

CHAPTER IV

WORLD HEALTH ORGANISATION, INTERNATIONAL HEALTH CONFERENCES AND PORT HEALTH ADMINISTRATION

World Health Organisation

A brief account of the benefits which accrue to India on account of W.H.O. activities is worth giving. Many of the problems to which the W.H.O. gave top priority were those which actually affect India in common with other countries in the South-East Asia Region. During the years, 1949—52, this organization rendered assistance to India to the extent of U.S. dollars 10,95,694 for various health development programmes in maternity and child health, nursing, health, education, mental health, nutrition, population control, B.C.G. vaccination and the control of malaria, venereal diseases, tuberculosis, and plague.

Following conferences were held during the period under report under the auspices of the World Health Organisation:—

I. *World Health Assembly, Second Session, held in Rome from June 13 to July 2, 1949.*

The Indian delegation to this Assembly was led by the Health Minister, Rajkumari Amrit Kaur.

The subject of leprosy was brought up by the Indian delegation for consideration by the Assembly in view of the importance of this disease as a Public health problem for India and the East generally. The Assembly resolved that an Expert Committee should be appointed for the purpose.

A decision was taken that a new approach for preventing the spread of communicable diseases was essential.

As adequate supplies of insecticides are essential in the campaign against insect-borne diseases, the Assembly passed a resolution requesting that the economic and social council urge the countries to waive customs duties on materials for insect control.

A historic step was taken when the Assembly approved a large scale programme in the field of mental health. Thus, for the first time, this comparatively new branch of medical science was brought into the field of international action in recognition of the principles formulated by the President that without mental health there exists no physical health.

In the field of maternal and child health, the Assembly approved an extensive programme based on the principles laid down at the First World Health Assembly. The programme includes collection and distribution of information, training of medical and other health personnel, provision of consultants and expert advice to national health administration, as well as demonstration teams showing the latest techniques in mother and child care. Joint activities with the UNICEF in children's health programme against tuberculosis, malaria and venereal disease and joint welfare work with the Social Commission of the United Nations are also included.

II. W.H.O. Expert Committee on Tuberculosis, Fourth Session, held in Copenhagen from July 21 to August 4, 1949.

This Committee held its fourth session in Copenhagen with 8 members, including Dr. P. V. Benjamin, Adviser in Tuberculosis to the Government of India. The Committee noted that the main reason for deficiency in tuberculosis control in many countries was the lack of trained personnel and, therefore, recommended that the WHO should assist in the setting up of permanent centres for training basic personnel in all branches of tuberculosis work (doctors, nurses, laboratory and X-ray technicians, etc.). It was in accordance with this recommendation that the WHO and UNICEF rendered assistance in the establishment of three tuberculosis demonstration and training centres at Delhi, Patna and Trivandrum.

Another recommendation of the Committee was that mass vaccination with B.C.G. should be given for communities with high rates of morbidity from tuberculosis infection.

III. W.H.O. Regional Committee for South-East Asia, Second Session, held in New Delhi from 26 to 28th September, 1949.

The Indian delegation to this Regional Committee Meeting was led by the Health Minister, Rajkumari Amrit Kaur.

Delegates from the seven countries, represented at the meeting, agreed, on principle, to pool national resources in technical training facilities for health workers of all kinds; to begin, as soon as possible, manufacturing essential medical supplies like D.D.T. and Penicillin within the region; to approach the United Nations Economic Commission for Asia and the Far East (ECAFE) for assistance and procurement of materials essential for hygienic housing projects; and to exchange information on public health, environmental sanitation and maternal and child health work.

IV. W.H.O. Expert Committees

Experts from this country were invited to serve on the following expert committees set up under the auspices of the W.H.O. from time to time :—

- Expert Committee on Epidemiology & Quarantine,
- Expert Committee on Rabies,
- Expert Committee on Malaria, and
- Expert Committee on Tuberculosis.

V. Third World Health Assembly which met in Geneva from the 8th to 27th May, 1950.

The Indian delegation was led by Dr. K. C. K. E. Raja, the Director General of Health Services.

The Hon'ble Rajkumari Amrit Kaur was unanimously elected President of the third Assembly. The working machinery of the Assembly consisted of three Committees—the General Committee, the Committee on Programme and the Committee on Administration, Finance and Legal matters. The first dealt with all matters of procedural interest and allocated appropriate subjects to the other two Committees. It also submitted to the Assembly, nominations for membership of the Executive Board of the World Health Organisation. The other two carried out detailed examination of

items of the agenda allocated to them and submitted their decisions to the plenary sessions of the Assembly for approval.

The Assembly approved the four-year health plan covering 1952—55. The plan provides for participation in the United Nations Programme of Technical Assistance and for a continuing decentralisation of W.H.O.'s activities, and is aimed particularly at developing and strengthening national health services. The highest priorities were maintained for malaria, tuberculosis and venereal diseases. However, in line with the new direction given to International Health work, the list was enlarged to include the so-called "pestilential diseases", specially, plague, cholera and smallpox. Special provision was also made for fighting such widespread infections as trachoma and bilharziasis. Control of these diseases was also included in the regular programme of the World Health Organisation.

The Assembly convened a Special Committee, consisting of representatives of all member States, to consider the Draft International Sanitary Regulations prepared by W.H.O. experts including Dr. K. C. K. E. Raja, Director General of Health Services. These regulations were to replace all the numerous Sanitary Conventions and similar agreements still extant to help make international trade and travel by land, sea and air, easier and safer.

The Indian delegation took active part in the deliberations of the two main Committees—the Programme Committee and the Committee for Administration, Finance and Legal Matters.

VI. *W.H.O. Regional Committee for South-East Asia—Third Session, held in Kandy (Ceylon) from 22nd to 26th September, 1950.*

The Indian delegation was led by Lt. Col. C. K. Lakshmanan, Director, All India Institute of Hygiene and Public Health, Calcutta. The Committee adopted a resolution recommending that the international staff in field teams should be kept at a minimum in countries where adequate local staff was available, and that the saving so made should be utilized for providing more equipment and supplies. It was further agreed that Governments should be given a wide choice in the selection of international experts for assignment in their countries.

The Committee stressed the advantage of training medical and allied personnel within the region as recommended by the WHO Expert Committee on professional and Technical Education.

The Committee recognised that Maternal and Child Health Services were an essential part of health programme in highly developed countries and felt that, in countries of this region, paediatrics (preventive and curative) was not yet developed with the result that morbidity and mortality amongst children in age-group 1—5 was high. The Committee, therefore, adopted a resolution, that in training doctors and nurses, increased attention should be provided; and that midwifery services should be developed on modern lines.

VII. *Conference of Directors of Health Services of South-East Asia Region, held at Kandy, Ceylon from 29th September to 1st October, 1950.*

A conference, at which about thirty Directors of Health Services from Afghanistan, Burma, Ceylon, Indonesia, Thailand, seventeen States of the

Indian Union and from French and Portuguese India were present, was held under the auspices of the Regional Office of W.H.O. at Kandy, Ceylon on the 29th and 30th September and 1st October, 1950. Major General S. L. Bhatia, Director of Health Services, Hyderabad, India, was elected chairman and Colonel C. K. Lakshmanan, the then Director of the All India Institute of Hygiene and Public Health, Calcutta as Rapporteur of the Conference.

During the three-day sessions of the conference, the participants considered a series of common administrative problems and stressed the importance of integrating curative and preventive health services. The conference agreed that the most important single obstacle to the improvement of health levels in S.E. Asian countries was shortage of trained health personnel. It unanimously emphasised the vital necessity for rapid training of an adequate number of medical and public health auxiliary personnel. In view of the totally inadequate number of doctors and public health workers, particularly in rural areas, the conference agreed that medical assistants should be given short training courses and be put to work in rural areas. The recruitment of large numbers of such partially qualified personnel would also improve the collection of vital and health statistics which was very ineffective in most parts of S.E. Asia.

VIII. *World Health Assembly, Fourth Session in Geneva from 7th May to 25th May, 1951.*

The Indian delegation was led by the Minister for Health, Rajkumari Amrit Kaur who was elected Member of the General Committee. Dr. K. C. K. E. Raja, the then Director General of Health Services and a member of the delegation, was elected rapporteur to the Committee on International Sanitary Regulations. Dr. Lenorard A. Scheele, the United States Surgeon-General and chief of his country's delegation was unanimously elected chairman.

The Assembly took the following important decisions:—

The 1952 Programme of the W.H.O. would represent the first phase in the carrying out of a four-year plan which laid down certain short and long-term objectives towards the building of strong health services throughout the world. Necessary funds were to be provided from the W.H.O.'s regular budget and the U.N. Programme of Technical Assistance for Economic Development as well as by the U.N.I.C.E.F. The Indian delegation suggested flexibility in the form of assistance depending on the needs of each country. In the case of India, emphasis should be shifted from technical advice to supplies.

The leader of the Indian delegation suggested that meetings of the World Health Assembly should be held in the countries of the different Member States in order to achieve their active and willing co-operation. Due to economy reasons it was, however, decided to hold the next session in Switzerland.

One of the most important achievements was the unanimous adoption of International Sanitary Regulations as W.H.O. Regulation No. 2. These were to come into force from 1st October, 1952.

IX. W.H.O. Regional Committee for South-East Asia, Fourth Session, held in Rangoon from 20th to 25th September, 1951.

The Indian delegation was led by Lt. Col. C. K. Lakshmanan, the then Director, All India Institute of Hygiene and Public Health (now D.G.H.S.). It was urged on behalf of India that assistance in the shape of expert personnel was ineffective without parallel help in materials and that, difficulties in obtaining equipment and supplies constitute a major obstacle to the implementation of health programmes in the region.

The continuation of old projects and the launching of new ones in the control of malaria, tuberculosis, yaws, V.D., typhus and the promotion of maternal and child health services was approved. The Committee endorsed regional health programmes involving W.H.O.'s regular budget and Technical Assistance Budget expenditure of over \$1.9 million during 1952 and more than two million dollars in 1953.

X. World Health Assembly, Fifth Session, held at Geneva between 5th and 24th May, 1952.

Dr. A. Lakshmanswami Mudaliar, Vice-Chancellor, University of Madras led the Indian delegation. He was elected chairman of the Committee on Administration, Finance and Legal Matters. Dr. Juan Salcedo, Secretary of Health of the Philippines was elected President.

The resolution sponsored by India on Leprosy stressing the need for more active steps in the furtherance of research on and control of this disease was passed.

The Assembly accepted the suggestion made by the delegations and the Director General, W.H.O. in regard to the question of reimbursement by Governments for materials, supplies and equipment made available by the W.H.O. for jointly sponsored programmes. The Assembly considering the difficulties encountered in securing reimbursement from Governments for supplies and equipment after the completion of work of demonstration teams and realizing that the countries were contributing considerable sums in their national currency towards the implementation of those projects, decided that the W.H.O. would not require such reimbursement in 1953 and the years prior to it.

The stand taken by the Indian delegation that it was not prepared to accept any modification in regard to agreements already entered into on the manufacture of antibiotics and insecticides was accepted.

XI. International Rabies Conference held in India in July, 1952.

The International Rabies Conference sponsored by the W.H.O. was held at the Pasteur Institute, Coonoor during the last two weeks of July, 1952. The Government of India acted as host to the conference.

About 50 delegates from 21 countries of the South-East Asia region, the Eastern Mediterranean region and the World Health Organisation invited Dr. Harold Johnson (Rockefeller Foundation), Dr. M. L. Ahuja (India), Dr. A. Komorov (Israel), Dr. H. Kaprowski (U.S.A.), Dr. M. Kaplan (W.H.O.) and Dr. N. Veeraraghavan (Pasteur Institute, Coonoor).

Intensive practical training, personal contacts, general discussions on various aspects of rabies, importance of fundamental and applied research,

lectures by world authorities on recent advances and their practical application in the field, etc., left a lasting impression of the usefulness of such a seminar.

XII. *Regional Committee for South-East Asia, Fifth Session, held in Bandung (Indonesia) from the 4th to 9th September, 1952.*

Lt. Col. C. K. Lakshmanan, Director General of Health Services led the Indian delegation.

India's requests for 1954 programmes were accepted by the Sub-Committee, and the Regional Director stated that within the budgetary limitations he would meet India's request as far as possible.

International Conferences

The following International Conferences, etc., were attended by delegates deputed by the Government of India :—

I. The Government of Australia invited a delegation of Indian scientists to see the scientific institutions in Australia and to study the facilities available for researches in that country, particularly in the field of agriculture, public health, forestry and mining. Lt. Col. M. L. Ahuja, Director, Central Research Institute, Kasauli visited that country during the months of February and March, 1949 as a representative of the Health Ministry on the delegation. The delegation met almost all the leading scientists in that country and visited a number of university laboratories, medical colleges, industrial centres and research stations of the Council of Scientific & Industrial Research, and formed a high opinion of the scientific talent of Australia and her economic and industrial development.

II. *The Royal Sanitary Health Congress at Brighton in 1949 and at Eastbourne in 1950.*

Lt. Col. C. L. Pasricha, Medical Adviser to the High Commissioner for India in the U.K. attended these conferences on behalf of the Government of India. Representatives of some of the State Governments also attended.

III. *Interim Conference of the International Council of Nurses, held in Stockholm from 12th to 16th June, 1949.*

Miss T. K. Adranvala, President of the Trained Nurses' Association of India and Chief Nursing Superintendent in the Directorate General of Health Services attended the above conference. She also attended meetings of the Board of Directors and of the Grand Council of the International Council of Nurses from June 6th to 10th June, 1949.

IV. *International Cancer Research Commission and the Council of the Union Internationals Centre Le Cancer, held in Paris in July, 1949.*

Dr. V. R. Khanolkar, Director of Research, Tata Memorial Hospital, Bombay attended the above conferences.

V. *Empire and Commonwealth Conference on Tuberculosis in London from 3rd to 10th July, 1949.*

Dr. P. V. Benjamin, Adviser in Tuberculosis to the Government of India attended this Conference. He read a paper on "Tuberculosis Problem in India and the place of B.C.G. Vaccination for its control." This

paper gave details about the magnitude of the problem in India and the necessity for launching a B.C.G. campaign in the country on mass scale with a view to reducing the tuberculosis morbidity.

VI. During the year 1949, Dr. P. V. Benjamin also attended :—

- (i) W.H.O. Assembly in Rome, and
- (ii) The W.H.O. Expert Committee meeting held in Copenhagen.

VII. *Meeting of the International Union against Tuberculosis in Paris in 1949 and Copenhagen and Rio de Janeiro in 1950.*

Dr. P. V. Benjamin attended this conference.

VIII. *Eleventh International Tuberculosis Congress at Copenhagen from 3rd to 6th September, 1950.*

As a leader of the Indian Delegation, Dr. P. V. Benjamin attended this conference and was one of the main speakers, his subject being "Anti-Tuberculosis measures in under-developed countries." He also attended the W.H.O. Expert Committee meeting on Tuberculosis held at Geneva from 11th to 16th September, 1950.

IX. *Fourth W.H.O. Regional Committee meeting held in Rangoon from 20th to 25th September, 1951.*

Dr. P. V. Benjamin attended this meeting and participated in the reception at Rangoon on 19th September, 1951.

X. *B.C.G. Conference held in Rangoon from 27th to 29th September, 1951*

Dr. P. V. Benjamin, Adviser in Tuberculosis, and Dr. K. S. Ranganathan, Director, B.C.G. Vaccine Laboratory, Guindy attended this Conference as representatives of the Government of India.

Dr. Benjamin read at this conference a paper entitled "B.C.G. Programme for under-developed Areas, its objective and how to achieve it."

Dr. K. S. Ranganathan also read at this conference a paper entitled "Problems connected with the production and distribution of B.C.G. Vaccine."

XI. *Third Commonwealth and Empire Health and Tuberculosis Conference in London from 8th to 13th July, 1952.*

Dr. P. V. Benjamin attended this conference.

XII. *International Conference against Tuberculosis from 24th to 27th August, 1952 at Rio de Janeiro.*

Dr. P. V. Benjamin attended this Conference as the representative of the Government of India and the Tuberculosis Association of India.

XIII. *Fifth International Cancer Research Congress held in Paris from July 15th to July 22nd, 1950.*

Dr. V. R. Khanolkar, Director of Research, Tata Memorial Cancer Hospital, Bombay, was deputed as Government of India delegate to attend the above Congress and the meetings of its sub-committees. He also attended the symposium on the Geographic Pathology of Cancer held at

Oxford and Edinburgh under the auspices of the International Cancer Research Commission.

XIV. *Sixth International Congress of Paediatrics, held in Zurich (Switzerland) from July 25 to July 28, 1950.*

Dr. (Miss) Sujata Chaudhari, Professor of Medicine, First Physician and Vice-Principal, Lady Hardinge Medical College, New Delhi and Vice-President of the Indian Paediatrics Society was deputed as Government of India delegate to the above Congress. She read a paper on Malnutrition and its effects on the physique of children, and management with high protein diet.

XV. *First International Congress of the American College of Chest Physicians held in Home from September 17 to September 20, 1950.*

Dr. R. Viswanathan, Additional Deputy Director General of Health Services, Government of India was deputed as an official delegate to this Congress at which he had been invited to read a paper.

XVI. *21st Session of the Board of Governors Health Advisory Committee of the League of Red Cross Societies at Monaco on the 13th and the 14th October, 1950.*

Lt. Col. C. L. Pasricha, Medical Adviser to the High Commissioner for India in London, attended the meetings of this Committee.

XVII. *International Cancer Research Commission and the Executive Committee of the Union International Centre Le Cancer Annual meetings held in Lisbon in December, 1951.*

Dr. V. R. Khanolkar, Director of Research, Tata Memorial Cancer Hospital, Bombay was deputed as Government of India delegate to attend the above meetings.

The Executive Committee of the Union International Centre Le Cancer decided to set up an International Committee for the Social campaign against Cancer and appointed a Sub-Committee to draft its aims and objects. It was also decided that the participating countries and organisations should be requested to increase their contributions to the Union so as to ensure a more effective functioning of the U.I.C.C.

XVIII. *3rd International Conference on Family Planning, held in Bombay from 24th November to 1st December, 1952.*

Dr. K. C. K. E. Raja was deputed to participate in the Conference where he read a paper on 'Family Planning in Public Health Programme.'

XIX. *International Study Conference on Child Welfare, held in Bombay from 5th to 12th December, 1952.*

The Conference was held under the patronage of the Government of India and was convened by the International Union for Child Welfare, Geneva on the invitation of the All India Save the Children's Committee.

The Conference was attended by 700 delegates from 26 countries and by representatives of 7 Inter-Governmental agencies and 15 non-Government international organisations. Pandit Nehru, the Prime Minister, inaugurated the Conference and Rajkumari Amrit Kaur, Minister for Health,

addressed the first plenary session. The conference called upon all Governments and voluntary agencies to protect by legislation and take all necessary steps to promote child welfare. A pilot Rehabilitation Centre should be established for physically handicapped children to serve as a model and training ground for all types of personnel; top priority should be given to the education of parents in the planning programme of child welfare; and, divorce should be prevented through intensive training for adolescents.

The Conference decided to form a "Continuation Committee to keep watch over the implementation" of its findings. The Committee, consisting of the International Union for Child Welfare, the Indian Council for Child Welfare and representatives of other national organisations, will convene from time to time regional study conference. In due course it will also hold a second International study conference in another Asian country.

XX. International Cancer Research Commission—Fifth Session, held in Bombay, from 30th December, 1952 to 2nd January, 1953.

The Session was presided over by Dr. V. R. Khanolkar, Director of Research, Tata Memorial Hospital, Bombay. The Government of India, contributed a cash grant of Rs. 30,000 to meet a part of the expenditure in connection with the meeting. Dr. R. Viswanathan, Deputy Director General of Health Services, Government of India also attended the meetings of the Commission.

Port Health Administration

Port health administration of major ports (Calcutta, Visakhapatnam, Madras, Cochin and Bombay) is governed by the Indian Port Health Rules, 1938 and that of major airports (Calcutta, Madras, Tiruchirappalli, Bombay and Delhi) by Indian Aircraft (Public Health) Rules, 1946. These Rules are based on International Sanitary Conventions 1926, 1933 and 1944. Responsibility for port health administration of the major ports rests with the Central Government, while those of the minor ports with the State Governments.

Special precautions are taken to prevent the introduction of yellow fever into the country through aerial and maritime traffic from infected areas of Africa and the Americas. All aircraft entering India from the west are disinfected and all persons who have been at risk to yellow fever infection in foreign countries and who enter the country in violation of national quarantine regulations are detained in quarantine.

The health organisation of the Bombay airport (Santa Cruz), which was opened to international traffic in October 1947, was further strengthened by additional staff and equipment. Arrangements were made at Ahmedabad and Poona for health clearance of aircraft that could not land at Bombay owing to bad weather conditions. As there was also the possibility of introduction of yellow fever into the country by aerial traffic from the East, arrangements were made for isolation of persons at risk to yellow fever at the Calcutta airport.

It was considered necessary that facilities for health clearance of aircraft with low fuel capacity should be provided as near to Karachi as possible so that they may overfly Karachi if they so desire. For this, the aerodrome at Bhuj was selected.

An additional quarantine organisation was set up at Delhi airport, Palam in November, 1950 to serve as the last airport of departure from and the first airport of arrival in India. The organisation was, to start with, under the control of Armed Forces Headquarters, India. Regular officers of the Central Port Health cadre were posted by May, 1952.

By May 1951, the new International Sanitary Regulations (W.H.O. regulations No. 2), replacing all previous International Sanitary Conventions and agreements, were adopted by the World Health Assembly in which India, as member nation, also participated. Steps were taken in 1952 to revise the Indian Port Health Rules, 1938 and the Indian Aircraft (Public Health) Rules, 1946 to bring them in conformity with International Sanitary Regulations.

It is proposed to manufacture yellow fever vaccine at the Central Research Institute, Kasauli. It has not been possible to push the scheme through for want of certain essential equipment which is yet to be received from abroad.

To provide better health safeguards to the Haj pilgrims, it has been made obligatory since 1950 for Haj pilgrims to carry valid certificates of vaccination against smallpox and cholera. Steps were also taken to bring the Indian Pilgrim Ships Rules, 1933 in conformity with the new International Sanitary Regulations.

During the period under report, sanitation at the ports and airports was satisfactory. The *Aedes aegypti* index at all ports and airports remained well below 1%. In 1949, as also in 1952, plague broke out in the city of Calcutta. To protect the airport and port areas, extensive antiplague measures were successfully taken in co-operation with West Bengal Government and the Port Trust authorities. Water supply in the port and airport areas was satisfactory. Samples of water used in port areas and in the vessels anchored in the harbour were sent for laboratory examination and defects remedied whenever found. Crew's provisions on board the ships were inspected and food stuffs, adulterated and found not up to specification, were destroyed.

With a view to co-ordinating health services at the ports and improving sanitation and other facilities, proposals were submitted to the Government of India recommending reconstitution of the existing Port Health Committees. The proposals are still under the consideration of the Government of India in consultation with the maritime State Governments and other civil authorities concerned with the administration of various ports.

The Seamen's Clinics at Bombay and Calcutta continued to provide free medical treatment facilities to seamen of all nationalities. The Clinic at Bombay provides both outdoor and indoor treatment facilities, but the Calcutta Clinic has treatment facilities for outdoor patients only. Arrangements also exist at the State Government hospitals for indoor treatment of seamen concerned. At Cochin, a four-bedded hospital for infectious cases amongst seamen and inhabitants of the port was set up in 1951. The Government of India in the Ministry of Health had contributed one-half of the capital expenditure on setting up the hospital and also agreed to pay an annual grant-in-aid for recurring expenditure. The expenditure involved in the medical treatment of seamen "off articles under one year" at all ports is shared equally between the Government of India and the maritime State

Governments concerned, while the shipping companies meet the medical expenses of seamen "on articles". The Port Health Committees constituted by the Government of India in 1946-47 for provision of medical facilities to seamen continued to function during the period under report.

To provide healthy and able-bodied seamen to foreign-going ships, the Government of India introduced from 1st March, 1950 a scheme of medical examination of seamen by Government doctors at Bombay and Calcutta. There was, at the initial stage, a certain amount of opposition from the seamen which, however, gradually subsided. By 1951, the scheme was made statutory by an amendment of the Indian Merchant Shipping Act, 1923 and promulgation of the Indian Merchant Shipping (Medical Examination) Rules, 1951. The scheme was subsequently extended to other major ports, viz., Madras, Visakhapatnam and Cochin. The period of validity of fitness certificate was 2 years. This was, however, extended to three years. Certain relaxations in the rules were also made for old entrants. The Medical Appeal Boards were constituted to provide facilities for appeal against the decision of medical officers. The scheme is now running smoothly and seamen, in general, have accepted the procedure of medical examination by Government doctors before their engagement.

CHAPTER V

Health activities of the Central and State Health

1. Rural Health, Water Supply and Conservancy
2. Health Education
3. Industrial Health
4. Social Health Insurance
5. Health events in the States
6. Medical Inspection of Schools
7. Health of Prisoners
8. Railway Health Services
9. Fairs and Festivals
10. Nutrition
11. Rural Health & Medical Relief
12. Adulteration of Food.

CHAPTER V

HEALTH ACTIVITIES OF THE CENTRAL AND STATE HEALTH DEPARTMENTS

1. Rural Health, Water Supply and Conservancy

In order to eradicate disease and promote health, the question of improvement in environmental sanitation, particularly of the vast majority of people living in villages, hardly needs an emphasis. What safe water-supply, good drainage, adequate disposal of refuse, community effort and observance of simple health rules can achieve, can easily be demonstrated to the common man, and this, the States have been trying to do according to the size of the problem and the limit of their resources. It is gratifying to record that many forward steps have been taken in this direction and a number of Health Units have been set up in rural areas all over India.

It will not be fair to make comparisons between the States since the problem varies from State to State depending upon individual advance and development. Progress of a State, therefore, will be judged by its own efforts made during the period under report, a brief resume of which follows.

Punjab—The target of having one dispensary for 100 square miles and 30,000 population, fixed in 1925, will be attained in the near future. During the period under report, there has been much emphasis on increasing the number of rural dispensaries and provincialising the existing ones. The number of rural dispensaries rose from 154 to 175 and that of subsidized dispensaries from 61 to 82, in 1950. Five new dispensaries were opened in 1952. In 1949, 1950 and 1952, 7, 51 and 30 rural dispensaries, respectively were provincialised. Officers in charge of rural dispensaries were also entrusted with preventive work in the surrounding villages, in 1949. In 1949, an Ordinance was promulgated in certain rural areas to convert rubbish and refuse into compost. Anti-fly campaigns were conducted during all the four years. Where qualified persons were not available for manning the subsidized dispensaries, Government allowed the posting of registered Vaidis and Hakims. The following statement shows the amount sanctioned each year by the Sanitary Board for improving water-supply, drainage, etc., in the villages of some of the districts :—

1949 : Water Supply—Rs. 1,11,732 and Drainage etc.—Rs. 9,282.

1950 : Water Supply—Rs. 1,296.

1951 : Rs. 1½ lakhs for both.

1952 : Rs. 1,17,000 for both.

It is proposed to have one Health unit in each district every year for five years.

Uttar Pradesh—The Government of Uttar Pradesh made funds available for a safe water-supply and gave interest-free loans, repayable in instalments, for construction of wells. Schemes for small-pox vaccinations and anti-malaria measures received greater attention. Under the scheme, vaccination was to be done by village officials who would be trained in its technique. For a group of five villages, a village-level worker was appointed to guide the villagers in village-uplift. Use of septic tank privies and bore-hole latrines was encouraged. The type of latrine evolved by Dr. Lal was experimented with. People were encouraged to make their kacha houses pucca. Gram panchayats were advised to adopt and enforce model sanitation bye-laws.

Sanitation drives were organised. In some places, improvement of drains and construction of soak-pits were undertaken.

Madhya Pradesh—in 1949, the sanitation control in villages was passed on to Gram Panchayats. Pit-privy latrines, introduced in 1949, found favour with people. The Public Health Engineer drew up a five year plan for improvement of water-supply in rural areas. Plans were approved for sinking 40 wells in the year 1950, and grants-in-aid were paid by the Rural Development Department to 3 village uplift committees in two districts of the State. In 1951, a little over one lakh of rupees, an amount equal to that raised locally, was granted to 30 Janpad Sabhas for construction of 162 wells. Thirteen wells were constructed under the Backward Area Welfare schemes. In 1952, Rs. 51,000 were paid to 24 Janpad Sabhas for construction of 88 wells of which 26 were completed during the year.

Bombay—District Health Officers who, in certain cases, were Civil Surgeons also, control public health activity in rural areas. The Public Health Department advises the collectors, assigns priorities for the construction of wells and advises the village Panchayats and Sanitary Committees on conservancy and drainage. Rural Development Boards function in all districts. The Public Health staff give lectures to villagers on matters of Public Health. With grants from Development Boards, celebration of Gram Sudhar Saptah, conversion into model villages, subsidies to village dais, construction of drains, provision of hand-lorries for collection of refuse and construction and repair of wells were carried out in some districts. Greater attention was also paid to village water-supply. During the four years under report, Rs. 45, Rs. 10, Rs. 30 and Rs. 30 lakhs, respectively, were sanctioned for the construction of draw-wells or for conversion of step-wells into draw-wells. The following table shows the work done in this field :—

Year	No. of Districts	No. of new wells constructed	No. of Districts	No. of conversion of step into draw-wells
1949	15	779	9	71
1950	18	1,078	8	578
1951	17	617	13	217
1952	17	398	12	201

In 1950, 777 water sources, mostly wells, were treated with tropical chloride of lime as an anti-guineaworm measures.

Bihar—Schemes for disposal of night-soil in rural areas, for improvement of rural water-supply, and an interim Public Health Organisation Scheme were some of the post-war schemes considered in 1949 and implemented in the following years.

Assam—Seventy-seven Public Health Department dispensaries are located in eight districts of the State. In rural areas, water-supply is poor in quality as well as in quantity, the chief source being streams, tanks, nullahs,

ring-wells, and tubewells. In 1949, 511 sources of supply were constructed from a grant made by the Government of India.

Madras—Two schemes, *i.e.*, Primary Health Centres and the Rural Reconstruction Scheme were in progress. In five districts of the State, six primary health centres in each district were opened in 1949 under the supervision of a medical officer. Suspension of Central aid coupled with the need for economy in State expenditure in 1950, prevented extension of the scheme to other districts. One centre was closed down in 1950 for want of a medical officer, and another in 1951. During 1952, 28 centres functioned satisfactorily and served about 300 villages. The staff of these centres surveyed houses and persuaded people to adopt public health measures. For water-supply schemes in rural areas, a five year programme was adopted. Special fund of one crore rupees with an annual recurring grant of Rs. 15 lakhs was created in 1947. In 1949, a sum of Rs. 27,26,000 was spent on water-supply wells and out of 8,483 wells programmed, 2,626 were completed and 3,116 were in the process of construction. In all 6,500 wells were constructed in 1950 and 1951 at a cost of Rs. 128 lakhs. The scheme was extended to some more areas in 1952 under the supervision of the Public Health Inspectors. Flush type of public latrines with closed trench or septic-tank latrines were constructed. Other types of latrines were water-seal squatting slab and the Wardha type. In one district, 82 such latrines were constructed in 1949 for public use. In 1951, 96 private latrines and 128 private septic-tank latrines were constructed, 143 water-seal squatting slabs distributed at concessional rates and 950 latrines of Wardha type constructed. 7,454 feet long drainage channels and 520 cesspools were added.

West Bengal—Measures for water-supply, drainage and sanitation were carried out by the District Boards or the Chief Engineer, Public Health Engineering, through the District magistrates. The following is the statement of water-supply work carried out :—

—	1949	1950	1951	1952
No. of the tube wells sunk	420	429	272	280
No. of choked tube wells resunk	859	624	365	359
No. of tube wells repaired	30,186	31,666	45,300	50,890
No. of masonry or sink wells sunk	63	71	90	70
No. of masonry and ring wells repaired	—	—	217	264

In addition, seventy-nine water-supply and sanitary projects were executed in 1950 as relief-work in the refugee colonies located in rural areas, and similar arrangements were made in 69 health centres established in rural areas at a cost of Rs. 6,63,000 in 1952.

Orissa—The scheme for provincialisation of Health Services of the District Boards was continued on a temporary basis and five posts of District Health Officers were created in 1949 for the districts carved out of the merged States. Want of good drainage and water-supply in rural areas, particularly, in coastal districts and extensive soil pollution are the cause of

water-borne and hook-worm diseases. The State Government sanctioned through the Revenue Department an expenditure of Rs. 5 lakhs, 1½ lakhs, one lakh and 11 lakhs in the years 1949, 1950, 1951 and 1952 respectively, for rural water-supply. Bore-hole latrines were recommended for rural areas and people were educated through propaganda. Appreciable improvement was not, however, noticed during the period under report.

Hyderabad —Rural Sanitation Units, Model Public Health Units and Community Projects were the significant steps taken in the field of rural health. Of the four rural sanitation units, working in the first half of the period, two were abolished in 1951 and their staff and material were utilised for forming two model medical and health units. The following is a brief resume of their work in water-supply and rural sanitation—in 1950, 280 houses and 1,594 wells were disinfected, 197 soakage-pits constructed and 168 step-wells converted into draw-wells. In 1951, 2,046 wells and 243 houses were disinfected in 12 villages of one unit. In the Community Project areas, medical officers visited 182 villages and attended to 6,677 patients. Water-supply of 322 wells was chlorinated. One of the Medical Units disinfected 2,819 wells, remodelled new wells and dug 624 soakage pits; another public health unit disinfected 1,482 wells in 12 villages; and twelve mobile units were responsible for disinfecting 9,630 wells.

Mysore —112 Rural Health Units were working during 1949, and 128 during 1950. Nine Primary Health Units at an annual expenditure of Rs. 1,10,000 were sanctioned, and the Public Health Act was passed in 1951. Full-time rural health organisations under the Public Health Department were working in 131 places in 1952. Construction of latrines was previously confined only to the Yatra grounds. A cheap and durable type of hand-flush latrine costing as little as Rs. 10 was designed and put to use in several health unit areas.

Travancore-Cochin —A Public Health Unit functioned during the first three years and gave an ideal demonstration of public health activities. Three such units were opened in 1952. Public health engineering works were carried out by the Public Health Engineering section of this Department. 30 wells, 580 bore-hole latrines, 1,100 latrines of other types were constructed in 1949; 16 wells, 236 bore-hole latrines, and 860 latrines of other types in 1951; and, 8 wells, 114 bore-hole latrines in 1952. Public Health Engineering Section attended to the repairs of drinking-water sources, latrines and surface drains in rural areas. In 1952, it purchased a well-drill for digging deep tube-wells in rural areas; water-seal squatting slabs were manufactured and sold at a reduced price to popularise sanitary latrines among people.

P.E.P.S.U —Three health centres functioned in the State in 1950. In 1951, there was one Sanitary Inspector for each Tehsil and one Sanitary sub-Inspector-cum-Vaccinator for each Police station area to look after the public health activities in rural areas.

Rajasthan —One Rural Uplift Centre in Jodhpur division functioned from 1950 onwards, covering 89 villages in a compact area of 10 mile radius. Activities of the Centre covered medical aid, maternity and child welfare work, general sanitation, health education, and general education in agriculture, co-operatives, cottage industries and animal husbandry.

Ajmer —Sanitation in rural areas continued to be bad, as before. In 1952, anti-malaria staff was entrusted with public health measures and it

attended to items, such as, sterilisation of wells, anti-rat measures and construction of soakage-pits. Two such units were operating in rural areas. District Health and Malaria Officers organised work in villages, but the activities remained confined to a few villages only, for want of funds. Disinfection of drinking-water sources was the most important activity.

Delhi—Following is a brief account of work carried out for improvement of water-supply and general sanitation in rural areas :—

	1949	1950	1951	1952
Wells repaired	103	35	43	15
Bore-hole latrines	429	224	485	523
Manure-pits	3,663	3,663	—	—
Villages improved	—	25	25	36
Pucca pavements (in feet)	—	4 lakh	6 lakh	9 lakh
No. of villages in which Pucca drains were constructed.	—	10	18	21

Coorg—Rural people were becoming more hospital-minded and, under the village development scheme, many villages were provided with wells for water-supply.

Himachal Pradesh—A village visit system was introduced in 1949 whereby medical officers visited the surrounding villages for inspecting sanitation and water-supply since the water-supply in rural areas was liable to pollution.

No arrangements for the improvement of village water-supply were made in Manipur.

The sources of water-supply in Andamans were wells, springs, and season springs. Due to scattered nature of the population, there were few cases of waterborne diseases. No latrine system was in existence in rural areas of these Islands.

RURAL HEALTH, HEALTH UNITS

As mentioned earlier, a number of Health Units are functioning in rural areas all over the country. Primarily, they are intended to disseminate information on public health matters to the common man and to serve as demonstration centres. But, they also help improve the general health conditions in the area and provide facilities to the population. Following is a brief account of the activities of some of these units during the period under report.

Najafgarh Health Unit, Delhi.—This unit was established in April, 1937 through the Rockefeller Foundation Fund and has continuously been at work since. The population originally covered by this Unit was about 40,000. Now, it is more than 50% higher. A Maternity and Child Welfare

Team from the World Health Organisation commenced working in the Unit area in December, 1949. A primary health centre, founded in March, 1949, started functioning in September, 1950. Its activities spread over 27 villages of the Unit area. In 1951, the activities of the W.H.O. team was mostly confined to these 27 villages. A supply of medicines and equipment was received from the U.N.I.C.E.F. in 1951. Gradually this area has developed into a rural demonstration and training field for various institutions, such as the Lady Reading Health School, the Delhi College of Nursing, the Lady Hardinge Medical College and the School of Social Education.

A notable feature of the activities of this unit has been the maintenance of a travelling dispensary since 1949. Originally, it paid bi-weekly visits to each of the ten villages in the area; but, in the interests of efficiency, the number of villages was reduced to eight in the following year.

General activities of the Unit consist of improvement in general sanitary conditions, care of expectant mothers and attendance during confinement, and medical inspection of school children. The following table gives the vital statistical rates for the Unit area. Corresponding rates for the rural population of the State, as a whole, are given in brackets :—

TABLE

Year	Birth Rate	Death Rate	Infant mortality rates	Maternal mortality rate
(1)	(2)	(3)	(4)	(5)
1949	48·9 (30·5)	19·9 (11·4)	122 (110)	0·9
1950	50·5 (35·8)	26·0 (16·9)	130 (125)	0·7
1951	51·0 (40·3)	15·2 (12·3)	90 (106)	0·3
1952	47·0 (37·4)	21·0 (15·3)	114 (107)	1·8

Singur Health Unit, West Bengal—This Health Unit, originally started in 1939, was re-organised in 1944 on the basis of a co-operative health programme between the Government of India (All India Institute of Hygiene and Public Health) and the Government of West Bengal. The total area covered by this Unit is about 33 sq. miles, and it has sixty-eight villages spread over four contiguous Union Boards. The main object of this Unit is to devise and demonstrate methods of public health administration which can ensure protection and essential medical aid to the rural population within the level of living obtaining in the countryside. It also affords opportunity for field-training to the medical and public health personnel. In this connection, it may be mentioned that during the three years, 1949—51, about 700 persons received training.

The Unit conducted an enquiry on the nutritional status of school-children in order to supplement the well-known deficiencies in diet. The enquiry began in July, 1948 and continued till the end of April, 1949. Another enquiry to find the prophylactic value of Paludrine in the prevention of malaria, which was started in 1946, was completed by 1949. The enquiry showed that a bi-weekly administration of 100 mgm. of Paludrine

was effective as a preventive though it was not so effective against benign tertian infection as against the malignant tertian. An enquiry into the morbidity in pre-school children, financed by the Indian Council of Medical Research, continued from July, 1949, to April, 1950.

The usual programme of maternity and child welfare and of providing safe water-supply and improving environmental sanitation was carried on.

Village health committees were reconstituted in 1949 and 1950. A large percentage of school children of the Unit area were medically examined and certain cases were referred to hospitals for treatment.

Some 700 copies of a leaflet on malaria control were distributed to the public. Health education was imparted to the rural population through meetings, demonstration, magic lantern shows, cinema shows, health exhibition and group-talks as may be seen in the following table :—

	1949	1950	1951	1952
Demonstration with posters	—	28	6	8
Magic Lantern shows	45	29	21	30
Cinema Shows	—	—	—	15
Health Exhibitions	3	—	1	3
Group-Talks	—	242	279	397

Collection of vital statistics was done mainly by the village Chowkidar. The information was supplemented by members of the village health committees who were in charge of vital statistics from their respective areas. Verification of births and deaths was done by Sanitary Inspectors and Lady Health Visitors in the course of their work in the villages. The system of notification and control measures against communicable diseases works quite satisfactorily because members of the village committee are prompt in giving information. The following table gives vital statistical rates for the Unit areas.

Corresponding rates for the rural population of the States, as a whole, are given in brackets :—

Year	Birth rate	Death rate	Infant mortality rate	Maternal mortality rate
(1)	(2)	(3)	(4)	(5)
1949	38.6 (18.7)	16.0 (14.2)	131 (123)	5.97
1950	38.3 (19.0)	16.2 (14.7)	109 (112)	3.35
1951	38.2 (22.9)	13.1 (12.6)	107 (83)	4.95
1952	40.0 (24.4)	9.3 (10.6)	87 (86)	3.69

Sirur Health Unit, Bombay—This Unit was established in 1939, and completed thirteen years of activity at the end of the period under report. A brief account of its activities in training, public health, maternity and child welfare, health propaganda and education, etc., follows :—

A batch of 31 subsidised medical practitioners, and two batches consisting of 44 and 41 candidates from the Sanitary Inspectors' class of Poona School received training during 1949. Three batches of Sanitary Inspectors and three batches of subsidised medical practitioners were trained in rural hygiene in 1950. Similar training was imparted to three batches of subsidised medical practitioners and two batches of Sanitary Inspectors in 1951. Sanitary Inspectors of the Unit area gave training to Patils and Talatis of the area in anti-cholera measures, especially in the disinfection of water-supply. Two batches of students of Sanitary Inspectors' class and one batch of subsidised medical practitioners received training in 1952. Sanitary Inspectors and Health Visitors carried out health education and health propaganda through lantern talks. Cinema shows and health exhibitions were also arranged, as in the following table :—

	1949	1950	1951	1952
Lantern	17	156	170	116
Cinema shows	12	12	33	25
Exhibitions	—	8	19	4

Sanitary improvements were carried out in a number of villages by cleaning premises, by digging manure-pits and soak-pits and by construction of latrines. Activities in maternity and child welfare included attendance at confinement, home visits (antenatal, postnatal and infant visits) and home demonstrations.

The following table gives the vital statistical rates for the Unit Area along with the corresponding rates (in brackets) prevailing among the general population of the State, as a whole :—

Year	Birth rate	Death rate	Infant mortality rate	Maternal mortality rate
(1)	(2)	(3)	(4)	(5)
1949	49.0 (33.2)	25.8 (21.4)	183 (140)	5.12
1950	38.6 (33.2)	22.1 (18.8)	167 (125)	9.5
1951	43.9 (36.8)	16.7 (17.2)	122 (113)	4.3
1952	44.8 (34.6)	19.3 (17.6)	144 (114)	2.8

Partapgarh Health Unit, Uttar Pradesh.—This Health Unit was started in July, 1932 and has been working continuously ever since. It covers an

area of 67 sq. miles with a population of nearly 80,000 which includes a small municipality, two towns and 123 villages. The whole area is divided into four circles and eight sub-circles. The Health Unit is like an experimental farm where new methods in rural health practice and sanitation are experimented upon before introduction in the State. Its activities during the period were as follows :—

Health publicity work was done by the staff of the Unit at village gatherings, in schools and during fairs and festivals by means of lectures, homely talks, leaflets, posters, magic lantern demonstrations, baby shows, exhibitions, etc. The following table gives factual information in this regard :—

Years	Lectures	Shows	Exhibitions
1949	2,046	9	2
1950	1,732	—	2
1951	—	—	3
1952	1,632	—	2

Of the 2,046 lectures given and shows held in 1949, three were on tuberculosis, 30 on balanced diet, 54 on malaria, 12 on blindness and the rest on other public health subjects. Public health exhibitions were mostly held during the village melas, mostly in rural areas. World Health Day was celebrated in April each year in the Unit area. These celebrations included varied and interesting programmes conveying the message of rural health to the common man. A public health indoor museum, re-organised in 1946, is maintained at the headquarters of the Unit. Inspection of school premises and school children was carried out, as usual. Instruction in sanitation and hygiene was imparted. Dais were given training in midwifery for nine months and then allowed to practise. In the course of these four years, 116 dais were trained. Junior Red Cross groups functioning in the Unit area have a fine set of students well acquainted with the methods of healthy living. They are given special training in First-Aid and their services are utilised during such emergencies, as, the outbreaks of epidemics. In 1951 and 1952, special winter health education drives were launched for school children and women. 1,500 boys and girls were given training.

The Unit staff pay attention to environmental sanitation, compost scheme, enforcement of bye-laws and regulations, prevention of diseases and maternity and child welfare work. To improve the standard of environmental sanitation and health conditions in the villages, health leagues are functioning in many villages. In 1952, new devices like smokeless chulhas and Dr. Lal type trench latrines were experimented with. In 1952, on the occasion of Diwali festival, a special cleanliness week was celebrated on a large scale. Also, a cleanliness drive was launched in Bela Municipality in April of the same year.

Special attention is paid to be registration of births and deaths in the Unit area by the Unit staff. As a result of this, registration is more thorough in this area than elsewhere. The following table gives the vital statistical

rates for the unit area along with corresponding rates (in brackets) for the rural population of the State, as a whole :—

Year (1)	Birth rate (2)	Death rate (3)	Infant mortality rate (4)	Maternal mortality rate (5)
1949	27.4 (20.5)	13.5 (11.5)	130 (80)	3.9
1950	28.3 (19.3)	12.8 (12.5)	129 (92)	2.2
1951	27.3 (17.3)	11.1 (10.7)	129 (129)	

*Not available.

Poonamallee Health Unit, Madras —This Unit was founded in 1935 and comprises of 36 revenue villages with an area of 36 sq. miles and a population of 60,000. Following is a resume of the activities of the Unit for the period 1949—52 :—

Usual media of health publicity and health education; viz., health exhibitions, lectures, posters and magic lantern demonstrations were employed. The following table shows an account of the activities in this connection :—

	1930	1951	1952
Leaflets distributed	420	701	—
Lectures with magic lantern	82	66	85
Lectures without magic lantern	732	492	168
Cinema shows	17	—	15
Talks	1,877	1,177	731

Mention may also be made of an exhibition in 1949 on the occasion of special health week celebrations and an exhibition in 1952. In the year 1950, nine health dramas were staged and 2,803 lectures on domestic hygiene and on various diseases were delivered. Village cleanliness campaigns, Health weeks, Parents' and Children's Day celebrations were some of the activities which brought the public health staff in closer contact with the common man.

Improvement of water-supply and drainage through construction of wells and latrines, and of general hygiene by disposal of waste through composting are among the other important activities of the Unit. Disease control was effected through control measures, such as, inoculations, DDT-sprays and the like. Maternity and child welfare service was efficiently maintained, and seven such centres and six maternity homes functioned in the Unit area.

The Unit served as a demonstration centre for students of medical colleges and trainees of the Sanitary Inspectors' Course. In 1951, an economic and diet survey was conducted to assess the incidence of hook-worm and the causes of night blindness.

During the same year, there was an enquiry, financed by the Indian Council of Medical Research, on infant mortality in the State. It began in the Unit area in 1951 and continued through 1952.

The following table shows the vital statistical rates for the Unit area with corresponding rates (given in brackets) for the rural population of the State, as a whole :—

Year (1)	Birth rate (2)	Death rate (3)	Infant mortality rate (4)	Maternal mortality rate (5)
1949	40.9 (29.0)	27.4 (15.8)	—	—
1950	36.4 (29.3)	36.2 (18.9)	154 (120)	4.13
1951	32.6 (26.7)	24.2 (15.8)	—	—
1952	33.7 (28.6)	21.2 (15.3)	—	—

2. Health Education

The Health Education Section of this Directorate served as a clearing house for the dissemination and exchange of ideas and suggestions in regard to health education. In pursuance of one of the recommendations of the Bhore Committee, accepted by the Government of India, the Health Education Section was entrusted with the task of development of health education amongst all sections of the population and for tendering suitable advice and help to the Health Departments of various States in organising and coordinating such work in their own States.

A film lending library was established with a stock-pile of 246 films and 31 film strips on various health subjects. These films and film strips have been in great demand and were loaned to the Directors of Public Health, health and educational institutions, social organisations, Community Projects, etc. These have been used as an additional teaching aid in public health courses.

A mobile cinema-van, complete with a 16 m.m. projector, a radio and a microphone, was purchased in 1949 and used for health education in rural and urban areas. Early in 1951, two day-light mobile cinema vans, complete with health education equipment, were presented to the Government of India by the U.N.I.C.E.F. These Units visited places like Nilokheri, Kurukshetra, Jyotisar and Panipat during important festivals, giving film shows in all parts (rural and urban) of Delhi State.

Ten pictorial posters on health subjects were designed, printed and widely distributed.

In 1950, a Health Stall was put up by the Directorate at the Akhil Bhartya Udyog Pradarshani in Delhi. A number of models on different health subjects were displayed to great advantage. These models were also loaned to various organisations for display in different exhibitions.

Five pamphlets on health subjects in Hindi and English, and one in Hindi only, were printed and distributed widely.

At the instance of the Directorate General of Health Services, the Ministry of Information and Broadcasting produced 16 films on health subjects. These films are available both in 35 mm and 16 mm with commentary in five different languages.

A brief account of health education activities of some of the States is given below :—

Assam.—The Public Health Department carried out health propaganda mainly with the aid of magic lantern. Ten magic lantern operators are posted at the district headquarters. Demonstrations are given by them under guidance of the doctor of the nearest dispensary who also gives a talk on the occasion. Posters and pamphlets published by the Health Department and literature purchased from a local author were also distributed. Assamese journal, "SWASTY PARISHAD", was subscribed to and distributed to the village library.

The Department took active part in 13 annual fairs, melas and festivals. Films obtained on loan from the Indian Red Cross Society and the Assam Publicity Department were screened in different cinema houses.

A health exhibition was arranged in 1949 during the Assam Janaswasthya Parishad at Gauhati.

Bihar.—The Public Health Bureau attached to the office of the Director of Public Health, Bihar is responsible for health propaganda and it imparts education to the public on the elementary principles of hygiene and prevention of epidemic diseases.

Leaflets, pamphlets and posters were produced by the Bureau for free distribution. Health exhibitions were organised at important fairs and festivals. Health weeks and sanitation drives were a regular feature of the Bureau. Articles on health subjects were also published in the press.

Bombay.—The Public Health Department has a mobile cinema unit equipped with 35 mm and 16 mm sound projectors, films on health subjects, gramophone with records, etc. The mobile cinema unit toured most of the districts and gave film shows. Leaflets and posters were also distributed to the public.

In the year 1950, the staff attached to the District Health Officers gave 2,487 lectures with the aid of magic lantern in 2,417 different villages. Nine exhibitions were organised in Ahmednagar district. In collaboration with the Department of Nutrition, a health exhibition was arranged on the occasion of the 56th session of the Indian National Congress in September, 1950.

In the year 1951, the Public Health Department participated in 16 exhibitions where models, charts and posters were displayed and film shows given. 2,224 magic lantern shows and 3,191 talks were given by the staff of the Public Health Department in 3,189 different villages.

Besides the Public Health Department, organisations like : (i) the Bombay Mothers and Children Welfare Society, (ii) the Bombay Sanitary Association, (iii) the Broach Sanitary Association, (iv) the Ahmedabad Sanitary Association, (v) the Amreli Sanitary Association, and (vi) the Poona Arogya Mandal carried out health propaganda.

Madhya Pradesh.—Health education was carried out by the Assistant Health Officers and Sanitary Inspectors through informal talks and lectures

on health. Posters were displayed and magic lantern demonstrations were given at fairs, village uplift rallies and exhibitions. Model villages were selected for a practical demonstration in good housing and environmental hygiene. This proved to be an effective method of propaganda. People volunteered to get themselves inoculated against epidemic diseases and allowed their dwellings to be disinfected against plague, cholera and other infectious diseases.

In 1952, a Nutrition Stall was opened at Amravati during the 4th Madhya Pradesh Provincial Medical Conference. Lectures on dietetics were delivered to students at the Health School, Nagpur. Press notes on nutrition were published in the local newspapers.

Two types of leaflets were printed in English, Hindi and Marathi and distributed in rural areas.

Madras.—Propaganda on health was conducted by the staff of the Health Department through film shows, pamphlets, leaflets, posters, lectures, talks, magic lantern shows, exhibitions, Baby and Health Weeks, etc.

A summary of the work done from 1949 to 1951 is given below :—

	1949	1951	1952
Exhibitions	339	341	396
Lectures (with magic Lantern)	7,185	6,709	5,106
Lectures (without magic lantern)	17,352	13,235	12,041
Short talks	85,765	78,049	64,937
Cinema shows	556	561	368
Health Dramas	46	888	13
Broadcast talks	332	104	—

Besides the Health Department, voluntary organisations like : (i) the Women's Welfare Department, (ii) the Guild of Services, and (iii) the Indian Red Cross Society carried out useful health propaganda.

Orissa.—Health publicity was carried out in rural and urban areas of the State by the staff of the District Health Officers, Municipal Health Officers and the Publicity Bureau of the Health Directorate. Propaganda work mainly consisted of film shows, distribution of pamphlets and posters, participation in exhibitions where models, charts and posters on health were displayed, organising of Baby shows and short talks and lectures with the aid of magic lantern. A total number of 10,325 lectures, with or without the aid of magic lantern, were given in 1949; 55,922 in 1950; 61,321 in 1951 and 20,416 in 1952. In 1952, an Anti-leprosy Week was observed under the auspices of the State branch of the Hind Kusht Nivaran Sangh.

Punjab.—Health propaganda work was carried out through pamphlets, posters, leaflets and through broadcast of talks and dialogues on various health subjects from the Jullundur station of All India Radio. 26 talks and dialogues were broadcasted in 1949, 40 in 1950, 19 in 1951 and 20 in 1952.

Uttar Pradesh.—Health education was undertaken by the Health Publicity Bureau of the Public Health Department assisted by District, Municipal and School Health Officers. Voluntary organisations like the Indian Red Cross Society and St. John Ambulance Association also contributed a good deal to health education work.

Posters and leaflets were distributed extensively. Fairs and festivals were utilised for imparting health education. Articles on health were published in the newspapers. Pamphlets entitled, 'Personal Hygiene' were supplied to the pilgrims proceeding to Badrinath and Kedarnath.

The St. John Ambulance Association regularly conducted courses in First aid, Home Nursing and Hygiene and Sanitation. A large number of boys and girls was trained in these subjects.

Film shows, radio talks and exhibitions on suitable occasions were regular features.

A special campaign against tuberculosis was also launched.

West Bengal.—Publicity activities were carried out by the Publicity Department of the State. These mainly consisted of (1) distribution of posters, pamphlets and leaflets, (2) film shows, (3) lectures with the aid of magic lantern, (4) radio broadcasts, and (5) organising health exhibitions.

The Publicity Department started publishing a bi-weekly "Swastha Sree" in Bengali in 1952.

Active medico-social work was carried on in the Venereal Diseases Clinics of some hospitals with a view to popularising V.D. clinics in the labour population. A system has been evolved in co-operation with the Indian Jute Mills Association and the local trade Unions whereby 10 workers per week are sent up for examination. During the year 1952, social workers visited the homes of 1,125 defaulting V.D. cases and persuaded 708 of those to return for treatment.

Hyderabad.—Health propoganda in the general public was carried out by means of (1) distribution of posters, pamphlets and leaflets, (2) film shows, (3) organising health exhibitions, and (4) radio broadcasts. A summary of the work done is given below :—

	1949	1950	1951	1952
Exhibitions	6	4	9	8
Film shows	75	179	101	117
Radio talks	114		13	—

The Health Museum was considerably expanded by adding a number of models, charts and exhibits to its sections and by adding three more sections on : (i) Industrial Hygiene, (ii) School Hygiene, and (iii) Family Planning.

A number of Health Inspectors were trained in 1951 and 1952.

In 1951, 36 factories were inspected and the shortcomings communicated to the Chief Labour Commissioner for rectification.

Madhya Bharat.—The staff of the Health Department organised exhibitions during various important fairs. Sanitary arrangements at the fairs were supervised. Lectures on health subjects were given, magic lantern shows arranged and leaflets distributed. Film shows were also arranged.

Rajasthan.—Public health propaganda was carried out through lectures, talks, magic lantern shows, cinema shows and by distribution of pamphlets. Health stalls were put up at different places during fairs. A health staff on maternity and child welfare was put up at the International Child Welfare Exhibition held in Delhi in 1949. Models displayed at this exhibition attracted wide attention. Sanitation arrangements at important fairs were thoroughly looked after.

Travancore-Cochin.—The Health Education Officer and Assistant Health Education Officers moved from place to place with portable equipment giving film shows and lectures on health subjects.

The Health Education Section of the Public Health Department was amalgamated with the Public Relations Department in 1950.

P.E.P.S.U.—The Public Health staff gave talks in different villages on the elementary principles of public health and stressed the need for improving sanitary conditions. Provision of proper pits outside the villages was emphasized. Preventive measures to be adopted during epidemic were explained.

Ajmer.—Health propaganda was carried out at the fairs at PUSHKAR and URS KHWAJA SAHIB. Lectures on blindness and tuberculosis were delivered in rural areas. In 1952, three health exhibitions were organised by the Red Cross Society and other voluntary organisations. Pamphlets on the prevention of cholera were distributed.

Bhopal.—Health propaganda in rural areas was carried out through lectures with the aid of magic lantern and film shows. Arrangements were also made for radio broadcasts during annual fairs. A generator was purchased in 1951 for use in film shows in the rural areas. In 1952, several Health Exhibitions were organised.

Bilaspur.—In 1952, health propaganda was carried out through magic lantern demonstrations and distribution of posters and pamphlets. 150 talks on environmental and primary hygiene were given. Instructions regarding conservancy measures were also given. Circulars containing information on health were issued from time to time.

Coorg.—Lectures to students were given by the School Medical Officer on nutrition, diet, hygiene, etc.

Himachal Pradesh.—Side by side with preventive measures against infectious diseases, health propaganda was done at the important fairs held in the State. Baby shows and exhibitions were organised by the staff of the Health Department. People were advised to keep the houses and surroundings clean.

Kutch.—A few exhibitions were arranged in 1952 wherein exhibits on balanced diet, care of children and other health subjects were displayed.

Manipur.—Talks and film shows were arranged on nutrition. Baby shows were held and prizes and certificates awarded. Health dramas were staged. Leaflets and posters on health subjects were distributed. Specially prepared models were displayed at different exhibitions.

Tripura.—Efforts were made to make the people health-conscious and to impart to them information on the elementary principles of healthy living. Health stalls were organised at different fairs, festivals and tribal conferences. Posters and models were used.

Andaman & Nicobar Islands.—Schools formed the centres of activity for propagation of health principles. Health talks and lectures with magic lantern were given.

3. Industrial Health

Industrial health is a composite subject comprising the health safety and welfare of man in his working environment.

Problems of industrial health too are usually composite requiring for their solution the services of doctors, engineers, chemists, physicists, psychologists, welfare and personnel experts, dietitians and other specialists too numerous to mention. The term, as now conceived, should be viewed from two stand-points. Firstly, the control of specific occupational health hazards consequent on the use of certain substances or certain processes in factories of psychological, physical, chemical or other nature. Secondly, protection of the general health of workers from ailments that may be caused by defects in general environmental sanitation. The responsibility for the control of occupational health hazards lie primarily with the Factory Inspectorate (Factories Act, 1948); while the protection of general health comes within the Jurisdiction of the Industrial physician who also takes his share in the control of industrial diseases.

The economic resources of India being relatively underdeveloped, very little has been done in the past either by legal enactment or in actual practice in regard to the subject of "Industrial Health" as it is understood by the industrialised nations of the West. Some progressive private industrial concern maintain their own dispensaries and, in some cases, hospitals but the work of the doctors employed in such institutions is confined almost entirely to giving medical relief for ordinarily ailments of factory labour and their families.

The present industrial health conditions in India have been dealt with at some length in the following publications :—

- (1) The Report of the Health Survey and Development Committee (generally known as the Bhore Committee Report), 1946;
- (2) "The Health of the Industrial Workers in India" by Dr. T. Bedford, 1946;
- (3) "The Standard of Medical Care for Tea Plantation in India" by Dr. E. Jones, 1947; and
- (4) The Report of the Labour Investigation Committee, 1946.

A perusal of the Bhore Committee Report and of Dr. Bedford shows that the conditions under which industrial workers live and work are far from satisfactory.

Special attention is drawn by the Bhore Committee to the lack of sufficient facilities for health work among women factory labour and to the inadequacy of the available number of women doctors, nurses and health visitors. The factory inspection staff in the States is quite inadequate, and the enforcement of the Factories Act leaves much to be desired. In regard

to unregulated factories, over which the Factories Act has no control, the position is even worse.

So far as conditions of health of the tea-planters are concerned, it will be pertinent to quote from Major Jones' report :—

“The general impression gained during the tour of Assam was that the state of health of the labour was poor. Undernourishment and general weakness were evident even among the people seen working on the gardens or walking along the roads. There seemed a general lack of vitality. Children were rarely seen running about or playing. They ambled along like old men and women.

With increasing industrialisation, more attention now is being paid to the Indian industrial worker, his health and his well-being. It has been realised that the health of a worker is one of the most valuable national assets, and every effort must be made to maintain it by taking a keen interest in the recommendations of various Committees if India is to attain her rightful place in the work of industry and commerce. The Govt. of India have, in recent times, introduced certain legislative measures pertaining to both the preventive and curative aspect of health of the industrial worker, the most important being (1) the revised Factory Act, 1948; (2) The Coal Mines Welfare Scheme; and (3) the Employees' State Insurance Scheme, 1948.

The revised Factory Act, 1948 marks a milestone in factory legislation and lays down minimum requirements regarding the health, safety and general welfare of workers. The Coal Mines Welfare Scheme aims at promoting the health and welfare of coalminers and their families. To secure this, a number of regional hospitals, child welfare & Maternity centres and two hospitals are being established. The employees State Insurance Act, 1948 aims at providing medical care under a scheme of health insurance for about 2½ million workers in perennial factories in India. In this Act, provision has been made for the extension of its scope to any establishment or class of establishments, whether industrial, commercial, agricultural or otherwise, to include cash benefits to employees in case of sickness, maternity and employment injury. Thus, the aim is eventually to bring all workers in the country within the scope of operation of the Act. In addition, there is a provision for extension of medical benefits to the families of insured persons; thus, the need for preserving health and efficiency of the worker has been recognised on a comprehensive basis—it being obvious that sickness in the family must have adverse effect on the working capacity of the employees. The Government has, on the recommendation of the Indian Council of Medical Research (late I.R.F.A.), also under consideration the question of setting up a Medical Inspectorate of Factories and Mines in India for the welfare and safety of the miners which, when established, will go far to improve the general health of mine-workers and sanitation of the mining areas.

Occupational Diseases—Reliable figures pertaining to occupational diseases among industrial workers are not available. In fact, the machinery for providing such information does not exist. Deaths among industrial workers are generally included in those for the community, as a whole, and are not separately shown in statistics which the authorities publish. Some of the occupational diseases have been included under the Schedule III of the Workers' Compensation Act, but the schedule is virtually inoperative and statistics relating to these diseases are almost non-existent. A survey

conducted some years ago in Bengal shows that 3.6% of the workers in Jute mills suffer from tuberculosis as compared with the rate of 0.6% in a control group in a rural area.

Lead is a recognised occupational disease in printing presses; but practically no cases of lead poisoning have been reported by the printers. Investigation in some printing presses in Calcutta shows that among workers in the monotype, linotype and mono-casting departments where exposure to lead fumes occurs, approximately 41% workers suffer from a sub-clinical state of chronic lead poisoning. Clinical cases of poisoning are not infrequent amongst them.

Dermatitis is fairly common in cleansing, lubricating, jute and bidi workers and solderers. Rheumatism is associated with manganese industry. Pediculosis, according to an enquiry in 1933, was the most prevalent disease among rickshaw-pullers. Workers in rice-mills suffer from cough, lung and eye diseases and knee trouble.

Preliminary laboratory experiments conducted at the All India Institute of Hygiene and Public Health, Calcutta on dusts collected from different industries indicate that a number of workers in certain industries show signs and symptoms of pneumoconiosis. In the Kolar Gold Fields in Mysore, workers are exposed to the risk of silicosis, an industrial disease caused by quartz dust. According to the Labour Investigation Committee's Report, 1942-43, there were 778 cases of silicosis to whom compensation was paid under the Mysore Silicosis Rules, 1940. The incidence of silicosis is, by no means, uncommon in the mica mining and mica manufacturing industry and glass industry though due to an excessive turnover of labour, a lack of proper diagnostic facilities and the absence of silicosis rules—as in Mysore—not many cases are brought to light.

Research in Selected Areas and Industries—Research in industrial health problems of this country are of very recent origin. Until about 10 years ago, very little research was carried out in this particular field. With the rapid industrial development taking place in the country, investigations into the health problems associated with the worker's occupation became more urgent. The need for personnel adequately trained in this field also became acute. The scope of one of the departments (Department of Biochemistry and Nutrition) of All India Institute of Hygiene and Public Health, Calcutta was accordingly enlarged in 1940 to include physiological hygiene, an important part of which is the subject of industrial hygiene. This nucleus of teaching and research was developed into a sub-section of Physiological and Industrial Hygiene in 1945, and a short course of three months' duration for training in industrial hygiene was inaugurated in January, 1947. An Industrial Health Research Unit financed by the Indian Council of Medical Research (formerly the Indian Research Fund Association) was established at the Institute in 1948 with the following objectives :—

- (a) To carry out fundamental research in different specialised fields of industrial hygiene like industrial medicine, industrial psychology, etc;
- (b) to function, on the lines of the Industrial Health Research Board of the Medical Research Council of United Kingdom, as a centre for applied research on urgent day-to-day technical problems that face the industries in India;

- (c) to set up standrads of healthy working conditions in industries in India;
- (d) to create a nucleus of industrial hygienists for the expansion of teaching and research in the field of industrial health in India; and
- (e) to render all assistance and advice to industrialists and State Governments in regard to problems of industrial health.

Among the problems being investigated by the Industrial Health Research Unit, the following may be mentioned:—

1. *Effect of excess noise on workers*

Industries like iron & steel, engineering and textile, are characterised by excessive noise which is supposed adversely to affect the auditory acuity and efficiency of workers. Extensive experiments were undertaken. None of the workers, clinically examined, showed any significant loss of auditory acuity or any signs of permanent deafness. It appears that after due adaptation for a transitory period of time, most of the workers remain almost unaffected by such noise while only a few with inherent inability for similar adaptation may be unsuitable for this type of work.

2. *Incidence of Lead Intoxication in Printing Presses*

One of the long-recognised occupational hazards is lead used in printing presses; and the Industrial Health Research Unit started studying the incidence of lead-poisoning. Workers in linotype, monotype and monocasting departments of printing presses were clinically, haematologically and chemically examined, and 41% of them were found to be actually suffering from a sub-clinical form of lead-poisoning. The study emphasised that effective and prompt measures in this direction could fully eradicate this menace.

3. *Cyanide hazard in electro-plating industries*

Cynogen and its compounds constitute a considerable source of danger to the health of workers in various industries like electro-plating industry, coal-tar industry and fertilizer industry. Even non-lethal doses of such compounds, specially hydrocyanic acid, chronically inhaled over a long period of time may give rise to various disorders. A survey was carried out at the suggestion of the Chief Inspector of Factories, Government of West Bengal, to investigate this point. The results showed that, in all cases, toxic hydrocyanic acid gas is generated during the electro-plating process. Because of satisfactory ventilation in the bigger concerns and very small output of work in the smaller ones, the amount of gas did not exceed the maximum permissible concentration so as to constitute a danger to the worker. It has been emphasised that with growing industrialisation and increased output of work, effective propaganda and better ventilation, specially in the smaller privately-owned concerns, are called for.

4. *The problem of silicosis in the Indian Mining Industry and Assessment of toxicity of industrial dusts*

Inhalation of dust and respiratory diseases, such as, silicosis are closely inter-related. Out of 4,10,000 workers employed in the Indian mines, data in this respect is available only for the Kolar Gold Fields in Mysore employing barely 20,000 workers or about 5% of the total.

Since toxicity of the mining dust is due to its free silica content 10 samples of different Indian mining rock were exhaustively studied by chemical method and X-ray diffraction method. Both methods reveal a 40—70% silica content, a percentage high enough, indeed, to constitute a danger to which the Indian mine worker stands exposed. A survey of the incidence of silicosis will be carried out by medical examination and extensive chest skiagraphy with the aid of Mass Chest Radiographic Unit.

5. Venereal diseases in Industrial Workers

That the present acute housing scarcity and maladjustment of socio-economic factors are having a serious repercussion on our industrial community in yet another direction has been brought out by a survey of venereal diseases recently carried out by this Institute. Of the 500 patients examined, almost 50% belonged to industrial group. Most of these were living in enforced separation from their families and had contracted the disease from local prostitutes. In any measures, therefore, for the prevention of venereal diseases, the wholesome influence of a harmonious family life to serve as a check to their spread must be adequately recognised. Insofar, however, as economic hardship incidental to a low income is concerned, it is a moot point whether an effective control is possible of achievement.

6. Women Labour in the Jute Industry of Bengal

The infantile and maternal mortality rates in India are appallingly high. But, among women workers in the industry, these rates tend to be still higher. In a survey of about 700 women workers in the local jute industry, it was found that there is a significant increase in vital loss amongst the industrially employed women—11% of their conceptions resulting in vital losses as against 4.2% for the same group prior to entry in industry, or 6.7% for women of similar socio-economic status but not employed in industry.

In most States, officers of the Public Health Department are appointed as additional Inspectors of factories. Their inspections are mainly to check on the provision for lighting and ventilation, water supply and sanitation. For uniformity of action, the Health Officer's recommendations are communicated to the Circle Factory Inspector or the Chief Inspector of Factories who takes appropriate action.

A summary of the report from the States on the subject of industrial hygiene is given below. From the nature of the reports, it is obvious that a good deal has yet to be done before the ideal health standards obtaining in industrial concerns of the West can be claimed to have been achieved.

Andaman & Nicobar Islands, 1949—52—Periodical inspections were conducted by the Senior Medical Officer paying particular attention to the conditions of child-labour. Conditions, on the whole, have been satisfactory.

Assam, 1949-50—Sanitary conditions in some of the principal industries, viz., tea, timber-cutting, brick-making, coal-mining and petroleum were not satisfactory owing to various causes. A large number of bore-hole latrines were installed in the gardens throughout the State. In addition, some gardens installed elaborate and expensive septic-tank latrines. Sanitation in the petroleum area at Digboi and in some of the canteens was

fairly satisfactory. No mines were inspected by the Public Health staff during 1950.

1951-52—Sanitary conditions in tea-gardens in the State were fair. A large number of tea-garden workers suffered from hook-worm, dysentery, diarrhoea and malaria.

Bihar, 1949—52—Assistant Directors of Public Health acted as *ex-officio* Inspectors of Factories and Mines in their respective circles, viz., North Bihar Circle, South Bihar Circle and Chota Nagpur circle, and visited the factories in their respective jurisdictions. Their inspection reports showed that, in general, the condition of workers was satisfactory; but housing, water supply and conservancy arrangements in all but a few big cities were poor and inadequate.

Bombay, 1949-50—There is only one important manganese mine at Shivajipur located in the Holal Taluke of Panch Mahals District. The mine was inspected by the District Health Officer, Panch Mahals. District Health Officers inspected the health and sanitary conditions of various factories and drew attention of the management to the defects. The District Health Officer, Thana inspected the mine at Virar.

1951-52—Assistant Directors of Public Health, District Health Officers and Medical Officers of Health inspected several factories and reported defects in sanitation to the management and the Chief Inspector of Factories. The following mines were inspected by the District Health Officers :—

Panchmahal. Shivrajpur Syndicate Ltd.,

Baroda. Mine at Timla Road, S.I. Works Quarry Ltd.,

Surat. Orward Stone Quarry, Udwada.

Udwada Stone Supply Co., Udwada.

Western Quarry, Udwada.

Motiwada Quarry, Udwada.

Thana. Kalyan Stone Supplying Company,

Saify Stone Supply Co.,

The Central Railway Stone Quarry, ∴

The Western Railway mine at Virar.

Delhi, 1950—The total number of factories subject to the control of the Factories Act was 464 out of which 24 remained closed throughout the year. 43 thread-ball establishments, which were registered under Section 5(i) of the Factories Act, 1934, ceased to be factories after 1st April, 1949. Five such factories were registered under the new Act. In these five factories, the total number of workers employed was 234 out of which 44 were men, 167 women, 20 adolescents (males) and 3 boys. 338 children were examined by the Certifying Surgeon out of whom 10 were declared unfit for employment in factories. Water supply, lighting, ventilation arrangements and sanitary conditions in the factories were satisfactory. Better sanitation of latrine blocks and cleaner conditions in the working departments of several factories were noticed, and a few factories built new latrines and urinals on the flush system. Adequate steps were taken, whenever necessary, to prevent inhalation by workers of dust and fumes, by means of exhaust ventilation. Atmospheric conditions in the spinning and weaving sheds of textile mills, in which artificial humidification is done,

were reasonably comfortable. Health of workers employed in factories was generally good.

Hyderabad, 1949—18 factories were inspected and existing defects were reported to the managements and the Labour Commissioner for rectification.

1952—The preliminary survey in connection with the Employees' State Insurance Scheme was conducted to provide medical facilities for industrial labour, 109 factories were surveyed.

Madras, 1949—Health Officers, as *ex-officio* Inspectors of Factories under the Factories Act, inspected all the factories within their jurisdiction and forwarded reports to the Inspectors of Factories concerned for rectification of defects. They inspected 182 industrial canteens and reported to the Inspectors of Factories improvements required in respect of utensil and Kitchen sanitation as well as made suggestions for improvement in the nutritive value of menus provided. The Factory Act, 1948 was brought into force from 1st April, 1949. Mines also were inspected, and suitable recommendations made.

1950—Health officers inspected factories in their jurisdiction and forwarded their reports, as usual, to the Inspectors of Factories for necessary action. The Director of Public Health attended the Second Conference of the Factory Inspectors and gave suggestions for framing rules under the Indian Factories Act regarding approval of sites for Factories, sanitation, water-supply, ventilation, industrial health welfare, etc. Health Officers also inspected the mines in their jurisdiction and made suitable recommendation.

1951-52—All Municipal and Distt. Health Officers in their capacity as Additional Inspectors of Factories inspected the factories in their jurisdiction and took steps to improve the sanitary conditions through the Chief Inspector of Factories.

Health Officers also inspected all the sugar confectionery factories in order to weed out those which were working under unhygienic conditions. They also inspected mines in their jurisdiction.

Madhya Pradesh, 1949—Eleven mines and manganese companies employed full-time medical officers. One factory only had provided maternity and child welfare centre for the benefit of female workers. At other places, female workers attended the public maternity and child welfare centres.

The Civil Surgeons who inspected the mines submitted their reports recommending improvement of sanitary arrangements for the workers. General health of workers was reported to be fair.

1950—There were 35 well-equipped dispensaries run by big factories as against 30 in the previous year where 7,29,636 (6,29,200) cases were reported to have been treated. Except one, all the textile mills in the State maintained dispensaries at their establishments for the use of workers and their families. The Associated Cement Co. Ltd., Kymore has built a spacious dispensary with much staff and equipment. It is regarded as the best factory hospital in the State.

Factories were inspected in accordance with the decision of the Labour Welfare Advisory Committee to find out the existing medical facilities provided for workers. Recommendations were made to the factories concerned

to improve existing medical and other facilities and to raise them to the level recommended under the Employees' State Insurance Act. The Civil Surgeons who inspected mines submitted reports recommending improvements in sanitary arrangements for the workers. General health of the workers was reported to be fair.

Punjab, 1949—Asstt. Directors of Public Health, Distt. Medical Officers and Municipal Medical Officers of Health, as additional Inspectors of Factories, inspected 212 factories in the State and brought the defects to the notice of factory owners for rectification. Non-compliance of their suggestions was communicated to the Chief Inspector of Factories or Mines for requisite action. Inspection reports showed that considerable improvement had been effected in the matter of general cleanliness of premises and provision of sanitary conveniences.

The District Medical Officer of Health inspected three slate mines in Kangra district and reported that conditions of general sanitation and environmental hygiene under which the miners worked were fairly satisfactory. In almost all the mines, essential amenities, such as, water-supply, latrines, urinals and First-Aid arrangements were available.

1950—There were 1,270 registered factories. Health Officers inspected 234 factories in the State and 17 prosecutions were launched under the Factories Act. The inspections revealed that there was a definite improvement in the general cleanliness of factory compounds and work-rooms.

1951—The number of registered factories in the State was 1,278 in 1950 compared with 1,278 in 1950 and 830 in 1949. District and Municipal Health Officers, in their capacity as additional Inspectors of Factories, inspected 376 factories in the State. The inspectors revealed definite improvement in the general cleanliness of factories, premises of companies and work-rooms. Protection of water-supply was receiving much more attention, latrine accommodation had been improved; and increased facilities had been provided for First Aid to the injured.

The District Medical Officer of Health, Kangra, inspected three Slate mines in Kangra District. The general cleanliness of mines was found to be satisfactory. First Aid posts had been established at all the three mines. A part-time Medical Officer also visits these mines once a week and renders medical aid to the labourers.

Rajasthan, 1949—51—The Health staff inspected various factories, particularly in Jodhpur Division, manufacturing ice, ice candies, aerated water and other edibles and had the defects from the sanitation stand-point rectified.

Uttar Pradesh, 1949-50—Medical Officers of Health inspected factories and gave suitable advice for ensuring the workers' health, safety and proper working conditions. The Committee appointed by the State Govt. to advise on measures to check improper disposal of effluent from sugar factories, distilleries and tanneries is studying the problems. For the implementation of the Employees' State Insurance Scheme, the officer appointed by the Govt. completed the survey regarding concentration of employees residing in industrial towns of the State and medical facilities already available to them. It is proposed to establish dispensaries employing 41 medical officers

in the city of Kanpur alone where the schemes is to be started, in the first instance.

1951—Municipal Medical Officers of Health continued to act as *ex-officio* Inspectors of Factories and advised on health, safety and working conditions of the operatives. Improper disposal of effluent from sugar factories, distilleries and tanneries caused nuisance in places. The Committee appointed by the State Govt. to advise on measures required to improve matters made certain recommendations.

1952—All Medical Officers of Health are *ex-officio* Inspectors of factories in their respective areas. They inspected and gave advice on medical and sanitary state of the factories within their jurisdiction.

The main function of the Industrial Health Organisation, which has headquarters at Kanpur, is the inspection of various industries in the State. Some of these were investigated in detail for a study of the environmental warmth, dust-count and other factors. Workers engaged on hazardous jobs were medically examined. Over 260 visits were paid to 153 factories and institutions by the special officer in charge of the organisation, and defects in working conditions and cases of occupational injuries were pointed out to the employers along with appropriate remedies. Liaison was maintained with the Employees' State Insurance dispensaries for collection of data on suspected occupational diseases and with the labour Tuberculosis Clinic to study the relationship of disease with the patients' occupation. A special preliminary enquiry was made on the health of children, under ten years of age, employed in Bidi factories of the State. Some of the glass bangle factories at Firozabad were visited and advised on the control of silica hazard.

Employees State Insurance.—This scheme was implemented in Kanpur on February 24, 1952. Thirteen Insurance dispensaries were opened in those parts of the city where concentration of industrial employees was heavy. At the end of the year, 1,00,048 employees were attached to each dispensary. The daily average number of persons treated was 1,246 and over 7,620 patients were visited at their residence.

West Bengal, 1949.—The Anti-Malaria Engineer continued to act as Inspector of septic tanks, mills and factories. The health of the Assansol Mining Settlement, as revealed by vital statistics, was satisfactory. Two regional hospitals were opened in the coal-fields area. A Central Hospital with 120 beds is also proposed to be established. Inspection and supervision are done by a staff of three inspecting Medical Officers.

1950.—The B.C.G. campaign against tuberculosis was carried out with vigour in industrial areas. With a view to protect the city of Calcutta and the surrounding industrial areas from a possible invasion of *A. sunaicus*, regular survey work was carried out in and around the salt lakes. Regular inspections were made of septic tanks in the mills and factories, particularly, at the time of desludging. Annual desludging of all septic tanks and filterbeds is insisted upon.

1951.—An Industrial Hygiene Section was opened in the Directorate of Health Services with personnel especially trained in industrial health. An industrial survey of the State was conducted. Visits to factories revealed that the standard of health and welfare services and environmental conditions in a large number of factories needed improvement and that regular

medical inspection was essential. Therefore, a Scheme for the appointment of three Medical Inspectors of Factories was prepared for the consideration of the State Government. Owing to industrial expansion, Local Bodies also sought advice of the Industrial Health Section in regard to their problem of environmental sanitation. After proper investigations, necessary recommendations were made which were, in most cases, accepted by Local Bodies and the factories concerned.

1952.—About 30 mills and factories were inspected during the year.

Besides the study of health problems inside a factory, the Industrial Health Section paid attention to the effects of industry on the environment outside the factory, such as, pollution of water or of atmosphere, etc.

Advice was given to the municipalities regarding granting of licences for establishment of new factories and mills. The Assistant Director of Health Services (I.H.) has been entrusted with the work of implementation of the Medical Benefit Scheme under the Employees' State Insurance Act, 1948.

4. Social Health Insurance

1949.—With the inception in October, 1948 of the Employees' State Insurance Corporation—an autonomous body—work of the Social Insurance Section pertaining to the Employees' State Insurance Scheme was transferred to the Ministry of Labour. The Deputy Director General of Health Services (Social Insurance) became the first Medical Commissioner of the Employees' State Insurance Corporation from 1st February, 1949.

The Employees' State Insurance Act applies, in the first instance, to industrial workers working in perennial factories employing 20 or more persons, and using power. In order to make arrangements for medical care under the scheme, it was necessary to know where the workers lived. For this purpose, special Medical Officers in the States were entrusted with the task of carrying out a survey of residential concentrations of the insurable population and the available medical facilities. The survey was completed in all Part 'A' States and also in the States of Delhi and Ajmer.

The Scheme being the first of its kind in India, it was decided to start a pilot scheme in Delhi where the scheme could be worked out in consultation with the Centre. The experience thus gained would provide useful data for future extension. In May, 1949, however, the Government of Uttar Pradesh expressed the desire that the scheme should also be started at Kanpur simultaneously with Delhi which was agreed to.

Actual planning and location of independent State Insurance dispensaries at Delhi and Kanpur was carried out and budget estimates were prepared. In Delhi, it was proposed to have 7 full-time and 2 part-time State Insurance dispensaries and a mobile dispensary van to cater for workers living in outlying areas. In Kanpur, 13 independent State Insurance dispensaries were set up in different areas. At Kanpur the dispensaries were housed in rented premises; but, in Delhi, owing to an acute paucity of buildings, it was not possible to hire premises and therefore, construction of five State Insurance dispensaries was taken in hand.

The Medical Benefit Council which advises the Corporation on health matters and of which the Director General of Health Services is the Chairman, held two meetings during the year. Among other matters, it considered

the standard of medical benefit to be provided under the Employees' State Insurance Scheme, the Medical Formulary and the provision of dental care and medical care through other systems of medicine. It recommended that dental care and medical care by systems other than the modern may not be taken up, to start with.

1950.—Medical care at the special State Insurance dispensaries in Delhi and Kanpur was to be provided, in the first instance, to 40,000 employees in Delhi and 82,000 employees in Kanpur. Insured persons were to be provided free treatment at the out-patient department including free supply of all medicines. Where an insured person was unable to attend, he was to be attended to at his home by the Insurance Medical Officer, free of charge. Arrangements for in-patient treatment could be made only in serious and emergent cases at the existing hospitals by creating extra beds, where necessary. Arrangements for implementation of the scheme both in Delhi and Kanpur were completed in June 1950 and July 1950 respectively.

There was a strong demand for treatment by other systems also from both the employers and employees' representatives at the Corporation. In view of this, the Employees' State Insurance Corporation did not agree with the recommendation of the Medical Benefit Council and decided that where a substantial number of workers demanded treatment by systems of medicine other than Allopathy, and where the State Government recognised qualifications in such systems of medicine, treatment facilities should be provided under those systems, as well.

In Bombay, one of the biggest industrial centres, accommodation for putting up the State Insurance dispensaries being unobtainable, the State Government proposed instead the panel system for providing medical care. This was agreed to by the Corporation.

A month before the target date for implementation of the scheme in Delhi and Kanpur, the employers at Kanpur represented that the implementation of the Scheme only in these two cities would place the industry at a competitive disadvantage. This representation was carefully considered by the Government of India and the implementation of the scheme in these areas was deferred.

1951.—With a view mainly to meet the above objection, a Bill to amend the Act was introduced in Parliament in March, 1951. The amending Bill provided for distribution of the employers' contribution in the implementation areas, as laid down in the original Act, over all the employers in the country in as equitable a manner as possible. The Bill was passed by the Parliament in September, 1951 and became Law in the following month.

At its meeting held in December, 1951, the Corporation drew up a revised programme which envisaged covering of the entire country by July, 1954.

As regards the utilisation of indigenous systems of medicine, Delhi Administration pointed out the undesirability of introducing any system of medicine other than Allopathy in the early stages of the scheme.

The Government of U.P. agreed to set up two mobile dispensaries for providing medical treatment to insure persons residing in outlying areas and issuing instructions for admission of emergent cases in hospitals even by creating extra beds, if necessary.

1952.—The scheme was introduced in Delhi State and the Kanpur area of Uttar Pradesh on 24th February, 1952. From that date onward, employers all over the country began making contributions at a percentage of their wage-bill—the employers in Delhi and Kanpur contributing at a slightly higher rate in view of their liability under the Workmen's Compensation Act and the Maternity Benefit Acts. Employees in Delhi and Kanpur also started contributing in accordance with the rates specified in the Schedule to the Act and became entitled to medical, disablement and dependents benefits. The other benefits, *viz.*, sickness and maternity, which are subject to certain contributory conditions, became payable from November, 1952.

The Governments of Delhi and Uttar Pradesh intimated that there was no demand for treatment by any system other than by Allopathy.

Medical Boards were constituted for Delhi and Kanpur, and meetings were held from time to time for deciding admissibility to permanent disablement benefit under the scheme.

It was decided to adopt the panel system for provision of medical care to insured persons in the States of Punjab and Bombay, subject to certain conditions.

Regarding the proposal to utilise the employers' existing facilities for the provision of medical care to insured persons in those areas, steps were taken to collect necessary data from all the employers in the country.

At the close of the period under review, 13 dispensaries were working in Kanpur, and 16 dispensaries, including part-time dispensaries and a panel doctor's clinic, in Delhi. The table below would give an indication of the working of dispensaries from the date of implementation of the scheme, *viz.*, 24th February, 1952 to 31st December, 1952.

—	Attendance at dispensaries	No. of certificates issued	Domiciliary visits paid	Cases admitted to hospitals	Cases referred for investigation
Delhi	2,42,511	34,099	1,574	183	3,083
Kanpur	4,52,639	1,21,569	5,604	995	2,227

Arrangement at some of the dispensaries at Delhi and Kanpur were made for attending to emergency cases at all hours of the day and night.

Instructions were issued to accept alternative evidence of sickness in certain deserving cases where insured persons fell ill, during leave, in areas where the Scheme was not in force.

The Government of Punjab having agreed to implement the scheme brisk steps were taken to complete all the preliminary arrangements for enforcing it in the State.

The Government of West Bengal agreed to implement the scheme in Calcutta city and Howrah district, in the first instance, and decided to adopt the panel system for providing medical care. The Government of Madras, as well, agreed to implement the scheme in Coimbatore, in the first instance. The matter was pursued with the State Governments with a view to finalise the preliminary arrangements.

On the whole, the scheme was working satisfactorily in Delhi and Kanpur. Constant efforts were made in cooperation with all the parties concerned to resolve difficulties inherent in a scheme of such nature—as these cropped up.

5. Health Progress

The period under report, a portion of which is covered by the First Five Year Plan, has been marked by much activity. While public health activities for different classes of the population have been detailed elsewhere in this report, a resume of some significant steps bearing on the subject, in a general way, would not be out of place at this stage.

Punjab.—Each year, the State Government placed Rs. three lakhs at the disposal of the Sanitary Board. The Board sanctioned thirteen schemes of water-supply for rural and urban areas in 1949, ten schemes for water-supply and five for drainage in 1950, nine schemes for urban and six for rural areas in 1951, and eight urban water-supply schemes and three water-supply-cum-drainage schemes for rural areas in 1952. Experimental work on prevention of simple goitre, started in the villages of Kangra district in 1941, was continued and more villages were included during these years. According to a survey, conducted in 1950, the incidence of goitre was reduced from 67% to 20%. Use of iodised salt reduced the incidence among children, under ten years of age, to 1% whereas in the neighbouring villages it stood at 16%. In 1951, 724 maunds of iodized salt were distributed in the experimental areas of Kangra district. A free gift of 2 lakh pounds of skimmed milk from the U.N.I.C.E.F. was distributed to children and expectant and nursing mothers through the District Medical Officers, M.C.W. Centres and Civil Surgeons in 1951 and 1952. A Provincial Health Council, an expert body for advising on technical aspects of medical problems and representing all interests, was established in 1949. In 1950, a new 'Women Social Health Workers' Service for guiding villagers in health matters was inaugurated and a batch of 14 workers trained and posted to three districts. A dental college combined with a dental hospital was opened in Amritsar in 1952. The Civil Hospital at Ambala was upgraded and modernized. An X-ray apparatus was purchased at a cost of Rs. 60,000 for the V. J. Hospital, Amritsar. Offices of the Director of Public Health and the Inspector General of Civil Hospitals were amalgamated in 1949 and placed under one officer, viz., the Director of Health Services, assisted by two deputies, one for Public Health and one for medical work. A post of Assistant Director of Public Health was created and the post of Assistant Director of Public Health (Malariaology) abolished. Services of the Statistical Officer were placed at the disposal of the Government of India and his post left vacant. In 1950, an Assistant Bacteriologist was appointed as Officer-in-charge of the Epidemiological Bureau with headquarters at Karnal instead of at Simla. The functions of this Bureau are : (i) carrying out of pathological and bacteriological investigations on communicable diseases; (ii) bacteriological examination of water-supplies; (iii) hookworm treatment and survey work; (iv) research in epidemic diseases; and (v) assessment of potency of disinfectants and other chemicals employed in Public health work. One post of Assistant Director of Public Health was abolished; however, an Assistant Director was employed at the headquarters for administrative work. In 1952, preliminary steps were taken to give effect to the Employees State Insurance Scheme. Every year, "cleanliness fortnights" were organised in some municipal areas, and lectures and demonstrations were given on health subjects.

Uttar Pradesh.—The work of conversion of municipal waste into agricultural compost was undertaken in 183 urban and suburban centres in 1949. 41 new centres were opened in 1950, and 33 members of the sanitary staff given training in compost making. A comprehensive scheme for blood manure from slaughter houses was circulated to all Municipal Boards. 23 compost centres were opened in 1951. A mass scheme for prevention of goitre in the Dehra Dun Valley, started in October 1948, was continued during the period under report. A survey before the start of the scheme showed that 32% people, of all ages examined, were suffering. In 1952, another survey showed a reduction in incidence from 32% to 21%; in the age-group, 1—9 years, the reduction was from 18.5% to 5.4%. In 1951, the State Government issued a directive that any housing scheme comprising of 12 or more houses and covering two acres of land, or more, should be referred by local bodies to the State town-and-village Planner for advice. Consequently, the State town-and-village Planner scrutinized a number of housing and city extension schemes in the following year. The Municipal Board, Kanpur employed a Smoke Nuisance Inspector in 1952. Nine Community Projects were started in the State in October 1952, providing one Sanitary Inspector for each Development Block and one village level worker for each group of 12 villages.

Madhya Pradesh.—Drainage, conservancy and water-supply in urban areas leave too much to be desired. In 1951, only 22 out of 142 towns had a piped water-supply. Water-supply schemes for urban areas of ten districts and drainage schemes for 5 districts were taken in hand in 1950. A number of water-supply schemes were taken up in urban areas during the last two years. The State Government gave grants to the Indian Red Cross Society, the Maternity Homes for child-welfare and the Municipal Committees to meet the expenses on sanitary staff and rat-destruction. A dual-purpose staff, stockman-cum-health Assistant, was employed under the Five Year Plan of the State, each official being in-charge of twenty villages. Till 1949, 127 such officials had been trained. They rendered medical and veterinary First Aid. Legal provision was made for veterinary or animal protection at a number of places. In Jivan Vilas Pradersani, held in 1951, demonstrations were given regarding fly-proof latrines, septic tanks, pit-privies, smokeless chullas, remodelling of old wells into sanitary wells, silt removal and construction of a parapet for a well.

Bombay.—In this State, there were 131 municipalities with 172 qualified sanitary inspectors employed in 72 towns in 1949; 260 municipalities with 203 qualified sanitary inspectors employed in 97 towns in 1950; 240 municipalities with 221 qualified sanitary inspectors employed in 106 towns in 1951; and 240 municipalities with 294 qualified sanitary inspectors employed in 128 towns in 1952. A number of municipalities constructed latrines and gutters, repaired roads and adopted the Nasik system of trenching and composting for the disposal of night-soil. Each year, cases were launched for neglect of municipal bye-laws. The former Board of Public Health Works was reconstituted and named as Board of Health with the Minister for Health as Chairman. There was a piped water-supply in 68 towns in the State in 1949. The Board of Health approved proposals for water-supply in five towns and recommended grants-in-aid for 19 water-supply schemes in 1949, and for 13 water-supply and 3 drainage schemes in 1950. Control of guinea-worm was another important features of public health activities during the period. Six anti-guinea-worm workers were appointed in one district for five months in 1949 607 cases

of guinea-worm infection were reported from 84 villages in 1949, 3,000 cases from 134 villages in 1951, and 3,635 cases from 645 villages in 8 districts in 1952. As the incidence was ascribed to bad water-supply, a number of step-wells were converted into draw-wells as a preventive measure.

Bihar.—D.P.H. and L.P.H. training courses, and interim public health schemes came into operation during 1950. Urban areas, notably Patna, had cases of epidemic dropsy in 1950; but the extent of its incidence could not be determined as the disease was not notifiable; adulteration of edible mustard oil with argemone oil was suspected to be the cause. Steps were, therefore, taken to provide free testing centres. 1,349,153 and 162,288 pounds of milk were received from the U.N.I.C.E.F. in 1951 and 1952, respectively, and their distribution yielded good results.

Assam.—Of the 18 Municipal Boards and 10 Committees functioning in 1949, only 10 had urban health officers. There was shortage of qualified health staff due mainly to inadequate emoluments. An Assistant Director of Public Health was appointed as officer on special duty in the office of the Director of Public Health to draft a comprehensive Public Health Act. In 1952, it was decided to amalgamate and place under one Head the Director of Health Services, both Medical and Public Health Departments. The Health Advisory Board and the Nana Swasth Parishad were the two Committees functioning in the sphere of public health. The position regarding water-supply, even in urban areas, was far from satisfactory—the chief sources being reserve tanks, tube-wells or shallow wells. In 1949 only 5 towns in the plains and 4 in the hill districts had a piped water-supply.

Madras.—The Water-supply and Drainage Committee, constituted in 1947, submitted its report in 1949 and suggested a list of priorities for urban schemes. The order of priority, however, was overlooked in case a Local Body was able to finance the scheme by itself. The Government took a number of decisions, notably, that (1) water-supply and drainage in urban areas should be the responsibility of Local Bodies; (2) water-supply and drainage schemes should be implemented in 20 years in urban areas and in ten years in rural areas; and (3) the Government would pay grants to the extent of Rs. 20 lakhs for the first year, Rs. 40 lakhs for the next 2 years and Rs. 80 lakhs for the last two years.

Greater attention was paid to the improvement of water-supply and drainage and to compost making. The following is a brief statement of the work done in this direction :—

		1949	1950	1951	1952
Protected water-supply	Municipalities	53	—	—	—
	Panchayats	10	—	—	—
No. of latrines constructed	All types and Cesspools	19,280	13,498	24,131	—
		—	404	—	—
Drainage	All types and Cesspools	220,000	—	—	—
		—	—	—	—
Compost making	Municipalities	67	91	94	—
	Panchayats	38	110	322	—
Town Planning Act extended	Municipalities	95	94	—	—
	Panchayats	128	234	—	—
Wells	Constructed	—	240	—	—
	Repaired	—	171	—	—
Other sources of water	Constructed	—	297	—	—
	Repaired	—	345	—	—

An Inspector of Local Boards and Municipalities was appointed in 1949 as officer in charge of the compost manufacture scheme, and four Sanitary Inspectors from four municipalities were trained in the technique in 1949 and 12 in 1950. Guinea-worm disease was prevalent in two districts 365 villages being effected. In one of the districts, 4,041 cases were noted during 1950. As a preventive measure, a number of step-wells were converted into draw-wells. Some town-planning schemes were examined by the Town Planning Officer. Gazetted posts of class one and class two Health Officers were amalgamated into one Gazetted class of Health Officers with two grades.

West Bengal.—Most of the municipalities properly maintained their water-supply drainage and conservancy arrangements. Major schemes, involving large commitments, were executed by the Director of Public Health Engineering. Two-thirds of the estimated cost of such schemes was borne by Government and one-third by the Local Body. In case, a Local Body had no funds, a loan was advanced. The same Department arranged water-supply and general sanitation for refugee camps. Two new refugee townships were developed near Calcutta in 1949. Work done in Public Health Engineering may be seen in the following table :—

Year	No. of Schemes or Project	Cost	Remarks
		Rs.	
1949 (i)	66	8½ lakhs	W.H. & S. schemes of refugee colonies
(ii)	70	60½ lakhs	General
1950 (i)	65	12 lakhs	Under execution
(ii)	166	—	
1952 (i)	148	13 lakhs	For tribal areas.
(ii)	—	10 thousand.	Jalpaiguri.

These schemes comprised of sinking of tube-wells, masonry and ring-wells, construction of septic tank latrines, remodelling of existing masonry wells, trench latrines, etc. Annual inspection of water-works was a routine feature. 18 Health Officers and 16 Sanitary Inspectors were employed in municipalities in 1948, and 19 Health Officers and 87 Sanitary Inspectors were added in 1951. An *ad hoc* Committee, appointed in 1949, took up duties of the former Sanitary Board, Bengal and recommended three water-supply schemes to the Government in 1952.

Orissa.—Drainage system in almost all the municipalities remained unsatisfactory. Survey work for the purpose was taken up in Cuttack in 1950. A number of tube-wells were sunk in the towns of Balasore and Puri in 1949. Water-supply work in Cuttack and Sambalpur was completed by 1951, and the scheme for Bhuvaneshwar was taken up. Extensive D.D.T. spraying was carried out in five municipalities at a cost of Rs. 110,000 in 1949. In 1950, eight more townships were declared as municipalities. Additional posts of one Assistant Health Officer, one Vaccinator and two disinfectors were created in 1949 for the district towns of the merged State of Mayurbhanj. The post of the 3rd Asstt. Director of Public Health which was created for Public Health administration in ceded areas was continued on a temporary basis.

Hyderabad.—During the period under report, there was increased activity for promoting better water-supply and drainage system. Water-works were in progress in five of the districts and talukas and drainage work in three towns in 1949, the total cost being Rs. (I.G.) 662,000 and 110,000 respectively. In 1951, 4,177 feet of new lines were laid by the water-works department of the city of Hyderabad. Five drainage works were carried out in urban areas, and 81 manholes, 411 water-stand posts, 86 public latrines, 76 dumping pits and 52 urinals were constructed. By 1952, 24 out of 186 towns in the State had provided adequate facilities for a protected water-supply. The Public Health Department continued to be a separate unit under a Director of Public Health, and in the districts and talukas, Medical Officers functioned as Health Officers.

Travancore-Cochin.—Separate Public Health Acts were enforced in the two States in 1949 pending their integration. Greater attention was paid to the improvement of water supply and drainage.

Rajasthan.—Sanitation of major towns continued to be under the control of Municipalities whereas, in the rural areas, Health Inspectors and Vaccinators attended to it. Drainage not being a very big problem on account of the territory being desert or semi-desert, this item of work was included in the Malaria Control Programme. Jaipur division had a group of beldars and sweepers under the Health Departments of Alwar, Bharatpur, Dholpur and Kasauli States who rendered valuable service in 1950. In April 1949, after the merger of States, Public Health and Medical work came under the care of one officer designated as Director of Medical and Health Services. The integration of subordinate medical staff continued during 1951. In 1950, the Director of Medical and Health Services chalked out a scheme for co-ordinating the activities of Public Health and Medical Departments on the lines recommended by the BHOORE COMMITTEE. Impure water-supply from the step-wells, in particular, was responsible for a high degree of incidence of guinea-worm disease in parts of the State. In 1949, 1,200 cases of this disease were treated in Udaipur alone. Special guinea-worm ointment, made locally, gave good results as a curative. As a preventive measure, the Government was requested to convert these wells into regular deep-wells. A senior research officer was appointed in 1952 to carry out survey and research work in this disease. A grant of Rs. 1,000 was received from the Indian Council of Medical Research for the purpose. Guinea-worm ointment was distributed free. A U.N.I.C.E.F. gift consisting of 20,000 lbs. of milk powder and food packages was distributed to deserving children and mothers through hospitals, health centres, etc., during 1951 and 1952. As in the other States, a notable feature of the period was the inauguration of Community Development Blocks, in 1952.

Saurashtra.—The Junagarh Vaccination Department was integrated with the Public Health Department in 1949. The Indian Epidemic Diseases Act of 1899 and the Bombay District Vaccination Act of 1892, was extended to the State in 1950. A severe epidemic of guinea-worm disease was reported in Somnath where 20 to 30% of the population contracted it in 1950. Nine places in three districts of Saurashtra reported 496 cases of guinea-worm disease in 1951. Bad water-supply was considered to be the cause. Conversion of step-wells into draw-wells was recommended to the Government, and 12 out of 16 step-wells at the places infected in 1950 were converted into draw-wells in 1951.

Madhya Bharat.—The Health Department was in charge of the Director, Medical and Health Services. 16 District Medical Officers functioned as *ex officio* District Health Officers. The designation of the head of the Department was changed into that of the Director of Health Services, in 1951. Two Deputy Directors were placed in combined charge of Medical and Health Departments in Northern and Southern Divisions of the State with headquarters at Gwalior and Indore, respectively. A gift of one lakh pounds of skimmed milk-powder, received from the U.N.I.C.E.F. in December, 1950 was distributed to children and nursing mothers through 34 centres all over the State. In view, however, of the possibility of contamination of milk-powder, distribution was stopped in June, 1952 under orders of the Government of India. A similar gift was received by Mysore State in 1951 and distributed in the famine-stricken areas.

Ajmer.—There was no public health organisation, as such, in this State. Only an elementary service existed in four Municipalities. An anti-malaria organisation was established in Beawar municipal area in 1949. As there was a general scarcity of drinking water, the Beawar Municipality, in consultation with geologists, planned a big scheme, and to remove congestion it decided in 1949, to establish a colony near the town. All waste was turned into compost.

Bilaspur.—Protected water-supply, drainage or conservancy facilities were not available in 1949. Two posts of permanent Vaccinators and two posts of Sanitary Inspectors were created in 1950 and 1951, respectively. In 1952, one Maternity and Child Health centre was opened, one anti-malaria unit was sanctioned by the Government of India and one anti-V.D. centre was started with the help of the U.N.I.C.E.F.

Vindhya Pradesh.—There was a general scarcity of water, and supplies in the towns of Rewa and Panna were none too safe. Lack of adequate water-supply led to bad drainage. A sum of Rs. 40,000 was sanctioned for providing one well in each district in 1950. Eight posts of Sanitary Inspectors were sanctioned for rural areas. In 1952, every Municipality and Gram Panchayat was provided with 6 beldars for carrying out sanitary measures; one malaria unit and one B.C.G. team were raised.

Andamans.—Water-supply in the headquarters area came from a tank-reservoir with protected catchment area. It provided filtered but not chlorinated water. The supply was satisfactory during the monsoon season but inadequate during the dry season.

Conservancy system was well-organised but drainage was unsatisfactory. Weil's disease in sporadic form was reported in the rural areas of Port Blair during the period. In 1952, its incidence was less.

Because of a large influx of refugees in Delhi, considerable strain was thrown on its water-supply in 1949. In the State of Coorg, malaria duties hitherto performed by the Civil Surgeon until 1948 were transferred to the Malaria Officer. The State of *Himachal Pradesh* came into being in April, 1948, and the administration of *Bhopal* was taken over by Central Government in June, 1949. In both the States, public health activities were non-existent prior to this change. No separate public health department existed in Kutch; and the Chief Medical Officer looked after the public health matters, as well.

A sum of about Rs. 9 lakhs was provided in the public health budget of Bhopal in 1952 under the Five Year Plan for rural water-supply and drainage and Rs. 25,000 for drinking-water wells in Kutch and supplementary feeding of children below the age of twelve was undertaken in 1951. Public health activities were introduced in *Himachal Pradesh* for the first time in 1949, and one Assistant Director of Health Services for Public Health was appointed in 1952. District Medical Officers continued to be in charge of public health matters and Medical Officers of the Hospitals worked also as Medical Officers of Health for the locality. Water-supply in urban areas was maintained by the Municipalities. No town in *Tripura* has a protected water-supply. To remove acute scarcity of safe drinking-water, 170 tube-wells were sunk in rural areas in 1952, and a Public Health Engineer was brought over from West Bengal to prepare a scheme for water-supply in Agartala town. There is a conservancy system within the municipal limits of Agartala. World Health Day was celebrated in 1951 and 1952 in the State of Manipur.

6. Medical Inspection of Schools

There is a growing awareness in India of the need for a regular school medical service. During the period under report, some progress has been made in this direction, but the pace is rather very slow—lack of medical personnel being the chief obstacle. The system of medical inspection of schools varies from State to State. Complete coverage of the entire student community has remained out of question in almost all the States. The attached table will show that, in most cases, only a microscopic minority of schools could be visited by Medical Officers of the States. *Madhya Pradesh* and *Delhi* had satisfactory Medical service for school children. The Service existed both in urban and rural areas of Delhi State and, as far as possible, annual routine inspection of each child was carried out and health record cards maintained. In New Delhi, the school medical service has been in operation since 1937, and a regular inspection for girls is limited only to municipal girls' schools in New Delhi. The Committee had one school Medical Officer for boys, another for girls, a part-time eye surgeon and a part-time dental surgeon. Similarly, in *Madhya Pradesh*, students of all schools were medically examined once a year, at least. The school teachers maintain health cards which are scrutinized by Medical Officers during their inspection tour. Inspection is done by the Assistant Medical Officer in urban areas and by the Assistant Health Officer in rural areas; inspection was universal in Anglo-Vernacular and High Schools as well as in the Middle Schools of *Ajmer* State. It was confined to the Middle and High Schools of *Hyderabad* city and district. There were four part-time Medical Officers for the city schools and three part-time Medical Officers for the Secunderabad Schools. In the district, the work was done by Medical Officers after office hours for which they received honorarium. In a few places where no Government doctor was available, the work was entrusted to private medical practitioners.

There was detailed medical examination for Higher Secondary Schools and a less detailed one for Primary Schools of *Uttar Pradesh*. There were whole-time School Health Officers in 14 large towns, and Municipal Medical Officers of Health in the other towns. There were four school Medical Officers, one in each of the four divisions of *Bihar*. In the last year of the period under report, a Woman Medical Officer carried out the work in the girls' High and Middle Schools. As the staff falls too short of

requirements, services of District Medical Officers are proposed to be utilised.

Medical inspection of schools in Calcutta city was carried out by two part-time Medical Officers of the Government and the Calcutta University Health Service in 1949. In other Municipal areas, the local Municipal Body undertook the task through its own Municipal Health Officers or Sanitary Inspectors. In 1950, nine out of nineteen Municipalities had no school medical examination whatever. Considering the school medical inspection arrangements for Calcutta to be inadequate, posts of two whole-time Medical Officers were sanctioned in 1951. In the case of Municipalities having qualified Health Officers, Government agreed to share the cost of a special staff consisting of one school medical officer, one school nurse and one peon on a fifty-fifty basis. The response was poor. Only two out of 18 Municipalities implemented the scheme. In rural areas, inspection was done by District Board Sanitary Inspectors. However, from 1951, rural Municipal Officers of Health attached to Thana or Union Health Centres undertook the inspection.

In *Bombay* State, schools were visited from time to time by vaccinators, Sanitary Inspectors or Medical Officers. There was one School Medical Officer in *Orissa*. This arrangement was inadequate, as no examinations could, therefore, be done either in the Primary Schools of rural areas or in the ceded areas, in 1949. In November 1951, however, an Assistant School Medical Officer was appointed. No regular arrangement for school medical inspection existed in *Assam*, *Tripura* and *Travancore*. Schools were visited by the Public Health Department staff of Assam during routine sanitary inspections. Pending modernization, arrangements, till then available in the *Cochin* area of the State of Travancore-Cochin, were suspended in 1951.

Medical inspection was started in 1951 in the schools of *Manipur* State. No uniform system was introduced in *Rajasthan* even in 1952, and the subject remains under correspondence with the Education Department of the State. However, some schools in Jaipur division were examined in 1952. Inspections were occasionally carried out in the schools of *Kutch*. Some system existed for schools of the Andaman Islands during the period under report. In the State of *Coorg*, majority of the school-children were examined by Medical Officers in charge of dispensaries.

Inflamed and enlarged tonsils, eye diseases and errors of refraction, skin diseases, carious and malformed teeth, malnutrition and anaemia accounted for a large percentage of ailments seen in the course of medical inspection. Detection of some cases of leprosy in school-going children is a warning and an urgent call to have a regular school medical service adequate to cover all schools. It has been observed that defective students have benefited by treatment; yet, the regrettable fact remains that for want of a proper follow-up, the very purpose of inspection is frustrated.

The following table gives the results of examinations conducted during the period, 1949—52, in some of the States :—

State	Year	Poor Nutrition		Teeth & Gums			Tansils		Eye defects			Skin disease					
		R	U	R	U		R	U	R	U	R	U					
Uttar Pradesh	1949	14%	15	15	10	8	8	5	12	11	2						
	1950	21	11	12	11	11	4	12	5	—							
	1951	—20—		10	11	—7—		6	13	—							
	1952	21	15	—9—		2	9	6	10	—							
West Bengal		Cal.	Mun.	R	Enlarged Cal.	Spleen Mun.	R	Cal.	Mun.	R.	Cal.	Mun.	R.	Cal.	Mun.	R.	
	1950	20	8	—	—	4	9	2	5	12	3	0	11	2	—	—	3
	1951	25	8	—	—	—	8	25	7	14	8	2	12	8	—	—	14
Delhi State		Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Girls	Girls	Enlarged Spleen			
	New Delhi Schools.	1950	8	19	48	8	4	14	6	42	0.3	11	10				
	Delhi City Schools.	1950	5.5 (1.7)		11 (8)		10 (11)		18 (1.4)				10				
	N. A. C. Schools.	1950	4 (7)		—		—		30 (19)		7 (9)		6				
Orissa	1949	11		7		11		5		7							
	1950	16		9		13		8		—							
	1951	15		11		14		8		—							
Orissa				Good Health	Fair	Poor	Cases of leprosy	Unprotected against small pox									
	1949			22%	51%	22%	44	—									
	1950			25%	53%	21%	—	7%									
	1951			22%	55%	23%	42	4%									
	1952			25%	05%	20%	04	4%									

In the case of *Madhya Pradesh*, a large number of students were found to be unprotected against smallpox, and malnutrition appeared to be the major defect. In most of the States, notably Hyderabad and Travancore-Cochin, 20% of the boys and 10% of the girls were found to be defective in one or more respects, in 1950. Skin-disease was the most common ailment in school children of the *Andaman Islands*.

Environmental hygiene, supplementary feeding, follow-up arrangements and health education were some of the measures taken to raise the standard of health in school-children. In most of the States, Medical Officers of Health in their routine visits to school delivered lectures on health subjects and pointed out the defects in school sanitation and environments. Hygiene was a subject in the school curriculum at various stages; as, for example, it was a regular subject in all Anglo-Vernacular and High Schools, and domestic science a subject for school-girls in *Ajmer*. In *Bombay State*, instruction in physiology, health and hygiene was imparted in Primary Schools, in girls schools and in training schools for teachers. Elementary instruction in hygiene and sanitation was given in Primary Schools of Assam. Some States had school clinics and dispensaries for the benefit of school children. There were 14 school clinics in *Uttar Pradesh* and a Central dispensary for schools in *Ajmer*. In 1950, 31,105 new and 39,419 old cases were treated in these 14 clinics of U.P. Cases requiring prolonged treatment were referred to hospitals. 52%, 55%, 58%, 56% of the old cases in *Orissa* are stated to have benefited by follow-up arrangements during these four years. In some schools, supplementary feeding was introduced. Most of the States received free gifts of skimmed milk-powder from the U.N.I.C.E.F. In *West Bengal* and *Uttar Pradesh*, poor students with defective vision were supplied glasses free of cost.

7. Health of Prisoners

Health conditions obtaining in jail population are of added interest because of the fact that the entire population so covered is provided medical facilities, and the diagnosis of morbid conditions and causes of death are authentic unlike in the general population where it is mostly a matter of guess-work or subjective opinion. Table I shows the average daily population, authorised accommodation (excluding hospitals and observation cells) and the number of persons per 100-unit authorised accommodation in 25 States during the period under report. There was an increase in the authorised accommodation in the States of Assam, Punjab, Uttar Pradesh, West Bengal, Tripura and Madhya Bharat in 1952 as compared with that in 1949. Authorised accommodation decreased in Bihar, Madhya Pradesh, Madras, Saurashtra, Hyderabad and Manipur, decrease in some cases being due to the abolition of certain jails. In spite of an increase in the authorised accommodation there was congestion in the jails of Assam, Punjab and Tripura throughout the period. There was over-population in the jails of Bihar in 1951 and 1952, of Madras in 1949-52, of West Bengal in 1949, of Hyderabad in 1949, 1950 and 1952, and of Bombay in 1952.

A glance at Table II(a) will reveal that the largest percentage of cases of sickness is accounted for by Malaria in all the States except in Mysore and Kashmir—respiratory diseases taking the first place in Mysore. Dysentery or respiratory diseases come next while tuberculosis of the lungs, [see table II (b)], shows the highest mortality rate, it being 50% and 73% in Assam in 1950 and 1951 respectively, and 85% in Hyderabad in 1949.

It is suggested that the high incidence of Malaria was due to the fact that many convicts suffered from malaria prior to their admission in jails. Same was the case in respect of tuberculosis. It is significant to note that cholera does not appear as a cause of sickness in the Jail population except for some cases in Bihar. It is perhaps due to an adequately protected water-supply and the segregated state of the population. Quinine and Paludrine were extensively used for warding off malaria, and D.D.T. spraying was a frequent anti-mosquito and anti-fly measure. All cases of tuberculosis were isolated for treatment and, after a patient was discharged, the premises were disinfected. All fresh arrivals were vaccinated or re-vaccinated against smallpox, and anti-cholera inoculations also were given. That, in most cases, death rate decreased during the period under report is revealed by Table II(c) which shows the admission rate, the death rate and the constantly sick rate per 1,000 average daily population. Admission rate has been high (over 1,000) in Punjab, West Bengal and Pepsu during all the four years; in Orissa in 1950; and in Tripura in 1950-52. It has been markedly high (over 2,000) in Orissa in 1952; in Rajasthan in 1952; and in Tripura in 1949. It remained above 3,000 in Hyderabad in 1949—51 and still higher (over 4,000) in 1952. Diseases other than malaria, dysentery, tuberculosis of the lung and respiratory diseases, which afflicted the jail population, were diarrhoea, pneumonia, influenza, enteric fever and smallpox.

In almost all the States of India, general sanitation of jails, during the period under report, was good except in a State, where insanitary surroundings adversely affected the health of the jail population.

Diet was given as per scale laid down in the State Jail Manual. Rationed articles of food were supplied according to the rationing scheme and the deficit made good with uncontrolled articles. No adverse effects followed except in Hyderabad in 1950 where uncontrolled substitutes were not found suitable. So the diet was supplemented by butter-milk (made out of one chatak of milk) and 3 to 4 chattaks of vegetable daily, or mutton once a week in case of non-vegetarian prisoners. Special diet was provided to sick prisoners according to the directions of medical officers. Cases showing deficiency and loss of weight were supplied additional quantities of milk, eggs, etc. In some cases, as in Coorg, iron and liver injections were given to those suffering from anaemia. Cases of vitamin deficiency were treated with vitamin preparations.

Table III will show that a large majority of prisoners, in most of the States, gained weight; only a very small minority showing loss. Facilities were provided for indoor and outdoor games, particularly in the jails of Madhya Pradesh and Uttar Pradesh. In the jails of the latter State, convicts, in simple imprisonment, were encouraged to engage in light work to keep the mind occupied and to ward off possible mental depression engendered by monotony of jail life. In Orissa, payment of monetary reward for extra quality work was introduced and a 'discharged prisoners aid society' was formed for the after-care of released prisoners. In 1952, as an experimental measure, a panchayat system was introduced for the supervision of cooking and distribution of food at two jails in Orissa. Cultural activities were encouraged in many States. Libraries were maintained and educational classes regularly held for illiterate prisoners in U.P. A large number of prisoners were given training in First Aid and quite a number

received qualifying certificates. During the period under report, Jail Reform Committees were set up. Jail Reform Committees were constituted in Madras and Orissa to consider the question of improvement in jail administration. A special officer was appointed in 1951 to improve the administration of jails in the ceded areas of Orissa. As a step towards a new conception of penal reform, it was decided by the U.P. Government to employ prisoners on work of national reconstruction. Accordingly, prisoners were given a chance to work on the construction of a dam. They received wages and lived as free men, without guard, in a camp and were provided with recreation facilities, as well. The Royapuram Camp jail in Kawullu, Madras was closed down after November, 1952 on completion of excavation of the canal connected with the Tungabhadra project. With the permission of Orissa Government, the Professor of Psychology, Ravenshaw College, Cuttack carried out some investigations on the psychology of inmates of the Central Jail at Cuttack in 1951 and 1952. In Madhya Pradesh, some eligible prisoners are released on parole once a year to ward off the depressing effect of jail life.

To improve the sanitary conditions of jails, a number of building constructions were carried out, and measures were introduced by various State Governments, some of which are detailed below. Latrines and washing places in the District Jail, Karimganj (Assam) were shifted and a two-seated sanitary type latrine was constructed in Gauhati (Assam) jail in 1949; also, sanitary groups were engaged to carry out anti-malaria measures at regular intervals. A night-latrine in the female ward, a pucca drain, a bathing platform and water-reservoir were constructed in Gola Ghat (Assam) jail; a tube-well was sunk in Dhubri jail and a feeding platform constructed in Silcher jail in 1951. B.C.G. campaign, a preventive measure against tuberculosis, was opened in some jails of Bihar in 1951, and the conservancy system was adequately maintained. Bore-hole latrines and urinal pits were in use in Coorg jails. Cement cubes were constructed for bathing purposes in the sub-jails of Madras. The kitchen in the Central Jail at Trichy was improved in 1949. Oil engines of the wells at Rajahmundry Jail were replaced by electric motor, and an additional overhead tank was constructed in the Central Jail, Coimbatore for storage of municipal water-supply in 1950.

A bore-well in Bellary jail was completed during 1951, and the oil-engine of the well in the Central jail, Bellary was replaced by an electric motor and pump. Four-seated latrines in Puri Jail, and 8 water-flush septic tank latrines in Balasore jail were constructed, and a well was excavated in Athgarh jail, in 1949. A well was deepened, two-seated latrines, a drain and 10 cage-latrines were constructed in some of the jails in 1952. For the cold storage of essential drugs, a refrigerator was purchased for Barupada jail (Orissa) in 1950, and a jail van was provided for conveying under-trial prisoners to court, in 1951. The work of extending pukka accommodation in jails was continued in Punjab. In Uttar Pradesh, in 1949, latrines were remodelled in 3 jails, 2 electric pumps provided to 2 jails, 7 old pumps repaired and 4 wells excavated; boring of wells was done in 2 jails and a water-tank was constructed in one. Electric flour mills were installed in Banaras and Bareilly jails. There was a leprosy asylum at the District Jail, Rae Bareilly, and a T.B. Sanatorium at Sultanpur in Uttar Pradesh for the benefit of prisoners. Water-supply was arranged in 9 jails and electrification of 2 jails was done in 1951. Five hand-pumps, 8 wells

and a tank were added to the water-supply arrangements in the jails of this State, in 1952.

8. Railway Health Services

During the period under report, Railways underwent some far-reaching changes in their administrative set-up. Out of reorganisation and amalgamation, emerged six systems whereas, at the outset, there were as many as twelve. Each railway system has its own individual medical and public health organisation which caters to the needs of its staff as well as looks after the sanitation and other public health matters of its railway stations and colonies. The following is a brief resume of activities of these administrations during the period under report:—

Medical Facilities.—All the Railways have well-equipped hospitals and dispensaries, some of which have facilities for X-ray diagnosis and advanced methods of treatment. Generally, the railway administrations do not maintain tuberculosis clinics or sanatoria exclusively for their staff. The Southern Railway, however, is an exception in that it has a 30-bed tuberculosis hospital. Most of the other Railways have beds reserved in the nearby sanatoria. For maternity and child welfare, each Railway has a number of centres maintained with grants from the Staff Benefit Fund—the Central and the Western Railway being two exceptions. In the case of Central Railway, the cost is met from the Railway Budget, and in the case of Western Railway it is met from the same source partly only. Grants are also given to the poorly paid staff from the Staff Benefit Fund for treatment of tuberculosis. The following table shows the number of hospitals, dispensaries and beds available for patients as also the number of beds reserved for tuberculosis patients in sanatoria, and the number of maternity and Child welfare centres maintained during the period. In the same table are also given the number of patients of various categories treated in these institutions. Table I (a) gives the statistics for medical and public health staff in various cadres employed by all the Railways.

A glance at the table will show that the railway administrations have been making constant efforts to provide better facilities for treatment. They complain of two chronic handicaps, viz., lack of trained personnel and inadequacy of medical stores made available to them. Lack of proper storage facilities adds to their difficulties. The acuteness of the problem can be well gauged from the experience of E.I. Railway authorities: during the year 1949, they observed that small pox occurred mostly in vaccinated or revaccinated people. They ascribed this to the deterioration of vaccine for want of proper care and storage. In this connection, smaller railway systems, such as, the Hyderabad State Railway, have shown some improvement after integration.

Incidence of Major Disease and General Health

There was a slight to moderate incidence of cholera and small pox. Malaria was responsible for the loss of the greatest number of man-hours during the period. Plague, though not altogether absent, was steadily on the decline. Tuberculosis appears to be on the increase. On the whole, the Southern Railway has been the worst sufferer. All these four years, cholera and small pox prevailed in an epidemic form in some parts of the Southern Railway Jurisdiction or its constituent units.

There was an outbreak of plague in 1949 which persisted in epidemic form round about Calcutta and certain districts of U.P., all the four years. It is to the credit of the health authorities of Eastern Railway, N.E. Railway and their constituent units that their staff was not much affected. Malaria showed a steady decline on the Southern systems of the Railway, and a rise on the old B.B. & C.I. and the Western Railways. There was no major epidemic during the period. Taking all the Railways together, the year 1950 was the worst. The situation greatly improved, however, by 1952 as may be seen from the table of cases treated.

Considering the unprecedented floods in North-east and Western Zones of India and prolonged drought conditions in the South the former favourable for the spread of malaria and the latter for cholera the health authorities took measures to safeguard the health of the railway staff. General health of railway employees was reported to have been satisfactory except for Southern and Western Railways where deficiency diseases were more prevalent among the staff and their families. Incidence of tuberculosis rose in the Southern Railway staff due, perhaps, to famine and scarcity conditions.

The E.I. Railway and the G.I.P. Railway also reported high incidence of this disease.

Preventive Measures.—Besides providing facilities for treatment, the railway authorities, of their own accord, adopted preventive measures as a matter of routine in co-operation with local civil and military authorities. On special occasions, such as, fairs, festivals, etc., which are a common feature in all parts of India, they made extra arrangements to meet the requirements of the situation as these occasions have long since been recognised as trouble spots by public health workers because of large multitudes of humanity congregating at these melas and upsetting normal public health arrangements on the Railways. During the period under review, no epidemic was reported to have broken out. Preventive measures taken by railway authorities depend on climatology and topography of the area covered, and available facilities. More common among such measures were mass inoculation against cholera, plague and enteric fevers besides an extensive use of insecticides, such as, D.D.T. and Gammexane. Malaria control measures could be classified as anti-larval, anti-adult, personal protection and drug prophylaxis. In the highly endemic areas of O.T. Railway, the main anti-malaria measures employed were suppressive treatment with Paludrine and spraying of habitations with D.D.T. Larvicidal operations were possible only in the large railway colonies where adequate staff was available. These operations were not considered economical for the way-side stations. Other anti-malaria measures taken, particularly by the G.I.P. Railway, were: (1) removal of rain-water by means of drains and the filling-in of pits; (2) canalisation of drains and filling-in of pits and depressions; (3) introduction of larvivorous fish in ponds at the district headquarters; and (4) laying oil-film on mosquito breeding swamps.

The Eastern Railway had a BCG team for tuberculosis control work during 1952. The Central Railway carried on BCG vaccination in collaboration with the health authorities of Bombay State. The Railway Board sanctioned a scheme for the control of tuberculosis in their staff which includes, (1) X-ray of chest, (2) tuberculin tests, and (3) BCG vaccination.

Some idea of the extent of preventive work done by the railway health authorities may be formed from the table below :—

TABLE II

Name of Railway (1)	Year (2)	No. of anti-Cholera inoculations performed (3)	No. of vaccinations against small-pox performed (4)	No. of anti-plague inoculations performed (5)
Bengal Nagpur Railway	1949	13,137	49,622	6,765
	1950	39,376	66,822	5,419
	1951	9,779	81,554	1,712
Eastern Railway	1952	36,677	47,256	17,192
Oudh & Tirhut Railway	1949	15,331	9,139	3,244
	1950	4,916	15,184	2,443
North Eastern Railway	1951	1,815	8,119	3,014
	1952	22,775	70,992	7,784
Jodhpur Railway	1949	—	1,307	—
	1950	—	4,307	—
	1951	—	4,080	—
Hyderabad Railway	1949	2,067	4,638	3,973
	1950	2,284	4,893	1,285
G. I. P. Railway	1950	13,404	55,539	2,220
Central Railway	1951	24,444	46,596	3,606
	1952	32,520	25,635	671
Mysore Railway	1950	1,700	4,564	654
Assam Railway	1949	—	—	—
	1950	14,156	53,809	—
	1951	19,944	74,212	—
East Punjab Railway	1949	3,682	11,848	521
	1950	4,203	11,303	—
	1951	989	6,932	—
Northern Railway	1952	9,970	34,540	719
Southern Railway	1952	—	8,716	—

General Sanitation, Water and Food Supply

Generally, the responsibility for sanitation was shared between Medical, Public Health, and Traffic and Engineering Departments of the Railways. At all large railway stations or where there was a railway hospital or dispensary, Medical Department took charge of the job. It functioned directly or through the Local Sanitation Committees which are like municipal bodies. Cleanliness of some important station premises and yards was looked after by the Public Health Department. At smaller railway stations, the Traffic Department, *i.e.*, the station-master was responsible. The Public Health and Engineering Departments carried out any job

assigned to them. Smaller stations were visited by trained sanitary Inspectors every three months, and their recommendations were passed on to the Traffic Superintendent for guidance of the station-masters. All Railways reported good or satisfactory sanitary conditions. All felt the need for closer co-operation with other public health authorities in order to ensure better sanitation. The Eastern Railway held half-yearly prize competitions to help promote sanitation on railway stations which were grouped as special, large, medium and small. The station which secured maximum marks in its particular group received a prize.

Owing to continued drought conditions in the areas on Southern Railway, scarcity of water was experienced throughout the years. Water supply was deficient on the Jodhpur Railway in 1950 and on the Saurashtra Section of the Western Railway in 1951. On most of the Railways, larger stations received their water-supply from deep tube-wells or high tanks a satisfactory arrangement as regards quality as well as quantity. At smaller stations of the Northern (Central and Western Railway, where the source of supply was wells or handpumps, the situation was quite satisfactory. There was no difficulty as regards quantity of water on the way-side stations of the North-Eastern and Eastern Railway, but the source of water being shallow wells, ring wells or ground tanks, it was not potable. Most of the Railways have arrangement for bacteriological and chemical analysis of water-samples which are regularly done insofar as large stations are concerned. As regards the smaller stations, such examinations were done as occasion demanded. Sources of water-supply, filtration and chlorination were inspected by Chief Medical Officer, District Medical Officers and other trained sanitary staff while on tour.

In order to ensure a supply of whole-some food to passengers and railway staff, food-stalls were regularly checked by Assistant Surgeons. The Pure Food Act of Punjab and of Jodhpur were applicable to the railway settlements within those states. Certain railway doctors of the Northern System were delegated powers to act as food inspectors under the Punjab Pure Food Act. Likewise, doctors of the Central Railway and Public Health officials were empowered to destroy on the spot, in the presence of the station-masters, any eatables considered injurious. The Assam Railway authorities delegated similar powers to its own doctors. Vendors and staff employed on foodstalls and in refreshment rooms were periodically examined by railway doctors, and all cases of infectious or skin disease were promptly removed from service. Samples of edible oil and other articles of daily consumption sold at the railway grain-shops were regularly examined on all Railways and were generally found to be unadulterated.

Other Activities.—Some categories of employees were required to undergo First Aid training, and all Railways conducted First Aid classes. Some conducted classes in Home Nursing also. The activities of the Ambulance division were usual in most of the areas, only the Northern Railway added a few more divisions in 1949. With the aid of lantern slides and film shows, lectures on health and allied subjects were delivered in railway colonies by some of the railways, notably the Western and the Eastern Railways.

9. Fairs and Festivals

Fairs and festivals, a common feature in the social life of people all over India, are events of considerable importance from the standpoint of

public health. Most of them are of religious origin and attract large multitudes to places of pilgrimage. They have long been recognised as potential areas for the spread of epidemics, particularly, cholera. As has been stated earlier, movement of large numbers of people and their congregation at places upsets all normal public health arrangements, and religious fervour renders them unmindful of danger to individual and public health. As a large majority of the fairs and festivals are of an annual nature, history has been repeating itself from year to year for centuries, perhaps. But, thanks to the efforts of Public Health authorities and Research workers, the danger is now almost completely under control.

The number of fairs and festivals held in the various States, in the years under report, is shown in the accompanying table. Information thus presented demonstrate the gigantic nature of the problem faced by Public Health Departments from year to year. It may not always be possible precisely to determine the exact number of people collected at a particular place except in the case of a State like Bombay where some sort of toll tax is levied on each visitor. Besides, the number of fairs and festivals, big and small, varies from State to State each year just two in Ajmer and as many as one thousand in the State of Madras, the congregation ranging from a few hundreds to a few lakhs.

TABLE

		1949	1950	1951	1952
ASSAM—	No. of fairs and festivals held	19	17	6	—
BIHAR—	No. of fairs and festivals held	11	6	6	10
BOMBAY—	No. of fairs and festivals held	20	27	27	36
	Approximate attendance	1,088,338	1,223,117	1,600,000	1,301,010
	Inoculations performed	121,677	94,063	257,751	111,975
MADRAS—	No. of fairs and festivals held	More than 1,000	More than 1000	More than 1,000	More than 1,000
ORISSA—	No. of fairs and festivals held	8	3	7	3
	Approximate attendance	250,000	500,000	175,000	—
	Inoculations performed	170,000	26,391	192,321	153,242
UTTAR PRADESH—	No. of fairs and festivals held	3	5	4	—
	Approximate attendance	—	1,800,000	—	—
	Inoculations performed	—	1,356,687	—	—
WEST BENGAL—	No. of fairs and festivals held	12	3	3	3
	Approximate attendance	125,000	150,600	157,600	165,000
	Inoculations performed	17,826	51,749	102,144	115,333
	Vaccinations performed	2,906	13,023	21,708	39,999
RAJASTHAN—	No. of fairs and festivals held	11	—	—	—
AJMER—	No. of fairs and festivals held	2	2	2	2
BHOPAL—	No. of fairs and festivals held	14	—	—	—

Efficient adoption of special public health measures during fairs and festivals and the degree of their effectiveness vary from State to State according to available resources. These measures include mass-inoculation against cholera, vaccination against small pox, protection of water-supply and its disinfection at source, protection of cooked food from contamination, establishment of temporary isolation hospitals for infectious diseases at big festivals and, lastly, some restrictions occasionally if infectious disease is already prevalent in the area.

1949.—Fairs and festivals in the States of Ajmer, Himachal Pradesh, Bhopal, Hyderabad, Rajasthan, Assam, Bihar, and Punjab passed off safely. A few cases of cholera, small-pox etc., were reported in some of the melas in Orissa, West Bengal, Madras, U.P. and Bombay. Some of the melas were banned by the Madhya Pradesh Government on account of the prevalence of cholera or plague at the fairs or in the adjoining areas. Out of 464 minor and 100 major Yatras and Urs, for which permission was sought, the Director of Public Health, Hyderabad imposed restrictions on 152. They were confined to the local population only because of small-pox epidemic. The Bombay Government levied a pilgrim tax on all visitors to certain melas. The measure seems to be commendable as it brings funds to the public exchequer as well as provides complete verification of inoculation certificates. In addition to usual measures, the authorities in Orissa attached a bacteriological laboratory to the Infectious Diseases Hospital at Puri. In Assam, it was proposed to make arrangements for water-supply at the fairs on a semi-permanent basis as much for sanitary as for economic reasons. In some of the States, such as, Himachal Pradesh, Bihar and Madras, the authorities utilised the opportunity for carrying on health propaganda through exhibitions, etc.

1950.—A few cases of infectious diseases were reported from fairs in the States of Bombay, U.P., Madras and West Bengal. Usual sanitary measures were adopted.

Restrictions were imposed on some fairs in Madhya Pradesh, and on 117 Yatras and Urs in Hyderabad, as in the preceding year. For pilgrims visiting Hardwar "Kumbh" fair, Pepsu authorities put up inspection posts at 12 railway stations in their State for checking up on the incoming and the outgoing pilgrims. The desirability of some permanent arrangements for water-supply at the site of melas was stressed upon by the Madras Government. In all other cases, usual measures were adopted.

1951.—The following were some of the significant events in this field of public health activity in various States. Due to the presence of cholera in Karnal district and the neighbouring districts of U.P., Phalgu fair was banned by the Punjab Government. In the bigger fairs in Bombay State, entry of pilgrims was prohibited if they gave no proof of inoculation during the past six months. Facilities for inoculation were offered all over the State. At two big fairs temporary hospitals for infectious diseases were opened. In Madras, the need for a permanent arrangement of water-supply at fairs and festivals was again stressed. As expenses for sanitary arrangements were usually borne by the local boards it was suggested that, in case of fairs of more than local importance, expenses should be shared by various local bodies, such as, District Boards, Panchayat Boards and Temple Committees. Cholera inoculation was made compulsory for a period of three months in Puri and in 34 approach villages in Orissa during the Car

Festival. Also, a field laboratory unit was deputed to Puri for diagnosing cholera cases. In one of the fairs held in Hyderabad State where three cases of cholera occurred, some 15,000 pilgrims panicked, spreading infection in 48 villages.

1952.—In one fair in Madras, there were 7 cases of cholera and 6 deaths. Infection was spread by the returning pilgrims to two districts. As a result of two melas in Bombay State, cholera broke out at two places in Poona district. Infectious diseases hospitals were opened at two of the big melas. Mobile Units were deputed to most of the large fairs in Madhya Pradesh. For a strict enforcement of public health measures, mobile courts were established during the Car Festivals at Puri in Orissa, and diagnostic facilities were provided for cholera cases. On the whole, it goes to the credit of the State Public Health Authorities that they successfully safeguarded the health of millions of pilgrims and presented a clean bill in a large majority of cases despite great handicaps. Co-operation from public and voluntary organisations was praiseworthy.

10. Nutrition work done at the Centre and the States during the year, 1949—52.

Increasing attention is being paid to the subject of nutrition in recent years, particularly because food production is not keeping pace with the growth of population in many parts of the world. Health and social workers alike, realise that nutritious food is needed to improve the physical and mental health of people as well as their social fitness.

In India, malnutrition and under-nourishment are prevalent in large sections of the population. Ameliorative measures for improving the nutritional status of people constitute an important part of the programme undertaken by the Health Services at the Centre and in the States.

The Government of India are fully alive to the desirability of providing mid-day meals in schools and the subject has also received much attention from State Governments, in recent years; but inadequate financial resources have stood in the way of implementing this beneficial measure.

An Inter-Departmental Committee on Nutrition was constituted by the Government of India in the Ministry of Health in 1949 in order to co-ordinate the nutrition activities and guide the policy regarding nutrition work in its various aspects. During this period the 6 meetings that were held by this Committee, administrative and other problems relating to practical measures for promoting nutrition work in the country were discussed.

Nutrition work is carried out by the Health Directorate of the States under the guidance from Nutrition Officers. Full-time Nutrition Officers have been appointed in the States of Bihar, Bombay, Punjab, Madras, Uttar Pradesh, Hyderabad, Madhya Pradesh, Travancore-Cochin and West Bengal. The remaining States discharged this responsibility with the help of other officers of its Health Directorate.

A brief summary of nutrition work done by the Nutrition Organisations in the States is given below:—

AJMER

I. *Diet Surveys*.—Diet surveys, by questionnaire method, of 40 families of agricultural labourers with an average income of Rs. 40 p.m. and of

families of the lower middle class consisting of petty shopkeepers and office workers, having an average of Rs. 55 p.m., were undertaken in Ajmer State. The diet of labourers was found to be inadequate both in calories and protective foods, mainly owing to limited financial means. The diet of shopkeepers and office-workers also was inadequate but better than that of the labourers in that the cereal-content was adequate, and it was also supplemented with small quantities of protective foods, such as, leafy vegetables.

II. *Nutrition Surveys*.—Nutrition surveys carried out during the period revealed that 13% of the people showed signs of malnutrition and evidence of nutritional deficiency of one kind or another.

III. *Ameliorative Measures*.—Large quantities of U.N.I.C.E.F. skim milk-powder, condensed milk and multivitamin tablets were distributed to persons in famine-stricken areas and to other vulnerable groups in schools and villages.

IV. *Education and Publicity*.—Nutrition publicity was done through lectures on topical subjects in food and nutrition, and by participation in fairs and exhibitions with the help of posters and cinema shows.

Assam.—Owing to scarcity of foodstuffs and high prices, people consumed mostly ill-balanced diet and consequently malnutrition was widely prevalent.

The revised Assam Pure Food Act came into force from 15th November, 1949. Under its provisions, it became possible to tighten the control of adulteration of foodstuffs.

BIHAR

I. *Diet Surveys*.—With a view to study the effect of scarcity conditions on the health of people, in general, and to study the state of nutrition of displaced persons, in particular, extensive diet and nutrition surveys were carried out in the districts of Singhbhum, Purnea, Saharsa, Champaran, Shahbad, Santhal Parganas and Monghyr. The chief component of the diet of 200 families surveyed in Santhal Parganas and 100 families in Monghyr was homepounded rice. There was a deficiency of protein-rich foods and fats. Some of the families surveyed in Monghyr district were found to consume unfamiliar foods. A re-survey of aboriginal families in Seraikela and Kharasawan States in the Singhbhum district indicated that the economic condition of the people had deteriorated and their diet had become very much ill-balanced. The calorific value of the landless labourer's diet was only half of the prescribed normal requirement.

II. *Nutrition Surveys*.—Nutrition surveys of 300 boys and 870 girls were carried out in the region whose diet survey were carried out. Compared with figures in 1943, it was found that the general appearance of boys had improved.

III. *Investigation*.—Investigations in connection with epidemic dropsy were continued during the period. It was demonstrated that in a dose of 2 mg per 100 mg of body-weight, the alkaloid of argemone oil-sanguinarine hydrochloride-injected inter-peritoneally, caused 82% mortality in rats. Epidemic dropsy-like symptoms have been produced in monkeys by feeding them pure argemone oil.

IV. *Ameliorative Measures*.—School-lunch programmes were continued in a few schools of the State. Industrial organisations ran canteens which supplied meals and snacks at reasonable rates to their workers. About 23,000 industrial workers in the State availed of this amenity. Distribution of milk to vulnerable groups, particularly to expectant mothers and children, was made by some of the Maternity and Child Welfare Centres. Besides, during 1951-52, about 1 lakh students and 500 nursing mothers benefited by free distribution of reconstituted U.N.I.C.E.F. milk. Multi-vitamin tablets, shark liver oil, cereals and semolina were distributed by Maternity and Child Welfare Centres and District Health Officers.

V. *Education and Publicity*.—Lectures on diet and nutrition to selected groups of people, such as, 'Gram Sewaks' sanitary and health inspectors and college students were given during the period under review. Propaganda on nutrition was done through lectures, display of posters, models, charts and magic lantern slides at fairs and exhibitions. Popular leaflets on food and nutrition, printed in regional languages, were distributed to the public. Practical demonstrations were given on various types of diet, namely, balanced diet, ill-balanced diet, diet for industrial labourers, etc.

BOMBAY

I. *Diet Surveys*.—Diet surveys of middle class families consisting of office-workers, petty traders, etc., carried out during the period in Bombay City revealed that the intake of protective foods, on the whole, varied. The structure of diets in general, however, was found to be fairly satisfactory. Surveys carried out on industrial population groups indicated that an increase in *per capita* income was associated with an increase in the consumption of protective foods. Diet surveys carried out in some of the villages indicated that the diets were excessively rich in cereals and starchy tubers, but were deficient in protein, fats, and vitamins A & C.

Jail-diets prescribed for Class I and II prisoners as also for those under trial were studied and analysed. Suitable recommendations were made to the Inspector General of Prisons, Bombay. The Senior Nutritionist paid frequent visits to schools, college hostels, industrial canteens, etc., with the object of encouraging the authorities to plan a satisfactory menu on scientific basis.

II. *Nutrition Surveys*.—With a view to obtain a more comprehensive picture of the nutrition of displaced persons, and in order to improve their nutritional status, various relief camps in Greater Bombay and in the districts of the State were visited. Suitable recommendations were made where remediable defects were noticed.

Nutrition surveys carried out on the children of some families where diet surveys were carried out showed that the diet of children in Dinga and Surat districts was generally of a poor standard.

III. *Investigations*.—A programme of work to determine the nutritive value of foodstuffs commonly used in Bombay State was undertaken. Work in connection with the aminoacid composition of pulses, plasma levels of vitamin A in different economic groups of the population, vitamin A absorption in healthy subjects, was also taken up. Samples of various foodstuffs and food-products were analysed.

IV. *Ameliorative Measures*.—Large quantities of U.N.I.C.E.F. skim milk-powder were distributed to infants, children under 12 years of age and mothers throughout the State. The Bombay Municipal Corporation continued to give to each woman, during her confinement period in five municipal maternity homes, eight ounces of toned milk for a period of about 10 days in addition to the scheduled diet. Similarly a scheme of giving 16 ounces during the confinement period, of pasteurised milk, free of charge, to the poor women delivered in their own homes continued. Vitamin tablets (A-D and B-C) were distributed through the Public Health Department. The preparation and supply of toned milk by the Government Toned Milk Dairy, Worli, and its sale at cheaper rates was also continued.

V. *Education and Publicity*.—The Nutrition Organisation carried out an intensive and sustained campaign of education in nutrition by actively participating in exhibitions, by distributing pamphlets printed in English and regional languages, by lectures to the general public and by feeding through the canteens.

MADHYA PRADESH

I. *Diet Surveys*.—A diet survey of 150 inmates of the Missionary School hostel at Nagpur was carried out. The average intake of calories was low; there was also a marked deficiency of vitamin A in the diet. Another diet survey, carried out in a small group of Sindhi families in the Jharipatha displaced persons' camp, Nagpur revealed that the vitamin intake was adequate but the calcium content was low. Consumption of protective foods by the refugee families was low and that, in turn, was reflected in the state of malnutrition prevalent in a large number of children.

II. *Nutrition Surveys*.—Extensive nutrition surveys were carried out in various educational institutions of the city of Nagpur. About 65% of the children, so examined, exhibited one or other kind of deficiency.

III. *Ameliorative Measures*.—U.N.I.C.E.F. skim-milk powder was distributed to malnourished children and expectant and nursing mothers in the State through public organisations.

There are about 20 factory canteens run by the employers of labour for their workers. The canteens supply refreshments and tea to workers at a subsidised rate.

IV. *Education and Publicity*.—Intensive propaganda by lectures on nutrition and dietetics, contributions in the lay press, in simple language, on matters of topical interest as regards nutrition, and distribution of leaflets on food recipes, lathyrism, etc., was carried out

MADRAS

I. *Diet Surveys*.—During the years, 1949—52, extensive diet surveys were carried out in the rural areas of the State which included skilled and unskilled labourers, petty merchants and agriculturists as well as institutions, such as, student hostels, orphanages and boarding houses. The diets, in general, were noticed to be grossly ill-balanced in all the villages surveyed. Cereals formed the bulk, and consumption of protective foods, such as, vegetables, fruits, milk, meat, fish and eggs was very inadequate. Deficiency in vitamin A was a marked feature of these surveys.

II. *Nutrition Surveys*.—In the areas surveyed during the years under review, children also were examined for their nutritional status. They were

found to be generally undernourished and showed one or a combination of vitamin deficiency symptoms.

III. *Ameliorative Measures*.—The Government scheme for a free supply of mid-day meals to the children of eligible communities attending about 1,200 labour schools continued. The Madras Corporation continued its independent scheme of supplying mid-day meals to poor and malnourished children attending its elementary schools. 8,000 children benefited from this scheme, every year. During 1951-52, a free gift of 162 tons of rice and 1,412,509 lbs. of skim milk-powder was made by the U.N.I.C.E.F. which was distributed to persons in famine-affected areas of the State and to children attending elementary schools in the State. Also, large quantities of multivitamin tablets, shark-liver oil, food yeast and calcium lactate were distributed. There are 214 canteens attached to industrial establishments. These canteens were periodically inspected by the Health Staff and necessary advice was given to improve the nutritive value of cooked dishes and the menus served. Kitchen and utensil cleanliness was emphasised.

IV. *Education and Publicity*.—Intensive nutrition propaganda by means of exhibitions, radio-talks, film displays, lectures and cooking demonstrations was carried out by the Department during the period under review.

ORISSA

No appreciable work in the field of nutrition was undertaken during the period under review. A proposal for the establishment of a State Nutrition Organisation and appointment of a Nutrition Officer and staff was deferred for the time being for want of funds.

Mid-day tiffin scheme was, however, continued in almost all the high schools numbering about 107. Canteens in some industrial establishments continued to function during the year 1949. Propaganda in nutrition was carried out through lectures, display of models, posters and charts at the exhibitions.

PUNJAB

I. *Diet Surveys*.—During the years under review, diet surveys in various relief camps and in the families of agriculturists, small cultivators and labourers in Kangra and Hoshiarpur districts, and of villagers from a model village in Sarvodaya Scheme were carried out. Rice, wheat and maize in differing proportions formed the cereal component of diet which was usually inadequate in respect of protective foods. The calorie intake appeared to be adequate in Kangra and Hoshiarpur districts.

Nutrition survey of Kurukshetra Camp revealed that there existed a wide gulf between the prescribed balanced diet and the one which was available to a majority of the camp population. The diet was deficient in animal proteins and in vitamins A & C.

II. *Nutrition Survey*.—Preliminary surveys of Dunjana town and village Medina (Rohtak district) showed that the incidence of deficiency diseases was on the increase in the displaced persons settled there.

III. *Ameliorative Measures*.—A preventive programme for simple goitre in which the distribution of iodized salt is the chief item was extended to the affected regions of Kangra district. In the displaced persons' camps and other parts of the State, fresh milk and milk reconstituted from the

U.N.I.C.E.F. skim milk-powder was distributed to expectant and nursing mothers, infants, toddlers and other needy persons. Multivitamin tablets and cod liver oil were distributed to malnourished children and expectant and nursing mothers.

The canteen system of feeding has been made mandatory under the Factories Act. A schedule of balanced diet suitable for workers of different economic levels was prepared and circulated to all the factories in the State.

IV. *Investigations.*—An experiment for the prevention of simple goitre by distribution of iodised salt was started in the villages in Kangra in 1941. The supply of iodised salt was continued in 1950, and several other villages were included in this scheme. Before the start of the scheme, incidence of goitre in the two villages was as high as 67%. A survey carried out in these villages in 1950-51 has revealed that the incidence of goitre has been reduced to 20%. Moreover, the incidence of goitre in children under 10 years of age, in these villages, was 1% whereas in the neighbouring villages, it was as high as 15.8%. This showed that the use of iodised salt has been a great success for the prevention of goitre.

V. *Education Publicity.*—Pamphlets on food and nutrition in non-technical language, in Hindi and Punjabi, were distributed throughout the State. Propaganda work on nutrition was carried out through lectures and broadcast talks. Bhojan Bhandars were organised, where nutritious foods at reasonable rates was made available to the public.

UTTAR PRADESH

I. *Diet Surveys.*—Extensive diet surveys of students living in boarding houses in the districts of Meerut, Ballia, Farrukhabad and Ghazipur were carried out during the period under review. The surveys revealed that 80-90% of the daily diet comprised of cereals. Leafy vegetables, fruit, milk, meat, fish and sugar were practically absent in most of the dietaries. The diet lacked in proteins of high biological value, minerals and vitamins A, B, and C.

II. *Nutrition Surveys.*—Nutrition surveys of different schools in Farrukhabad, Ghazipur, Unao, Sitapur and Jhansi districts, and of workers in different mills in the Kanpur area were also undertaken. Xerosis of the conjunctiva, bleeding gums and a dry, rough and lusterless skin were prevalent among mill workers in Kanpur area.

III. *Ameliorative Measures.*—The milk distribution scheme subsidised by the State Government continued to operate in primary schools of the cities of Lucknow and Kanpur.

Milk reconstituted from the U.N.I.C.E.F. Skim milk-powder was distributed to undernourished and malnourished children below 12 years of age, and expectant and nursing mothers. Multi-vitamin tablets were freely distributed to displaced persons' camps and to malnourished and expectant and nursing mothers attending maternity centres.

IV. *Education and Publicity.*—Nutrition publicity by means of lectures, exhibitions and pamphlets in the regional language was carried out in order to educate people about nutrition and correct food habits.

WEST BENGAL

I. *Diet and Nutrition Surveys*.—Critical studies in general, were made of the following :—

- (a) The menu of mid-day meals served at schools participating in the existing scheme of the State Government;
- (b) The existing diet scales of some Government and Government-aided hospitals in the State; and
- (c) The existing dietary of armed constables at Barrackpore and nurses' canteen of the Government hospitals in Darjeeling.

In the year 1951, about 6,000 boys, between the ages of 5 and 15 years belonging to primary and secondary schools in Calcutta were examined. Bleeding gums, dental carries and deformities of bones were encountered in a fair number of children.

II. *Ameliorative Measures*.—Fifty-three Government and Government-aided schools in the State benefited by the mid-day meal scheme of the Education Directorate. About Rs. 24,000 were spent for this purpose.

The State Government distributed milk reconstituted from the U.N.I.C.E.F. skim milk-powder to children below 12 years of age and to expectant and nursing mothers. A large quantity of multivitamin tablets was also distributed.

III. *Education and Publicity*.—Propaganda on nutrition was carried out through the display of posters and leaflets in the shows and exhibitions held in rural and urban areas. The Government introduced a diploma course in dietetics at the All India Institute of Hygiene and Public Health, Calcutta in collaboration with the Medical College Hospital, Calcutta.

HYDERABAD

I. *Diet Surveys*.—Diet surveys of some families in Hyderabad city and in six boarding houses for boys and girls in the Aurangabad, Gulberga, Bidar and Warangal districts were carried out during the period under review. The survey in Hyderabad city revealed that the diet was deficient in calories and vitamins A & B. The result of surveys in the boarding houses indicated that all the items in the diet, except cereals and pulses, were below the minimum required for a balanced diet.

Institutional diet surveys were carried out in the mess of (a) the nursing staff of Osmania and K.E.M. Hospitals and (b) Osmania University Hostels. As a result of the surveys, certain modifications in diets were suggested to the authorities concerned.

II. *Nutrition Surveys*.—Nutritional status of students in the age-group, 6-14 years, was examined in the five districts of the State, viz., Aurangabad, Gulberga, Bidar, Warangal, and Hyderabad. On the whole, nutritional status of the student population of Hyderabad district appeared to be better than in other districts where surveys were carried out. Deficiencies due to lack of vitamins A & B complex were found in greater percentage.

III. *Ameliorative Measures*.—During 1951-52, about 150,000 lbs. of U.N.I.C.E.F. milk-powder were distributed to 10,000 needy persons in the State through 47 Child Welfare Centres.

IV. *Investigations*.—Investigations on the effect of cooking on the vitamin content of foodstuffs are being carried out.

V. *Education and Publicity*.—Propaganda in nutrition was carried out through the display of posters, models, charts leaflets, radio broadcasts and popular lectures.

MADHYA BHARAT

Public Health Nutrition work in Madhya Bharat consisted mainly of ameliorative measures and publicity work during the period under review. About 160,000 lbs. of U.N.I.C.E.F. skim milk-powder and multivitamin tablets were distributed to undernourished children under 12 years of age and expectant and nursing mothers throughout the State. Publicity work through the medium of exhibitions and magic lantern shows was carried out at Indore and Gwalior and also at important fairs in the districts.

MYSORE

I. *Diet Surveys*.—Diet surveys of 99 students in a Harijan boys hostel, 29 inmates of a Harijan girls hostel in Bangalore, 21 families of Hiriyr Taluk in Chittaldrug district and 95 families in Ramanagarm town were carried out. The persons surveyed included agriculturists, government employees, labourers, traders, etc. There was a marked deficiency in the consumption of protective foods.

II. *Nutrition Surveys*.—Nutrition surveys were carried out in the 112 villages in Chittaldrug, Hassan, Shimoga, Kolar and Chennarayapatnam district. Symptoms due to deficiency of vitamins A and B Complex and, in some cases, multiple deficiencies were observed.

III. *Ameliorative Measures*.—220 tons of U.N.I.C.E.F. milk-powder were distributed to children. Vitamin tablets were also distributed to persons in the famine-affected areas of Kolar, Chittaldrug and Tumkur districts.

A multi-phase health survey was undertaken in the State during the period to evaluate the degree of anaemia and other deficiency conditions. The average haemoglobin values, obtained in rural parts in the districts surveyed, were found to be far below normal.

With the object of studying the effect of Vitamin B₁₂ on the growth of children, investigations on boys in a Harijan Hostel were undertaken. The results indicated no significant improvement when compared with the control group.

TRAVANCORE-COCHIN

I. *Nutrition Surveys*.—1,828 children belonging to three schools in Trivandrum and one in Ernakulam were surveyed by the rapid and routine nutrition survey methods during the year 1951. Mild anaemia, xerosis of the conjunctiva and dry and rough skin were some of the deficiency symptoms noticed. Nutrition Surveys of 351 School children were carried out in Neyyatinkara Taluk in Trivandrum district. Caries, chalky, pitted or mottled teeth and bleeding gums were widely prevalent.

II. *Ameliorative Measures*.—The State Milk Canteen Committee distributed milk and other protective foods, free of charge, to vulnerable groups of the population throughout the State.

Under the U.N.I.C.E.F. skim milk-powder scheme, milk-powder and 200 tons of rice were distributed throughout the State.

About 10,000 poor children are daily fed with rice-gruel (Kanji) and curry by the Vanchi Poor Fund. Distribution of milk to children in selected schools in the State was continued during the period.

About 123 industrial canteens are catering to the requirements of more than 32,000 workers throughout the State.

III. *Education and Publicity.*—Almost all the hospitals in the State were visited by the dietitian who made recommendations for the improvement of existing diet schedules.

Nutrition propaganda by means of radio talks, newspapers articles and pamphlets printed in regional languages regarding balanced diet was one of the activities of the Department during the period under review.

Nutrition work done at the Central Nutrition Advisory Committee.—The Nutrition Advisory Committee was constituted in 1936. It has now a dual role to perform. It acts as an adviser to the Indian Council of Medical Research helping it to formulate plans of research, initiate new proposals and scrutinize and co-ordinate its Researches in progress in various parts of the country. The other function of the Committee is to advise the Government of India on various matters connected with the application of measures for improving the nutritional status of people. In this capacity, the Committee has, from time to time, considered certain outstanding problems in the field of food and nutrition and conveyed its opinions to the Government of India.

During the years under review, eight meetings of the Nutrition Advisory Committee were held. The Committee discussed various research schemes on Nutrition financed by the Indian Council of Medical Research, and reviewed the progress of Nutrition work in the States. A number of special reports or monographs brought out by the Committee have proved very useful to workers in this field.

Diploma Course in Dietetics.—Realising the importance of appropriate diet in the treatment of patients, and to meet the need for trained dietitians in industrial canteens, hospitals, etc., a diploma course in Dietetics of the Calcutta University was opened in October, 1949 at the all India Institute of Hygiene and Public Health, Calcutta in collaboration with the Calcutta Medical College Hospital. The services of a Dietitian Consultant were requisitioned from the World Health Organisation. Five, nine and three candidates received diplomas after successful completion of the course in the years 1949-50, 1950-51 and 1951-52, respectively.

Diet Surveys.—In an effort to present an overall picture of food habits of the people, data relating to 843 diet surveys carried out in various parts of the country have been collected and incorporated in the Indian Council of Medical Research Memoir No. 20, entitled, "Results of Diet Surveys in India, 1935-48". The data contained in the memoir have also been statistically analysed for its nutrient content. The result of these findings has been published as a supplement to the memoir. The enquiry was financed by the Indian Council of Medical Research.

The partition, in 1947, of undivided British India and the States into the Indian Union and Pakistan brought in its trail a population movement

on an unprecedented scale. There was a dearth of living-space and the displaced people had to be accommodated in relief camps scattered all over India. Necessary advice in regard to revising the scale of diets prescribed for displaced persons was tendered from time to time. Periodical reports of nutritional diseases received from relief camps situated all over India were scrutinised from time to time and necessary advice was given.

Epidemic Dropsy—An outbreak of epidemic dropsy of a rather serious nature occurred in Bihar State in November, 1949. Officers of the Directorate General of Health Services visited Bihar for discussion on the possible preventive measures with the officials of the State.

U.N.I.C.E.F. Distribution of Milk.—Community feeding programme on a large-scale was undertaken in India for the first time in 1949-50 with a gift of skimmed milk-powder from the U.N.I.C.E.F. for the benefit of nursing and expectant mothers and children below the age of 14 years. The U.N.I.C.E.F. supplied about 200 short tons of skim milk-powder during the year 1949 followed by further supplies during the year 1950—52.

In early 1950, the U.N.I.C.E.F. secured skim milk-powder from the United States Government at a concessional rate and offered about 8 million lbs. as a free gift to India for distribution in different States. Eighteen States participated in this programme which continued till the end of 1952. Following figures give a rough idea of the distribution of U.N.I.C.E.F. milk during the years, 1950 and 1951, and the quantity given to each State :—

<i>Name of State</i>	<i>Quantity (lbs.)</i>
Assam	291,325
Bihar	1350,000
Bombay	316,485
Delhi	213,566
Himachal Pradesh	101,000
Hyderabad	150,000
Kashmir	200,000
Madras	1,412,509
Mysore	201,000
Madhya Bharat	160,000
Madhya Pradesh	100,000
Orissa	188,625
Punjab	350,000
Rajasthan	20,000
Travancore-Cochin	701,375
Uttar Pradesh	490,610
Saurashtra	504,150
West Bengal	2,107,720

The approximate over-all number of daily recipients in the 18 States of India which carried out the milk feeding programme is given below :—

	Persons
October, 1950	61,500
November, 1950	118,736
December, 1950	170,206
January, 1951	240,162
February, 1951	273,505
March, 1951	361,601
April, 1951	340,000
May, 1951	300,000
June, 1951	380,000
July, 1951	400,000
August, 1951	505,000
September, 1951	435,115
October, 1951	299,978
November 1951	342,013
December, 1951	227,550

11. Rural Health and Medical Relief

The standard of medical relief in rural areas, as a whole, continued to be poor quantitatively as well as qualitatively. On an average, a rural dispensary served an area of 103 sq. miles and a population of 28,933. The dispensaries in rural areas continued to be run largely by local bodies which, with generally low finances, found it difficult to effect not only the necessary improvements but also to make adequate provision for medicines and salaries of the staff. Small salaries offered to Medical Officers as well as the lack of amenities in rural areas, have tended to keep medical men away from rural dispensaries with the result that in many States rural dispensaries were reported to be functioning for various periods of time without Medical Officers. The expedient of subsidising Medical Officers to settle down in rural areas has been tried in many States with questionable success. Several Governments realizing that the local authorities were not likely to be in a position to do the needful in the matter of improving conditions of Medical Relief in rural areas, adopted the policy of taking over such dispensaries from local bodies for maintenance by the Government itself. Another feature of medical relief in the rural areas was the trend towards opening Ayurvedic and Unani dispensaries. The number of such dispensaries in rural areas increased from 4,742 in 1949 to 5,999, in 1952. Because of the unlikelihood of an adequate number of dispensaries being provided for the rural population within a reasonable time, mobile dispensaries were started in many areas. How far they will prove really effective is a point which is open to question.

A brief account of medical relief in the rural areas of different States during 1949—52 follows :—

The attached statement shows the number of dispensaries other than regular hospitals and dispensaries, the number of dispensaries opened and closed and the total expenditure on rural medical relief for the years 1949—52.

Assam.—Medical relief in the rural areas received adequate attention of the State Government. Two B.C.G. vaccination teams also worked in a few selected areas.

Bihar.—The incidence of smallpox, cholera and malaria being high in 1950, anti-malaria and epidemic relief centres were organized in Santhal Parganas and the district of Muzaffarpur. Cholera squads were sent to various places in seven selected districts to give preventive and curative treatment by ayurveda.

Bombay.—As part of the programme of medical relief in rural areas, the State Government sanctioned a scheme providing for the appointment of 81 nurse-midwives, expenditure being shared by the State Government and the Local Boards concerned, in the ratio of 4 : 1.

In order to provide medical relief to inaccessible areas inhabited by ex-service men and their families, the Government sanctioned mobile dispensaries in Satara North, Ratnagiri and Mahad Taluka of Kolaba District. It also converted the medico-surgical units into a mobile ophthalmic unit. This has proved very useful in providing medical aid to ophthalmic cases in the rural population nearer home.

Madhya Pradesh.—The schemes for subsidizing medical practitioners of modern as well as indigenous systems of medicine and the opening of Ayurvedic and Unani dispensaries in rural areas were pursued during the year under report.

Madras.—Facilities for medical relief in rural areas were not quite adequate. According to the recommendations of the Health Survey and Development Committee, nearly 1,500 dispensaries have to be opened so that every village can have a medical centre within a distance of not more than five miles. The Rural Medical Relief scheme of the State Government envisaging the opening of new dispensaries and the granting of subsidies to such medical practitioners as wished to settle down permanently in the rural areas did not find favour with medical practitioners of the modern system of medicine. They preferred to work in Taluk headquarter hospitals as Honoraries or to settle down in towns for private practice. The result is that rural dispensaries are being slowly converted into institutions of indigenous systems of medicine.

Orissa.—The State Government had a scheme to establish a large number of hospitals and dispensaries so as to have, at least, one dispensary for every 20,000 of the population or for every 100 square miles of rural area. Considerable progress was made despite financial difficulties. Most of the bigger hospitals, managed by local bodies, were taken over by Government in order to improve the standard of medical institutions. Almost all medical institutions with the exception of a few which are situated at

district or sub-divisional headquarters in urban areas, are in rural areas. In order, therefore, to enable local bodies to provide adequate medical facilities in the institutions maintained by them, the State Government paid them lumpsum grants. Officers of Revenue and Rural Welfare departments were equipped with medicine-chests when they toured rural areas.

Punjab.—Medical relief in rural areas remained largely in the hands of local authorities. Government assistance varied over a wide range and was provided through rural and subsidized dispensaries and health bureaux. Medical officers in charge of rural dispensaries toured the surrounding villages within a radius of five miles, gave medical aid and attended to public health needs. Local Fund institutions were generally lacking in equipment and financial means. Liberal grants, however, were made to them by the Government for specific purposes over and above the normal maintenance grants. It was proposed to provincialize all rural dispensaries in the State, and 79 dispensaries in all, were taken over by the Government during the period under review.

Uttar Pradesh.—There was continued expansion of rural medical relief. 13 dispensaries were provincialized by the State Government. Besides the Rural Allopathic Units, medical relief in rural areas was rendered through the Ayurvedic and Unani dispensaries. Also, 5,300 village medicine-chests containing simple Ayurvedic medicines for common ailments were maintained in those villages where no medical facility was available.

West Bengal.—Considerable improvements were made in medical relief facilities available in rural areas of the State. Epidemics of cholera and small-pox were dealt with by the mobile medical staff. Sufficient quantity of anti-malarial drugs was also supplied, free of cost, to prevent spread of disease.

Hyderabad.—Rural medical relief received special attention in this State. Assistant Health Officers visited villages in rural areas, treated patients, performed minor operations, gave plague and cholera inoculations and carried out vaccination against small-pox. They also disinfected houses and wells, delivered health-lectures to the rural population and adopted suitable measures for the improvement of rural statistics. So far, 1,578 medicine-chests have been distributed in the villages having a population of 1,000 and above, and are far away from the existing hospitals and dispensaries. These chests were entrusted to suitable persons selected in consultation with Collectors and District Congress Committees. Each chest contained 14 simple remedies with instructions for use printed in English and local regional languages, and the persons in charge were given training in the use of these remedies at the nearest dispensary.

Madhya Bharat.—Every possible effort was made to provide greater facilities for medical relief in rural areas. The Vaidyas incharge of Ayurvedic dispensaries were required to tour villages falling within a five-mile radius of their dispensaries to carry medical relief to the very door of the rural population. They were provided with 3,829 medicine-chests. This arrangement was found to be very popular with the villagers. The State Government also approved of a scheme of providing medicine-chests to villages having a population ranging between 1,000 and 2,000. With a view to provide greater facilities for medical relief to villagers living in the interior of rural areas, the Government sanctioned a sum of Rs. 2,08,177 under the 5-years' development plans for opening new dispensaries.

Mysore.—The general policy of expanding medical relief facilities in rural areas was pursued. Though Mysore State was well provided with medical institutions as compared with neighbouring States, yet, on account of an increase in its population, it was felt that many more medical institutions would be required to meet the needs of rural areas. An effort was accordingly made to provide a dispensary for every village with the co-operation of Local Bodies. Such villages as could not be provided with fully equipped dispensaries were visited bi-weekly by the Mobile Dispensary vans equipped with requisite medicines and appliances and manned by efficient staff.

P.E.P.S.U.—Medical Relief to the rural population was provided through dispensaries and Ayurvedic and Unani Aushadhalayas. Aushadhalayas were opened at important places from where maximum medical aid could be rendered to the villagers. The touring dispensaries visited even the remotest places in the rural areas. They were manned by qualified doctors and compounders, and were found to be very useful. In the regular dispensaries, provision for medicines and other contingencies was considerably augmented to provide better service.

Rajasthan.—Medical relief in rural areas was rendered through Government hospitals and dispensaries, most of which were provided with indoor accommodation, depending upon local conditions. Besides Government institutions, there were some big hospitals owned by private persons doing good work. As these arrangements were considered to be, more or less, adequate, no particular schemes were formulated to augment them, during the period under report.

Saurashtra.—The United States of Saurashtra which was formed by the integration of 202 small States, had very meagre arrangements for medical relief in rural areas. After integration, definite efforts were made to improve the medical relief facilities. Boxes containing simple Ayurvedic medicines for common ailments were provided to the villages which had no medical aid available within a radius of ten miles.

Travancore-Cochin.—The State Government pursued its policy of making medical relief available to all the people living in rural areas. New dispensaries were opened at places as required. In the hilly tracts, dispensaries were stocked to combat malaria. People of this State have much faith in Ayurvedic medicines. Subsidized dispensaries for the indigenous system of medicine were, therefore, very popular.

Ajmer.—Owing to financial difficulties experienced by the District Board, five dispensaries were taken over by Government during the period under report.

Bhopal.—A general assessment was made for the augmentation of existing facilities and a Five Year Plan was tentatively drawn up. Government of India rules and regulations were made applicable to the service. Badly needed training facilities for the technical personnel for rural areas were also provided.

Bilaspur.—Medical relief in the rural area of this State was in charge of qualified doctors and Vaid. Officers-in-charge of these dispensaries periodically toured the surrounding villages in the interior of the State to render medical relief to villagers who could not conveniently visit the dispensaries.

Malaria being the chief disease, quinine was distributed to the villagers, free of charge, through rural school teachers, lambardars, etc.

Coorg.—Facilities for medical relief were satisfactory in rural areas; but there were certain spots which were not easily accessible for want of proper communications.

Delhi.—There were seven regular Allopathic Dispensaries at Shahdara, Mehrauli, Narela, Nangloi, Bawana and Unwa which were maintained by the District Board, Delhi. In addition, there were two mobile dispensaries which were run by the Government and served about 20 villages on alternate days during the year 1952. Dispensaries in the colonies of Tilak Nagar, Malaviya Nagar and Kalkaji were upgraded into health centres. The hospital at Kalkaji catered for the needs of eye-patients.

Himachal Pradesh.—Medical relief was given through hospitals, Allopathic dispensaries and Ayurvedic dispensaries of the State. B.C.G. and V.D. teams worked in the interior of the Pradesh. A special B.C.G. team was organised in May, 1952. The team tested 51,578 persons and vaccinated 22,696. The mobile dispensary also paid periodical visits on all the motorable roads and attended to a large number of patients.

Kutch.—Medical relief facilities in the rural area of this State were not adequate. Communications in the interior of the State were extremely difficult, and there were no amenities of life available in the rural area. The scales of pay for doctors were also very low. It was, therefore, found difficult to secure the services of qualified medical men for the rural area. A travelling dispensary was, however, started in 1950.

Manipur.—Ten Dispensaries were opened in 1952 at almost no extra expense to the Government. By persuasion and encouragement and a little subsidy from Government, the villagers built dispensary buildings themselves as per approved design. Medical relief in the rural area was also given through the School Health Services. Inoculations against cholera, compulsory vaccinations against small-pox and B.C.G. vaccinations against tuberculosis were given. Anti-malaria programme and the training scheme for indigenous dais were implemented. Disinfection of water-supply, digging of more tanks, introduction of water-seal latrines, construction of new wards for leprosy patients in the hill areas and, lastly, a provision for mobile dispensaries to serve the hills and the valleys of the State were further measures taken in this direction.

Tripura.—Medical relief facilities in the rural area of this State were inadequate, particularly because of the paucity of funds and lack of proper communications. With general improvement in communications and grant of more tanks, introduction of water-seal latrines, construction of new wards rural areas by opening more dispensaries. The dispensaries were adequately provided with medical stores and other equipment, and a larger number of patients benefited.

Vindhya Pradesh.—Medical relief facilities in this State, as a whole, were very poor except in the district of Rewa. After integration, however, the Medical Department was reorganized and improvements effected.

Andaman and Nicobar Islands.—The population of these 2,000 and odd islands is so sparse that except for Port Blair, the headquarters of the

islands, the area has to be classed as rural. Even so, dispensaries and hospitals were fairly well located to serve the population.

Jammu & Kashmir.—During the period under review, Jammu & Kashmir had the good fortune of having a team of workers of the Scandanavian Red Cross at Srinagar, and the Government immediately sanctioned a Five Year Scheme for vaccination of all vulnerable groups of the population. Two field-teams were trained besides special teams for two main Hospitals. Since 1950, more than one lakh of persons have been vaccinated with B.C.G. in the Kashmir Valley alone.

12. Adulteration of Food

The supply of wholesome food adequate in quantity and rich in nutritive value, is a factor of considerable importance in prevention of disease. Scarcity of food and high cost of living are factors to be reckoned with, no doubt; but there is another menace, *viz.*, adulteration of foodstuffs. The fact that food Adulteration Acts were enforced in Bombay in 1925 and in Madras and Punjab in 1929 shows that the evil of adulteration is not of recent origin; only, that it has, of late, assumed alarming proportions. General scarcity and high prices apart, a marked disparity in the prices of articles of food and their adulterants offer an easy incentive to this anti-social practice.

Prior to the period under report, all the nine Part 'A' States had legislative Acts empowering them to take steps to check the evil by prosecuting the offenders. Bhopal State promulgated the Food Adulteration Act in 1946. Steps taken by the two former States of Travancore and Cochin were operative in their respective areas. The Marwar Pure Food Act was in force in Jodhpur Division of Rajasthan. The Punjab Pure Food Act was extended to certain areas of Ajmer, Delhi and Bilaspur. At first, these measures did not apply to the entire area of a State but more and more areas were gradually brought within the ambit. The Bombay Prevention of Adulteration Act of 1925 was in force in 41 towns during the year 1949; and in four municipalities of Baroda district, Food Adultration Act of the former Baroda State applied. The Bombay Act was extended to 53 towns in 1950, to 70 in 1951 and to 78 in 1952. The Bihar Food Adulteration Act was in force in all the municipal areas and a limited number of villages in all the districts during 1949. The Assam Pure Food Act, 1947 came into effect from 15th November, 1949. The United Khasia and Jaintia Hills Pure Food Regulations, 1950 were enforced in October of that year. The corresponding Act of Madhya Pradesh was extended to all the towns during 1951. In Madras, the Act was in force in 237 Local Body areas in 1949, in 236 similar areas in 1950, and in 239 in 1951. The Orissa Prevention of Adulteration and Control of Sale of Food Act, 1938 was promulgated in Municipalities, Notified Areas and Union Boards in the old Orissa districts. In 1952, proposal was under consideration for extending the same to rural areas. The Uttar Pradesh Prevention of Food Adulteration Act covered most of the municipal notified and town areas, all Cantonments and a large number of villages, during the period. The Punjab Government amended their Act in April, 1949 providing for more deterrent punishment and making it applicable to the whole State. As the amendment did not seem to have the desired effect, the Act was redrafted and made more stringent. The Punjab Act, as extended to the State of Ajmer, was in force in three municipal areas in 1949. It was extended to the whole of Ajmer State in 1950, to the whole of Bilaspur State and to the

municipal and notified areas of Himachal Pradesh in 1952. The Pure Food Act was promulgated in P.E.P.S.U. in July 1951. There was no Act of the kind in the Andamans but the Government had powers to issue and cancel licences to dealers of cooked food. For this Act, the D.P.H. (or D.H.) was the administering authority in most of the States. Sanitary inspectors and medical officers were given powers as food inspectors. In some States, such as, Punjab and Travancore, municipalities employed their own food inspectors who exercised powers within their jurisdiction. Public Analysts were appointed to analyse food samples.

The extent of adulteration of articles of food, in general, and of milk and ghee, in particular, may be gauged from the following tables :

TABLE

Statement showing the extent of adulteration of food as milk and Ghee for 1949—52

State	No. of Samples				Percentage adulterated				Milk				Ghee			
	1949	1950	1951	1952	1949	1950	1951	1952	1949	1950	1951	1952	1949	1950	1951	1952
Delhi	4,000	8,900	—	—	47	—	—	—	—	25	—	—	32	11	—	—
Assam	540	548	728	—	72	59	56	—	56	62	—	—	88	70	66	—
Bihar	1,549	3,218	4,058	—	—	46	—	44	63	—	—	—	58	—	—	—
Bombay	35,579	33,679	39,873	38,724	22	30	22	18	—	—	—	—	—	—	—	—
Madhya Pradesh	—	—	—	4,439	—	—	35	—	90	60	48	—	73	30	36	—
Madras	18,458	18,524	18,651	—	42	47	47	—	53	57	—	—	—	—	—	—
Orissa	—	—	—	Nil	—	—	—	—	—	—	—	—	—	—	—	—
Punjab	8,029	9,557	10,781	13,308	—	—	29	—	53	—	35	25	31	—	17	23
U.P.	20,567	24,802	23,207	25,527	40	33	30	24	41	42	41	31	32	25	22	24
West Bengal	5,260	5,518	5,331	—	33	30	24	—	—	—	—	—	—	—	—	—
Pepsu	—	—	403	345	—	—	31	33	—	—	—	—	—	—	—	—

TABLE
Statement showing Statewise the percentage of different food samples found adulterated

State	Percentage of Samples Adulterated		State	Percentage of Samples Adulterated		
<i>Delhi</i>	1949	1950	<i>Assam</i>	1949	1950	119s
Butter	48%	50%	Oils	71	57	38
Cream	66%	—	Cereals	76	100	90
Khowa	9%	35%	Tea	—	73	38
	1949	1950	1952			
<i>Bihar</i>				<i>Madhya Pradesh</i>		
Mustard oil . . .	76	21	67	Butter	100	37
Cereals	39	—	4	Groundnut oil . .	31	19
<i>Madras</i>				Til oil	54	34
	1949	1950		Linseed oil . . .	11	23
Coconut oil . . .	27	21		Mustard oil . . .	28	40
Tea	14	12		Coconut oil . . .	68	—
(Increased adulteration in Til oil and tea and decrease in Butter in 1951.)				V. oil products . .	—	62
				NUMBER OF SAMPLES		
				<i>Orissa</i>	1949	1950
				Adulterated	145	271
				Genuine	156	281
				No opinion	34	209
<i>Punjab</i>				<i>Uttar Pradesh</i>	1949	1950
	1951	1952			1951	1952
Curd	22	21		Flour and Cereals	45	50
Other articles . . .	20	—		Edible oils	49	29
				Hydrogenated		
				Vegetable Fats	44	22
				Miscellaneous	29	33
					28	26

Some of the States reported analytical findings of samples of items of food, such as, khowa, gur, cream, etc., but the samples being too few in number to admit of valid conclusions have not been included in the above discussion.

In spite of legislative provisions it has not been possible to eradicate this evil; rather, it has been on the increase. In the Delhi Public Health Report for 1949 and the Punjab Public Health Report for 1950, it has been remarked that adulteration was practised to the fullest possible extent. It reached an alarming degree in 1949 in Punjab larger cities being the worst affected. Reasons for this state of affairs vary from one State to another. Following are some of the reasons and the steps taken or proposed to be taken to meet the situation :

(1) In most cases an Act was promulgated in one area while there was no control in the adjoining areas. For example, in Jodhpur there was an increased number of prosecutions under the Marwar Pure Food Act during the period whereas there was no check and prosecutions were very rare at other places. The very high percentage of adulteration in atta in Assam State in 1951 may well have been due to the fact that adulterated atta was being openly sold in the adjoining State of Manipur. It was suggested that for an efficient working of the Assam Pure Food Act similar measures must be enforced in the adjoining States as well. A high percentage of adulteration was noticed in food samples collected from the rural areas of Bengal in 1950. It clearly demonstrated the necessity of applying the Food Adulteration Act to both rural and urban intensively as well as extensively.

(2) In a large majority of instances, the Public Health staff and the medical officers had to perform duties of Food Inspectors in addition to their normal duties. Only in a few States, such as, Travancore, Pepsu and Punjab were there Food Inspectors appointed exclusively for this work. The number of Food Inspectors was not quite adequate. For example, the Punjab Pure Food Act, as extended to Ajmer State, was in force in Ajmer City in 1949; but effective steps could not be taken in this respect because the Medical Officer of Health and the Health Inspectors, who were also Inspectors under the Act, had no time to spare for this work. However, to improve matters, Assistant Marketing Officers, with Inspectors under their control, were given powers as Food Inspectors. The P.E.P.S.U. Government were unable to accept the proposal for a proper promulgation of the Pure Food Act, in 1949; but they sanctioned six posts of Food Inspectors. Realising the inadequacy of staff, the Punjab Government sanctioned a cadre of 60 Food Inspectors in 1949 and delegated powers of Food Inspectors to 20 Sanitary Inspectors in 1950.

(3) Action taken under the Acts has not been uniformly stringent. In States, such as, Punjab, Delhi and U.P., the Act was rigorously applied. There were many prosecutions resulting in conviction and fine. In Punjab, the amount of fines realised was about Rs. 2 lakhs a year. Delhi reported over two thousand prosecutions every year under this Act and in Madras, because of small fines imposed, adulteration increased in 1951. The Act was in force in all the towns of Madhya Pradesh in 1951, but local bodies were reported not to be sufficiently strict.

(4) The fact that adulteration cannot be easily detected in articles, such as, ghee, milk, edible-oils, etc., enables the dealer to dupe the ordinary citizen with comparative ease. The common adulterants are water and separated milk for milk, vegetable oils for ghee, mineral and organic matter or other substances for tea-leaves, mineral oil for cocoanut oil. The adulterants for milk and ghee were reported from Punjab and U.P., for tea from Bengal, for cocoanut oil from Madras. To prevent adulteration to some extent at least, the Punjab Government made it obligatory on manufacturers,

in 1949, to incorporate 'til' oil up to 10% in Vanaspati so that adulteration could be detected by a simple chemical test. Likewise, according to the U.P. Vegetable Oil Products Control Order, 1949, addition of sesame oil to vegetable ghee became compulsory. As a result of experiment conducted in U.P. in 1950 and 1951, two synthetic colours, viz., orange SS and Oil Red XO were found to be suitable agents for colouring vegetable oils so that the latter could not be used as adulterants to ghee. Tests regarding freedom from toxicity at frying temperatures, under Indian conditions, remained to be done.

CHAPTER VI
MEDICAL RELIEF

- 1. Hospitals and Dispensaries.**
- 2. X-ray and Radium treatment facilities.**
- 3. Blood transfusion Services in India.**
- 4. Mental Hospitals and Psychiatric problems of India.**

CHAPTER VI MEDICAL RELIEF

1. Hospitals and Dispensaries

Institutional facilities for medical relief continued to be provided by State Government and Local Bodies, missionary organisations coming next. Sizeable nursing homes remained few in number. Not much improvement could be effected and the general level of hospitals and dispensaries raised partly because of lack of funds and partly because of the fact that both indoor and outdoor treatment was generally given free of charge whether or not a sick person was in indigent circumstances. Most of the smaller hospitals and dispensaries lacked in X-Ray and clinical laboratory equipment; and even where the diagnostic aids were available, full-time trained staff to man these and other specialized departments did not exist. Actual integration of curative and preventive work has made little progress even though actual direction at the headquarters of most of the States has been unified. The executive functions in these two fields at the district level, however, continue to rest in different authorities.

The progress in the expansion of medical relief facilities is shown by the figures given below :—

The total number of hospitals and dispensaries in 1952 was 9,497 as against 8,779 in 1948. Of these, 6,364 were in the rural areas. The increase in the number of hospitals and dispensaries, during the period 1949-52, was in the proportion of 3 to 4 as between urban and rural areas. The highest increase was in the State of Assam, U.P., West Bengal and Madhya Bharat. Hospital beds increased from about 1,04,000 to nearly 1,24,000—an increase of 20,000. Assam, Bihar, Bombay and Madras State registered the highest increase.

Total number of indoor and outdoor patient treated in hospitals and dispensaries, in the year 1952, was 39,37,237 and 10,62,61,551, respectively. The total expenditure incurred by the State Government on medical relief was Rs. 21,80,07,223, in 1952 as against Rs. 11,83,15,228 in 1948. As the 1948 figures do not include some of the administrative units now known as Part 'B' State, the 1952 figures are not a true index of the actual increase in expenditure. The State of West Bengal, U.P. and Madras showed the highest increase under this head. The amount of grants-in-aid to hospitals and dispensaries in 1952 was Rs. 1,40,06,141 as against Rs. 86,74,690 in 1948.

During the period under review, administrative control and maintenance of 170 hospitals and dispensaries was taken over by various State Governments from the Local Bodies.

A brief account of the medical relief facilities and the working of hospitals and dispensaries in different States during 1949-52 is given in the following paragraphs. The number of general hospitals and dispensaries (Allopathic), the number of hospitals beds and the number of patients

treated in various States of India during the year 1949—52, is given in Table II shows the expenditure incurred on medical relief and Table III, the amount of grant-in-aid made to hospitals and dispensaries.

Assam—All the hospitals and dispensaries were fairly equipped and functioned satisfactorily. All district headquarter hospitals in the plains were provided with X-ray equipment. The Ganesh Dass Hospital for Women & Children, Shillong was taken over by the Government in 1949, and the Assam Medical College Hospital, Dibrugarh which has up-to-date facilities for surgical, X-ray and radium treatment was opened in the same year. Besides this, 12 new dispensaries were opened at different places in the State during the period.

Bihar—Institutions under the control of Local Bodies were not functioning satisfactorily for want of adequate supervision and funds. Some of the important ones, viz., the Lady Eligin Zenana Hospital, Gaya, the Maharani Janki Kaur Hospital, Bettiah, Sub-Divisional Hospitals at Khagaria, Supaul, Madhopur and Madhubani, the King Edward Memorial Hospital, Bettiah and the Saboor dispensary in the district of Bhagalpur were, therefore, taken over by Government, and other institutions were paid special grants for essential equipment, drugs, etc. It was further decided to open at least one dispensary in each of the thanas which were without one. Sixteen new dispensaries were opened under this scheme during the period. A new paying cottage-ward consisting of 18 beds with one bed in each cabin was constructed within the compound of the Patna Medical College at a cost of about Rs. 2,50,000. The sanctioned bed strength of the Patna and the Darbhanga Medical College hospitals was increased by 100 in either case, and that of the hospital for women at the Patna Medical College by 60 beds at a cost of about Rs. 4 lakhs. The State Government maintained 13 indoor hospitals exclusively for the treatment of displaced persons living in various official camps at a total cost of Rs. 9,87,600 in year 1951.

Bombay—Medical institutions in this State were generally well-equipped and well-managed. Most of the public dispensaries were maintained by Local Bodies but were manned by Government Medical Officers for reasons of efficiency. Some of the private Nursing Homes were taken over by Government and attached to important hospitals like the St. George's Hospital, Bombay, the Sassoon Hospital, Poona and the Civil Hospitals at Belgaum, Sholapur, Bijapur, Karwar and Nasik. A new hospital of 125 beds for diseases of the chest and 9 new dispensaries were opened at Poona and other places during the period under review. Several new buildings for hospitals and dispensaries were also constructed as shown below :—

- (1) New dispensary buildings at Kadra, Kumbharwada and Ramangali;
- (2) existing wards at the V. S. General Hospital, Ahmedabad were enlarged to increase the total accommodation by 100 beds at a cost of Rs. 2,30,000.
- (3) an additional building (Bahadurji Block) was constructed and annexed to the existing group of T.B. Hospitals at Sewri at a cost of Rs. 4½ lakhs; and

- (4) a new five-storey building was constructed at the B.Y.L. Nair Charitable Hospital, Bombay at a cost of Rs. 3,79,587 for increasing the accommodation by 75 to 100 beds and for providing quarters for the nursing staff.

Madhya Pradesh—Government institutions were functioning satisfactorily. Only a few of them, however, had X-ray equipment. Institutions under the control of Local Bodies suffered on account of inadequate funds. The Government took over supervision of the Dufferin Fund Hospitals in so far as payment of salaries to and control of medical officers-in-charge was concerned. The question of completely taking them over was actively under government consideration. A scheme was also drawn up to open a hospital at each of the district and sub-divisional headquarters, and to add more dispensaries in the rural areas. Much progress could not, however, be made in this direction owing to financial stringency. Only 19 dispensaries including 4 mobile ones could be opened during the period.

Madras—The hospitals and dispensaries were fairly well equipped and functioned satisfactorily. Eighty-eight new institutions were opened at different places, and new wards were constructed in a number of old hospitals. The institutions under Local bodies were also functioning satisfactorily. Nonetheless, subject to availability of funds, it was decided to take over six such institutions every year, and a number of important hospitals and dispensaries were taken over by the Government in pursuance of this policy. In order to provide additional beds for patients, structural alterations to the second floor of the building of the Government General Hospital, Madras were sanctioned at an estimated cost of Rs. 3,10,000, and the nurses hitherto occupying that floor were shifted to a newly constructed home.

Orissa—Hospital facilities in this State being very meagre, the State Government decided to take over some of the important institutions in the rural areas which were not being efficiently maintained by the District Boards, and to open an adequate number of new institutions as to have, at least, one hospital or dispensary for every 100 sq. mile or for every 20,000 of the population. The hospitals at Padmapur (District Sambalpur) and Khariar (District Kalahandi) were, accordingly, taken over, and 44 new institutions opened during the period. Special grants were also made to a large number of district headquarters hospitals for purchasing essential equipment, such as, X-ray, air-conditioning motor ambulance, deep X-ray therapy, radium, cardiograph, etc.

Punjab—The hospitals were generally lacking in laboratory, anaesthetic, X-ray and orthopaedic equipments. Institutions under local bodies also were not functioning quite satisfactorily. A large sum was, therefore, spent on the purchase of essential equipment for important hospitals, and it was decided to take over all the rural dispensaries within a period of five years. 121 such dispensaries were thus taken over by the Government. A maternity hospital at Ludhiana and 28 dispensaries at other places were opened during the period under report.

The scheme for training selected medical officers in the technique of laboratory, X-ray, blood-transfusion and anaesthesia procedures at Jullundur and Karnal was pursued with a view to provide a sufficient

number of trained doctors for appointment at district headquarter hospitals. The civil hospital at Ambala was upgraded during the year 1952 in order to bring it in line with the district headquarter hospitals at Jullundur and Karnal. Construction of a tuberculosis sanatorium at Tanda in Kangra district and a students' hostel for the medical college at Amritsar was taken in hand in 1952.

Uttar Pradesh.—Government institutions were working satisfactorily but those under the local bodies needed much improvement in respect of buildings and equipment. New buildings were, therefore, constructed for 56 rural dispensaries at a cost ranging from Rs. 36,000 to Rs. 50,000, per unit. The State Government took over 24 hospitals and dispensaries from the local and other bodies, and opened 123 new ones during the period under report.

West Bengal.—All the hospitals and dispensaries were fairly equipped and functioned satisfactorily except some in the mofussil which were wanting in X-ray and laboratory facilities. Institutions under the Local Bodies generally suffered for want of funds. However, the important ones, namely, the Lady Dufferin Victoria Hospital and the Shivananda Maternity Clinic were taken over by Government. Three new wards consisting of 72 beds, were added to the Lake Medical College Hospital, and one 24-bedded ward called the "Bengal Immunity Therapeutic Ward" was constructed in the R. G. Kar Medical College. Two tuberculosis hospitals, one at Baliaghata, Calcutta with 100 beds and another at Digri with 25 beds in the district of Midnapore were opened. A second storey, containing 138 beds, was added to the existing out-patients building of the Chittaranjan Hospital, Calcutta at a cost of Rs. 87,825. Construction of a 200 bed Hospital, named, M. R. Bangur Hospital, Tollygunge was in progress. In addition, 4 new dispensaries and 131 centres were opened during the period.

Hyderabad.—All the institutions were functioning satisfactorily. After the "Police Action", 72 dispensaries, which were situated in Jagir, Paigha, Samsathans and Sarfa Khas, were taken over by the Government; and as most of them were being managed by unqualified persons, they were converted into proper Ayurvedic or Unani dispensaries. The State Government advised various Local Bodies to open new institutions in their respective areas. 45 new Taluka dispensaries were opened during the period under report. A special institution of 150 beds for the treatment of chronic cases was opened at Golconda as also a dispensary at Hyderabad to meet the needs of the members of the Legislative Assembly. Seethaphal Mandi Maternity Ward was opened to provide facilities to the suburban women of Secunderabad. A special 100-bed unit for the treatment of disease of eye, ear, nose and throat, with a touring ophthalmic unit, was opened in the Central Military Hospital at Asifnagar on 4th November, 1951 and named after the late Shrimati Sarojini Devi.

Jammu & Kashmir.—Government hospital and dispensaries were functioning satisfactorily but some of the Government-aided institutions were not properly equipped. Essential equipment furniture, etc., were supplied to them.

Madhya Bharat—All the institutions functioned satisfactorily. Additional equipment, including X-ray apparatus was supplied to several important hospitals; new wards added to several institutions; construction of buildings for a new hospital to be attached to the Mahatma Gandhi Memorial Medical College, and for the Maharaja Jaswant Rao Hospital, at a cost of about Rupees one crore, was undertaken; building of the Kamla Raj Hospital and the female hospital, Rajgarh, were completed; Kasturba Female Hospital building with an accommodation of 30 beds was constructed at a cost of Rs. 1,50,000 and fully equipped; and, one Civil and 144 Ayurvedic dispensaries were opened during the period under review.

Mysore—The institutions in this State were functioning satisfactorily, but foreign drugs were in short supply. Institutions under Local Bodies were managed by Government against fixed contributions. Additions were made to the buildings of certain hospitals, and new buildings for dispensaries were constructed at a cost of over Rs. 30 lakhs. 46 new dispensaries, 7 hospitals, one tuberculosis sanatorium and one tuberculosis clinic were also opened during the period under report. A rehabilitation colony, called the "Victory Colony", was opened with the help of public contribution for indigent and homeless patients of the tuberculosis sanatorium at Bangalore. The colony has 12 cottages and a factory equipped with power-press and four power-looms to provide light work for the inmates. Outstanding event of the period was the celebration of the Golden Jubilee of the Victoria Hospital, Bangalore. In commemoration of event, H. H. Maharaja of Mysore laid the foundation-stone of a new operation theatre and an out-patient block, and opened the new institution of Pathology. The estimated cost of these buildings comes to about Rs. 8 lakhs.

Pepsu—The poorly equipped dispensaries situated in the convenanting States were provided with additional equipment, furniture, etc. New wards were constructed in four hospitals and work was taken in hand for the construction of a new hospital of 350 beds at Patiala. Under the First Five Year Plan, 12-bed ward and 2 cottages were added to the Hardinge Sanatorium, Dharampore. New buildings for the hospital at Dadri and Nalagarh were under construction. Eight more dispensaries and one clinic were opened during the period under report.

Rajasthan—All the institutions are functioning satisfactorily. Special wards were constructed in the hospitals at Dholpur, Bharatpur and Udaipur. 20 new dispensaries were opened during the period under review. A building for Mukundgarh dispensary in the Jhunjigarh district was constructed and one women's hospital was under construction at Ratangarh at the time of report.

Saurashtra—All the hospitals and dispensaries were functioning satisfactorily. There were no institutions under the control of Local Bodies excepting one hospital and one dispensary which were transferred for administration to the Local Body in Mahuvan. Seven institutions including a central hospital at Rajkot and four new dispensaries were in the course of construction.

Travancore-Cochin—All the institutions were equipped and functioning satisfactorily. There were no institutions under the control of Local Bodies.

A new in-patients' ward at the Ophthalmic Hospital and a new paying ward at the General Hospital at Trivandrum were constructed during the period under report. Sri Avittom Thirmual Hospital, Trivandrum with 340 beds built at a cost of Rs. 18,73,138 was opened on 8th January, 1952.

Ajmer—All institutions except the Victoria Hospital at Ajmer were lacking in modern equipment. District dispensaries were short of medicines also. Dispensaries under the Ajmer Dispensary Fund were taken over by the Government as the Fund could not afford to maintain them properly.

Coorg—The institutions in this State suffered from a shortage of anicillary personnel viz., nurses, nursing orderlies etc. A ward of 20 beds was constructed in the State Hospital at Viraypet, and a 6-bedded hospital was built by a private donor at a cost of Rs. 40,000. An Ayurvedic dispensary was opened at Kollipet.

Delhi—All the institutions, urban and rural, functioned efficiently. There was general complaint of shortage of in-patient accommodation. A new dispensary was opened in the police lines. The Office of the Chief Medical Officer was amalgamated with that of the Director of Health Services in 1950. Responsibility for providing medical relief in displaced persons' colonies lay on the State Government, and free medical aid was provided in all of them.

Himachal Pradesh—The standard of medical relief in this State was considerably raised by providing the institutions with a larger stock of medicines, better surgical instruments and additional accommodation. Six dispensaries were taken over from the District Boards, and 13 new ones were opened by the Government in rural areas. A new 50-bedded hospital, called the Vallabh Chikitsalaya, was opened by Government at Nahan. Several eye and surgical camps were organized and a mobile dispensary was started for the convenience of the public living in remote places. The W.H.O. Venereal Diseases team also paid visits to rural areas to give the latest scientific treatment to V. D. patients.

Kutch—The hospitals and dispensaries in this State were very poorly equipped. Some were given new equipment and furniture. The accommodation also was inadequate. Three new maternity homes were opened at Mundra, Anjar and Mandvi.

Manipur—Except for the Civil Hospital at Imphal, all the institutions were poorly equipped and required to be rebuilt. Gradually all the hospitals and dispensaries are being better equipped. Efforts were made to reconstruct some of the old hospitals and also to construct a few new ones with the co-operation of the public. Two hospitals, one at Nimbol and the other at Wangjing and a 4-bedded ward at Mayang, Imphal were thus constructed, and a scheme was also drawn up to get 20 subsidized dispensaries constructed by the public without any cost to Government. With little subsidy (Rs. 24,000) from Government, the public constructed 10 dispensaries and staff-quarters themselves as per approved designs. Five pucca sheds for accommodating 30 patients were constructed at a cost of Rs. 22,000. Four camp dispensaries, one touring dispensary for refugees and one dispensary for the Saiton refugee colony were opened during the period under report. In order to ensure better medical help in the hills where population is sparse and communication difficult

medicines worth 10,000 were distributed along with instruction charts. With the help of the public, additional dispensaries were established in the hills at nominal cost to Government.

Tripura—Compared with previous years, marked improvement was effected in respect of medical relief in Tripura during the year, 1952. A ward was added to the 46-Bed V. M. Hospital. A children's hospital run by the Rehabilitation Department, was taken over by the Directorate in 1952 and is being run as a part of the V. M. Hospital. The V. M. Hospital had eight different departments, and their number was increased by opening two more, an ophthalmic clinic and a maternity centre which were of great service to the people.

An eye clinic has also been started at the V. M. Hospital which functions once a week with the help of an Honorary Medical Officer. These facilities did not exist before and the public has greatly benefited since.

Vindhya Pradesh—New buildings were put up for a 200-bedded hospital at Rewa, a 40-bedded hospital at Sindhi and a 12-bedded female ward in the District Hospital at Panna. New Hospitals were also opened at Hanumana in district Rewa at Angor. The zanana hospital at Rewa was merged with the Gandhi Memorial Hospital, Rewa.

Andaman & Nicobar Islands—A new dispensary building was constructed at Humphreyjunj and four new dispensaries were opened at different places. A new Hospital building was constructed at Car-Nicobar from the Money donated by Messrs. Akoojee Jadwel and company, a local enterprise.

2. X-ray and Radium Treatment

Radium Treatment.—Facilities for radium treatment remained inadequate as before. At the end of the year, 1952, the number of institutions providing radium treatment was only 39 in the whole country as against 27 in the year, 1949. The total quantity of radium available in 1952 was 12,365.77 mg. as against 8,711.91 mg. in 1949. Most of the increase in the quantity of radium in use is accounted for by institutions in the Madras State. Detailed information on a State-wise basis is given in the following Table :—

State	Name and location of the hospital providing Radium treatment	Quantity of radium available	
		1949	1950
(1)	(2)	(3)	(4)
		mgms.	mgms.
ASSAM	American Baptist Mission Hospital, Gauhati	100·00	85·00
	Khasi Hills Welsh Mission Hospital, Shillong	300·00	550·00
	Assam Medical College Hospital, Dibrugarh	Nil	468·57
	Patna Medical College Hospital, Patna . . .	828·49	824·57

(1)	(2)	(3)	(4)
		mgms.	mgms.
BOMBAY	Tata Memorial Hospital, Bombay	2,300·00	2·00
	Seth Vadilal Sarabhai Genl. Hospl., Ahmedabad	258·00	258·00
	Shri Sayaji General Hospital, Baroda	Nil	194·97
	Vail Institute, Miraj Medical Centre, Miraj . .	Nil	100·0
	Cama & Albles Hospitals, Bombay	Nil	50·00
	Municipal General Hospital, Sion	Nil	50·00
	Dr. K. M. Shah, M.S. (Bombay), Ahmedabad	Nil	62·00
	Dr. S. B. Anklesaria, M. D. (Bombay) Ahmeda- bad.	Nil	50·00
MADHYA PRADESH	Christian Hospital, Mungeli	Nil	150·00
MADRAS	Christian Medical College Hospital, Vellore . .	Nil	118·94
	Sunder Memorial Hospital, Ranipet	Nil	50·00
	King George Hospital, Visakhapatnam	150·00	383·00
	Govt. Ophthalmic Hospital, Madras	15·00	12·00
	Govt. Hospital for Women & Children, Madras	265·32	617·98
	Barnard Institute of Radiology, Government General Hospital, Madras.	514·84	1,590·02
ORISSA	Sriramchandra Bhanj Medical College Hos- pital, Cuttack.	500·00	519·19
PUNJAB	V. J. Hospital, Amritsar	200·00	200·00
	Memorial Mission Hospital, Ludhiana	210·00	210·00
U.P.	Sarojini Naidu Hospital, Agra	410·00	400·00
	Eye Hospital, Sitapur	50·39	60·00
W. BENGAL	Medical College Hospital, Calcutta	338·50	338·50
	Presidency General Hospital, Calcutta	122·87	122·87
	R. G. Kar Medical College Hospital, Calcutta	175·00	175·00
MADHYA BHARAT	M. T. Hospital, Indore	75·00	150·00
	J. A. Hospital, Gwalior	Nil	350·00

(1)	(2)	(3)	(4)
		mgms.	mgms.
MYSORE	Victoria Hospital, Bangalore	500·00	500·00
	Bowring & Lady Curzon Hospitals	124·00	124·00
	Krishnarajendra Hospital, Mysore	114·50	145·00
RAJASTHAN	Ganga X-Ray & Radium Institute, Bikaner	140·00	140·00
SAURASHTRA	Irwin Hospital, Jamnagar	500·00	447·00
	Sir Takhtasinghji Hospital, Bhavnagar	97·00	97·00
TRAVANCORE- COCHIN	General Hospital, Trivandrum	148·00	148 grms.
	General Hospital, Ernakulam	150·00	150 grms.
DELHI	Lady Hardinge Medical College Hospital, New Delhi.	125·00	247·00
HIMACHAL PRADESH	Himachal Pradesh Hospital, Simla	Nil	227·73
		8,711·91	12,365·77

N. B.—Other States had no hospitals with facilities for radium treatment.

X-ray Treatment.—Facilities for X-ray treatment are equally meagre. The total number of major and minor X-ray sets available in the whole country was 318 and 478, respectively, during the year 1952 as against 344 and 264, respectively, in the year 1949.

The following tables gives State-wise, the number of hospitals having X-ray facilities, the number of X-ray sets available and the number of X-ray examinations done during the years 1949 and 1952.

The number of hospitals in the whole of India having X-ray sets (major and minor sets) was, as under:—

Year 1949	344
Year 1952	465

Thus, only 5% of the hospitals and dispensaries have X-ray facilities.

Facilities for post-graduate training in X-ray diagnosis and radium therapy although far from adequate, are slowly developing.

3. Blood Transfusion Service

The importance of this vital service in the treatment of patient suffering from various diseases and casualties cannot be too strongly emphasized, and is recognised all over the country. The greatest difficulty, however, lies in obtaining the requisite supplies of blood. These are not readily available, even on payment.

During the years under report, there has been some progress made in the extension of Blood Transfusion Service in various parts of the country in the shape of an increased number of Blood Transfusion Centres where

some already existed, and by the creation of Centres at places where there were none. The large amount of blood drawn and transfused in most of the Centres towards the concluding years of the period under report indicate that the activities of the Centres have gradually expanded. There still remain a considerable amount of apprehension in the minds of the public with regard to the after-effects of donation of blood; and propaganda and educational activities which most of the Centres have found necessary to maintain the present level will have to be strengthened to arouse greater enthusiasm in the population at large. Relatives and friends of patients apart, the main source of supply of blood continued to be from the inmates of jails, educational institutions and industrial organisations. The fact that some non-official agencies have recently come in the field is a happy sign of the acceptance of Blood Transfusion Service as an essential component of health services.

In addition to routine grouping and matching work on the basic rules, some amount of work has also been done at some of the Centres on the Rh factor. Preparation of plasma has been undertaken only at some of the large well-established Blood Banks. Training facilities are also being provided for blood transfusion workers by some Blood Banks.

The following is a brief account of special measures adopted by some States for overcoming the initial difficulty in collecting blood :—

In East Punjab, a Blood Transfusion Society, comprising of energetic influential members of the public, was formed in 1950 at some of the district headquarter hospitals to help the Blood Transfusion Unit of the hospital in collecting blood from voluntary donors. The service is being extended to all the district headquarter hospitals. A mobile bleeding unit has also been organised at the Blood Transfusion Centre in the V.J. Hospital at Amritsar to collect blood from outside the City.

The Government of PEPSU sanctioned payment at the rate of Rs. 25 to each voluntary donor, and initiated a scheme whereby prisoners donating blood received remission in the term of their imprisonment at rest and good diet for a week in the hospital. These two steps proved successful, particularly the jail scheme which showed that 50% donations came from the Central Jail at Patiala.

A Blood Bank under a specially trained pathologist has been established on a permanent basis in the Victoria Hospital, Bangalore (Mysore). Experience of its working has shown that blood donors do not come forth voluntarily but are usually produced by attendants of patients receiving blood. There are a few professional donors who 'donate' blood on a payment of Rs. 50 to Rs. 100 according to the needs of the recipient.

In order to make its Poor Fund as self-sufficient as possible, the Blood Bank attached to the Irwin Hospital, New Delhi collects donations from the recipients of blood according to their means and pays to each donor a sum of Rs. 10. This system benefits a large number of patients who are unable to secure donors on payment or otherwise, and a large number of major thoracic operations have thus been made possible.

A statement showing the number of Blood Banks in various States of India and the work done by them during the period 1949—52 is shown in Table No. 29.

4. Mental Hospitals and Psychiatric Problems of India

Facilities for institutional treatment of mental patients continued to be meagre. Mental hospitals all over the country were generally over-crowded. Lack of funds prevented the State Governments from opening new institutions or expanding those already in existence. In Punjab, a new mental hospital with 500 beds was established at Amritsar during the year 1949 at a cost of about Rs. 4 lakhs. The Government of Rajasthan also constructed a Mental Hospital 3 miles outside the city of Jaipur. The Government Mental Hospital, Jalna (Hyderabad State) was shifted to Hyderabad and its capacity raised to 600 beds. Two general wards of 48 beds each (male and female) were added to the Mental Hospital, Trichur in the State of Travancore-Cochin. The Mental Hospital, Ranchi was originally constructed to accommodate 1,286 patients; but as it proved inadequate to meet the heavy demand of the three participating States of West Bengal, Bihar and Orissa, 94 additional beds in the male section were sanctioned, raising the total strength to 1,380 in the year 1952.

At the end of the year 1952, there were, in the whole of India, only 33 mental hospitals, having on their roll as many as 13,103 patients against the scheduled accommodation of 10,409 beds. Apart from these, there were the Psychiatric Clinics attached to the Medical College Hospital, Calcutta. The R. G. Kar Medical College Hospital, Calcutta, the King George's Hospital, Visakhapatnam and Sir J. J. Group of Hospitals, Bombay. Mental observation ward also existed at Bhowanipur, Calcutta and at the Jubilee Hospital in Kutch. Against this, the number of mental patients requiring hospitalisation has been computed at 8,00,000, apart from some two million mentally deficient and disordered persons. Expenditure incurred on all the mental hospitals amounted to Rs. 107 lakhs in 1949 and Rs. 112 lakhs in 1952-53. Barring a few, the hospitals functioned largely as custodial agencies, and for want of adequate staff, equipment and funds, the standard of clinical work could not be as high as it should have been. The chief types of insanity were mania, schizophrenia and toxic psychoses. According to the Superintendent, Mental Hospital, Ranchi, schizophrenia is the result of conflicts between the orthodox and the progressive ideals of marriage, political and religious conflicts, and a reaction of the individual to communal tensions. In other types of insanity, the causes are similar, but heredity plays a greater part while in schizophrenia, it is of minor importance.

Cases of general paresis (neuro-syphilis) in women, previously unknown, were also discovered, probably due to better diagnostic facilities, and admitted in the Mental Hospitals, Ranchi. Drugs addiction was found to be responsible for disease in a very few cases.

Table No. 30 gives the names and bed-capacity of mental hospitals, the number of patients admitted and the expenditure incurred during the years 1949 and 1952.

Facilities for the training of mentally defective children existed only in Madras, Bombay and Calcutta. In Madras there was a small block attached to the Mental Hospital, Madras for the training of mentally defective boys. Bombay had a "Home for Mentally—Defective Children" which was managed by the Children's Aid Society, Chembur, Bombay. In Calcutta, arrangements existed at the Lambini Park Mental Hospital for the special training of mentally defective children. The Bodhana Samiti, Tollygunje

also dealt with cases of mental deficiency. This institution was taken over by the Government of West Bengal in 1949 and placed under the Director of Public Instruction, West Bengal, to develop it along sound lines.

CHAPTER VII
HEALTH SERVICES FOR MOTHERS AND CHILDREN

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HEALTH SERVICES FOR MOTHERS AND CHILDREN

In the first few years of life, a child is entirely dependent on the family, specially the mother, and the maternal care programme, therefore, has to be an integral part of the health services for children. Besides, the community health services, such as, environmental health, effective mass control measures for communicable disease, etc., have a direct influence on the well-being of children. A joint programme, maternity and child welfare services, was, therefore, initiated in 1920 when an All-India movement was launched for initiating the services. For almost 25 years, small nuclei of Services were created to provide health services for mothers and children. These centres functioned independently, and not as a coordinated service, to protect and promote the health of mothers and children, in a broad sense.

It is only since 1946 that increasing efforts have been made to provide an integrated medical and health service for mothers and children. Today, the service is part of the General Health Services in most of the States.

The institutional services, namely, maternity hospitals and maternity homes have been considerably augmented in number, and Paediatric Units and Paediatric Wards have been established in some of the training institutions. The maternity centres and maternity and child welfare centres offering domiciliary midwifery services are, in some areas, working in close cooperation with maternity hospitals. Since the health services for mothers and children were first initiated through voluntary effort, voluntary organisations in certain States still play an important role, and the services are a result of joint official and voluntary effort.

It is now being increasingly recognised that for an efficient execution of - maternity and child health programme, the direct measures for the protection and promotion of health of children during the most critical year of development and growth must be provided within the frame work of health services of an area. It is also realised that a comprehensive child health programme must cover the various stages of child life and provide a service which will protect and promote mental, physical and social development throughout the prenatal and natal periods, through infancy, pre-school and school as well as during adolescence.

India with its vast health problems has touched only a fringe of the problem that lies ahead in the field of maternal and child health. Developments in this field and the schemes undertaken with the assistance of some of the United Nations specialised agencies, namely, the World Health Organization and the United Nations International Children's Emergency Fund during the past few years give a hopeful augury for the future.

General Review of Work

In the year 1949, the W.H.O. and the U.N.I.C.E.F. offered aid to India, and the first scheme for maternity and child welfare was initiated in Delhi. A model centre was established in the rural Health Unit of Najafgarh to provide training facilities for various categories, namely, medical

students, public health nurses, health visitors, etc. A paediatric Unit was established in the Irwin Hospital, Delhi and paediatric nursing was also developed. The large hospitals in Delhi and New Delhi received assistance by way of equipment, essential drugs and diet supplements. International staff was assigned by the W.H.O. to assist the State to develop paediatric services and rural health services for mothers and children, and to assist in providing a field for training of the health personnel. This programme was completed by the end of 1952. Meanwhile with W.H.O. and U.N.I.C.E.F. assistance, maternal and child health centres came into being also in the States of Hyderabad, Uttar Pradesh, West Bengal, Bihar and Travancore-Cochin. Each project is framed according to the needs and in accordance with the proposed future expansion of services in a particular State. Great emphasis is laid on prevention of disease and on improved facilities for paediatric training. Some of the projects have undertaken ambitious training schemes, and also provide pilot projects on school health services. The U.N.I.C.E.F. have provided essential equipment, drugs and diet supplements. The W.H.O. have provided trained personnel to work in the States and assist the national staff in the initial stages in developing the services.

Besides comprehensive projects in various States, countrywide programme has been launched to improve the existing services for mothers and children. These projects include provision of essential equipment, drugs and diet supplements to maternity and child welfare centres which have the requisite staff, and the supply of sewing-machines for use of the mothers so that they could be taught to dress their children economically and respectly. Large scale feeding programmes have been undertaken to combat malnutrition, specially in areas which have suffered from grain deficiency and have been affected by floods.

The U.N.I.C.E.F. have also provided equipment for midwives as well as obstetric bags for the teaching institutions to train students and midwives in domiciliary midwifery. In order to improve rural midwifery services, the Government of India have sought assistance from the U.N.I.C.E.F. for training 'dais'. A scheme for the training of 3,500 'dais' has been approved and funds ear-marked for the purpose.

Maternal and Child Health Programme under the First Five Year Plan

The First Five Year Plan has been instrumental in further expanding the services for mothers and children during the years under review. The Planning Commission, in the First Five Year Plan, have ear-marked funds specifically for maternal and child health programmes. Emphasis has been laid on it in the Community Project Development Programme also.

Under the Community Project, each project provides a staff of 3 health visitors and 12 midwives for this service which, as stated before, forms an integral part of the general health service of the Community Project. Each Block of the Community Project provides one main centre and 4 sub-centres for a population of about 60,000 residing in approximately 100 villages. In view of shortage of health personnel in the Community Projects, funds have been ear-marked for training health visitors and midwives to staff the centres. Also, a sum of Rs. 50 lakhs has been provided for maternal and child health services in the rural areas. It is envisaged that approximately 200 such Units will be provided under the scheme, each Unit serving a population of 60,000—the services being offered through two or more centres in each area. It is likely that during the remaining

period of the First Five Year Plan, State Governments will take full advantage of this offer in expanding this service.

Maternal Care

Institutional provision for mothers, *i.e.*, maternity hospitals and maternity homes, has been considerably augmented and there is a substantial increase in the number of maternity beds in urban areas of most of the States. There is also the tendency to establish maternity homes in rural areas.

The following statement shows the number of beds for every 100 births in some of the States:—

Name of State	Number of maternity beds available for 100 births (Urban areas only)			
	1949	1950	1951	1952
Bombay	1.5681	0.9009	1.1145	1.5602
West Bengal	1.6603	0.6498	1.1616	2.8039
Madras	1.3734	2.7115	1.0439	1.1266
Punjab	0.9250	0.7106	0.9753	0.5529
Delhi	0.8784	0.7920	0.7283	0.7476

Name of State	Number of maternity beds available for 100 births (Rural areas)			
	1949	1950	1951	1952
Assam	0.0737	0.1416	0.1751	0.1990
Bihar	0.0320	0.0425	0.0649	0.0665
Bombay	0.4069	0.2868	0.3452	0.5186
Madhya Pradesh	0.0413	0.1018	0.1795	0.1991
Madras	0.3024	0.5796	0.2345	0.2524
Orissa	0.0963	0.1011	*	*
Punjab	0.1294	0.1055	0.1425	0.0056
Uttar Pradesh	0.0605	0.06502	*	*
West Bengal	0.2987	0.145	0.2323	0.5424
Ajmer	0.7479	0.5483	0.5180	0.7376
Coorg	1.2936	1.3000	1.3804	1.2840
Delh	0.7003	0.6320	0.5732	0.5898

*Not available.

In urban areas, the number of beds seems to be nearer the standard of one bed for every 100 births whereas in rural areas the provision for institutional midwifery services remains extremely meagre. The position with

regard to domiciliary midwifery service is, however, not so bad specially in the large States, viz., Madras and Uttar Pradesh where the number of maternity centres for domiciliary midwifery service is steadily on the increase in rural areas and is more than in urban areas as may be judged from a review of the existing midwifery services which reveals a tendency to expand domiciliary midwifery services in rural areas and to concentrate institutional services in urban areas. There is also a tendency to establish small maternity homes. Provision for actual midwifery service is, on the whole, satisfactory in urban areas. Ante-natal and post-natal care has, however, not received sufficient attention with the consequence that only the larger hospitals have ante-natal and post-natal clinics. The need for a high standard of ante-natal care in this country cannot be over-emphasised considering that 90% of abnormal conditions of pregnancy can be prevented or adequately treated through proper ante-natal care. The same holds good with regard to the adverse after-effect of the delivery services. In the areas where good ante-natal care has been provided, results are encouraging and maternal mortality can be reduced to almost 1/10th.

There is dearth of statistical data specially in the field of maternal and child health to ascertain, from time to time, the improvements effected by expansion of services. Efforts have, however, been made to impress on the authorities the need for accurate maternal mortality statistics by including a clause in the death register and having simple proformas for collecting information as to the cause of maternal death. It has also been suggested that in large cities Maternal-Care Committees be appointed to go into the causes of maternal deaths, ascertain if death was preventable and advise the attendant accordingly.

Infant and Child-Care

Child-Care programmes have received very little attention in the past with the result that schemes pertaining to infant-care, and care of the pre-school and school-going child are still in their infancy. There are approximately 1,700 maternity and child welfare centres, half of which are located in urban areas. Each Centre is staffed by a health visitor, one or more midwives or trained 'dais' and a part-time doctor serving a population of 10,000. The work covers various aspects of health and the staff assist the family to improve the health standard with special emphasis on the health requirements of children. The number of children under school-age cared for by each Centre is approximately 1,250 and the number of births taken care annually is 300. Certain amount of school health work is done in the schools close to the Centre. A feeding programme, on a limited scale, is undertaken at the Centre to instruct mothers on the value of early introduction of solids and the proper feeding of infants and young children. Regular medical examinations are made of children and their health supervised, from time to time. Minor ailments are treated at the Centre, specially nutritional defects and conditions due to avitaminosis. The staff regularly visit homes and advise mothers on how economically, yet adequately to provide for the child's requirements at different ages. The existing centres serve only 5% of the population. Schemes under the Community Project Development and the Rs. 50 lakhs Scheme of the First Five Year Plan will, it is anticipated, provide services for another 7% of the population.

Facilities for institutional treatment of sick children are very limited. Some of the large cities provide children's hospitals or wards attached to the

larger hospitals but only a few of these have medical and nursing staff with paediatric training and experience. Although 70% of the general practitioner's work includes paediatric practice, paediatric training at undergraduate and post-graduate level has, in the past, not received the attention it deserves.

The existing maternity and child welfare centres, with their limited staff, carry a heavy load of maternity work and, as a result, the child-care programme does not receive necessary attention. Nuclei of child-care programme are, however, being created under the Community Development projects and under the expansion schemes of rural maternity and child welfare.

Administration of Maternal & Child Health Services

Success in the promotion of Health Services for children in various States largely depends on the provision made for maternity and child welfare in the general health scheme. The Government of India have, since 1948, made technical advice available to the State Health Department. The State Governments, during recent years, have created posts of maternity and child welfare officers to assist Administrative Medical Officers in expanding maternity and child health services. While, some of the States, Madras (1933), U.P. (1946), Bengal (1939), Punjab (1947), Hyderabad (1946), and Orissa (1942) had maternity and child welfare officers' posts in Bombay, Madhya Pradesh, Bihar, Travancore-Cochin, Saurashtra and Delhi were created only during the period under report. Thus, twelve States have special maternity and child welfare sections in their Health Directorates to implement the schemes as a State-wise programme. A review of the health services for mothers and children in these States would indicate that there is a steady expansion, and much local assistance is forthcoming from the public.

Almost every State now ear-marks funds specifically for maternity and child welfare. Thus, some of the State Health Departments are able to maintain a health visitor's cadre, and services of health visitors are offered to various Local Bodies to carry out maternal and child health programmes. Some States also give financial assistance to Local Bodies urban and rural to establish and maintain the centres. Funds so ear-marked range from a couple of thousand rupees in smaller States to several lacs of rupees in some part 'A' States. The proportion of funds devoted to maternity and child welfare is still insignificant compared to the entire public health budget. In the progressive States, it is 1/60th of the total public health budget. In other countries where maternal and child health services are well developed and adequate standards have been achieved, a good proportion of the health budget is devoted to maternal and child health care. It is hoped that when demand for funds in other fields of health lessens and the urgency for existing control measures diminishes, more funds would be available for this service.

The biggest handicap to the establishment of maternal and child health services is the shortage of workers. The Central Government, under their First Five Year Plan, have offered assistance to the State Governments in expanding facilities for the training of health personnel. The midwifery schools and health schools have been expanded under the First Five Year Plan to train a larger number of candidates, and training facilities have also been provided under various maternal and child health programmes.

developed with W.H.O. and U.N.I.C.E.F. assistance. With a view to provide various States with medical officers specially trained in maternity and child welfare work, the department of Maternal and Child Health at the All-India Institute of Hygiene and Public Health has been further expanded for training more doctors and nurses. It is gratifying to record that these facilities are also availed of by other countries in the South-East Asia Region served by the W.H.O.

CHAPTER VIII
MEDICAL RESEARCH

1. Introduction
2. Indian Council of Medical Research
3. The All India Institute of Hygiene and Public Health, Calcutta ,
4. The Central Drugs Laboratory, Calcutta
5. Central Research Institute, Kasauli
6. The Haffkine Institute, Bombay
7. Pasteur Institute, Shillong
8. King Institute, Guindy, Madras
9. Malaria Institute of India, Delhi
10. Nutrition Research Laboratories, Coonoor
11. School of Tropical Medicine, Calcutta
12. B. C. G. Vaccine Laboratory, Madras-15
13. Public Health Institute, Bangalore

CHAPTER VIII

MEDICAL RESEARCH

Introduction

While it can not be claimed that any spectacular or epoch-making advances were made in this country in the field of research during the years under report, yet a number of developments have taken place which are significant and full of promise. The emergence of the Indian Council of Medical Research as successor to the Indian Research Fund Association on a much more stable basis, the re-orientation of its methods of work, the improvement in general standard of the teaching and research institutions, the facilities for post-graduate and research work at many Western Universities made available to Indian teachers and research workers and, lastly, a growing realization of the relatively small part played by medical scientists of this country in this sphere notwithstanding abundant clinical material and opportunities have all served to waken the research conscience of workers. Already there are signs of a change in attitude and outlook; and enquiring minds should, as time goes on, find no lack of opportunities for the pursuit of their work. Research work still continues to depend for its nurture, largely on Government resources, and commercial enterprise or private endowments are yet far from playing the part which they do in the promotion and sustenance of research work in many advanced countries of the world.

The years, 1949—52, formed a period rather more of consolidation and reorganisation of the agencies concerned with research than of any new ventures. The I.C.M.R. under the guidance of its capable and experienced Secretary not only maintained its pivotal position but also gave impetus to research activities in quarters not directly related to it. The following is a brief account of the main activities of the more important agencies or centres for research work :—

Indian Council of Medical Research

The main functions of the Indian Council of Medical Research are the prosecution and assistance of medical research, and propagation of knowledge and experimental measures in connection with the causation, mode of spread and prevention of diseases primarily of a communicable nature. In addition, the Council co-ordinates medical research in India and offers fellowships to suitable candidates for work in recognised institutions. It promotes research work by making temporary grants for specific purposes to independent workers in research institutions, medical colleges and hospitals and elsewhere. Secondly, the Council employs scientific staff of its own; some of the members of the staff work in the Council's Nutrition Research Laboratories at Coonoor; others in several research units of a semi-permanent nature, such as, the Nutrition Research units at Bombay and Calcutta, Clinical Neuro-pathological and Polio Research Units at Bombay, Industrial Health Research Unit at Calcutta, etc.

The programme of research work supported by the Council embraces almost all the fields of medical science. In addition to the programme of

work of previous years, several new research schemes were undertaken. The fellowship programme was re-orientated and the Council proposed to award some fellowships for the training of workers in many specialised fields while reserving a few purely for research. Side by side, the Council considered ways and means to utilise the trained personnel on a more or less, semi-permanent footing within the finances made available by the Government of India. Research units in charge of trained workers have been created in medical and scientific research institutes, *e.g.*, two nutrition research units have been established, one at the University College of Science and Technology, Calcutta and the other at the Seth G. S. Medical College in Bombay. Two clinical research units were sanctioned, one at the Tata Memorial Hospital, Bombay and the other at the School of Tropical Medicine, Calcutta. A neuro-pathological unit is also located in the former institution. A haematological unit has been created to fulfil the urgent need of evolving an organisation for testing liver extracts manufactured in the country and for promoting haematological research on sound lines. A unit for the study of liver diseases has been functioning for some time in the S. N. Medical College, Agra. The question of industrial health is receiving attention at the unit specially established for the purpose at the All-India Institute of Hygiene and Public Health, Calcutta.

Need for the development of a virus research centre in India had been keenly felt since some time. A Virus Research Centre has been established at Poona under the joint auspices of the Indian Council of Medical Research and the Rockefeller Foundation. The work of this centre during its initial stages will be confined to investigation in the epidemiology of virus diseases peculiar to India and excluding, to avoid duplication, the commonly known virus diseases, such as, smallpox, rabies and poliomyelitis. Provision will also be made, in due course, for the training of workers deputed by other agencies of the Central and State Governments as well as for the nominees of medical colleges in the country.

In formulating its research programme, the Council has not only striven to promote fundamental research in medicine and allied sciences in several institutions, but has also kept in view the urgent need for directing specific attention to important medical and public health problems facing the country, particularly in the field of nutrition and communicable diseases.

Nutrition.—In 1943, the Nutrition Advisory Committee had examined at great length the problem of nutrition research and the work then in progress in various laboratories in an attempt to give an orientation to nutrition research in India. The research work done under the auspices of the Council in the last decade had followed, in broad outline, the programme then suggested. In 1951, the Committee took fresh stock of the situation and assigned priorities to certain problems which needed investigation in the interests of the country and of nutritional sciences as well.

The scope of the training course in nutrition which is held at the Nutrition Research Laboratories, Coonoor every summer for a period of about 3½ months has been considerably enlarged. The course includes a series of lectures on various aspects of nutrition, such as, composition of foodstuffs, physiology of digestion and absorption, metabolism of nutrients, energy metabolism, dietary surveys, clinical nutrition, nutritional pathology and application of statistical methods to nutritional studies. Suitable practical training also is given to the trainees to cover the above aspects.

The Nutrition Advisory Committee have initiated certain investigations of practical significance, *e.g.*, a collaborative study on methods of evaluation of nutritional status of children, etc.

Malaria has always been and remains the major health problem of India. While the Malaria Institute of India, Delhi is responsible for undertaking systematic research in various aspects of the disease, the Council has lent financial support to many *ad hoc* Enquiries.

On the recommendation of the Insecticides sub-Committee of the Malaria Advisory Committee, the State Malaria Organisations have been asked to formulate a tentative plan of work under the various State Malaria Organisations regarding obtaining uniform data and formulating the most economical methods for the prevention of malaria transmission by the use of residual insecticides against different known vectors under different climatological conditions in the country.

Cholera still remains a major public health problem in India. There is a considerable lack of knowledge yet on the factors which govern the endemicity of cholera in area. One aspect of the problem, *viz.*, the probability that the infection was retained in the community as mild and generally unrecognizable epidemic was investigated in great detail in the Cauvery Delta. After a thorough bacteriological examination, no cases of mild infection were noted in the community during inter-epidemic periods. A research into this problem has been reorientated to include investigation on the role of fish and other aquatic animals in the maintenance of cholera in endemic areas.

Leprosy.—The Council has continued to support valuable research on leprosy, particularly in the fields of histopathology, bacteriology, immunology and orthopaedic surgery. Some interesting results have been obtained in leprosy research, particularly in the fields of epidemiology, pathology and therapeutics. The manner in which leprosy spreads in a community, and the evolution of the disease in an individual in early stages of infection have been studied in some detail. The mechanism of paralysis in the motor nerves in leprosy is being studied with a view to making a careful assessment of damage to the nerves. Special operative procedures are also being developed in order to afford relief to patients suffering from such complications. Attention is also being paid to the study of deformities and their possible correction by plastic surgery. Lastly, the action of new remedies, *viz.*, sulphone, sulphetrone and thiosemicarbazone have been studied in detail, and a therapeutic regime which can be adopted by most leprosy institutes in India has been worked out. The results have indicated the possibility of utilising these drugs in mass treatment of patients as a measure for the control of disease in an endemic areas.

Filariasis.—It was noted that the oral administration of the drug, Diethyl Carbamazine, in suitable doses, caused disappearance of microfilariae in a majority of cases so treated. Utilising this finding, an investigation was undertaken to ascertain whether mass treatment of the population with this drug would prove a suitable measure for filariasis control. An experiment was undertaken in Orissa. The results of the work so far done seem to suggest that, with suitable precautions, mass treatment with the drug should prove a very useful and more economical procedure for the control of filariasis.

Industrial health.—The importance of industrial health has only recently been recognised in the country. The industrial health research unit of the Indian Council of Medical Research at the All-India Institute of Hygiene and Public Health, Calcutta has made interesting contributions in this field. The subjects investigated include the effect of noise on the efficiency of industrial labour, investigation into accident proneness of certain working classes, vital losses in women due to their occupation, *e.g.*, in the jute industry, etc. Some important contributions were also made in the field of occupational disease, *e.g.*, incidence of acute or sub-acute lead poisoning in printing presses and storage battery manufacturing concerns. It was noted that while acute lead poisoning was rare, sub-acute lead poisoning was prevalent to a very great extent in these industries. Industrial dermatitis also occurred to an appreciable extent in Indian industry. In the field of environmental health, certain standards of environmental comfort have been laid down after fact-finding surveys. Suitable methods have also been recommended for the disposal of industrial wastes from certain factories and textile mills.

Indigenous Drugs.—The study of indigenous drugs has not been neglected. Researches on indigenous drugs have been undertaken under the auspices of the Indian Council of Medical Research (formerly, Indian Research Fund Association) for the last three decades. Most of the work has been undertaken through grants-in-aid to the School of Tropical Medicine, Calcutta, the Drugs Research Laboratory, Jammu, and to other smaller institutions. A number of medicinal plants commonly used by Vaidas and Hakims have been investigated. These have been assayed both chemically and biologically for their active principles. Substitutes for some of the Pharmacopoeial drugs, which do not grow in the country, have been worked out from the allied species growing wild in Kashmir. A number of essential oil bearing plants growing in a state of nature in Kashmir valley and on the hills bordering it have been surveyed. Some of these plants can be commercially exploited immediately. Proposals have also been finalised for the setting up of a Central Institute for Research in Ayurved at Jammu and Kashmir with initial and recurring grants from the Government of India. Investigations are to be carried out under parallel teams of exponents of Ayurvedic and modern systems of medicine.

Important contributions have also been made in other fields, *viz.*, plague, clinical research, maternity and child health, rabies, pharmacology, etc. It is obviously impossible to describe in a few pages of this report the work done by the Council during the year. Any account of achievement in medical, as in other scientific research is bound to be misleading unless it is borne in mind that virtually every conspicuous advance depends on a mass of unspectacular work, all of which is indispensable to the final result. Read in this context, the technical report of the Scientific Advisory Board for the year 1952, which describes in detail the researches carried out under the auspices of the Council during the year, will show that some measure of progress has been achieved by the Council in the field of medical research.

Eleven Advisory Committees were appointed by the Scientific Advisory Board to help it to initiate and organise research activities in several fields of medicine and public health, *viz.*, cholera, malaria, nutrition, leprosy, plague, clinical research, filariasis, virus research, industrial health and pharmacology. In addition, special committees were appointed for subjects like tuberculosis, venereal diseases, etc. The Advisory Committees, as in the

past, not only examined the various proposals received by the Council but, in several instances, indicated new lines of investigation in their respective fields. The extended programme of research in nutrition, malaria, leprosy, cholera, industrial health, clinical research and other diseases was due to the useful suggestions received from the Advisory Committees.

The All-India Institute of Hygiene and Public Health, Calcutta

General.—The institute continued to make valuable progress during the years under review in respect of its three-fold functions, viz.: (i) training of personnel in various branches of Public Health, (ii) researches on problems of public health interest, and (iii) development of economical and practical methods of community administration for ensuring a high standard of health to the people of rural areas.

Training.—The academic programme of the Institute has been enlarged by inauguration of a course for the Diploma in Dietetics under the Calcutta University. The courses given at the Institute are :—

- (1) D.P.H. and D.P.H. & Hy.
- (2) D.M.C.W.,
- (3) M.E. (Public Health),
- (4) Short Course in Nutrition,
- (5) Short course in Industrial Hygiene,
- (6) Short course in Public Health Engineering,
- (7) Short course in Laboratory Techniques,
- (8) Short course in Biometric Technique, and
- (9) Short course in Maternity & Child Welfare.

The one-month field-training of D.P.H., D.P.H. & Hy., and D.M.C.W. students and the short period training of other students was carried out at the Institute's rural practice field centre at Singur.

Rural Practice Field at Singur.—The activities of Singur Health Centre were carried out on the same lines as in previous years, the main lines of work being : (i) control of communicable diseases, (ii) improvement of environmental sanitation, (iii) maternity and child welfare, (iv) school health, (v) improvement of vital statistics, (vi) control of malaria, and (vii) health education.

Laboratory facilities.—The field laboratory attached to the Centre provides free diagnostic aid to every individual whether he is treated by a local medical practitioner, at a dispensary or a hospital, at a maternity home or a maternity and child welfare clinic or at a school clinic, within the area of the Union Boards of Singur, Balarambati, Bora and Begumpur. These facilities have during the year been extended to the neighbouring Union Boards like Nasibpur, Anandnagar, Gopalnagar, etc., thus leading to a steady increase in the work of the laboratory. The examination of material collected from the field in connection with various investigations is also undertaken by the laboratory. During the year, following specimens were examined :—

Blood	.	.	.	.	.	.	2,844
Stool	.	.	.	.	.	.	1,458
Urines	.	.	.	.	.	.	485
Other specimens (water, sputum urethral smear etc.)	.	.	.	.	.	.	269

Laboratory service.—(a) 2,121 yellow fever inoculations were given to persons going abroad. 6 persons were given typhus inoculations.

(b) 56 samples of water tested bacteriologically.

(c) Three samples of smallpox vaccine lymph were tested for standard potency and level of standard purity. The yellow fever vaccine stock was tested twice during the year for potency in mice.

(d) 26 samples of rice, milk-powder, condensed milk, groundnut powder, etc., were analysed for their suitability for human consumption and vitamin content at the request of Government and other agencies, such as, the Red Cross Society.

(e) 6 samples of milk and rice grains were analysed for their suitability for human consumption and vitamin content at the request of Government and the Indian Red Cross Society. In addition, 300 samples of milk were tested in connection with the standardisation of methods for the purity of milk.

Research.—Among the problems investigated, the following may be mentioned :—

(1) *Aetiology of eosinophilia of the lung*

(i) The occurrence of acarina mites in the sputum of affected persons.

(ii) Examination of blood for cold agglutinins and heterophile antibodies.

(iii) Cultivation of the causative organisms in tissue culture.

(2) *Cholera Enquiry*

(i) Haemolytic test for identification of *V. cholera*.

(ii) Agglutinin response as an index of endemicity of cholera.

(iii) Isolation of cholera vibrios from natural sources of water.

(iv) Study of mutation of vibrios.

(3) *Typhus Enquiry*

(i) Study of Indian rat mites and their life cycles and role in transmission of typhus.

(ii) Congenital transmission of scrub typhus by *T. deliensis* over four generations.

(iii) Attempts at cultivation of *R. orientalis* in the yolk sac of developing chick embryo and in artificial culture media.

(4) *Epidemiology of plague in Calcutta*

The investigation aimed mainly at elucidation of various factors connected with the epidemiology of plague, viz., the plague organisms, the rat, the flea, the man and the environment, and their interaction and changes which bring about the epidemic, endemic, pandemic, inter-epidemic and inter-pandemic phases of the disease. The main lines of studies were as follows :—

(i) Study of rodents in regard to their migration habits, species distribution, flea indices, plague infection and resistance.

(ii) Study of fleas in regard to species distribution and seasonal fluctuation.

(iii) Study of plague organism in regard to dissociation and virulence.

(iv) Study of human cases in respect of distribution, persistence and dissemination and in regard to clinical, immunological, sociological and relevant environmental conditions.

(v) Study of meteorological conditions, such as, temperature, humidity and pressure, etc., influencing the epidemiology of plague.

(5) *Carotene concentrate from water-hyacinth*

A satisfactory method for the production of carotene concentrate from water-hyacinth has been worked out.

(6) *Biochemical changes in blood in "phrynoderma"*

A careful biochemical line of approach does not seem to confirm the view that phrynoderma is attributable to vitamin A deficiency. Evidence has been brought forward showing that unsaturated fatty acid deficiency might be the "biochemical lesion" in phrynoderma.

(7) *Feeding trials with 'Multipurpose Food'*

The food was prepared suitably and given to groups of boys and girls in an orphanage. Periodical assessment of nutritional status and biochemical evaluation for nutrients in blood and urinary excretion was followed.

(8) *Metabolism of Vitamin A excretion in urine*

The relationship between purine excretion and vitamin A elimination in urine in pathological cases has been worked out. A method has been worked out for simultaneous determination of vitamin A and carotene in blood which contains the latter in high concentration. Preliminary progress has been made in fractionating the blood-protein which contain high concentration of vitamin A.

As a result of experimental evidence, reasons are adduced that, most probably, vitamin A is held in urine in solution as molecular complexes with solutes of urine by the residual affinities just as a large amount of lipids is loosely combined with protein and held in water-soluble form as "Lipoprotein."

(9) *Psychological effects of excess noise on the efficiency of Jute Weavers*

It has been found that excess noise (97 decibels) in weaving sheds does not effect the efficiency of all workers alike. A majority of the workers remain substantially unaffected. A few amongst them however, show significant changes for better or for worse in their production when noise is reduced by the use of ear defenders.

(10) *Reproductive pattern of urban and rural population*

The enquiry on this problem has yielded interesting results.

(11) *Vital losses in the rural population*

A few interesting facts that have come out of the enquiry are :—

(a) Among live-births only 0.4% of the deliveries need medical interference. (b) Still birth rate is 5%. (c) Prematurity is the most important cause of infant deaths, contributing nearly 44% towards the total. (d) Rural people, as a rule, prefer home delivery inspite of adequate provision for institutional care.

(12) *Assay of riboflavin*

Estimation of Indian foodstuffs by the microbiological technique for the assay of riboflavin was made.

(13) *Lac wastes and their disposal*

A number of preliminary tests were made and the carrying out of experimental treatment on a semi-plant scale was contemplated.

(14) *Effect of water and sewage treatment methods on the survival of intestinal parasites*

Studies on the intensity of parasitic infection from sewage and the possibility of removing the disease-producing cysts and ova of intestinal parasites by various methods of treatment were continued.

(15) *An average standard for the pregnant women of West Bengal*

This study was confined mainly to the collection of blood from pregnant-women visiting the Institute and Singur Health Centre, and Maternity & Child Welfare clinics with the object of getting an average standard for the pregnant women of Bengal. A total of 538 such samples was collected and examined during the year, and 1,000 such blood records, previously collected, are being analysed. In some of the cases, stools also were checked for pathogenic organisms. Urine was tested for albumin and sugar, in all cases.

(16) *Lipotropic activity of some Indian foodstuffs*

Experimentally fatty livers were produced in albino rats by dietary means (the diet included fat at 20% liver groundnut oil). The crude fat content of such liver was found to be 12% while in the normal it is about 5%. Histological studies confirming fatty infiltration were also made. For the curative diet, broad beans, black gram and groundnut were included at 40% level in the diet. These contain methionine from 112 mg to 164 mg per 100 gms. At the proportion given, they constitute a supplement of 10% in the protein content of the diet which otherwise contained 5% protein thus making a total of 15% level of protein. In four weeks, these diets were curative to experimental rats, and the liver-fat estimation showed that the crude fat-content had returned to normal. This was confirmed by histological studies. It is evident that the findings will have important applicability in the dietotherapy of "Liver" cases in the hospitals.

(17) *A Public Opinion Survey of Certain Aspects of Indian Population Problem.*

The role of man's attitude to certain social customs and practices influencing the population growth of Indian population was studied by a survey conducted on a sample of 4,075 men from three main population groups residing in Calcutta, viz., a predominantly lower middle class Hindu group, an upper middle class Hindu group and a Muslim group. The object of this survey was to elicit information which would help administrators in planning a proper population policy for the country. Two investigators were sent out to contact men, selected for survey, in their houses and collect information according to a schedule. The attitude of men towards questions, such as, limiting family size and checking population growth by changing social customs like early marriage, encouraging women's education, etc., was analysed in the course of the survey and correlated with the fertility pattern in these population groups.

The Central Drugs Laboratory, Calcutta

The main work of the laboratory, during the years under review, continued to be the registration of patent and proprietary medicines with undisclosed formulae and the analysis of samples sent to it by the Assistant

Drugs Controllers, Collectors of Customs, State Governments and Courts of Law under the provisions of the Drugs Act, 1940 and the Rules thereunder. In addition, analytical services were undertaken on behalf of the Directorate of Technical Development of the Defence Ministry, and expert opinion on matters referred by various State Governments continued to be given.

Administrative changes and additions to the staff of the laboratory.—Drugs Laboratory is divided into 5 Technical Sections and an Administrative Section, thus : (i) Pharmacology and Bio-assay, (ii) Pharmaceutical Chemistry, (iii) Biochemistry, (iv) Microbiology, and (v) Pharmacognosy. Lack of space compelled the Laboratory to function in different buildings. This dispersion made it difficult for the Director to carry on the administrative work of the Units and to integrate the research projects properly.

Control of Patent and Proprietary Medicines.—Under the Drugs Act, 1940 and the Rules thereunder, it is now incumbent on all manufacturers of patent and proprietary medicines with undisclosed formulae, whether indigenous or imported, to have their medicines registered at this Laboratory. Nearly 800 such samples were received during the year 1949, most of which were analysed and reported on. The secret formula is sent over to the Director in a closed cover, and it is his function to open it, have the sample analysed by expert analysts and issue C.D.L. Registration Numbers. This new work added a heavy load to the routine duties of the laboratory, but, in view of its importance, it had to be attended to. In addition to analytical work, it is also necessary for the laboratory to check labels, cartons, literature, packing material, etc. Medicines are registered and a C.D.L. number is given only when all these are found not to contravene provisions of the Drugs Act. Special care had to be taken, particularly in connection with items mentioned in Schedule C of the Drugs Act, *i.e.*, Biologicals, Antibiotics, Chemotherapeutic drugs of the type of Neoarsphenamine, meant for parenteral use, injectable products, etc. This activity is meant to reassure the purchasing public that the proprietary remedies bearing a C.D.L. number are not such as would lead to undesirable consequences. Granting of a C.D.L. number to a proprietary product with secret formula does not, however, imply that the laboratory recommends its acceptance by the public. It only gives the public the confidence that there is nothing injurious in the remedy and that the claim of the manufacturer has been fully checked by a Government Laboratory.

Control over Imported Drugs.—In continuation of the work started in this direction earlier, the examination and testing of all preparations imported through the main Indian ports at Calcutta, Bombay and Madras were followed up under the drug control administration of India.

Training of officers and analysts.—In addition to its function as the final authority on matters pertaining to the registration of patent and proprietary medicines, analysis of drugs, etc., the Central Drugs Laboratory has been required to train post-graduate and scientific workers deputed by different State Governments.

Research work.—The Pharmacology Section completed the problem of standardisation of liver extracts by recording the reticulocytic response in pigeons when liver extract was injected into the pectoral muscles of pigeons in small divided doses for a period of 3 days. Though this Laboratory method of assay of liver extract is still not considered the final answer to the problem of standardisation of this class of drugs, it is felt that the method could be utilised for the 'screening' of good liver extracts from the absolutely useless

and non-potent ones. Work was also continued in this Section on biological estimation of the presence of histamine and histamine-like substances in glandular and tissue extracts.

In the Microbiology Section, considerable time was devoted to the organisation of a scheme of microbiological assays of vitamins, aminoacids, etc. Work in connection with vitamin B12 (Riboflavin) has already been completed and efforts are now being made to develop an acceptable method for the estimation of vitamin B12 which is considered to be the most important anti-anaemic factor in liver preparations. Work in connection with the standardisation of anti-biotics, such as, Pencillin, etc., has progressed very satisfactorily, and the laboratory is now giving opinion on all the newer anti-biotics which are being imported and sold in the Indian market.

In the Biochemistry Section, photo-electric, colorimetric, and fluorometric method using Lumetron E.F. apparatus have been employed for the determination of vitamin A in fish liver oils, vitamin oils, vitamin capsules and tablets. The utility of this method and its limitations are being examined on a wider scale.

Work for the Defence Department.—Since 1943, this laboratory has been serving as an Advisory body to the Director of Technical Development, Medical Stores Inspection; and, during 1949, considerable amount of testing work was conducted on behalf of the Defence Department.

Quantity of Sera, Vaccines etc., manufactured during 1951.....Nil
Quantity of Vaccines Sera, etc., supplied during 1951 to various Provinces, States, Unions, etc.....Nil
Number of bacteriological examinations, etc., done during 1951 are tabulated below :—

Sterility Tests	Antibiotic Assay	Disinfecting Fluids R.W. Tests	Micro-biological assay of Vit. B-12	Miscellaneous	Total
1,301 Samples	91 Samples	217 Samples	195 Samples	21 Samples	1825 Samples

Statement showing the number of other samples examined and tested
(a) Pharmaceutical chemistry Section

Categories	No. of samples tested	Standard	Non-Standard
B.P., B.P.C., Miscellaneous Drugs	1,552 Sample	1,396	156
Customs	276 Samples	267	9
Patent & Proprietary	348 Samples	—	—
TOTAL	2,176 Samples	—	—

(b) *Biochemistry Section*

Categories	No. of samples tested	Standard	Non-Standard
B.P., B.P.C., & Miscellaneous drugs	254 Samples	229	25
Customs	50 Samples	48	2
Patent & Proprietary Preparations	120 Samples	—	—
TOTAL	424 Samples	—	—

(c) *Pharmacology Section*

B.P., B.P.C. & Miscellaneous drugs	739 Samples	595	144
Customs	18 Samples	18	
TOTAL	757 Sample	..	—

Further progress on the purification of melanophore hormone of the pituitary gland has been effected and it is now found to be 'biologically free' practically from all anterior and posterior pituitary hormones except thyrotropic and an significant amount of adrenocorticotropic hormones.

The purified hormone can definitely increase the melanin content of the skin of fish (*glarins bratracus*) and amphibia (*Ranatigrina*) when it is injected intraperitoneally on a few consecutive days in doses of 1 mg/day. Similar experiments on white rats were unsuccessful and were explained as due to absence of melanophore cells—the prospective melanin forming units—in their skin. Experiments are now being conducted on grey native Indian rats and black rabbits which have melanophore cells within their skin, and it is hoped that this study will furnish the answer whether the melanophore hormone has any influence on the warm blooded animal so far as its melanin synthesis of the skin is concerned.

Melanophore hormone has no effect on the liver, kidney and skin phosphatase activity of guineapigs, frogs and rabbits. Its influence on the tyrosinase activity is being investigated.

An investigation on the role of gonadotropic hormone in the prevention of testicular atrophy caused by adrenaline has been completed and submitted for publication in the Proceedings of the National Institute of Sciences of India.

Indigenous Drugs

(a) *Assay of Indian Aconites*.—Eleven samples of 8 different varieties of aconite available in the Calcutta market were examined chemically for their total and ether-soluble contents. All of them were found to be very rich in alkaloidal content (1.0 to 3.1% and 0.5 to 3.0% of total and ether-soluble alkaloid contents, respectively). The alkaloid content of *A. Chasmanthum* is quite high, and is physiologically active.

Research Activities

Heavy routine work through the years left but little leisure for the technical staff of this Laboratory to devote to research work. Even so, research problems in connection with standardisation work as well as those of academic nature in the individual unit of this Laboratory always received encouragement. Meanwhile, it is gratifying to record that most of the junior workers had picked up routine methods of analysis of drugs. All special investigations, however, and particularly all new products were, as a rule, entrusted to the senior staff including the heads of different units.

The type of research work undertaken in this Laboratory is usually of two kinds :—

(i) research work pertaining to standardisation problems and (ii) academic and applied type of research in connection with new products or other therapeutic agents commonly used in clinical practice. Whatever work is done in this Laboratory, it is the result of well co-ordinated 'team work' as all the sections are inter-dependent not only in research work but also in its day-to-day activities. Thorough investigation of a new product means chemical, biochemical, bacteriological and pharmacological investigation. This will be more evident from the details of research work described hereafter. The Laboratory enjoys the unique advantage of being in a position to subject an imported therapeutic product to all the required investigations before it is declared as 'safe', and certified as coming 'up to the standard'.

Each department has its own problems to probe into, and it will be interesting to review the variety of research work undertaken during the years under report :—

Considerable amount of experimental work has, of late, accumulated on *Rauwolfia* plant, and interesting results have been published from time to time. The plant has been found to possess a powerful hypotensive property, and preparations, such as, tinctures, liquid extracts and pills containing its active principles are now being sold in the market for treatment of high blood pressure. Results of a comparative study made of the pharmacognostic characters of *Rauwolfia canescens* and *R. serpentina* and the pharmacological actions in detail of *R. canescens* await publication.

In 1952, the Sections of Pharmaceutical Chemistry and Biochemistry were engaged in finding out newer methods of separation, identification and assay of drugs, including hormones and vitamins.

Paper partition chromatograph has recently been utilised in separation, identification and quantitative estimation of drugs. With certain modifications of the method recently introduced, it has been possible to assay the adrenaline content of various B.P. preparations in the presence of other substances. The chromatograms obtained with test solutions of adrenaline

have been compared with those obtained with solutions of different strengths of standard adrenaline solution and the strength of the test solution determined. - The method is being improved and the details of processes involved will be published, in due course.

Another new drug received for test by the trade name, *Antabuse* manufactured by Medicinal Co., Copenhagen (Denmark), was claimed to be a remedy for chronic alcoholism. An examination of the published literature on this subject reveals that the careless use of this drug is fraught with dangerous possibilities, resulting even in death of the person to whom it is administered. It acts as a metabolic poison, preventing complete oxidation of ingested alcohol and resulting in the accumulation of toxic acetaldehyde which is an intermediate compound in the metabolic oxidation and disposal of alcohol. Extensive animal experiments have been carried out in this Laboratory elucidating the mechanism of its action.

Maintenance and distribution of International Biological Standards.—The Central Drugs Laboratory is the custodian of International Biological Standards and is the 'National Centre' for their distribution to the manufacturing concerns, research laboratories and other organisations requiring these standards for quality control of their pharmaceutical products.

The Laboratory received a supply of these International Standards from the National Institute for Medical Research, Mill Hill, London, (U.K.), from time to time, and distributed them to different institutions.

Researches conducted at the Central Research Institute, Kasauli

(1) *RABIES: Observations on recovery from rabies.*—During the course of rabies experiments, it was observed that an occasional mouse or guineapig which had been immunized with antirabic vaccine soon after infection with rabies virus, showed signs of illness suggestive of rabies but did not die of the disease. So far have been observed eleven mice and seven guineapigs, out of several thousands used, which either recovered from the disease or remained partially paralysed for several weeks. These animals—whether infected with fixed virus or street virus—commenced to show symptoms just when other animals used in the experiments were developing rabies. All these cases of prolonged illness, which lasted from 14 to 25 days, were observed in treated animals, but never in controls. The treatment, in some instances, consisted of vaccine alone, and in others, of vaccine plus immune serum. At the time of death, brains of these animals were examined for negri bodies and portions were sub-passaged into mice, but in no instance were negri bodies found and all passaged proved negative. One of the guineapigs, however, is of special interest and details concerning it are, therefore, given in full. This animal was infected with street virus followed 2 hours later by a course of vaccine and serum therapy. Symptoms suggestive of rabies-paralysis of hind legs developed 24 days after infection. Eleven days later, the animal was anaesthetised and a small piece of the left parietal lobe removed. The animal recovered from the operation and died 32 days later, *i.e.*, 67 days after infection and 43 days after the commencement of illness. No negri bodies were found, and passage of the brain into mice failed to infect; but the portion of the parietal lobe which was passaged into four mice on the eleventh day of illness infected one of the mice. Again, no negri bodies were found in the brain of this mouse but sub-passage of its brain into 17 other mice proved positive, all the animals developing rabies within 6 to 10 days, negri bodies being present in the brain of everyone of them. This appears to be a case of recovery from

rabies and an example of 'neuro-sterilization'. Further work on this problem is in progress.

(2) *"One shot" vaccine versus multiple doses.*—As is well known, repeated small doses of a bacterial vaccine evoke a better response than one large dose even though the total quantity of antigen injected by the two methods is the same. This is also true of antirabic immunization, and this observation has been confirmed in post-treatment infection of guineapigs challenged with rabies fixed virus. The results show that the use of 'one-shot' therapy may be justified in that its popularity will induce many more people to have their dogs treated though it seems certain that it will not afford the best available degree of protection. For mass inoculation, 'One-shot' therapy is recommended but it should be impressed on individual dog-owners that a full course of seven injections is far more effective and is to be preferred.

(3) *Antirabic Vaccines prepared in saline and in distilled water.*—Previous experiments carried out at this institute in 1949 and 1950 had shown that distilled water served as a better menstruum for suspending brain substance than physiological saline and that antirabies vaccine prepared in distilled water gave earlier protection than the one prepared in saline. Accordingly, vaccines prepared with distilled water as menstruum show that distilled water served as a better menstruum for suspending saline. Accordingly, vaccines prepared with distilled water as menstruum were taken into routine use in the treatment of humanbeings from 1st January, 1951. Medical Officers incharge of Antirabic Treatment Centres were not informed of the change in the mode of preparation of the vaccine and were not asked to submit any special returns, other than those in ordinary use, for the year. Figures for 1951 are comparable with those of previous years as dosage of vaccine remained the same, and the populations treated were from indetical areas. The following table shows the number of deaths occurring in patients fully treated, year by year :—

Year	No. of cases fully treated	Percentage of Health returns received	No. of death reported
1942	23,906	71	90
1943	26,161	72	80
1944	25,993	80	65
1945	25,919	81	58
1946	32,140	38	51
1947	26,117	39	52
1948	29,957	50	20
1949	31,399	65	43
1950	30,795	70	45
1951	34,267	27	5

It is too early yet, to draw any conclusions from the above figures as the number of health returns received so far, is considerably lower than that for the previous years; but the indications are that this minor alteration in the method of preparation of vaccine has had a favourable result.

T.A.B. Vaccine.—So far, there is no singly established method or any standard reference preparation which can be used as a basis for comparison of different vaccines. Experiments, adapting Griffith's technique, (1944) were conducted for assessing the potency of various batches of the finished product of T.A.B. Vaccine. Griffith's technique for testing the potency of T.A.B. vaccine has given consistent and reproducible results in our hands. As previously reported, the vaccine appears to retain its potency for a minimum period of 3 years from the date of manufacture. The results on the subject have been published in the Indian Journal of Medical Research, (1952).

Tuberculosis.—A number of synthetic organic compounds prepared in India and recommended for their anti-tuberculous properties were tested by 'in vivo' and 'in vitro' tests. None of these compounds had any appreciable tuberculostatic action as compared with para-amino-salicylic acid. The results have been published in the Indian Journal of Medical Research (1952).

Hydrazid (Iso-nicotinic acid hydrazid).—This synthetic drug for the treatment of tuberculosis was first reported on in April, 1952. A supply of it was made available to the Institute by Dr. P. V. Benjamin, Adviser in Tuberculosis to the Government of India, for trial in laboratory animals. The drug was found as effective as streptomycin in experimental tuberculosis in guineapigs. The results of this inquiry have been published in the Indian Journal of Medical Research, (1952).

Cholera.—At present, there is no recognised test for evaluating the potency of cholera vaccine. The Biological Standardization Committee of the World Health Organisation has entrusted this Institute with the task of working out a simple and practicable method which could be universally employed to assess the suitability of cholera vaccine for prophylaxis. Work is in progress.

Investigations were made on the enzymes of cholera and non-cholera vibrios. Enzymes capable of dissolving purified collagen, elastin, ovomucin, starch and of inverting canesugar were detected in filtrates of both cholera and non-cholera vibrios. These findings and their possible role in the pathogenesis of cholera have been published in 'Nature' (1952) and in the Indian Journal of Medical Research, (1953).

Studies on the effect of Prolonged Inhalation of Insecticides.—An experiment was stated with the object of determining whether the continued inhalation of commonly employed insecticides, over a prolonged period, caused a greater incidence of diseases of the respiratory tract.

Groups of hundred guinea pigs each, were housed in separate rooms and the rooms were sprayed regularly—Room No. I with Kerosene Oil alone; Room No. II with 10 per cent D.D.T. in Kerosene oil and Room No. III with Flit containing D.D.T. (Commercial preparation). The fourth room was not sprayed, the animals in it serving as controls.

One ounce each of the above solutions was sprayed three times a week in respective rooms after the animals had been let out. One to one and half hours later, a layer of straw was spread on the floor, and the animals were let in and allowed to remain till the next spraying. Postmortem examination of the animals was carried out as and when they died. Sections

obtained at postmortem are now being examined.

The Haffkine Institute, Bombay

The Institute continued to maintain a steady progress in the field of research and the manufacture of biological and chemotherapeutic products. Dr. P. M. Wagle, Director of the Institute visited the U.S.A. on a fellowship.

Department of Entomology.—In addition to routine work on the identification of fleas and rodents, the Department undertook the rearing of Indian poisonous snakes with a view to increasing the venom production sufficient to meet the requirements of the Institute. The Indian Council of Medical Research sanctioned an Enquiry to be conducted at the Institute with a view to study their breeding habits in captivity, and these experiments are under-way in the newly built live snake farm. In addition, public health personnel of the State were given training in plague and plague preventive measures, in two sessions. Experiments were done with Dethmor (Warfarin) as well as with "ratin virus" (*Salmonella enteritidis*), and it was found that the latter did not kill any of the common Bombay rats. During the year, altogether 11,27,784 rats, both dead and alive, were examined for plague infection.

Under the auspices of the I.C.M.R., New Delhi, four scientific enquiries were conducted at this Institute with the staff and grants sanctioned by that Council. These enquiries were (i) Plague Research, (ii) Enquiry on the Chemotherapy of malaria, (iii) Enquiry on the Role of Nutritional Factors in hepatic cirrhosis, and (iv) Enquiry on the study of Indian poisonous snakes. In addition to these, three scientific scholarships/fellowships sponsored by the National Institute of Science, New Delhi, the Unichem Laboratories, Bombay, and the Indian Council of Medical Research, New Delhi were attached to the Institute during the year 1952. Apart from these, there were two research scholarships sanctioned by the Government of Bombay. In view of the excellent facilities that the Institute has, the Government sanctioned the entertainment of a few students as paying scholars for graduate or post-graduate degrees, and under this scheme, six students were admitted during the period under report. Lastly, mention may also be made of the then scientific personnel who were given practical laboratory training in certain special subject of study in the Institute.

On the whole the Institute maintained alround progress in the field of manufacture and research, and continued to render very valuable service to the nation.

Pasteur Institute, Shillong

No research work of importance was carried out at this Institute during the years under report.

King Institute Guindy, Madras Researches

The Director, King Institute, Guindy, continued to be the Secretary of the Madras State Research Committee. Under the auspices of this organisation, the more important research schemes undertaken during the years 1949—52 were:—

(1) *Virus Research.*—Studies on the inhibition of haemagglutination of Influenza 'A' virus by normal human sera and egg-white. The effect of

different bacterial enzymes on Influenza 'A' virus was also studied. Two strains of poliomyelitis virus and two chickadapted strains of vaccinia virus are also maintained.

(2) *Filariasis*.—A crude saline extract, a distilled water extract and a defatted extract made from *conspicuum guindiensis*, the filarial parasite of *Caletes Versicolor*, have been used in suitable dilutions as antigens for intradermal tests to detect early cases of filariasis in patients attending the out-patient dispensary at Saidapet. A wheal reaching its maximum in fifteen minutes indicates the clinically filarial cases. Work is in progress.

(3) Research on 'Allergic Asthma'.

(4) Research on 'Infantile Cirrhosis.'

(5) Research on 'Carcinogenic effects of Betalnut mixture with Tobacco.'

(6) Research on 'Study of Kidney and Liver Functions in Toxaemias of Pregnancy.'

(7) Research on 'Anti-anaemic factors in shark and other fish liver residues'.

(8) Research on 'Fluorosis'.

(9) Research on 'Resistance of Tubercle Bacilli to Para-amino-salicylic Acid'.

Two Research Units and one Research Fellowship financed by Indian Council of Medical Research are attached to this Institute.

(1) The Filterable Viruses Enquiry was engaged on:—

- (i) work on the assessment of protective value of different strains of vaccinia against smallpox by cross immunity experiments in monkeys ;
- (ii) preparation of diagnostic antigen from human pus for lymphogranuloma; and
- (iii) attempts to prepare diagnostic antigen from the lymphogranuloma venereum virus adapted to the yolk-sac of the developing chick embryo.

(2) The Filariasis Enquiry is studying the value of the antigen prepared from the lizard filarial worm *conspicuum guindiensis* in the early diagnosis of human filariasis in endemic and non-endemic areas.

(3) Under the Research Fellowship, attempts are being made to study the role of estuarine edible clams (*Meretrix casta*) in transmission and endemicity of *V cholera*.

Malaria Institute of India, Delhi

The Malaria Institute of India, originally known as Malaria Survey of India, was founded in 1927 and was financed by the Indian Council of Medical Research (till lately known as the Indian Research Fund Association) up to 1940 when the Government of India took over the Public Health Section. The Research Section and the Southern India Branch at Coonoor continued to be financed by the Indian Council of Medical Research until March 1, 1946 when the Government of India assumed responsibility for these ~~and~~.

The Indian Council of Medical Research continued to finance the Insecticide and Mosquito Repellent Enquiry based at the Institute and also the Filaria Control Unit.

Laboratories of the Institute were recognised by the Calcutta University for the purpose of admission to the examination for the Degree of Doctor of Science (Public Health) and the Andhra, Punjab and Madras Universities for post-graduate research studies.

Museum.—A large number of exhibits illustrating different aspects of the subjects relating to prevalence and control of malaria, viz., models of mosquitoes, antimalaria apparatus, pathological specimens, epidemiological graphs, photographs, etc., for the instruction of medical and non-medical men were displayed in the spacious museum attached to the Institute.

A hatchery of gambusia, the mosquito-larvae-eating fish, is maintained at the Institute and supplies are made to workers in different parts of India on demand.

RESEARCH AND ROUTINE EXAMINATION OF SPECIMENS

(1) Precipitin reactions for determining the sources of blood-meal of the mosquito, were carried out on 3,551 specimens received from different State Organisations and the W.H.O. teams in S.E. Asia, the antisera used in these determinations being raised in fowls and rabbits in the laboratories of the Institute.

(2) Examination of blood smears from 170 buffaloes brought to the Veterinary Hospital, Delhi for *P. bubalis* did not show any parasitic infection.

(3) A strain of *P. berghei* has been maintained in albino rats and mice. Attempts to infect the bandicoot with this parasite proved unsuccessful.

(4) A strain of *P. berghei*, resistant to sulphadiazine, has been produced from the normal parent strain (M.E.D.O. 12 mg./20 mg. wt.). Studies on pathogenicity, infectivity to mosquitoes and other aspects of this strain are in progress.

(5) A proguanil resistant strain of *P. knowlesi*, which is cross-resistant to bromoguanide and Daraprim but responds to sulphadiazine and 4-aminoquinolines, has been developed in the laboratory.

(6) Three species of simian plasmodia *P. knowlesi*, *P. cynonologi* and *P. inui* were successfully maintained in *S. rhesus* Monkeys.

(7) A pure strain of *P. inui* which had a 72-hour periodicity was isolated after repeated sub-passages of infected blood from Malayan monkeys (*M. irus*) received through the courtesy of Dr. Edeson of the Institute of Medical Research, Federation of Malaya, in rhesus monkeys. This strain is being maintained by blood-passage. A new technique was evolved for rapid determination of the presence of mixed infection.

(8) A strain of *P. gallinaceum* was maintained in fowls. The effect of varying the blood-level of ascorbic acid (Vitamin C) on the course of infection of *P. berghei* was studied in the domestic rat- *R. rattus*. The results showed that the amount of ascorbic acid utilised by the parasites was not

reflected in the blood-level, due either to adequate storage or to replacement by the animal synthesising the requisite amount.

Attempts have, so far, failed to establish the insect transmission of *P. berghei*. The only positive finding was a gland infection in a solitary specimen of *A. stephensi* which has already been reported.

Detailed data were collected from all the malaria organisations in the country to study the present status regarding the prevalence of species of human malaria parasites in different parts of the country.

STUDIES ON THE DEVELOPMENT OF PRE-ERYTHROCYTE FORMS OF *P. KNOWLESI*

Parasites were detected both in the parenchyma and lateral cells of the liver of 16 monkeys inoculated with varying doses of sporozoites by biopsies made from the liver and other organs at an interval of 6 to 9 days. These findings have since been confirmed by the protozoologist, Indian Veterinary Research Institute, Mukteshwar.

The technique of therapeutic and prophylactic trials has been standardised.

(a) Routine screening of antimalarials—

(i) Two drugs prepared from indigenous plants were tested against infected animals without any effect.

(ii) Two compounds out of six synthesised in the Chemistry Laboratory of this Institute, showed some antimalarial activity on screening.

(iii) Studies on Quinplex and Daraprim (two synthetic products of foreign origin) were carried out in simian malaria. Quinplex was also tried against relapsing forms of human malaria at the Police Hospital, Delhi. Detailed studies conducted with Daraprim against *P. knowlesi* infection are under publication in the Indian Journal of Malariology, December, 1951 issue.

(b) (i) Paludrine, Pamaquine and Paludrine-Pamaquine were tested for prophylactic activity in monkeys inoculated with *P. knowlesi* sporozoites.

(ii) Report on 10 drugs tested in fowls inoculated with *P. gallinaceum* sporozoites, is under publication.

(iii) Paludrine, Pamaquine and Paludrine-Pamaquine were tested against the sporogony cycle of *P. knowlesi* in *A. annularis* and a report is under publication.

Acute and chronic toxicity of Daraprim were determined in *S. rhesus* monkeys.

A comparative study of chloroquine and Resochin in effecting prompt clinical cure in human malaria conducted in Delhi and Kosi Kalan (U.P.) showed that both the drugs were equally effective against the species of human malaria.

To investigate the acute and chronic toxic effects of Daraprim about 25 different biopsy and autopsy materials were studied in connection with the pre-erythrocytic forms of *P. knowlesi*.

A colony of *Aedes aegypti* has been successfully maintained in the laboratories of the Institute for experimental purposes.

Two mosquitoes with infected guts and glands were encountered in experiments undertaken regarding the possibility of using *A. stephensi* as a laboratory vector of *P. inui*.

EPIDEMIOLOGY

1. A complete review of the subject from past studies and the lacunae in our present knowledge has been made out in a paper under publication.

2. Work on standardisation of laboratory technique and preliminary observations on gametogenesis showed that :

- (i) of the several sites for introducing parasitised blood, the intravenous route of inoculation proved the most satisfactory, and the wing veins provided the best site;
- (ii) For sporozoite inoculation, saline suspension of infected salivary glands gave satisfactory results;
- (iii) Ten million parasites per kg. body-weight for blood-induced infections and two pairs of infected salivary glands per kg. body-weight in case of sporozoite-induced infection may tentatively be adapted as the standard dosage.

Chicken, less than a month old, usually weighing about 8—12 ounces, were used as hosts in these experiments while *Aedes aegypti* was found to be the best vector of *P. gallinaceum* infections. *P. gallinaceum* strain in fowls was maintained in the laboratory.

3. The experiments carried out during the period under report are briefly :

- (i) trials to infect pigeons with *P. relictum* from infected indigenous sparrows of Delhi;
- (ii) qualitative and Quantitative experiments to study the normal course of *P. gallinaceum* in a fowl, (a) blood-induced infection, and (b) sporozoite-induced infections; and
- (iii) preliminary experiments with the help of drug treatment to determine whether gametocytes arise from, (a) blood-phase schizogony, and (b) tissue-phase schizogony.

INSECTICIDES

During the period, besides routine evaluation and biological assaying of insecticides, basic researches were also carried out on a variety of problems pertaining to the use and application of insecticides in malaria control.

I. Laboratory investigations—

(a) *Preparation of emulsion chlordane.*—At the request of the South East Asia Regional office of the W.H.O., a formula was evolved to make a 50% emulsifiable concentrate of technical chlordane with the help of oleo-resin emulsifier and aeromax as solvent.

(b) *Synergistic Action of DDT and BHC in combined sprays and of cashewnut shell oil and pyrethrum.*—Laboratory results of DDT and BHC in combined sprays discussed in detail in earlier reports have been substantially confirmed by field trials. The combined sprays are effective for a longer period and are more efficacious in keeping down the density of

mosquitoes. Some of the commercial firms have already developed wettable powders containing DDT & BHC and these are being further tested in the laboratory.

Cashewnut shell oil has been found to be a suitable synergist for pyrethrum and this oil being an indigenous product will be a valuable adjunct to pyrethrum sprays.

(c) *DDT and BHC in combination as larvicide.*—Preliminary trials with the DDT and BHC mixture indicated that these two insecticides, dissolved together in oil, are more toxic to mosquito larvae than as emulsion or suspension.

(d) *Deterioration of DDT deposits.*—A series of experiments carried out to determine the deterioration of DDT deposits when applied on Wall surfaces indicate that DDT deteriorated more rapidly at 37°C. than at 20°C., and that deposits obtained from emulsion deteriorated faster than deposits obtained from suspension.

(e) *Resistance of insects to insecticides.*—Studies on resistance to DDT of *Musca nebulosa* (house fly) have shown that this species does not readily develop resistance to DDT.

(f) *Specifications of spraying equipment.*—A working paper on specifications of strirrup pump prepared for the consideration of the 3rd session of the Expert Committee on Insecticides was accepted. It has been considered necessary that a relief valve opening at a pressure of 50 pounds should be fitted to these pumps for better performance.

II. *Field investigations.*—Field studies on the comparative effectiveness of different insecticides which were started during July, 1950 in villages near Palwal, Gurgaon district were completed in 1951. Some of the important findings are:—

- (1) That four weeks after application, the maximum amount of DDT recovered from the treated surfaces did not exceed 45% of the amount deposited, irrespective of the formulations used and the dosages applied.
- (2) DDT deposits obtained from emulsion, deteriorated somewhat earlier than the deposits obtained from aqueous suspensions.
- (3) Higher temperature and relative humidity had a slightly accelerating effect on the deterioration of surface deposits particularly in the case of emulsion.
- (4) Under the conditions prevalent in those villages, both DDT at 50 mg. per sq. ft. and BHC 10 mg. Gamma-isomer per sq. ft. gave protection for a maximum period of about six weeks only.
- (5) DDT & BHC combined spray, applied at the rate of 25 mg. DDT and 5 mg. BHC Gamma-isomer per sq. ft., was found to be effective for a longer period (8 weeks or more).
- (6) Chlordane and Dieldrine were found to be effective for 3 and 6 weeks respectively against mosquitoes when applied at the rate of 50 mg. per sq. ft.

Field experiments started at Palwal are being continued and about 10 insecticides are being tested.

Southern India Branch, Coonoor

1. A series of experiments to determine the relationship between drug activity and experimental malaria infection in the mosquito host was carried out at the Southern India Branch of the Institute. The object of these trials was to find out:—

- (1) the effect of antimalarial drugs upon the developmental stages of malaria parasites in the gut of the mosquito host; and
- (2) to note, whether the mosquito host would become capable of transmitting infection to other susceptible subject hosts in spite of feeding on these antimalarial drugs.

The results indicated that paludrine in a concentration of 0.01% in glucose solution fed to the mosquitoes before and after offering them infective blood-feed, inherited development of the malaria parasite beyond the oocyst stage. A 0.001% concentration failed to check the production of viable sporozoites.

II. A strain of *P. gallinaceum* in fowls continued to be maintained.

III. Laboratory colonies of the following species of mosquitoes continued to be maintained:

- (1) *at Coonoor*
 - (a) *Aedes aegypti*
 - (b) *Culex fatigans*
- (2) *at Mettupalayam*
 - (a) *A. stephensi*
 - (b) *A. fluviatilis*
 - (c) *Aedes aegypti*
 - (d) *Culex bitaeniorhynchus*.

Filaria Section.—The activities of this Section consisted of laboratory studies at Delhi and of both laboratory and field studies in Orissa. At Delhi, due to unfavourable weather conditions and want of enough number of rats, etc., attempts to colonise cotton rats and mice did not meet with success.

Experiments carried out on 15 children with ascariasis in Delhi and Nilokheri (Punjab) with a small amount of Hetrazan Elixir containing 30 mg. of Hetrazan per c.c. show that this drug has the following advantages over santonin:—

- (1) It is sweet and can be administered to children easily.
- (2) There is no need for pre-therapy light diet or post-therapy purgation as it the case with santonin.
- (3) Gripping was noticed in some children following the administration of santonin is absent.
- (4) A point of interest was that when Hetrazan was administered against *W. bancrofti* infection in Orissa, on a mass scale, large numbers of round worms were passed by many and a considerable amount of collateral ascaricidal benefit was obtained.

Laboratory work in Orissa.—Trials to transmit a canine filarial infection (*D. repens*, noted in some dogs in Sakhigopal) to healthy pups by agency of mosquitoes are on hand. Colonies of *M. annulifera* *Aedes aegypti* and *C. fatigans* are being maintained in this connection.

The effect of sulphatrone on both microfilariae and filarial disease processes concomitantly present in leprosy patients at the Cuttack Leper Asylum was nil.

Field work in Orissa.—The unit set up in September, 1949 to compare the efficacy of mass therapy with Hetrazan as against antimosquito measures against *C. fatigans* in the control of *bancroftian* filariasis continued its work.

Results.—In the areas where antimosquito measures had been carried out, marked reduction in the density as well as in the infection-rate in mosquitoes had been obtained. Transmission was reduced to a very great extent, but the infection-rate and disease processes in persons already infected, did not diminish as the measures were not directed against the parasites already present.

In the comparison areas, seasonal fluctuations were noted in the density as well as in the infection-rate in mosquitoes. The infection-rate and average infestation as also the disease processes showed an increase.

In the mass therapy area, significant reductions to zero or low levels (sub-infective to mosquitoes) obtained on the day following therapy, had been maintained and in no case was the original microfilarial level reached even 14 months after therapy. The mosquito density showed seasonal fluctuations, but no infective larvae were noted following 14 months of therapy.

It was seen that Hetrazan had probably an action on the developing infections.

In persons with elephantiasis, no reduction was noted in the size of the elephantoid limbs.

In addition, ascaricidal effects were noted, 23.6% of all persons who took the drug passed roundworms and one third of these were free from ova when examined 6 or 7 months later. These are points of sufficient importance as the two infections co-exist to a great degree.

Nutrition Research Laboratories, Coonoor

This institution continued to do valuable work in several fields through laboratory research, field investigations, its Nutrition Clinic and by educational and advisory work. The more important lines of investigation followed through the years under report are listed below.

Researches

1. Excretion of thiamine and riboflavin by Indian adult males.
2. Studies on Vitamin A.
3. Studies on Vitamin D.
4. Studies on Hydrogenated fats.
5. Studies on proteins.
6. Influence of nutritional factors in liver disease.
7. Experimental lathrism.

8. Synthetic studies in the pterin field.
9. Role of sulphur-containing amino-acids in toxic injury to liver.
10. Plasma lipase.
11. Nutritive value of Indian foodstuffs.
12. Nutritional oedema syndrome in children.
13. Alleged toxicity of pulses.
14. Iso-oleic acids in the cow and buffalo butter fat.

School of Tropical Medicine, Calcutta

The following brief account of the lines of research work carried out in the School is illustrative of the ground covered by this teaching and research Centre.

I. CHEMOTHERAPY

Malaria.—(i) Various regimes of treatment were tried for the radical cure of relapsing vivax malaria. So far, quinine 5 gr. with pamquine 0.01 g. base, t.d.s., for 7, 5 and 5 days, with 5 days interval between each course, gave the best result. There was no relapse during the observation period lasting about 6 months.

(ii) Clinical trials of new diguanides, viz., M-5943 (I.C.I.) and Bromoguanide (Indian Institute of Science, Bangalore) were completed. They have no advantage over other antimalarials.

(iii) Primaquine, a new 8-amino-quinoline, tried in small series of cases (alone or with quinine), gave encouraging results. It deserves further trial.

(iv) Camoquin, 0.4 gm., given fortnightly, has been found satisfactory for mass prophylaxis in rural areas. It deserves further trial.

Cholera.—(i) Clinically, terramycin was not found effective.

(ii) Bacteriologically, the results were striking—the faeces being freed of vibrios by the second day. The concentration of terramycin in stool was determined to be 50—100 microgrammes in one cc. of stool. Such rapid clearance may be of advantage from the public health point of view.

Leprosy.—(i) The optimum daily dose DDS has been found to 50—100 mg. The effect of addition of iron and yeast for counter-acting anaemia associated with sulphone therapy is being studied.

(ii) Various proprietary sulphones were found to be metabolised to DDS in the body. This breakdown is slower after parenteral than after oral administration.

(iii) Promacatin—a new sulphone derivative—was found to have no advantage over the commonly used sulphones.

(iv) Thiosemicarbazone, a new drug, in daily doses of 200 mg. for six months, caused considerable bacteriological and clinical improvement. An interesting observation was that there was partial restoration of sensation in the affected parts in some cases. This subject is being further investigated.

Cutaneous Tuberculosis.—Streptomycin combined with calciferol or sulphone was found to be a very satisfactory treatment.

Post-Kala-azar dermal leishmaniasis.—A new antimonial, methyl glucamine antimoniate, was found to be very effective in the treatment of nodular type of lesions; but it was about as effective as the older pentavalent antimonials in the treatment of hypopigmented macular lesions.

Filariasis.—(i) DDS was found to be helpful in suppressing the bouts of fever, but was found unsatisfactory in lowering the microfilaria level.

(ii) Methyl glucamine antimoniate is under trial.

(iii) *In-vitro* activity of a number of new drugs on microfilaria was investigated.

Ascariasis.—(i) Hetrazan in small doses did not give satisfactory results.

Leukaemia.—In chronic myeloid leukaemia, definite improvement has been seen in a number of cases with urethane therapy. The degree of improvement is about the same as is found with deep X-ray therapy in those cases.

Amoebic Dysentery.—Terramycin has given promising results in intestinal amoebiasis, there being failure only in one case out of sixteen. Hepatitis was apparently unaffected.

II. EXPERIMENTAL AND CLINICAL MEDICINE

A. Experimental

Epidemic dropsy.—Further attempts to reproduce epidemic dropsy in monkeys with argemone oil showed erythremia and or ascites but no oedema of the extremities. All the monkeys died and autopsy showed marked toxic changes in different tissues. A cheap mineral oil—white oil—was found to produce similar toxic changes. This is important from the public health point of view. Further studies are in progress.

Filariasis.—With a view to extend studies on filariasis in experimental animals, an attempt was made to raise a colony of cotton rats; but it was not possible to breed the animals.

Cholera.—Some preliminary work was done on histopathological changes in the vascular pattern of the kidney of guinea pigs and rabbits after injection of lethal dose of vibrio cholera. The work has been kept in abeyance till the return of the research worker.

Kala-azar.—Studies on the cumulative toxic effect of diamidine diphenylamine (DDA)—a compound possessing considerable leishmanicidal action in vitro proved that the drug was toxic when administered in repeated doses as small as 1/40 of the M.L.D. Histological changes in the organs were studied.

B. Clinical

Nutritional oedema.—Clinical and biochemical investigations of nutritional oedema are in progress.

Leprosy.—A long term study has been completed in a number of cases in which the clinical classification was in doubt since the lesions in these cases resembled 'tuberculoid' lesions in certain respects and 'lepromatous' lesions in certain other respects. As a result of the study, it can be said that localised lesions of leprosy, having large numbers of leprosy bacilli in persons with a negative lepromin test, are also always lesions of the lepromatous type although they may closely resemble tuberculoid lesions.

Monilia infection.—Combined monilia and staphylococci vaccine gave good results in the treatment of monilia infection of skin and mucous membrane.

Infantile allergy (eczema).—A study was made of infantile eczema and its relationship to external parasitic diseases, and it was observed that the majority of cases were due to primary scabies.

Alopecia areata.—Intradermal injection of milk was found to be more effective than methyl acetylcholine.

Kala-azar.—Some biochemical and nutritional studies were carried out in cases of kala-azar. It was shown that oedema seen in kala-azar was mainly due to hypoalbuminuria and, to some extent, to renal dysfunction. It has been found that avitaminosis (A and B complex) is fairly common in kala-azar.

It was shown from a study of histopathological changes in the spleen at different stages of kala-azar that there was evidence of hypersplenism in chronic and very advanced stages of the disease.

Post-Kala-azar dermal leishmaniasis.—Histopathology of post-kala-azar dermal leishmaniasis was studied and it has been possible to demonstrate the parasite in almost all cases with hypopigmented macules and, thus, a new method of laboratory diagnosis of hypopigmented patches has been evolved. Exhaustive study has enabled the recognition of cellular reaction and histological pattern of the various types of lesions.

Cholera.—An investigation on the relative value of cultural examination of faeces and rectal swabs in the diagnosis of cholera was carried out. The results obtained, so far, indicate that culture of faecal specimens is superior to that of rectal swabs.

III. INDIGENOUS DRUGS

A. Chemical Investigations

(i) Work is in progress for finding out a simple method for the isolation of alkaloids from argemone seeds.

(ii) It has been possible to discover a number of important chemical properties of Andrographolide, the active principle of *Andrographis paniculata* (kalmegh). Based on these, a partial chemical structure of the product has been arrived at.

(iii) Considerable progress has been made in the elucidation of the structure of Arborine, one of the two new alkaloidal active principles isolated last year from *Glycosmis arborea* (Ash-shoura).

(iv) With the object of finding out a sapogenin suitable for the preparation of Cortisone, attempts are being made to isolate sapogenins from various Indian *Dioscorea* plants. In one case, a crystalline sapogenin has been isolated.

B. Pharmacological Investigations

(i) *Dregia volubilis Benth.* (*Madhumalati*).—A pure glucoside has been isolated which has a cholinergic effect like that of acetylcholine.

(ii) *Cissampelos Pareira* linn. (*Nirbishi, False Pareira*).—The drug appears to depress the plain muscles but produces no relaxation of voluntary muscles. It has been found to be toxic to experimental animals.

(iii) *Suchikabharana*.—An ayurvedica preparation, containing snake-venom, was found to be a circulatory tonic.

Investigations on the following drugs are in progress :

(i) *Securigera Securindaca*:—Linn (*Absiulmugha*).—It is commonly known as 'Diabetes Seeds'. Preliminary observations have been made on the general pharmacological action of the drug.

(ii) *Rauwolfia Serpentina*. Benth (*Sarpagandha*).—Attempts are being made to find out a suitable biological method of standardisation.

(iii) *Daemia Extensa*. Linn (*Chhagalbati*).—An injectable solution has been prepared which has been found to possess pituitrin-like action on the plain muscles of the gut and uterus. It is being given clinical trial in obstetrical cases.

C. Clinical Investigations

(i) *Malocitra* was found unsatisfactory in the treatment of malaria.

(ii) *Rauwolfia Serpentina* (R.S. 51), an alkaloidal preparation (Glucosate Laboratory), was found to lower blood-pressure, both systolic and diastolic, in essential hypertension.

(iii) An injectable solution containing the active principles of *Daemia extense* Linn was found to possess oxytocic property and also the power to expel gases from the intestines of patients preparatory to X-ray examination. Further investigations are in progress.

(iv) *Butea and Embelia* combined with a small dose of santonin were found to be a cheap and effective form of treatment of ascariasis in adults.

IV. PARASITOLOGICAL STUDIES

The following are in progress :

(i) Cytological studies of *L. donovani*, with the aid of electron microscope, are being continued in collaboration with the Nuclear Physics Department.

(ii) Development of mirco-filaria bancrofti in *Culex fatigans* after feeding on hosts treated with diethylcarbamazine, was not affected.

(iii) Experiments on the transmission of the nematode *Gnathostoma spiningerum* were undertaken and the local fish *Barbus phuntio* has been infected with the second stage larva.

(iv) *Biological studies on malaria parasites*.—Owing to very low parasite density in human malaria, different methods of concentration were tried but they failed to yield the desired concentrates. Attempt is being made to develop a suitable technique of *in-vitro* culture of human malaria parasites on a quantitative basis.

V. ENTOMOLOGY INCLUDING INSECTICIDES

Entomology.—(i) The influence of different factors, viz., humidity, temperature are seasonal changes on the breeding of *Anopheles stephensi* under laboratory conditions is being studied. Results obtained, so far, indi-

cate that maximum breeding occurs during the early part of November when the temperature varies between 73° and 88° F and humidity between 84% and 94%.

It then gradually falls reaching the minimum during the middle of to 72%, respectively. These observations differ from the earlier ones, and January when the temperature and humidity remain at 68° to 70° F and 70% further studies are in progress.

(ii) Perception of sounds by mosquitoes through their Jhonston's organs has been studied in collaboration with Professor (Dr.) H. Trechner of the Indian Institute of Technology, Kharagpur. The structure of the Jhonston's organ is studied and sounds of different frequency-modulation perceived by the mosquitoes are recorded. The work will continue.

(iii) A small colony of *Triatoma rubrofasciatus* is being maintained in the laboratory. These have been periodically dissected but no trypanosome was found in their guts as compared to the wild catch which invariably showed gut infection. Attempts to transmit infection in rabbits and guineapigs failed. Inoculation of other animals with the emulsion of teased guts was tried.

Insecticide.—(i) A number of new non-galogenated organic compounds of potential insecticidal activity have been synthesised.

(ii) Preparation 6618 (Ciba) was found very effective against insect and scorpion bites.

(iii) Preliminary work on the insecticidal and larvicidal activity of Chamomile flowers (obtained from Darjeeling) has given encouraging results against adult houseflies and mosquito larvae.

VI. EPIDEMIOLOGY

Kala-azar.—(i) (An epidemiological) survey of Kala-azar was undertaken in Assam. The results indicated that antimony resistant kala-azar cases constitute a new problem from the medical and public health point of view.

(ii) *Leprosy.*—Investigation are being made regarding the significance of the presence of a few acid-fast bacilli in the healthy skin of some healthy contacts of leprosy patients.

(iii) An investigation on the role of animal fungal diseases and mange communicable to man is in progress.

VII. BLOOD DISEASES

Investigations were carried out on nutritional macrocytic anaemia and anaemia in pregnancy including biochemical changes, liver function tests and blood volume studies.

The value of vitamin B-12 in the treatment of anaemia in pregnancy and in cases of nutritional macrocytic anaemia was investigated and it was shown that the response to treatment was variable.

Rough analysis of the data shows that the response to vitamin B-12 is generally better with larger doses than with smaller ones, and vitamin B-12 appears to be more effective when administered parenterally than when given orally.

It was also noted that all cases of macrocytic anaemia in both the groups do not respond well to vitamin B-12; that cases responding well to vitamin B-12 initially, may show further improvement with folic acid and, in some cases, still later to liver extract; that cases responding well to Vitamin B-12 initially, may fail to show further improvement with the continuation of vitamin B-12 therapy but may do so with folic acid, and that some cases which may respond to B-12 may show only slight improvement with folic acid and later show better improvement with liver extract. No conclusion, however, can be drawn from the available data, and further work must be done to find out the probable roles of vitamin B-12, folic acid and liver extract in the treatment of uncomplicated cases of macrocytic anaemias in the tropics both in pregnant women and in the general population.

Intravenous iron was used in a number of cases of anaemia with variable results. No relation was seen between the improvement rate and plasma iron value determined before and during intravenous iron therapy.

Bone-marrow studies in malaria

During or after treatment with antimalarials when no malaria parasites were found in the peripheral blood, no parasite could be demonstrated in the marrow material either.

VIII. NAGA-SORE

An out-break of Naga-Sore in a rural area in West Bengal was studied jointly by a team of workers, and symposium was held. It has been possible, after preliminary difficulties, to obtain pure culture from 5 out of 6 cases. Subcultures have been maintained in the laboratory and are being studied.

B.C.G. Vaccine Laboratory, Madras

With the extension of mass B.C.G. vaccination to four more States in India, viz., West Bengal, Bihar, Hyderabad and Travancore-Cochin, there was an increase in the production of BCG vaccine and P.P.D. dilution. The Government of India sanctioned the continuance of supplies to four countries in South-East Asia and, accordingly, B.C.G. vaccine and P.P.D. dilution were supplied to Ceylon, Burma and Thailand, and B.C.G. vaccine to Malaya, during the year 1952. The attached Tables Nos. 31 & 32 show the quantities supplied to the centres in India and to South-East Asian countries, during the period.

Research.—A fellow-up study of B.C.G. vaccinated children was undertaken in different parts of India by the International Tuberculosis Campaign in 1951. The first results of mass vaccination with B.C.G. in India were published by Dr. K. S. Ranganathan in the Indian Medical Gazette for February, 1952. It is satisfactory to record that there were no serious complications following B.C.G. vaccination, and the average tuberculin conversion rate for the entire series was 88.7%.

Statement showing supplies of B.C.G. Vaccine and Tuberculin (P.P.D.) to foreign countries in South-East Asia during 1952

S. No.	State	B.C.G. Vaccine cc.	Tuberculin S.T. cc.
1.	BURMA	66,850	1,77,10
2.	CEYLON	70,900	1,17,00
3.	MALAYA	1,54,485	—
4.	THAILAND	8,650	3,00
TOTAL		3,00,885	2,97,10

Public Health Institute, Bangalore

In addition to routine public health laboratory work, investigations particularly with reference to the effects of antibiotics on vaccine lymph with a view to exploring the possibility of their use for routine purification of vaccine lymph, and effect of local applications of penicillin and streptomycin on small-pox patients were carried out. Immunological studies with vaccine lymph, and effect of local applications of penicillin and streptomycin on rabbits.

CHAPTER IX
MEDICAL EDUCATION AND REGISTRATION

1. Medical Colleges
2. Medical Council of India
3. All India Council of Post-Graduate Medical Education
4. Overseas Medical Training
5. Medical Registration

CHAPTER IX

MEDICAL EDUCATION

Medical Colleges

At the end of the year 1952, there were 30 Medical Colleges in India admitting 2, 565 students annually. The year 1949 saw the inauguration of a new Medical College at Baroda which prepared students for M.B.B.S. degree of the Baroda University. The College admits annually 40 students of either sex on the basis of merit. Travancore-Cochin with a population of 92 lakhs had no medical college of its own till 1951. 12—16 seats had been reserved for students of this State in the Medical Colleges in other States. In October 1948, the State Government decided to open a medical college in the academic year 1951-52. The foundation stone was laid on 26th January, 1950 and the college began to function in August 1951. Sixty students (40 males and 20 females) are admitted annually.

In July 1950, the Government of India decided that there should be no further admission of students to the Lake Medical College, Calcutta. In pursuance of this decision, the pre-clinical departments were closed down in September-October, 1950. The reduction of clinical departments, establishment, etc., was to take effect in four stages between June-July 1951 and January 1953.

In pursuance of the general policy to abolish the Licentiate Course in Medicine, fresh admissions to the Miraj Medical School were stopped from the year 1949. The L.M.P. Course at the Rebertson Medical School, Nagpur was also replaced by a three years' course of 'Medical and Health Assistant' for rural workers. The question of upgrading or abolishing the remaining three Medical Schools, viz., the Arya Medical School, Ludhiana the Women's Christian Medical College, Ludhiana and the Medical School, Bangalore, was also under active consideration.

Tables No. 33 to 38 in the Appendix give detailed information about the number of students (men and women) admitted to various medical colleges/schools in India, the number of those passing, the annual tuition cost per student, etc.

Medical Council of India

Adequate care was taken to see that the medical colleges maintained proper standards of teaching. Previously, clinical teaching in a newly established medical college was not open to inspection by the Medical Council of India until the first batch of students was appearing in the final examination. The Assam Medical College, Dibrugarh, the Nagpur Medical College, Nagpur, and the Sawai Man Singh Medical College Jaipur, were accordingly visited by the Visitors appointed by the Medical Council of India. Likewise, in the case of newly opened medical colleges, affiliated to such universities as were not included in the First Schedule to the Indian Medical Council Act, permission to impart instruction for the condensed M.B.B.S. course was granted only if the facilities for teaching and the standard of examinations were considered 'sufficient' for the purpose by the Medical Council of India.

The Council requested the Central and State Governments to instruct their respective appointing authorities that, in the matter of medical and health appointments, qualifications recommended by the Medical Council of India should be prescribed and that all references to the General Medical Council of the United Kingdom or to any other outside body, which still appeared in their advertisements, should be omitted.

In the case of a holder of L.T.M. (Cal.) or D.T.M. & H. (Bombay) diploma, the Council recommended a six month's remission for the "condensed" M.B.B.S. degrees.

In order to secure uniformity of treatment, the Council recommended that foreign post-graduate qualifications obtained even by those already registered with the State Medical Councils, should be scrutinised by its Executive Committee.

Certain Universities adopted the revised recommendations of the Council on professional education with the commencement of the session 1952-1953. It is expected that almost all of them will adopt the recommendation with effect from the academic session 1953-54. This course shall apply to new entrants only from the date of its adoption by the Universities. The more important features of the new recommendations are : (a) introduction of a course of Preventive & Social Medicine, (b) abolition of examination in Hygiene and Public Health, as a separate subject, (c) inclusion of the subject of Preventive and Social Medicine in Medicine for the purpose of examination, (d) shortening of the academic course from five years to 4½ years before admission to Final M.B.B.S. Examination, and (e) satisfactory completion of post-examination internship (clinical training) for one year in a recognised hospital or teaching institution, including practice in Public Health work, preferably in rural areas, before the degrees are actually conferred on the successful candidates.

The Council recommended introduction of military training for medical students during the period of their training in medical institutions and requested the Central Government to assist the authorities of the institutions in the matter.

The Medical Council of India considered that it was essential to maintain uniform standards of post-graduate studies and qualifications in medicine as facilities for such higher training were increasing and examinations were being conducted by various universities. It, therefore, appointed an *ad hoc* committee to suggest adequate standards for various post-graduate qualifications and the means to exercise effective supervision over training and examinations.

All India Council of Post-Graduate Medical Education

Medical Education—This Council was constituted in 1950 on the recommendations of the Inter-University Board, India to advise universities in India on standards for post-graduate medical education and on how best to maintain uniformity of those standards throughout the country. It consisted of six members, two nominated by the Central Government and the remaining four, representing various interests, *viz.*, the Inter-University Board India, the Medical Council of India, the National Institute of Sciences, India, and the Indian Council of Medical Research.

Upgrading programme—The Health Survey and Development Committee had recommended the establishment of an All India Medical Institute under the control of Central Government to provide facilities of the highest

order for the training of health personnel, to promote research of the highest type in all branches of medicine, and to provide advanced post-graduate training. The Advisory Committee, set up to make recommendations for the establishment of such an institute, recommended four such institutes in India, the first being located in Delhi. In view of the heavy cost involved viz., Rs. five crores initially and Rs. 60 lakhs recurring, the scheme was postponed temporarily. In the meantime, the question of upgrading selected departments in certain medical colleges and research institutions was taken up with a view to providing necessary teaching personnel for the proposed institute. A small committee was formed to look into this question which recommended the upgrading of a few institutions and divided them into three priority groups. Institutions in the first priority group were to be upgraded immediately, and the rest later when further investigations had been made and some improvements carried out. The question of upgrading institutions included in the first priority group was taken up in 1949-50, and a grant of Rs. 8,17,000 was made during the period under report as the Central Government's contribution towards upgrading the Indian Cancer Research Centre, Bombay, the Department of Tuberculosis (Delhi University), the Physiology Department of the Prince of Wales Medical College, Patna, the Industrial Hygiene Department at the A.I.I.H. & P.H. Calcutta and the Thoracic Surgery Department of the Christian Medical College, Vellore.

Overseas Training

The overseas training scheme of 1946 was dropped owing to financial stringency. Instead, a new scheme was instituted for the award of fellowships under the auspices of various international organisations like the W.H.O., the U.N.I.C.E.F., the Rockefeller Foundation, etc., to such candidates only as were either in permanent service of the Government, local bodies and Government sponsored voluntary institutions, or were guaranteed permanent service on completion of training. One hundred and forty five Indians were awarded fellowships under this scheme during 1949, 1950, 1951 and 1952, as shown below :—

Sponsoring Authority	Subject	Total No. of Fellowships	Name of the State to which the candidates belonged	Remarks
(1)	(2)	(3)	(4)	(5)
W. H. O.	Pharmacology	1	Madras	Awarded in 1950
	Medical Statistics	1	Bombay	
	Malariology	2	Delhi	
	Medical Education	2	Bombay, Bihar	
	Mental Health	2	Bihar, Mysore	
	Industrial Health. . . .	2	Orissa, Mysore	
	Medical Administration and Hospital Services	6	Punjab, Delhi (2) W. Bengal, U. P., Bombay	
	Port Health Administration	2	Bombay, W. Bengal	

(1)	(2)	(3)	(4)	(5)
U.N.I.E.F.	Tuberculosis	5	Punjab, Delhi, W. Bengal, Madras, Cochin State.	
	Rehabilitation of Polio patients	2	Bombay, Madras	
	Maternity & Child Welfare .	2	Delhi, Kotah States	
	School Health	2	Punjab, Delhi	
	Venereal Diseases	1	Uttar Pradesh	
	Nutrition	1	Bombay.	
ROCKEFELLER	Neuro-Anatomy	1	Bihar	
FOUNDATION	Cancer-Research	1	Bombay	
	Experimental Pathology .	1	Uttar Pradesh	
	Cardiology	1	Bombay	
	Virus Research	1	Bombay	
	Experimental Surgery . . .	1	Bombay	
W. H. O.	Malariology	1	Delhi	Awarded in 1950
	Cholera	1	West Bengal	
	Administration aspect of Health Services includ- ing professional Educa- tion	1	Delhi	
	Midwifery & Gynaecology	1	Madras	
	Bacteriology	2	Delhi, Punjab	
	Bacteriology in relation to V.D.	1	Madras	
	Maternity & Child Welfare	1	Delhi	
	Dentistry	1	Bombay	
	Leprosy Central .. .	1	Madras	
	Nutrition	1	Uttar Pradesh	
	Public Health Administra- tion	1	Madras	
	Pathology	1	Madras	
	Physiology	1	Uttar Pradesh	
U.N.I.C.E.F.	Paediatrics	3	Bombay, Orissa and Travancore	
	Maternity & Child Welfare	4	Madras (2), Bihar, West Bengal	

(1)	(2)	(3)	(4)	(5)
	Nursing	2	Bombay, Uttar Pradesh	
ROCKEFELLER	Physiology	1	Delhi	
FOUNDATION	Neuro-Physiology	1	Uttar Pradesh	
	Neuro-pathology	1	Bombay	
	Anatomy	1	Indore	
	Anatomy (specially of chest for Embryology)	1	Punjab	
	Bacteriology	1	West Bengal	
	Haematology	1	West Bengal	
	Chest Surgery	1	Bihar	
	Respiratory Physiology and Pathology in relation to Tuberculosis	1	Punjab	
	Pharmacology	1	Madras	
W.H.O.	Maternity & Child Welfare	1	West Bengal	Awarded in 1951
	Bacteriology with reference to immunology	1	Punjab	
	Bacteriology	3	Bombay, Punjab, Madras	
	Public Health Administration	1	Hyderabad	
	Medical Education	1	Bombay	
	Pathology	1	Madras	
	Pharmacology	1	Delhi	
	Venereal Diseases	1	Madras	
	Drugs Control	1	Madras	
	Nursing Education	1	Delhi	
	Sanitary Biology	1	West Bengal	
ROCKEFELLER	Anatomy	3	Madras, U.P., West Bengal	
FOUNDATION	Pharmacology		Punjab, Jaipur	
	Obstetrics & Gynaecology		Uttar Pradesh	
	Physiology	2	West Bengal, Madhya Bharat	
	Pathology	1	Madras	
	Bio-Chemistry	1	Madras	
	Nursing	1	Delhi	

(1)	(2)	(3)	(4)	(5)
COMMONWEALTH	Nutrition	1	Travancore-Cochin	
	Pathology	1	Madras	
TECHNICAL CO-OPERATION SCHEME	General Medicine	1	Madras	
	Obstetrics & Gynaecology	1	Madras	
	Radiology	1	Delhi	
	Surgery	1	Madras	
W.H.O.	Tuberculosis	6	Bihar, Travancore-Cochin (2), Delhi (3).	Awarded in 1952
	Tuberculosis Bacteriology	1	Delhi	
	Thoracic Surgery	1	West Bengal	
	Mental Health	1	Mysore	
COMMONWEALTH TECHNICAL CO-OPERATION SCHEME	Bacteriology	3	Punjab, Madhya Bharat, Delhi	
	Psychiatry	1	Bombay	
	Anaesthesia	2	Madras, Delhi	
	Entomology	1	West Bengal	
	Health Education	1	Travancore-Cochin	
	Occupational Therapy	1	Bombay	
	Paediatrics	2	Madras	
	Physiology	1	Uttar Pradesh	
	Nursing	1	Delhi	
	Electron Microscopy	1	Bombay	
POINT FOUR PROGRAMME	Pharmacology	1	Orissa	
	Public Health Nursing	5	Mysore, Delhi (4)	
	Clinical Psychology & child Guidance	1	Delhi	
	Industrial Hygiene	1	West Bengal	
	Medical Education and Ad- ministration	1	Delhi.	
	Health Education	2	Punjab, Uttar Pradesh	
	Bio-chemistry & Nutrition.	1	Punjab	
	Public Health with referen- ce to tuberculosis	1	Assam	
	Nutrition	1	Madras	
	Public Health with referen- ce to prevention goitre & Malaria	1	Assam	
Sanitation	1	Mysore		
Leprosy	1	Assam		
Pathology & Bacteriology	1	Orissa		

(1)	(2)	(3)	(4)	(5)
UNICEF : Contd.	Vaccine Manufactured	1	Uttar Pradesh	
	Nursing Education	1	Mysore	
	Public Health Administration	2	Mysore	

In addition to the above, the Norwegian Relief to Europe, Oslo and the McGill University, Montreal Canada also awarded 2 short-term Fellowships in tuberculosis and 2 in Psychiatry, respectively, during the year 1952.

Medical Registration

At the end of the year 1952, India had 64,062 qualified doctors practising the modern system of medicine.

The following table shows the number of doctors registered with various State Medical Councils at the end of the years 1949 & 1952 :—

Statement showing the number of Doctors registered with various State Medical Councils at the end of 1949 & 1952

Name of the State	Year	Graduates		Licentiates			With foreign qualifications	
		Men	Women	Men	Women	Total	Men	Women
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
<i>Part 'A' States</i>								
Assam	1949	205	—	1,602	9	1,816	48	—
	1952	224	1	1,814	15	2,054	66	2
Bihar	1949	1,321	60	2,633	118	4,132	85	21
	1952	641	90	2,811	122	4,664	89	23
Bombay	1949	5,208	665	5,429	511	11,813	563	64
	1952	6,005	920	5,714	553	13,192	578	63
Madhya Pradesh	1949	345	59	1,104	90	1,606	40	14
	1952	404	64	1,118	111	1,797	51	14
Madras	1949	3,568	553	4,059	598	8,778	14	8
	1952	4,190	808	3,999	598	9,586	343	142
Orissa	1949	198	10	702	30	940	21	3
	1952	263	37	769	40	1,109	21	3
Punjab	1949	676	75	1,377	128	2,256	17	5
	1952	1,039	108	1,861	191	3,289	36	8
Uttar Pradesh	1949	2,017	227	2,533	314	5,091	No separate list is Maintained do.	
	1952	2,568	178	2,742	208	5,696		
<i>Part 'B' States</i>								
West Bengal	1949	4,676	84	11,601	180	16,541	318	21
	1952	5,467	117	13,368	286	1,938	218	15

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Hyderabad Deccan	1949	409	45	387	53	894	67	7
	1952	585	74	404	53	1,116	72	10
Mysore	1949	399	60	877	137	1,473	48	23
	1952	432	67	951	148	1,598	49	20
Rajasthan	1949	64	2	108	3	177	10	1
	1952	—	—	—	—	—	—	—
Travancore Cochin	1949	206	20	307	507	505	88	4
	1952	237	44	348	65	694	39	5
<i>Part 'C' States</i>								
Bhopal	1949	17	5	32	5	59	4	2
	1952	18	4	33	4	59	4	2
Vindhya Pradesh	1949	15	—	51	2	68	2	—
	1952	—	—	—	—	—	—	—
TOTAL	1949	19,324	1,871	32,802	2,242	56,239	1,280	171
	1952	23,073	2,602	35,993	2,394	64,062	1,566	312

N. B.—The States which have no Medical Councils of their own have been omitted.

The following Indian Medical qualifications were included in the First or the Second Schedule to the Indian Medical Council Act, 1933—

First Schedule

1. L.M.S. Diploma of the East Punjab State Medical Faculty, provided the holder thereof had passed the F.Sc. examination before taking up medical studies;
2. M.B.B.S. Degrees of the East Punjab University if granted after 31st December, 1947; and
3. M.B.B.S. Degrees of Delhi University.
4. M.B.B.S. Degrees of Calcutta University.

Second Schedule

1. L.M.S. Diploma of the Punjab State Medical Faculty if granted before August 15, 1947 provided the holder thereof had passed the F.Sc. examination before taking up medical studies;
2. M.B.B.S. degrees of Mysore University; and
3. M.B.B.S. degrees of Osmania University. It was also recommended by the Medical Council of India that the M.B.B.S. Degrees of Gauhati University might be included in the First Schedule of the Indian Council Act.

The question of recognition of foreign medical qualifications on a reciprocal basis continued to engage the attention of the Medical Council of India, but little progress was made in this direction during the period under report. As a matter of convenience however, it was decided that the

nationals of foreign countries holding medical qualifications not borne on the Second Schedule to the I.M.C. Act might be registered by the State Medical Councils if they were employed in medical institutions in India and did not engage themselves in private practice for personal gain—each case being considered on individual merit in the interests of medical education and medical relief in India. In order to expand the scope of employment and private practice for qualified doctors in general, Medical Councils of the following States recognised the qualifications noted against them, which were granted in other States :—

Assam

1. L.M.S. (Nat.) and the Certificate granted under Article 6-C of the West Bengal State Medical Faculty;
2. M.B.B.S. (Gauhati University) if granted after 20th May, 1952.

(After May 24, 1916, when the Assam Medical Act came into force recognition of qualifications granted by un-recognized medical schools of Bengal was withdrawn).

Bihar

1. L.M.S. (Nat.) and the Certificate granted under Article 6-C of the West Bengal State Medical Faculty;
 2. M.P.L. (Lahore)
 3. L.M.S.
- } of the State Medical Faculty, East Punjab.

Bombay

1. Diploma of L.M.P. (Orissa) granted by the Orissa Medical Examination Board to persons admitted to the course before the year 1942;
2. M.B.B.S. of the East Punjab University;
3. Fellowship-Membership & License of the State Medical Faculty of Punjab obtained before 15th August, 1947;
4. Fellowship & Membership of the State Medical Faculty of East Punjab;
5. Diploma of Licentiate of the State Medical Faculty of East Punjab given to those who were admitted to the course prior to the year 1950;
6. M.B.B.S. (Poona University) ;
7. M.B.B.S. (Gujarat University).

(Recognition of the qualification of Fellow, Member & Licentiate of the State Medical Faculty of Punjab (United) obtained after 15th August, 1947 was withdrawn. Qualification included in para 3 of the Schedule to the Bombay Medical Act, 1912 ceased to be registrable with effect from 23rd January, 1951, the date on which Bombay Act, No. LV of 1950 came in force.)

Madhya Pradesh

1. M.B.B.S. (Nagpur University).

Orissa

1. L.M.S. (Nat.) and the Certificate granted under Article 6-C of the West Bengal State Medical Faculty;
2. The qualification of D.T.M. (Cal.) granted by the University of Calcutta has been recognised by the State Government as an additional qualification for purposes of registration.

Uttar Pradesh

1. L.M.S., L.S.M.F., and M.S.M.F. of the East Punjab State Medical Faculty;
2. L.M.F. and M.M.F. of the West Bengal State Medical Faculty.

West Bengal

1. The qualifications granted by the State Medical Faculty of West Bengal under Articles 6-A to 6-D of its Statutes;
2. L.M.F. of the East Bengal Medical Faculty obtained prior to July, 1950;
3. D.C.H. (Lond.) D.R.C.O.G. (Lond.), D.G.O. (Cal.) L.O. (Madras), F.R.C.O.G. (Lond.), M.R.C.O.G. (Lond.) were recognised as additional qualifications

Mysore

All the qualifications on the 1st Schedule of the Medical Council of India Act.

Medical Legislation

Following Acts were passed during the period under report to amend the Acts noted against each :

<i>Act passed</i>	<i>Act amended</i>
1. Bombay Act XXXIII of 1940,	The Bombay Medical Practitioners Act, 1938.
2. Bombay Act LV of 1950,	The Bombay Medical Act, 1912.
3. West Bengal Act XI of 1950,	The Bengal Medical Act, 1914.

CHAPTER X
DENTAL EDUCATION

CHAPTER X

DENTAL EDUCATION

The year 1949 was memorable in the history of dental profession in India inasmuch as it was during this year that the Dental Council of India, the constitution of which had been provided for in the Dentists Act, 1948, came into being, with a nominee of the Government of India as its first President and 29 members representing various interests including dental practitioners, dental colleges, universities granting dental qualifications, the Medical Council of India and the Central and State Governments. Soon after its inception, the Dental Council of India set itself to the task of framing rules of ethics for dentists, of drawing up the syllabi and curriculae, etc., for (i) the B.D.S. examination, (ii) examination of unqualified dentists desiring transfer of their names from the 'temporary' to the 'permanent' register of dentists, (iii) examinations for dental mechanics and dental hygienists, and (iv) recognition of dental qualifications granted in India and abroad. The syllabus and regulations for the examination for the certificate of dental hygienists, as drawn up by the Council, have been approved by the Government of India. As a step towards establishing reciprocity with foreign countries in the matter of recognition of dental qualifications, the Council arranged for a visit to the dental colleges at Bombay and Calcutta of Dr. Bradlaw and Dr. W. G. Senior who were specially deputed for the purpose by the General Medical Council of the United Kingdom for obtaining a report on the standard of teaching imparted at the dental colleges in this country. The following foreign dental qualifications were recognised in the interests of the dental profession, as a whole :

1. Diploma Ecole de Chirurgie Dentaire et de stomatologie de Paris,
2. Doctor of Dental Surgery of the Tulane University of Louisiana (U.S.A.), and
3. Qualifications granted by the American Dental College, Karachi (Pakistan), on or before the 31st December, 1936.

The Council has since accepted for recognition the following foreign dental qualifications :

1. Dr. Med. Dent., University of Berlin,
2. Zahnarzt diploma, University of Berlin, Berlin,
3. Zahnarzt diploma, University of Freiburg, Freiburg,
4. Dr. Med. Dent. University of Frankfurt, Frankfurt, and
5. Baltimore College of Dental Surgery, University of Maryland, Maryland.

The question of recognition of Dental Colleges in India by the General Dental Council of the United Kingdom has been postponed until the proposed legislation for practice of dentistry and regulation of dental profession in the United Kingdom is enacted.

The Dentists Act, 1948 provided for the constitution of Dental Councils in various States of India, but not much progress has been made in this direction. In West Bengal a Dental Board had been established under the Bengal Dentists Act, 1939, functioned as a State Dental Council until 31st December, 1950. With the enforcement of the Dentists (Amendment) Act of 1950, the old Dental Board was dissolved and a Dental Council was constituted in accordance with the Act of 1948 from 1st January, 1951. In Bombay, Assam, Uttar Pradesh and Madras, the State Dental Councils were set up on 21st September, 1951, 12th May, 1952, 22nd August, 1952, and 4th October, 1952, respectively. The tenure of members of the Council is five years from the date of their nomination or election. Dentists Registration Tribunals were, however, formed in several States which registered 1950 and 3,742 dental practitioners upto the end of the years 1949 and 1952, respectively, as shown below :

	1949		1952	
	Men	Women	Men	Women
Assam	—	—	57	2
Bihar	—	—	94	—
Bombay	680	22	973	42
Madhya Pradesh	—	—	105	2
Madras	—	—	378	10
Orissa	—	—	12	—
Punjab	456	1	486	3
Uttar Pradesh	277	9	486	12
West Bengal	76	1	504	8
Travancore-Cochin	165	6	176	4
Saurashtra	—	—	88	—
Bhopal	—	—	4	—
Delhi	257	—	286	10
TOTAL	1,911	39	3,649	93

The State Councils of West Bengal and Bombay have recognised the following qualification under item 30 in Part II of the Schedule of the Act :

“The qualification of dental specialist granted by the University of Vienna after a two year course in dentistry prior to which the M.D. Degree of that University has been obtained”.

In order to facilitate registration, the Dentists Act, 1948 was amended by the Dentists (Amendment) act, 1950, and was also extended to the remaining part 'C' States.

Rules and Regulations for the State Dental Councils have been approved by the Dental Council of India. New teaching institutions were opened in Punjab and Uttar Pradesh during these years. Consequent on partition of the country in August, 1947, Punjab lost its only dental teaching Centre, the De Mont Morency College of Dentistry and Punjab Dental Hospital, Lahore. The Punjab Government Dental College and Hospital was opened at Amritsar on 1st October, 1952 for imparting training for the regular four year B.D.S. degree course of the Punjab University. In Uttar Pradesh, the nucleus of a dental college was created in August, 1949 at the Gandhi Memorial Hospital, Lucknow with 12 students on its roll. Pending construction of a separate building of its own, the college was housed in the Dental out-patients Deptt. of the hospital to which certain minor additions were made for the purpose.

The Government of Madras also sanctioned expansion of Dental Department of the Government General Hospital, Madras, and the Medical College, Madras with a view to starting a Dental Degree course of five years duration for non-medical students and of two year duration for medical graduates. Actual implementation of this scheme had, however, to be postponed on account of delay in carrying out additions to the building of the hospital, and in securing necessary equipment.

In 1950, the Calcutta Dental College was taken over by the Government of West Bengal with a view to upgrading it. Admission of students to the Licentiate Course in Dental Surgery was stopped in 1952. The institution has been upgraded, and the B.D.S. Course (Bachelor of Dental Surgery) introduced. 25 seats were available each year for admission to the B.D.S. Course. They were considered sufficient for the present requirements of the State. Both male and female candidates are admitted. The college was affiliated to the Calcutta University in 1952.

Tables No. 39 & 40 show the number of students who were admitted and the number who passed out from various dental colleges in India, the staff employed and the expenditure incurred.

The scope for dental education of a post-graduate standard continues to be very limited.

Dental Treatment

There were no dental hospitals, as such, in any apart from those attached to dental colleges. Dental treatment was given mostly in dental clinics or in the out-patients departments of general hospitals. Actual facilities available varied from State to State and from hospital to hospital.

CHAPTER XI
NURSING IN INDIA

1. General Conditions
2. The Indian Nursing Council
3. College of Nursing
4. Nursing conditions in the States
5. Other activities

CHAPTER XI

NURSING IN INDIA 1949-52

General Conditions

Shortage of nurses has been the most unsatisfactory feature of nursing services in India, and was still so in the years under review except that in the large cities of some States, a surplus of midwives and, in a few cases, nurses as well, was a noticeable feature even though all the sanctioned posts were not filled. This is due to the reason that most of the married nurses and midwives are unwilling to work outside the area in which they usually live notwithstanding the fact that work may be difficult to secure at the place of residence. Even then, it is difficult to ascertain the exact position regarding shortage of nurses and unemployment. A number of vacancies exist in some States often because working conditions are unsatisfactory and no accommodation is provided for the nursing staff. On the other hand, Employment Exchanges constantly send in names of nurses and midwives registered with them who are presumably unemployed. Details of the number of nurses employed and the number registered with Employment Exchanges, as far as are available, given in Appendices Tables 41, 42 and 43, respectively.

The number of nurses, midwives and health visitors registered on the State registers, does not give a true picture of the number in actual practice as 'live' registers are not maintained. The actual number of those registered and the number expected as being in practice is given in Table No. 44. The actual number of health visitors is estimated to be higher than the number registered as health visitors are not registered in all the States.

The two categories in which shortage was particularly marked were those of sister-tutors and health visitors. The number of qualified sister-tutors in 1952 was 160 showing an increase of 28 sister-tutors over the previous year. This number was far from adequate. One reason why the number remained small was that sister-tutors were constantly being absorbed in administrative posts. This was not a total loss to teaching as it is an advantage for the matron to have been a tutor and so to understand its needs and foster its interests. The shortage of health visitors has been accentuated because of the growing need for their services and also because the States in which there is the greatest shortage of health visitors are those in which midwifery training, which is a pre-requisite for the health visitors course, has not been developed. Consequently, midwives with the required standard of basic and professional education are not available for this course.

Training of Nurses, Midwives and Health visitors

The number of training schools for nurses, midwives and health visitors in 1952 was 191 for nurses, 237 for midwives and 9 for health visitors, showing an increase of 16 schools for nurses, 54 for midwives and one for health visitors, since 1948. The number of nurses, etc., who qualified during the years, 1949—52, is given in Table No. 46. In this connection, attention is also invited to Table No. 41 which gives information regarding the number of seats available for training, etc.

There was no lack of applications for admission to training schools for nursing and midwifery. Some of the schools had a waiting list of acceptable candidates. As a rule, it was only those schools which could not offer adequate living accommodation that were short of candidates. New homes for nurses were being built in various parts of the country but the shortage of housing continued to be one of the main reasons for shortage of nursing staff. The health schools were not able to get their full quota of students in all cases, one reason being that the salaries for health visitors are low as compared with hospital nurses.

A project for a more comprehensive training in nursing and midwifery with the assistance of the W.H.O. was started at the Medical College Hospital, Calcutta. Two of the four sister-tutors to be provided by the W.H.O. were appointed and the programme for a better integration of class-room teaching and ward work was planned. This project should prove to be a useful guide, and a stimulus to the training schools in Bengal and to those in other States.

A paediatric nurse was assigned by the W.H.O. to assist in organising an improved programme of teaching and service in paediatric nursing in the General Hospital, Madras. All the nurses assigned by the W.H.O. to other projects, e.g., maternity & child health, tuberculosis, venereal diseases and malaria took part in teaching nurses, midwives and health visitors in basic and post-certificate courses and also gave in-service training.

Another valuable impetus to improvement in training was provided by the refresher courses arranged by the Government of India with assistance from the W.H.O. The course for sister-tutors particularly had, as its main objective, the drawing up of plans to teaching according to the syllabus prescribed by the Indian Nursing Council. The courses held in 1951 and 1952 were in paediatric and tuberculosis nursing and for nursing superintendents, sister-tutors, health visitors and midwives. They were attended by 31 nurses, midwives and health visitors in 1951 and by 80 nurses and health visitors in 1952.

Basic training abroad

Thirty-five candidates had been sent to U.K. in 1946-47 under the Government of India scheme, *vide* Appendix V. Those who have returned after completing their training have been employed in the manner shown in Table No. 47.

Training of Auxiliary Nurses and Midwives

Two hospitals, St. Mary's Hospital, Taran Taran, Punjab and the Vallabhbhai Chikitsalya, Nahan, (Himachal Pradesh), took up the training of auxiliaries in accordance with the syllabus prescribed by the Indian Nursing Council.

The training of assistant nurses-*cum*-midwives, started at Bhurdwan, West Bengal in 1949 was continued. This is a course of 15 months' duration for the men and women who were employed under emergency conditions to work as nurses in Government hospitals.

Post-graduate training

Post-graduate training continued to be given in the College of Nursing, New Delhi, School of Nursing of the Christian Medical College Hospital,

Vellore, and the General Hospital, Madras. A course for ward sisters was given in Hindi under the auspices of the Mid-India Board. The first course to be given in Public Health Nursing was started at the College of Nursing with 15 students.

Twenty-five candidates were sent abroad for post-graduate training under the Government of India scheme during the period under review as shown in Tables No. 45 plus 48.

Thirty-two candidates returned after taking post-graduate courses abroad (Table No. 45.)

Two short refresher courses were given, one for matrons and senior sisters, the other for health visitors. In 1950, two courses of 8-9 months' duration for post-certificate nurses in nursing administration and teaching were conducted at the College of Nursing, New Delhi.

2. The Indian Nursing Council

The first meeting of the Indian Nursing Council was inaugurated by the Union Health Minister on May 19, 1949.

During the period under review, the Council laid down regulations for the recognition of training schools and for examinations. Syllabuses and regulations were also drawn up for the course in general nursing and midwifery for the B.Sc. course in nursing and for the course for the auxiliary nurse and midwife. The Council also approved of the syllabus for a course for health visitors, of a form for the record of practical work and a guide to the technique for domiciliary nursing and midwifery. General nursing was defined as "training in the nursing of men, women and children, for women nurses and training in the nursing of men and children under 12 and of nursing in one special field, such as, venereal diseases or psychiatry instead of nursing of women, for male nurses". A course in the nursing of venereal diseases was accordingly drawn up for men nurses. It was recommended that the Act be amended to allow for temporary registration of nurses trained in countries with which no reciprocity existed if such nurses were holding a teaching or administrative post in India. The Council declared the certificate in general nursing granted by the Examination Board of the Military Medical Services, and the Midwifery certificate granted by the Kasturba Gandhi National Memorial Trust to be recognised qualifications. A recommendation was made to the Medical Council of India that in the interests of Medical education as well as nursing education, hospitals should be adequately staffed; and that hospitals used for the teaching should be required, as a condition of recognition, to maintain an adequate nursing staff. The Council resolved that an exemption of six months be given to a registered midwife who wishes to take a course in general nursing.

3. The College of Nursing

The Government of India sanctioned additional teaching staff for the College besides clerical and other staff. During the year 1949, no post-graduate courses could be conducted for lack of accommodation although there was a great demand for them. In 1950, however, the courses for qualified nurses in Nursing Administration and Teaching were recommended. The post certificate courses in Nursing Administration and Nursing Education were re-organised into one combined course since 1952-53 under the guidance of experts lent under the Colombo Plan, and the Public Health

Nursing Course was also started similarly during the same year. In August 1952, the Governing Body of the College was abolished and a Technical Advisory Committee was formed whose functions are to advise Government on all technical matters concerning development of the College on the academic side except the degree course, the responsibility for which rests with the University of Delhi. Since then, the College is being administered and supervised as a sub-office by the Directorate General of Health Services subject to the ultimate control of the Government of India.

The following is the total amount sanctioned by the Government of India for the College and the expenditure incurred by the College :—

	<i>Sanctioned budget</i>	<i>Expendi- ture</i>
	Rs.	Rs.
1949-50	2,27,969	1,94,995
1950-51	2,69,800	2,32,252
1951-52	2,65,255	2,60,170
1952-53	2,78,850	2,78,850

The College is an All India institution having students from all over the country representing many language areas. The number of students admitted and passed in the B.Sc.(Hons.) Nursing and post-certificate courses is shown in Table No. 49.

During 1949—52, 45 B.Sc. (Hons) Nursing students were awarded degrees by the University of Delhi, and 71 post-certificate students were awarded diplomas by the Government of India.

During 1949-50, the College had all the 4 years of B.Sc. courses in session. All the four students in their first senior class passed their university examination and were taken on the staff of the college. For the first time also, in India, the B.Sc. (Hons.) degree was awarded at the convocation of Delhi University in that year.

The Indian Red Cross Society kindly gave its 1945 Hilman staff car for village work and continued to provide 14 students with scholarship of Rs. 75 p.m. throughout this year. The W.H.O. provided a doctor and a nurse, and the Rockefeller Foundation allowed their nursing representative in India who was a Public Health Nursing expert to give time to this department at the College.

The year, 1950-51, saw definite progress in public health activities of the College which established a rural Public Health Nursing Centre at Chawla, about 19 miles from the College hostel. For the first time, it was possible to arrange domiciliary and public health nursing experience for fourth-year students in the College controlled fields. The second-year students had three weeks of rural experience during the University vacation.

During 1951-52, student-experience in out-patient department of the hospitals in Delhi was developed, and plans were made to start the long desired course in public health nursing for certificated nurses.

In 1952-53, the Lady Mountbatten Nursing Van, a beautiful gift to the College from Lady Mountbatten and Rajkumari Amrit Kaur got on to the roads of the rural area near Najafgarh early in 1953. Two Public Health nurses were attached to it, and the beginning of another branch of rural experience for students started.

4. Nursing conditions in the States

In Madras, Bombay and U.P., there were sufficient nurses for the posts available. In Bombay, there was a waiting-list of nurses who could not be employed as there were no vacancies. In Madhya Pradesh also, the capacity of the training centres was considered sufficient to train the number of nurses for whom posts were available. In Hyderabad, the situation regarding the supply of nurses had improved. In Assam too, all the posts for nurses were filled as two new training centres were taken over by Government. There was no difficulty in obtaining nurses in Coorg.

There was an overall shortage of nurses in Delhi, Punjab, Rajasthan, Pepsu, West Bengal, Bihar, Orissa, Madhya Bharat, Himachal Pradesh and Travancore-Cochin. In Vindhya Pradesh, posts were filled only by recruitment from outside the State. In West Bengal, the shortage was offset to some extent by the appointment of assistant nurses and midwives to posts in State hospitals and rural areas. In Himachal Pradesh some of posts were filled by unqualified nurses, and in Bilaspur, by nurse-dais and dais. Due to the grant of improved scales of pay and other facilities, more nurses became available in Rajasthan; the shortage was only of women nurses.

In all States, the number of nurses fell far short of the actual needs of the public for nursing service.

Efforts made to increase the number of nurses are given below :—

Training Facilities for Nurses

In Bombay and Uttar Pradesh, students were permitted to stay at home during training so as to train additional students. The Bombay State Government sanctioned scholarships after execution of bonds, for students in high schools desirous of taking training in nursing after completion of their high school course. In U.P., the State Government sanctioned a scheme for the training of 100 assistant nurses and a school building for Central Preliminary Training was constructed at Kanpur. The number of seats of student-nurses at the Patna Medical College Hospital was increased. A training school for nurses was opened in the Medical College Hospital, Nagpur with a capacity to train 100 students-nurses. In West Bengal, a grant was made for a training course of 18 months for 80 assistant nurses-cum-midwives in the Burdwan Training Centre. Arrangements for training in Calcutta were improved by the employment of a greater number of sister-tutors and by the introduction of a W.H.O. project for nurses' training. In Punjab, training of men-nurses was continued to meet the shortage, and a school for health visitors was started at Ludhiana with provision for 25 students. A preliminary training school with a building for accommodation at the S.C.B., Medical College Hospital, Cuttack was completed and the number of student-nurses was increased. A new training centre was opened at the Government Headquarters Hospital, Baripada. In Madhya Bharat, a training school at Ratlam was started. In Jammu & Kashmir, a training course for nurses was conducted at Srinagar, and two more were started—one at Srinagar and another at Jammu; the number of students nurses was also

increased. In Travancore-Cochin State, the number of admissions to training classes was raised to 60. In Hyderabad State, syllabus for the nurses training school was re-arranged and arrangements for special training for men and women student-nurses were made. In Saurashtra and Pepsu, the number of pupil-nurses was increased. In Saurashtra, classes for the training of displaced nurses and midwives, and nurses for villages were started; special grants were made for training Harijans (women) as nurses and for local dais. Five local candidates in Kutch were deputed for training at Jamnagar on Government scholarships. A training school was started at Bhavnagar and conditions so improved as to attract better candidates. In Vindhya Pradesh, arrangements were made to open a new nurses training school at Rewa. A class in nursing was started at Nahan (Himachal Pradesh). In Delhi State, the Government of India sanctioned a scheme for training 30 displaced girls as nurses in the Lady Hardinge Medical College and Hospital, New Delhi. The Indian Red Cross Society paid stipends for the training of nurse-dais in the Victoria Zenana Hospital, Delhi. They are appointed as assistant midwives after training at the Maternity and Child welfare Centres of the State. The New Delhi T.B. Centre held regular classes for training T.B. Health Visitors under the auspices of the T.B. Association of India. In Ajmer, provision was made for starting a new nurses training centre at Ajmer. In Bilaspur, 6 stipends were sanctioned for nurses training at the Auxiliary Nurses Training Centre at Nahan. In Imphal in Manipur, a class for midwives was started and affiliated to the Assam nursing Council. Many hill girls, besides 6 others, were training as midwives.

Accommodation—Nurses' homes were constructed or were being constructed at Madras, Nagpur and Amravati (Madhya Pradesh), Calcutta, Cuttack, Bangalore, Mysore, Madhya Bharat, Travancore-Cochin, Hyderabad Deccan, Lathi and Kundla (Saurashtra), PEPSU, Vindhya Pradesh, Delhi, Ajmer and Tripura. In Coorg, provision was made in the budget for improved accommodation.

Amenities—In Uttar Pradesh, the messing conditions at training centres were improved and facilities for recreation, such as, radios, indoor games, etc., were provided at all training centres and other hospitals, and amounts were sanctioned for furniture and crockery for nurses' homes. In West Bengal, there was overall improvement in living conditions in the nurses hostels. Facilities for games and other amenities were provided in Assam for nurses. In Bhopal, a refrigerator and more furniture were provided for the nurses' homes.

Improvement of Nursing Conditions

In Madras State, house-rent was sanctioned for men-nurses, and four higher grade posts on the scales of ward sisters were created to provide chances of promotion for men nurses; scales for the employment of servants for nurses quarters were fixed by Government. In U.P., the difference between junior and senior nurses was abolished, and their pay-scale liberalised. In Madhya Pradesh, a scheme for free uniform and messing was brought into force, the rate of stipend increased and the period of training reduced from 4 to 3 years. In West Bengal, the rate of stipend for student nurses was liberalised, scales of pay and diet allowance in State hospitals raised and special pay for nurses working in T.B. wards sanctioned. Board allowance was increased in Punjab for student-nurses. Uniform allowance

was sanctioned in Orissa for nursing sisters and staff nurses. In Rajasthan, new grades to attract nurses to join employment were introduced. The scales of pay were increased in Travancore-Cochin State. In Saurashtra, a post of sister-tutor was created for Jamnagar School, and the stipend to student-nurses was raised. In Pepsu also, the rate of stipend was increased. In Bhopal, scales of pay for nursing staff and stipend for student-nurses were liberalised. In Delhi, the Victoria Hospital was provincialised and provided with higher scales of pay and good accommodation, and the qualification for nurses was upgraded and stipends increased. In Bilaspur, stipends were sanctioned for training at the Training Centre for Auxiliary Nurses at Nahan in Himachal Pradesh. In Kutch, local girls were sent for training at Jamnagar, with Government scholarship. In Manipur, the pay-scale of nurses was revised and uniform allowance was given. In Tripura, some posts of nurses were sanctioned. In Andaman and Nicobar Islands, 2 Karen girls and 1 Nicobar girl were recruited for training in midwifery, and one Karen girl was trained as mid-wife.

Sanctioning of posts—In Madras State, additional posts of nurses were sanctioned and filled to remedy the shortage *vis-a-vis* the bed-strength to the extent finance permitted. In Assam, the Government sanctioned grants for employment of more nursing and office staff. In Hyderabad, the Government sanctioned a scheme for an increase in the number of nurses of all categories including student-nurses. In Delhi State, nurses and student-nurses were sanctioned for the new children's ward of the Irwin Hospital. In Coorg, the nursing strength was increased by five. Some posts of sisters and staff nurse were sanctioned for Victoria Hospital, Ajmer. In Tripura, a few posts for nurses were sanctioned for its hospitals at Kailashar and Agartala.

5. Other Activities

In Madras State, nurses were trained in theatre, labour wards and X-ray department. In Bombay, a State Nursing Service was formed and the entire staff was put under one combined cadre. The Superintendent of the Nursing Services of the State was deputed to New Zealand on a U.N.I.C.E.F. fellowship to study different aspects of nursing. In U.P. a matron in the State Nursing Service returned after completion of a post-graduate course in the U.K. with a W.H.O. scholarship. In West Bengal, the Medical Hospital and the Presidency General Hospital, Calcutta, staff were taken over by government from the Calcutta Hospitals Nurses Institution on 1-7-1949. In Assam, a Matrons' Conference was held in 1952, and refresher courses were held at the Medical College Hospital, Dibrugarh for all the Nursing personnel in the State. A Registration Board for registration of dais was also set up in Assam.

In connection with the above description of nursing conditions, etc., in the States, attention is invited to the Tables noted below :—

Table No. 50—Ratio of nurses to beds, population and student-nurses.

Table No. 51—Number of nurses, midwives, etc., registered with the State Nurses Registration Councils.

Table No. 52—Grants made by some of the State Governments for improving nursing conditions in their States.

CHAPTER XII

MEDICAL STORE, DEPOTS DRUGS STANDARD CONTROL, QUININE, ETC.

1. Medical Store Depots
2. Drugs Standard Contro
3. Quinine
4. Pharmacy
5. Indian Pharmacopoeia

CHAPTER XII
MEDICAL STORE DEPOTS, DRUGS STANDARD CONTROL,
QUININE ETC.

1. Medical Store Depots

The Medical Stores Depot at Karnal was added to the list of the Medical Store Depots at Bombay, Madras and Calcutta, after the partition of the country. This depot has replaced the Medical Store Depot, Lahore. The depot at Karnal has approximately 900 indentors enrolled with it who are distributed in the States of East Punjab, P.E.P.S.U., Himachal Pradesh and Delhi. As the existing storage space of the depot is inadequate to meet its increased commitments, it is proposed to expand it and also to construct cold-storage accommodation at a cost of about Rs. 2½ lakhs. The Medical Store Depot, Delhi, which was established in 1947 to meet the requirements of relief camps and hospitals, was closed in 1950.

A comparative statement of the value of stores supplied by the Medical Store Depots is shown below :—

	1948-49	1949-50	1950-51	1951-52
	Rs.	Rs.	Rs.	Rs.
M.S.D., Bombay	5,991,274	3,325,165	4,094,351	9,750,535
M.S.D., Calcutta	3,075,297	1,856,349	2,564,623	3,426,020
M.S.D., Madras	2,662,840	3,854,325	4,785,057	6,155,228
M.S.D., Karnal . . . . .	..	721,261	1,756,543	2,084,962

The depots handle about 5,000 items. Further, they have undertaken to receive and store medical and other stores, valued at several lakhs of rupees, from International Organisations, such as, the U.N.I.C.E.F., W.H.O. and T.C.A. functioning in this country, and to issue to State Governments according to the directions of these Organisations.

On behalf of the U.N.I.C.E.F. the Directorate General of Health Services have issued to the Government of Assam, for earth-quake relief work, stores worth over Rs. 1,00,000 the bulk of it through the Medical Store Depot, Calcutta. This supply was completed within a period of three months. Emergency supplies of chemicals, Mepacrine, etc., were also made to the flood-affected areas in Punjab by the depot at Karnal.

Besides making normal supplies to the institutions, the Medical Store Depot, particularly the one at Bombay, have been responsible for clearance and handling of a considerable quantity of stores which are being received in the country by the U.N.I.C.E.F. These stores consist of milk-powder, X-ray and laboratory equipment, etc.

A committee has been appointed consisting of the representatives of the Directorate-General of Industries and Supply and the Directorate-General

of Health Services to advise Medical Store Depot factories on all schemes of development and modernisation with a view to bringing their programme of work in line with general industrial development of the country.

The Medical Store Depots have now undertaken examination and analysis of drugs, chemicals and equipment so that articles only of good quality and proper specification are accepted by the depots for supply to their indentors. This will require expansion of existing laboratory facilities in the depots at Bombay and Madras, and the establishment of inspection centres at Calcutta and Delhi.

Special efforts were made during 1951-52 to improve the provisioning system and to build up stocks and their sales in the depots. The question of revising the existing priced Vocabulary of Medical Stores to include the latest pharmaceutical products, to exclude the obsolete items and fix to suitable prices is under examination.

A number of tinctures, extracts mixtures, pills, tablets, ointments, surgical dressings and certain laboratory equipment which are required by the depots are manufactured in their factories at Bombay and Madras. All these preparations are analysed in the depot laboratory before issue.

Prior to 1952, there were about 840 temporary posts of several years standing in the Medical Stores Organisation. In February, 1952, 597 of these posts were converted into permanent ones. This has brought considerable satisfaction to the staff with resultant improvement in morale and efficiency of the organisation.

2. Drugs Standard Control/Control of Drug Standards

This Control is exercised under the Drugs Act, 1940 and the Drugs Rules, 1945 made thereunder, which were enforced from 1st April, 1947 in all the Part A States and the Part C States of Delhi, Ajmer and Coorg. The provisions of the Drugs Act, 1940 were extended to the newly created Part C States and all Part B States in 1951 except Jammu & Kashmir. The Chief Commissioners of Part C States, to whom necessary powers of the States Government under the Drugs Act, 1940 have been delegated, have been instructed to take all preliminary measures *viz.*, appointment of Licensing Authorities, Inspectors, Drug Analysts, etc., for the enforcement of provisions of the Act in their areas. Dates from which the provisions of the Drugs Act and Drugs Rules take effect in the newly created Part C States will be fixed by the Central Government after the aforesaid arrangements have been completed.

The scope and functions of the Act and the rules made thereunder can be divided broadly in the following categories :

- I. control over the quality, etc., of drugs which are imported from foreign countries;
- II. control over the manufacture, sale and distribution of drugs in India; and
- III. control over drugs marketed with undisclosed formulae which are registered with the Central Drugs Laboratory.

While control over the manufacture, distribution and sale of drugs in the country is the responsibility of State Governments, the Central Government

is responsible for the administration of provisions of the Drugs Act and Drugs Rules insofar as they relate to regulation of import of drugs under the Drugs Act, 1940 and for registration of drugs marketed with undisclosed formulae. The Central Drugs Standard Control Organisation functions under the Drugs Controller (India) who is the authority for granting licences under the Drugs Act for import of biological and other special products. The Drugs Controller (India) also keeps a close liaison with the State Drugs Standard Control Authorities in order to secure uniformity in the administration of the Drugs Act. The Drugs Controller (India) is assisted in his work by an Advisory Chemist and Assistant Drugs Controller (India) at the headquarters, and an Assistant Drugs Controller (India) at each of the ports of Bombay, Calcutta and Madras. Besides these three main sea-ports, Cochin has been prescribed as a port through which drugs may be imported into India by sea. Steps are being taken to set up an office at this Port.

The following chart shows the administrative set-up of the Drugs Control Organisation :—

DRUGS CONTROLLER (INDIA)							
Advisory Chemist	Assistant Drugs Controller (India) at the headquarters	Assistant Drugs Controller (India) Bombay	Assistant Drugs Controller (India) Calcutta	Assistant Drugs Controller (India) Madras			
Drugs Section	Drugs Control Section	Assistant Chemist	1	Senior Clerk	1	Senior Clerk	1
		Senior Clerk	1	Junior Clerk	1	Junior Clerk	1
		Junior Clerk	1				
		Peon	1	Peon	1	Peon	1

The duties of the Assistant Drugs Controller (India) at the ports are :—

- (1) Scrutiny of 'Bills of entry' relating to import of drugs with a view to ensuring that they comply with the provisions of the Drugs Act and the Rules made thereunder;
- (2) examination of samples of drugs with a view to ascertaining whether they conform to the labelling and other requirements of the Drugs Act, 1940 and Drugs Rules, 1945, and the drugs imported are of standard quality;
- (3) maintenance of statistics regarding imports of essential drugs;
- (4) liaison with the Collector of Customs on matters connected with administration of the Drugs Act and Rules;
- (5) liaison with the State Drugs Control authorities;
- (6) advising members of the trade on the provision and requirements of the Drugs Act; and

(7) correspondence and other routine duties in the office.

Control over Imported Drugs—Drugs imported from foreign countries can broadly be divided into two categories :—

(i) drugs imported for commercial sale; and

(ii) drugs imported for purposes of test, analysis or for personal use of individuals or charitable institutions.

An import licence under the Drugs Act on Form 10 is required for the import of drugs coming within the purview of Schedule C & C(1) to the Drugs Rules for commercial use, while drugs imported for personal use of individuals or for test and analysis require an import licence on Form II. No licence is required for drugs which do not come within the purview of Schedules C & C(1) to the Drugs Rules. They have, however, to comply with all other provisions of the Drugs Act and the Drugs Rules regarding labelling provisions, quality, etc.

All drugs coming within the purview of Schedule C of the Drugs Rules excepting preparations of Penicillin and Streptomycin, can be imported only by the manufacturer's sole agent in India, while drugs covered by Schedule C(1) and Penicillin and Streptomycin and their preparations can be imported by any number of authorized agents of the manufacturers in India.

In regard to imported drugs, the Assistant Drugs Controllers ensure that :—

(i) they are of standard quality ;

(ii) they are not misbranded, and are labelled in the prescribed manner;

(iii) drugs falling under Schedule C and C(1) to the Drugs Rules, 1945 are duly covered by an import licence granted under the Drugs Act, and imported only under and in accordance with the conditions specified in the licence; and

(iv) patent and proprietary medicines :—

(a) are either registered at the Central Drugs Laboratory, Calcutta and the Registration number is marked on the labels or the true formula is displayed on the labels; and

(b) are imported in retail containers and if they are imported in bulk for repacking, the importers should have given prior notice to the Licensing Authority under Ruls 37(1).

(v) 'new drugs' are imported only with the permission of the Drug Licensing Authority; and lastly

(vi) no drug should purport or claim to cure any disease mentioned in Schedule J of the Drugs Rules.

If the Assistant Drugs Controller (India) has reasons to doubt that any article does not comply with the provisions of Chapter III of the Act and the Rules thereunder, he sends samples for test and report to the Director, Central Drugs Laboratory. The consignment is either detained until the report of the Director, Central Drugs Laboratory, Calcutta is received or it is released on the strength of a written undertaking from the importer that it will not be disposed of without the prior consent of the licensing authority, and that an infringement in this respect would involve penalty or its

re-export as may be decided upon by the Government. If the samples are found to be not of standard quality or if the drug contravenes the provisions of the Drugs Act and the Rules in any other respect, an opportunity is given to the importer to rectify the defects if they are remediable in India. If this is not possible or if the contravention is such as cannot be remedied, the drugs are ordered either to be re-exported to the country of manufacture or confiscated and destroyed.

All contraventions of Drugs Standard Control Regulations are notified by the Assistant Drugs Controllers (India) at the ports to the Drugs Controller (India) with their recommendations. Instructions are then issued by the latter in respect of fines and the conditions under which the drugs can be released. These instructions are communicated by the Assistant Drugs Controllers at the ports to the Customs Department for necessary action.

The control on the quality of imported drugs during the year 1951-52 was tightened. Cases of contravention of labelling provisions in respect of imported drugs under the Drugs Act and the rules made thereunder were more severely dealt with than before, and fines were imposed according to gravity of the offence. Where deliberate contravention of provisions of the Drugs Act and Rules was detected, deterrent penalties were imposed.

Running check over the quality of Imported Drugs—A running check is exercised by the Assistant Drugs Controllers (India) over the quality of Schedule C and C(1) drugs even after importation. This check is exercised under rule 26 of the Drugs Rules. Samples are drawn from the godowns where imported drugs are stored, and sent for test to the Director, Central Drugs Laboratory, Calcutta or the Central Research Institute, Kasauli, as the case may be. Pending receipt of test report, the Assistant Drugs Controllers (India) direct the importer not to sell or offer for sale the particular batch of the drug. If, on testing, the samples are found to be not of standard quality, importers are advised to destroy the relevant batches of the drug in the presence of the Assistant Drugs Controller (India), if possible. If the batches have already been distributed in the market, importers are required to withdraw them from the market, as far as possible.

The Assistant Drugs Controllers (India) were asked to exercise a vigorous check over certain drugs stored in the godowns of the manufacturers. They paid more frequent visits to these godowns and took samples for test with a view to ensuring that the drugs had not deteriorated in quality while in storage. As a result, it was found that certain penicillin preparations had deteriorated in quality. Drugs which had lost their potency were advised to be destroyed in the presence of the Assistant Drugs Controllers.

Number of Licences Issued—The number of licences issued under the Drugs Act during the period under report is given below :—

Year	Number of Licences Issued			
	On Form 10			On Form 11
	Fresh	Renewals	Endorsement	
1st January to 31st December, 1949	371	120	92	313
1st January to 31st December, 1950	599	304	265	522
1st January to 31st December, 1951	288	160	202	927
1st January to 31st December, 1952	430	93	206	806

Import of Essential Drugs—As a result of reports received by the Government of India that considerable inconvenience was being caused to the public on account of shortage of Penicillin and other essential drugs, it was decided in May, 1950 to liberalise the imports of Penicillin, Insulin, Sulpha drugs, PAS., etc., by the grant of free licences. Subsequently, the Open General Licence was published and came into force from August, 1950 under which Penicillin, Chloramphenicol, Insulin and Glucose (medicinal) were allowed to be imported from all countries and Streptomycin from 'Soft Currency' countries.

Steps were also taken to keep a watch on the supply position and prices of certain controlled categories of essential drugs. State Governments were asked to keep a close watch on the supply position of essential drugs, and submit a monthly report to the Directorate General of Health Services of test purchases made by Health Authorities in the States and the existence of black-marketing, if any. From the regular reports received from the States, it was observed that there is no black-marketing in essential drugs. The supply position of anti-biotics is easy, and they are freely available at controlled rates—in some cases, below controlled prices.

Apart from a liberalisation of the import policy the distribution and sale of drugs falls under the Drugs (Control) Act, 1950, under which maximum retail selling prices of essential drugs are notified in the Gazette of India for general information, from time to time. It has also been made incumbent on importers to notify arrival of essential items, *e.g.*, PAS., Streptomycin, etc. to the Directorate-General of Health Services so that they may be advised to divert supplies to deficit areas.

The above measures have gone a long way in preventing stocks going underground and, thereby, eliminating black-marketing tendencies. The present supply position of all essential drugs is satisfactory.

During the year 1951, the import policy in respect of drugs and medicines was further liberalised. As the prospects of obtaining supplies from 'Soft Currency' areas were not bright, adequate steps had been taken to liberalise the import of essential drugs from 'Hard Currency' areas, and to extend the Open General Licence to those areas by increasing the number of essential drugs on the Open General Licence. The new Open General Licence No. XXIII, published on 12th June, 1951, allowed import of Penicillin and its preparations, Chlortetracycline, Oxytetracycline, Vitamines, Sulpha drugs (including tablets), Normal Human Blood Plasma, etc., from all areas. Licences for Streptomycin, Anti-leprosy drugs, P.A. Salicylic Acid and its salts, Sera and Vaccines, Vitamin preparations, etc., are now issued from all areas. Liberal monetary quotas have been allocated for the import of licensable items. The quota has been raised to 400%, and quota holders are permitted to import their requirements from any area. The supply position of drugs has eased considerably. Retail prices of most of the drugs were fair, and adequate supplies were available. The Open General Licence and Essential List of Drugs and medicines were revised with a view to reducing dollar imports, where possible. Several items were transferred from Open General Licence (General) to Open General Licence (Soft Currency Area).

Value of Drugs Imported—The following statement shows the figures of drugs imported through the ports of Bombay, Calcutta and Madras :—

	Number of Bills of Entry & examined	Number of items covered	Value of consignments in thousands of rupees
PORT OF BOMBAY			
January to December, 1949	12,834	31,897	63,230
January to December, 1950	6,529	17,458	54,147
January to December, 1951	12,687	28,428	94,591
January to December, 1952	12,027	29,930	86,060
PORT OF CALCUTTA			
January to December, 1949	2,737	13,333	24,052
January to December, 1950	1,306	5,238	17,321
January to December, 1951	3,569	7,950	29,147
January to December, 1952	2,661	8,544	29,891
PORT OF MADRAS			
January to December, 1949	2,561	5,487	11,784
January to December, 1950	1,620	5,023	9,525
January to December, 1951	4,889	6,937	16,347
January to December, 1952	3,308	5,406	11,193

Registration of Patent and Proprietary Medicines at the Central Drugs Laboratory, Calcutta

Under the Drugs Act and the Drugs Rules made thereunder, all patent and proprietary medicines with undisclosed formulae must be registered at the Central Drugs Laboratory. Any package containing a patent or proprietary medicine should have the registration number marked on the label with the letters C.D.L. preceding the registration number. If a patent or proprietary medicine is unregistered, its true formula or the list of ingredients must be stated on the label. The following figures show the number of patent and proprietary drugs registered at the Central Drugs Laboratory, Calcutta, during the years, 1949—52 :—

Year	Number of patent and proprietary drugs registered
1949	739
1950	383
1951	180
1952	142

List of "NEW DRUGS".—Before obtaining permission to import a drug, the importer has to furnish the following information relating to

its standards of quality, purity, strength, etc., to the Drugs Controller (India) :—

- (1) proper name along with proprietary name, if any ;
- (2) name of the manufacturers ;
- (3) structural formula of the drug and its chemical composition, if available ;
- (4) standards of strength, quality, purity and identity of the drug ;
- (5) methods employed by the manufacturers for testing the drugs including details of tests employed for testing their toxicity and stability ;
- (6) proof of approval of the drug in any pharmacopoeia and, if so, relevant extracts ;
- (7) published literature and results of clinical and other trials carried out in foreign countries ;
- (8) free sale certificate issued by Health Authorities of the country of origin or any other documentary evidence showing that it is sold without any restriction in the country of origin or other countries ;
- (9) whether the drug is labelled as a 'Poison' ; and
- (10) any other relevant information.

During the period under report, a number of new drugs including P.A.S., Oxytetracycline, Chlortetracycline, Chloraniphenicol, Formo-Cibazol, Camoquin, ACTH and Cortisone were permitted to be imported.

Prohibition of Import of certain Drugs—No drug of the manufacture, sale or distribution of which is prohibited in the country of origin, is permitted to be imported under the same name or under any other name except for the purpose of examination, test or analysis.

Liaison with State Drugs Control Authorities—Regular liaison was maintained, during the period under report, with the State Drugs Control Authorities, and every effort was made to maintain uniformity of administration of the Drugs Act and the Drugs Rules. Difficulties encountered by the State Drugs Control authorities were considered by the Drugs Controller (India) at the Centre, and the State authorities were advised on uniform methods of solving them. Important problems, requiring special consideration, were discussed at the meeting of the Drugs Consultative Committee, an account of which is given separately in this report.

Patent or proprietary medicines which were imported in bulk-packing, were notified to the State Drugs Control authorities concerned so that effective check could be exercised over their post-import repacking activities.

There were certain dual-purpose drugs imported as being of commercial quality. Since such drugs were likely to find their way into the Chemists' and Druggists' establishments, details of these were communicated to the State Drug Control authorities to enable them to watch their movement.

Control over the quality of drugs manufactured in the country.—The Drugs Control authorities of various States were asked to tighten the Drugs Standard Control in respect of quality and labelling provisions at the source

of manufacture so that a drug not conforming to standards could not find its way into the market. Drugs Inspectors were asked to take more samples for test. As a result of this drive, many sub-standard drugs were recalled from the market and their sale withheld. These officers were also requested to launch a drive against spurious drugs, and encouraging results were achieved in Delhi and Bombay.

DRUGS TECHNICAL ADVISORY BOARD

AND

DRUGS CONSULTATIVE COMMITTEE

The Drugs Act provides for the constitution of the above two bodies, viz., the Drugs Technical Advisory Board and the Drugs Consultative Committee.

Drugs Technical Advisory Board.—The Drugs Technical Advisory Board is a statutory body whose functions are to advise the Central and State Governments on technical matters arising out of the administration of the Drugs Act, and to carry out other functions assigned to it by the Act. It is presided over by the Director General of Health Services and includes amongst its members, Directors of certain research institutions, representatives of the Indian Council of Medical Research and the medical and pharmaceutical profession, etc. Normally, the Board meets at least once a year. Other work is carried on by correspondence.

Drugs Consultative Committee.—The functions of the Drugs Consultative Committee are to advise the Central Government, the State Governments and the Drugs Technical Advisory Board on any matter tending to secure uniformity in the administration of the Act throughout India. This Committee consists of two representatives nominated by the Central Government and one representative nominated by each of the part A State Governments. The Central Government nominees on this Committee are the Director General of Health Services and the Drugs Controller (India). It is presided over by the senior member nominated by the Government of India.

During the period under report, 5 meetings of the Drugs Technical Advisory Board were held. As regards the Drugs Consultative Committee, its first meeting was held in 1949, and the second in August, 1952.

3. Quinine

The Government of India called a Quinine Conference in August, 1949 in Delhi to which the producing States of Madras and West Bengal were invited. Although it was agreed that the country could not afford to liquidate its cinchona industry, no decisive policy could be formulated, and the States were advised to continue production at prevailing levels which had been reached during the war period. Continued depression was, however, felt in the quinine trade and the State Governments concerned suggested in 1951 that another conference for the formulation of more positive policies may be held. As it was thought that such a conference without adequate information could not lead to decisive conclusions, the Government of India appointed a Special Cinchona Committee to collect factual data regarding the existing conditions and future prospects of the industry. The committee, consisted of the following members :—

- (1) Shri A. Y. Swamy, Director of Cinchona, Madras,
- (2) Dr. M. Sen, Director of Cinchona, West Bengal,

- (3) Shri P. M. Nabar, Drugs Controller, India.
- (4) Shri B. C. Ganguly, Assistant Accounts Officer, West Bengal (Cost Accountant and Secretary),
- (5) Shri J. M. Sen Gupta, Statistician (Indian Statistical Institute), and
- (6) Shri S. C. Sen, Principal Quinine Officer (Convener).

The Committee started its work on 10th December, 1951 and after its first meeting at Ootacamund on 15th January, 1952 proceeded on a week's tour of inspection of plantations and factories in Madras, both in the Nilgris and the Annamallais. A tour of the Cinchona plantations and the quinine factory in West Bengal was undertaken in February, 1952 when visits were arranged to the centres at Munsong and Latpanchor as well as the Directorate headquarters at Munpoo.

In between tours of inspection and meetings of the committee, the data collected in the field was compiled and tabulated.

In connection with some important aspects of the enquiry, no data was found in the existing records of the Directorates and rapid sample surveys on the field work involved had to be organised at short notice in co-operation with the local officers both in the Madras plantations and in West Bengal.

The Committee originally intended to restrict itself to a purely objective study of the situation and to refrain from drawing conclusions and making recommendations; but as the investigation proceeded, an attitude of such complete detachment, however laudable, could not always be maintained. The work of the committee was still in progress at the end of 1952.

4. Pharmacy

The Pharmacy Council of India has prepared Education Regulations under Section 10 of the Pharmacy Act prescribing the minimum standards of education and training required for qualification as pharmacist.

The State Governments of the Punjab, Ajmer, Orissa, West Bengal, Madras, Assam and Bombay have completed the First Register of Pharmacists. The State Pharmacy Council has been constituted in the Punjab, and other States are also likely to constitute Pharmacy Councils at an early date.

The Pharmacy Council of India has appointed a panel of Inspectors under Section 16 of the Pharmacy Act, and the question of inspecting those institutions which apply for approval of the courses of study in Pharmacy conducted by them is being taken up.

The Pharmacy Council recommended a special examination under Section 46 of the Pharmacy Act, 1948 in order to give an opportunity to those persons possessing registrable qualifications but who failed to get their names included in the First Register due to late submission of their applications to be registered. The Council also approved of a syllabus for this examination.

The Pharmacy Council of India has approved of the following foreign qualifications under Section 14 of the Pharmacy Act in the case of Indian nationals for registration as pharmacists :—

- (1) Degree in Pharmacy obtained from any of the accredited Colleges of Pharmacy of the U.S.A. as issued by the American Council on Pharmaceutical Education from time to time;
- (2) Degree of B.Pharm. or B.Sc. (Pharm.) of a British University;
- (3) Diplomas of Chemist & Druggist and Pharmaceutical Society of Great Britain;
- (4) Dressers' Diploma, grades I, II, and III granted by the Federated Malaya States;
- (5) Compounder's Diploma in Pharmacy granted by the Government of Burma;
- (6) Diploma for Pharmacists granted by East Bengal and Ceylon; and
- (7) Pharmaceutical Diploma granted by the Government of Goa.

The Pharmacy Council of India has prepared Model Rules under Section 46 of the Pharmacy Act for the guidance of the State Pharmacy Councils to carry out the purposes of Chapters III, IV and V and of the Pharmacy Act, 1948.

5. The Indian Pharmacopoeia

An Indian Pharmacopoeia Committee was set up in 1948 for the purpose of preparing and keeping up-to-date a comprehensive Indian Pharmacopoeia. In the first meeting held in March 1949, the aim, scope and details of the work of preparation of the Indian Pharmacopoeia and the question of formation of expert sub-committees and the procedure to be adopted for carrying out work in the respective fields to be covered by individual sub-committees were considered. In the second meeting, held in November 1949, the following 8 sub-committees were formed and their members elected :—

- (1) Clinical Sub-Committee;
- (2) Pharmacology Sub-Committee;
- (3) Biological Sub-Committee;
- (4) Pharmacognosy Sub-Committee;
- (5) Pharmacy Sub-Committee;
- (6) Pharmaceutical Sub-Committee;
- (7) Veterinary Sub-Committee; and
- (8) General Chemistry, Tests, Analysis, Physical Standards and Weight Sub-Committee.

A tentative list of drugs containing 1,000 items was drawn up for inclusion in the Pharmacopoeia and was circulated for comments to the members and various scientific and educational institutions for comments, and was given due publicity in the press. The comments received were considered by the Co-ordination Sub-Committee and the final list of drugs was approved by the Indian Pharmacopoeia Committee at its meeting held in February 1952.

The Indian Pharmacopoeia List 1946, containing 180 monographs, was brought up-to-date and a reprint of the same was circulated among the

members for comments, during the year. As soon as the draft monographs have been approved by the main Committee, the Government of India will take action to print and publish the Pharmacopoeia.

CHAPTER XIII
SEROLOGIST DEPARTMENT AND MEDICO-LEGAL WORK
IN INDIA

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THE SEROLOGIST DEPARTMENT AND MEDICO-LEGAL WORK IN INDIA

The scope and nature of work in this department remained essentially the same as in previous years.

In the year 1949, 19,765 exhibits were analysed from 5,672 cases, and groups were determined from 1,094 exhibits from 184 cases; in 1950, 19,975 exhibits were analysed from 5,039 cases, and groups were determined from 2,820 exhibits from 481 cases; in 1951, 20,907 exhibits were analysed from 5,496 cases, and groups were determined from 4,010 exhibits from 716 cases; and in 1952, 25,807 were analysed from 6,392 cases, and groups were determined from 5,182 exhibits from 951 cases.

Medico-legal blood-group work from stains increased considerably during these years. Rhesus grouping and typing in suspected cases of erythroblastosis foetalis was done in 202, 130 and 86 cases in 1950, 1951 and 1952 respectively.

In 1949, 1950, 1951 and 1952—12,042; 11,911; 10,407; and 10,481 specimens, respectively, were tested for syphilis. In 1949, the technique of the reaction in which three antigens are used instead of one was developed in the department.

From 1950 to 1952, autourinary Protease was prepared for allergic patients of the Carmichael Hospital for Tropical Diseases attached to the School of Tropical Medicine, Calcutta.

Introduction of the fore-shortened treatment of syphilis with penicillin and the recent discovery of cardiolipin had brought into prominence the question of standardisation of serologic tests for syphilis. The World Health Organisation had constituted a sub-committee on Serology and Laboratory Aspects to advise the Expert Committee on venereal infections on the steps to be taken for this purpose. Dr. K. V. Venkatraman was invited to serve on the Expert Advisory Panel on Serology and Laboratory Aspects and to attend the second session of the sub-committee at Paris from 23rd September, to 15th October, 1950.

Table No. 53 indicates the work done by Chemical Examiners of the States and the Serologist and Chemical Examiners to Government of India, during the years 1949, 1950, 1951 and 1952.

CHAPTER XIV

REFUGEE MEDICAL RELIEF, INDIGENOUS SYSTEMS OF MEDICINES, ETC.

1. Refugee Medical Relief
 2. Resettlement of World War II Demobilized Medical Personnel
- .Indigenous Systems of Medicine

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1. Refugee Medical Relief

Kurukshetra Camp

Administration of the camp which had been transferred to the Punjab Government in August 1948, was taken over again by the Central Government in May, 1949. A year later, the camp was disbanded, but its tuberculosis hospital continued to function till December 1950, when it was shifted to 'Hermitage' Sangrur, in Pepsu. This hospital catered to the needs of displaced tuberculosis patients exclusively.

Jammu Relief Camp

This camp was opened in June, 1948. The maximum population at the camp was 32,000 towards the beginning of 1950. The hospital at the camp was affected by heavy floods in September 1950, but timely assistance from the Central Government saved it from collapse. The camp was closed in July, 1951.

Faridabad and Rajpura Relief Camps

Medical and public health arrangements at these camps continued to be the responsibility of the Directorate General of Health Services till they were handed over to their respective Development Boards on 1st July and 1st September, 1950, respectively. This Directorate continued to render technical advice and assistance required by the Development Boards of Faridabad and Rajpura.

Yol Relief Camp

This camp was opened in September 1950, in order to accommodate displaced persons coming from the Pakistan-occupied territory of Jammu and Kashmir State. A well-equipped 50-bedded hospital was maintained there by the Directorate General of Health Services. The population at the camp was more than 13,000 towards the end of 1951, but it decreased to 6,247 by December 1952, as a result of rehabilitation of some of the displaced families.

Besides the above camps for displaced persons, there were many other scattered all over the country. Assam alone had 69 such camps. Other States where similar camps were opened are Bihar, Bombay, Madhya Pradesh, Orissa, Punjab, Uttar Pradesh, West Bengal, Pepsu, Rajasthan, Delhi, Tripura and Vindhya Pradesh. Adequate arrangements to look after the health of displaced persons in those camps were made by the respective State Governments.

Supply of Clothing, Diet, etc., to Patients

All indoor patients were provided with free diet and necessary hospital clothing. Arrangements were also made for special diet in deserving cases. The old, the infirm, the under nourished mothers, and children under five years of age, were given extra ration of milk. Multivitamin tablets and

other gift items, such as powdered milk, fruit juices, etc., were also distributed free.

Medical Students

331 displaced medical students from West Pakistan were provided seats in medical colleges during the year 1949.

Rehabilitation of Displaced Medical Personnel

Service details and other particulars of over 1,116 medical officers were collected and forwarded by the Directorate General of Health Services to various State Governments for providing suitable jobs. By October 1950, 732 medical officers had found employment with State Governments and other employers.

Mental Patients

The Government of India arranged an exchange of 233 Muslim mental patients at the mental hospitals in India with 450 non-Muslim mental patients in Pakistan mental hospitals. A majority of the patients so evacuated were placed in the Indian Mental Hospital, Ranchi.

The Displaced Persons of East Pakistan

The influx of Hindus from East Pakistan into West Bengal started early in 1950. In March 1950, the Directorate General of Health Services was called upon to send medical personnel and supplies to Belonia (Tripura State) and Karimganj (Assam) where cholera epidemic had broken out. Necessary arrangements were made at once, and the epidemic was quickly brought under control.

At the request of the Ministry of Rehabilitation, Branch Secretariat, Calcutta, 15,000 Paludrine tablets, 1 lac multivitamin tablets and 1 lac vitamin compound tablets, were supplied to the Secretary, Indian Tea Association, Surma Valley Branch, Silchar, Assam.

In the middle of 1951, the Directorate General of Health Services on a request from the Ministry of Rehabilitation deputed an officer to select a site for a colony for displaced persons and a Women's Home near Rupshi (Assam). On the advice of the Directorate General, a substantial monetary grant was made by the Ministry of Rehabilitation to the Chittaranjan Cancer Hospital for the treatment of cancer patients displaced from East Pakistan.

2. Resettlement of World War II—Demobilised Medical Personnel

Education and Training of War Service Personnel—Medical Nursing, etc.

Under the Government of India's scheme for further education and training of War-Service medical, nursing and allied personnel, following additional courses were recognised as "approved courses", and the War-Service personnel were admitted to them :—

- (a) Laboratory and X-ray Attendants course (Bombay);
- (b) Condensed M.B.B.S. course in the Mysore Medical College; and
- (c) D.M.R. course at the G.T. Hospital, Bombay.

The medical personnel who were admitted to the approved course were granted financial concessions in the shape of free education (including

books and equipment) and a maintenance allowance. The Central Government agreed to contribute 50% of this extra expenditure, and the State Governments were requested to contribute the balance. The Central Government's share was met from the over-all grants to State Governments for development and training Schemes. Due to financial stringency, however, over-all grants to State Governments had to be suspended during the year, 1950-51 and the State Governments had to meet the entire cost.

Medical Resettlement

Up to the end of 1949, 7,092 War Service medical, nursing and allied categories of personnel applied for employment, and 2,582 for training to their respective medical employment bureaux out of whom 2,125 were given employment and 1,399 provided with training the percentage of employment and training being 30 and 54.2, respectively. As the work of resettlement for which the Provincial Medical Employment Bureaux were primarily constituted had been completed, and the progress of resettlement had been stationary for some time, the Government of India decided to withdraw its contribution of 60% towards the up-keep of the special staff of the Bureaux after 1st March, 1950. Subsequently, work relating to resettlement of displaced medical and ancillary personnel was transferred to the Director General of Resettlement and Employment in the Ministry of Labour. At the beginning of the year 1951, 233 registered demobilised medical and nursing personnel were awaiting employment assistance from the Employment Exchanges. 51 such persons were found employment during the year, while 210 persons were still on the registers at the end of the year. During 1952, 61 demobilised medical and nursing personnel got employed, and 161 remained on the registers of the Employment Exchanges at the end of the year.

Lake Medical College, Calcutta

During 1949, only one session was held in the month of July, and 128 War-Service and 25 civilian medical, licentiates were admitted to the College. The Second session, which was scheduled to start in November 1949, could not be held owing to shortage of hostel accommodation. During 1950 as well, only one session was held, and 80 War-Service and 53 civilian licentiates admitted. No fresh admissions were made during the year 1951 as the college was scheduled to be closed down in June, 1952. In the November 1951 examination of Calcutta University, 59 out of 301 students passed. 11 out of 34 students passed from Punjab University in the April and September 1951 examinations. During 1952, no regular classes were held. Refresher classes were arranged from 1st March, 1952 for those students who had to re-appear in May, 1952. In the May, 1952 examination of Calcutta University, 62 students passed. Four Students passed the Punjab University final M.B.B.S. examination held in April, 1952. There were 149 students on the roll who could not pass. Identity cards were issued to enable them to appear in subsequent examinations without having to undergo the refresher course. The Calcutta University permitted such candidates to appear in its examination till May, 1955. The Government of West Bengal, which administered the institution on behalf of the Government of India, pointed out that unless repairs costing Rs. 3 lacs were undertaken during 1950, and the Central Government was prepared to spend substantial sums of money for the maintenance of buildings, it would not be advisable to prolong the life of the College because the temporary structures in which it was housed had already outlived their span.

It was, therefore, decided to close down the institution after the students who were then under training had passed their examinations. And so, the college was finally closed in June, 1952. Only a skeleton administrative staff was retained up to 31st December, 1952 to look after the outstanding matters.

3. Indigenous Systems of Medicine

The period under review was one of resurgence and vigorous activity in more than one direction in the field of indigenous systems of medicine. A number of reasons contributed to this spurt of activity, expressing itself largely in the shape of legislative measures aimed at regulating the registration of practitioners of these systems and creating State Boards and Councils for the purpose. Various reasons may be cited for this development. First, there is the demand of the practitioners of the system—'native to the soil'—for recognition and status. Next, is the fact that a relatively large number of such practitioners exist in the country. Then, there is the feeling that by diversion of these practitioners through official agency, medical aid in rural areas could be greatly facilitated. And last comes the widely-held impression that the indigenous systems are cheap and efficacious.

It may be remarked at this stage that while a certain status and privileges were acquired by registered practitioners, the fact that entry into the profession was not barred to those who were not qualified, detracted very considerably from the possible value of any legislative measure. Provision of facilities for training of a high standard and for research did not also keep pace with measures for the regulation of practice so that the number and variety of legislative measures is far from being a true reflection of the progress actually made in the advancement of these systems of medicine, during these years.

The report of the committee set up by the Government of India under the chairmanship of Dr. R. N. Chopra to study the present position regarding the Ayurvedic System and to make recommendations to the Government was approved by the Health Ministers' Conference in 1950. This was followed by a committee under the chairmanship of Dr. C. G. Pandit for suggesting ways and means for the promotion of research in this system of medicine. Its report was published in 1951.

Although the number of institutions for training Vaid and Hakims is fairly large as may be seen from the statement at the end of this chapter, only a few of the institutions provide training facilities of adequate standard. The number of institutions which insist on an adequate basic qualification, and offer courses of study leading to examinations by duly constituted and authorised bodies continues to be very small.

Many States launched a programme for augmenting medical aid, especially in rural areas, by setting up dispensaries for relief through the indigenous systems of medicine; and some States have created separate administrative sections in their Health Directorate under the charge of officers of the status of Deputy or Assistant Director.

Research work in Ayurveda was carried on in the State of Bombay. Surgical operations, obstetric and gynaecological, and medicological cases were attended to in addition to medical cases, in Madras State. In Orissa, a comprehensive post-war development plan was formulated for the establishment of a network of dispensaries in rural areas. The State

Government in Uttar Pradesh made serious efforts to develop and re-organise the Ayurvedic and Unani systems of medicine on sound and scientific lines. With this end in view, the Deputy Director, Ayurveda toured extensively. A committee to prepare a standard Pharmacopoeia of Ayurvedic and Unani medicines and drugs was appointed by the State Government under the chairmanship of the Deputy Director, Ayurveda in November, 1950. With a view to provide medical aid to villagers at their homes in Madhya Bharat, touring Ayurvedic dispensaries operating within a five-mile radius, were introduced. *Dais* were also attached to some Ayurvedic dispensaries for providing maternity relief. In the States of Madhya Bharat, Pepsu and Vindhya Pradesh, Ayurvedic pharmacies manufactured standardized medicines required for use in Ayurvedic dispensaries. The Central Pharmacy at Gwalior was re-organised with new electric power machines for preparing Ayurvedic drugs and tablets on scientific lines.

Registration of Ayurvedic and Unani Practitioners, 1949—1952

In Assam, no Act was in force but certain statutory rules were framed by the State Government in 1949 for the registration of Ayurvedic practitioners and improvement of the Ayurvedic System of Medicine. The Bihar Development of Ayurvedic and Unani Systems of Medicine Act, 1951 came into effect from 17th January, 1952. The Bombay Medical Practitioners Act was amended in 1949. In Madhya Pradesh, the Ayurvedic and Unani Practitioners Act, 1947 was in force. In the State of Madras no Act was in force, and the old Government Order, framed in 1939, continued. Punjab had its Ayurvedic and Unani Practitioners Registration Act, 1949. The Indian Medicine Act of 1939 remained in force in U. P. In West Bengal, the General Council of the State Faculty of Ayurvedic Medicine, West Bengal was established by statutory orders of the Government. In Hyderabad State, the old Act remained in force. A Board of Indian Medicine was constituted in February 1950 in the State of Mysore. The Pepsu Ayurvedic and Unani Practitioners Act, 2008, was enforced with effect from 2nd September, 1951 in Pepsu. There was no Act in force in Rajasthan State to Regulate Registration, etc., : the Government constituted a Board, *vide* Order No. F 23/63/MH/51, dated 5th July, 1951. Saurashtra adopted the Bombay Medical Practitioners Act, 1938 from 1st November, 1951. The Travancore Medical Practitioners Act was in force within the Travancore area since 1943. The Travancore Medical Council, framed under the Act, regulated the practice of medical practitioners in Ayurveda and Unani. The formation of the new council and the extension of the Act to the Cochin area was under consideration of the Government. In Bhopal State, the Bhopal Medical Practitioners Act, 1935, was repealed on 15th May, 1950, as Merged State (Laws) Act, 1949 came into force and the Indian Medical Council Act, 1933, became applicable. The East Punjab Ayurvedic and Unani Practitioners Act, 1949 was extended to Delhi State with suitable modifications.

The States of Orissa, Jammu and Kashmir, Madhya Bharat, Ajmer-Merwara, Bilaspur, Coorg, Himachal Pradesh, Manipur, Tripura, Vindhya Pradesh and Andaman and Nicobar Islands did not have any Act for regulating the registration and practice of Vaid and Hakims; nor did these States have any statutory orders, etc., for that purpose.

Tables No. 54 to 59 show the number of Ayurveda and Unani Practitioners employed, subsidised and registered, the number of Ayurvedic and Unani hospitals and dispensaries during 1949 and 1952 and Ayurvedic and Unani Colleges and Schools during 1952.

CHAPTER XV
VOLUNTARY ORGANISATIONS
AND
ASSOCIATIONS

CHAPTER XV

VOLUNTARY ORGANISATIONS AND ASSOCIATIONS

The activities of some important Organisations during the years, 1949—52, are reviewed briefly in the following paragraphs :—

THE INDIAN RED CROSS SOCIETY

The Society distributed cloths, medicines, foodgrains and hospitals requisites in large quantities to relieve the suffering of those involved in natural calamities, such as, earthquakes, floods, fire and the failure of monsoon.

The Medical After-Care Fund of the Society continued to render medical aid to *ex-service* personnel of the Defence Forces. The total number of cases dealt with since the inception of the Fund in 1941 to the end of 1952 was 3,655. The total amount paid since the start of the Fund amounted to Rs. 10,38,005.

Many States benefited by grants from the Red Cross : West Bengal received Rs. 1,83,000, Madras Rs. 1,52,000 Rajasthan and Uttar Pradesh Rs. 75,000 each, Bombay Rs. 70,000, Punjab, Madhya Bharat and Saurashtra Rs. 50,000 each, Assam Rs. 40,000, Travancore-Cochin Rs. 29,000, Bihar and Mysore Rs. 25,000 each, Manipur Rs. 10,000, Ajmer and Bhopal Rs. 5,000 each. The State branches utilized these grants for the distribution of foodgrains, medicines, milk, multivitamin tablets, etc., to the distressed people.

The Maternity and Child Welfare Bureau of the Society continued to make its contribution towards the promotion of health of mothers and children. The Society has a record of pioneer endeavour in this field, and the example set by its Bureau has been instrumental in the expansion of maternal and child welfare activities in the States. The Bureau renders financial assistance and technical advice on maternal and child welfare services in the country. It also publishes and distributes health propaganda material. About 60% of the 1,000 Maternity and Child Welfare Centres in India are administered by or affiliated to the Indian Red Cross.

Realising the importance of equipping the International Committee of Red Cross with adequate financial resources to enable it efficiently to discharge its traditional duties as guardian of the principles of Geneva Conventions, the Indian Red Cross made a special grant of Rs. 15,000 to the Committee in 1950. On the Society's representation, the Government of India also sanctioned a grant of Rs. 32,000 to the Committee.

On the recommendation of the Society, the Government of India, in order to strengthen the finances of the International Red Cross Committee, agreed to make an annual grant of Rs. 50,000 towards the Committee's Funds, from 1951.

ST. JOHN AMBULANCE ASSOCIATION (INDIA) AND ST. JOHN AMBULANCE BRIGADE (INDIA)

Both the St. John Ambulance Association and the Brigade in India work under the aegis of the Order of St. John of Jerusalem. As their

activities are complementary to those of the Indian Red Cross Society, close co-operation is maintained between the Order and the Society.

The President of India is the President of the Association. General business of the Association is conducted by an Executive Committee of which the Union Minister for Health, is the Chairman.

The St. John Ambulance Brigade is a uniformed, disciplined body of men and women all of whom are holders of First-Aid Certificates. Women hold home-nursing certificates also. The Brigade meets regularly for practice and is inspected and re-examined annually. It turns out for public duty whenever required.

The Brigade in India was commanded by Rajkumari Amrit Kaur who is the Chief Commissioner for India. There were 18 Districts under her command which cover almost all the States and the major Railways in India, with headquarters at Calcutta, Bombay, Madras, Bangalore, Lucknow, Nagpur, Patna, Delhi, Shillong, Indore, Cuttack, Secunderabad and Simla. In charge of each District is an Assistant Commissioner or a Commissioner. As the work of the Brigade falls mostly in the medical sphere, administrative heads of Civil Medical Department of the States are generally the officers-in-charge of the Districts. Theirs is the duty to organise training, to maintain efficiency of the Ambulance and Nursing Divisions, and to make them available for public service when required. The courses of instruction in First-Aid, Home Nursing, Hygiene and Sanitation, Domestic Hygiene and Mother-craft, which were organized by the Association during the years 1949 to 1952, were attended by 33,593; 68,904; 71,623 and 58,632 persons, respectively. Of these, the following numbers qualified for the Association's Certificate in various subjects.

	1949	1950	1951	1952
1. First Aid	24,004	52,360	55,125	40,437
2. Home Nursing	1,482	2,954	4,171	2,397
3. Hygiene & Sanitation	325	311	93	23
4. Mother-craft & Child Welfare	56	117	236	11
	<hr/>	<hr/>	<hr/>	<hr/>
	25,867	55,742	59,625	43,165

KASTURBA GANDHI NATIONAL MEMORAL TRUST

The Chairman of the Trust, the late Sardar Vallabhbhai Patel, laid the foundation stone of Kasturbagram on 2nd October, 1950—Gandhiji's birthday. There were 336 village centres, 18 provincial training centres and about 532 trained workers at the end of 1952.

There has been a persistent demand for more and more maternity workers at different centres for Maternity Service is a crying need of the rural areas.

In addition to maternity and child welfare work, the Turst has taken up the cause of leprosy relief work and, as is well-known, has been running the Kasturba Gandhi Kushtarog Nivaran Nilayam, Mazhavanthangal, Distt.

South Arcot. The Centre is lodged in buildings constructed by the Trust with the help of Madras Government. There is accommodation for 32 indoor patients. Children are given preference.

THE MISSION TO LEPERS

The Mission to Lepers is run through the voluntary gifts from overseas and from Government grants.

During the year 1952, work had been undertaken for the establishment of the Schieffelin Leprosy Research Sanatorium, Karigeri, near Vellore, and of the Wellesley Children's Sanatorium at Zamurradganj near Faizabad. These two projects had been under consideration for a long time, but it was not until 1952 that the building construction work could begin. Embarking on these two new projects, however, has not slackened the work at other centres of the Mission where some 10,000 in-patients and nearly 14,000 out-patients continued to receive treatment.

During the year, capitation grants were received from all State Governments except Madras. A certain number of other non-recurring grants were also received. But, by far the greatest share of money required for maintenance of the Mission's work in India was received through the Mission's Head Office in London and represented contributions of countries other than India.

Sulphone therapy continued to be widely used, with encouraging results.

The Mission has continued its activities despite many handicaps of which lack of suitable trained medical personnel is one of the serious ones.

INTERNATIONAL HEALTH DIVISION OF THE ROCKEFELLER FOUNDATION

In 1949, the Regional Director for the Far East (Dr. M. C. Balfour) accompanied by the representative for India (Dr. R. K. Anderson) visited most of the work-centres of the former International Health Division in India to observe public health developments, with special reference to demography.

In 1950, due to the political situation in China, the Far Eastern regular office and the India office of the Division were consolidated and located in Bangalore under the direction of Dr. Robert Briggs Watson.

In order to streamline the Foundation's India programme in Public Health as well as in medical sciences and medical Education the former International Health Division and the Medical Science Division of the Rockefeller Foundation were amalgamated early in 1951 to form the Division of Medicine and Public Health.

One of the major developments during 1952 was the increased attention paid to improvements in medical education. Dr. Watson and Dr. Anderson visited most of the medical colleges in India, and long-range plans are being made for the development and assistance of post-graduate centres with the object of providing more and better teachers for the increasing number of medical colleges.

In late 1951, Dr. J. Austin Kerr and Dr. Harold N. Johnson were assigned as director and medical virologist, respectively, for the virus Research Centre which was being developed at Poona in co-operation with

the Indian Council of Medical Research. During '1951 the two doctors were engaged mainly in establishing and organizing the Centre and recruiting the personnel. Much of the equipment which is being provided by the Rockefeller Foundation arrived during the year, and remodelling by the Indian Council of Medical Research of the building provided by the Bombay Government was nearly completed.

Miss Lillian A. Johnson, an employee of the Rockefeller Foundation, was assigned to Travancore as Director of Nursing Education in December 1952, in order to assist in upgrading the nursing school in the new medical centre in Trivandrum. Mr. Fred W. Knipe, public health engineer of the Rockefeller Foundation staff, was assigned to the Malaria Institute in Delhi to assist in Malaria training and control programme, including work connected with the National Malaria Programme.

During the period, 1949 to 1952, the International Health Division granted foreign fellowships, travel grants and medical sciences fellowships to India as follows :

Year	F. Fellowships	T. Grants	M.S. Fellowships
1949	2	2	6
1950	5	*3	10
1951	6	2	10
1952	11	5	—(5 equipments grants)

*NOTE—Two were for implementation in 1951.

THE TUBERCULOSIS ASSOCIATION *6 INDIA

During the years, 1949—52, Rajkumari Amrit Kaur continued to be the President of the Association. Dr. K. C. K. E. Raja, Director General of Health Services and *ex officio* Chairman of the Association retired on 31st May, 1952, and Lt.-Col. C. K. Lakshmanan succeeded.

Standing Technical Committee—During this period, the Association recommended the development of teaching centres, mass X-ray and domiciliary treatment, employment of *ex-patients*, construction of cheap wards for isolation and treatment of tuberculous patients to be attached to general hospitals, establishment of hospitals for tuberculous children, standards of post-graduate education in tuberculosis, etc.

Affiliate Associations—There were 17 State Tuberculosis Associations, affiliated to the Centre. These Associations have done excellent work, particularly in regard to publicity and propaganda and seal sale campaign. Some of them took the initiative in regard to establishment of tuberculosis institutions with Government and non-official support. Three State Associations were under formation.

International Contacts—Secretary of the Association, Shri B. M. Cariappa, visited several European and North American countries on a W.H.O. travel fellowship, to study the working of anti-tuberculosis organisations and participated in the Commonwealth Tuberculosis Conference in London. The Association's Technical Adviser, Dr. P. V. Benjamin,

participated in the Commonwealth Tuberculosis Conference in London and the International Congress on Tuberculosis in Brazil in 1952.

Activities of the Association—The Association launched a Tuberculosis Seal Sale Campaign in India, for the first time, on 2nd October, 1950—Mahatma Gandhi's birthday—with a message from Dr. Rajendra Prasad, President of India and an appeal from the Union Health Minister, Rajkumari Amrit Kaur. This campaign is an annual feature and brings in several lakhs of rupees for tuberculosis work.

Refresher courses, attended by 30 doctors, were held in Calcutta, Madras, Patna and Delhi. Six social workers were trained in tuberculosis during the period, and four Health Visitor's courses, attended by forty candidates, were also held. Tuberculosis Workers' Conferences were held annually, workers from all over India participating in the deliverations.

With grants from the Union Minister for Health and donations from the public, it has been possible for the Association to help indigent tuberculosis patients with cash assistance to the extent of Rs. 15,645 besides special medicines. Out of a grant of Rs. 10 lakhs received from the former Viceroy's War Purposes Fund for treatment of tuberculous *ex-servicemen*, 397 patients were treated at a cost of Rs. 6,41,413. Displaced tuberculosis patients were cared for in a 100-bedded Tuberculosis Hospital put up at Sangrur (Pepsu) with a total grant of Rs. 3,90,200 from the Government of India. *Ex-patient's* employment question was taken up by the Association with the Government, business Community, Corporate bodies and various employing agencies.

Lady Linlithgow Sanatorium, Kasauli, with a bed-strength of 215 in 1952, continued doing very useful work. By May 1952, a new tuberculosis Hospital containing 100 beds named the Lala Ram Sarup Tuberculosis Hospital was opened at Mahrauli near Delhi with a grant from the Union Government of nearly Rs. 6 lakhs. The New Delhi Tuberculosis Clinic was upgraded as a model teaching and demonstration centre in 1951. The total number of visits recorded for treatment, medicines and advice in 1949 was 1,97,329. The total number of new patients examined in 1950 was 6,022, in 1951, 6,716 and in 1952, 9,251. Over and above this, healthy persons were examined for the purpose of epidemiological study. Mass X-ray examinations were conducted in Faridabad township, textile mills and some hospitals and dispensaries.

ALL INDIA BLIND RELIEF SOCIETY, DELHI

The Society helped 16 Eye-Relief camps during 1949, at which 1,408 patients received surgical treatment, 11,029, medical treatment and 3,297, advice. During 1952, it held 22 Eye-Relief camps at which 5,457 operations were performed—the total attendance being 51,074. A mobile unit also was organised in 1952 which visited 45 places. At the rural centres in Madnapur and Dhasa, the Society treated about 2,700 outdoor patients.

This Society, besides distributing a lot of literature on prevention of blindness, such as, posters, pamphlets and leaflets, arranged 202 magic lantern lectures on the subject for a total audience of about 3,450 persons.

For its main eye-hospital at Lapjat Nagar, the Society has deposited Rs. 24,000 with the Ministry of Rehabilitation for the construction of a building the plans for which are under preparation.

TRAINED NURSES ASSOCIATION OF INDIA

The total membership of the Association increased from 4,514 at the end of 1948 to 6,820 by the end of 1950.

HIND KUSHT NIVARAN SANGH (INDIAN LEPROSY ASSOCIATION)

After 20 years of very useful service, the Indian Council of the British Empire Leprosy Relief Association became the Hind Kusht Nivaran Sangh—the assets and liabilities of the Council being handed over to the new Association formed in deference to the wishes of the All India Leprosy Workers' Conference. Not only did the name of the Council change but the constitution of the new Sangh made it a more representative and more popular body. Persons responsible for anti-leprosy work in various States and those engaged in actual leprosy work obtained representation of the Governing Body of the Sangh.

Branches of the Sangh exist in the States of Assam, Bihar, Bombay, Hyderabad, Madhya Pradesh, Madras, Mysore, Punjab, Orissa, Uttar Pradesh and West Bengal. The work engaged in by the more active branches comprises of, (a) survey of endemic areas; (b) provision for treatment with sulphones and hydnocarpus, including arrangement for segregation of infectious patients either in Homes and Asylums or in villages with the active and sympathetic co-operation of the villages, (c) teaching and training of doctors, medical students and social workers in leprosy work; (d) educative propaganda and publicity through lectures, film-shows, pamphlets, posters, stalls at exhibitions, etc., and (e) rendering assistance in the rehabilitation of cured cases. Some of the branches which hitherto had merely distributed financial grants to private and Governmental agencies, now actively took up some aspects of the work on their own. Again, some other branches became district branches with a net-work of clinics in the endemic districts, the most advanced in this respect being the Madras State Branch which formed 19 district branches one branch in each district where leprosy is a problem; Orissa and West Bengal followed with 7 and 4 district branches respectively to their credit.

Research activities.—The research work of the Sangh was carried out, as before, in collaboration with the Endowment Fund of the School of Tropical Medicine, Calcutta and the Indian Council of Medical Research, a detailed account of which appears in the chapter on "Medical Research".

Teaching.—In 1952, the annual Leprosy Training Course of a month's duration was attended by 21 students drawn from Bengal, Madhya Pradesh, Uttar Pradesh, Hyderabad and Madras of whom 15 passed the examination held at the end of the course. Material for most of the research activities is provided by the out-patient clinic which performs the routine clinical work. Lecture-demonstrations on leprosy were given to DTM and LTM classes.

Publication and Propaganda.—Among the publications, the quarterly journal, "Leprosy in India", needs special mention. Produced and issued from the Leprosy Department of the School of Tropical Medicine, Calcutta, it commands a very large circulation and has many interested subscribers abroad. Publicity material (pamphlets, posters, leaflets, films and slides) is also produced, and issued through the Red Cross Depot, New Delhi. During the year 1952, 30,423 copies of six additional new poster

in English, Hindi, Urdu, Bengali, Oriya, Tamil and Telugu, designed in the light of recent knowledge on leprosy, were printed.

Two notable conferences of the year, organised by the State branches of Uttar Pradesh and Madras, were held at Banaras and Madras in September and November, respectively. As a result of the Banaras Conference inaugurated by Shri Vinobha Bhave and attended by the Organising Secretary, the activity received a big fillip in U.P. The Madras Conference in which all the official and non-official agencies engaged in leprosy work participated, was a great success in that several Voluntary and the Governmental Agencies were brought together in a common endeavour, and very valuable discussions followed the reading of several excellent papers.

COUNTESS OF DUFFERIN'S FUND

The Fund was dissolved during the period under report.

APPENDICES

TABLES NOS. 1—59

TABLE No. 1

Appendix

No. of Medical Officers employed in the States on 31st December, 1949 and 1952 under Government. District and Municipal Boards, Missionary Institutions, Private Hospitals and Dispensaries and Others.

Sl. No.	States	Civil Surgeons		Asstt. Surgeons		Sub-Asstt. Surgeons		Subsidised Medical Practitioners		Honorary Medical Officers		Others	
		1949	1952	1949	1952	1949	1952	1949	1952	1949	1952	1949	1952
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
1.	Assam	16	30	42	66	496	327	73	124	6	9	97	12
2.	Bihar	16	16	354	520	703	631	32	69	39	32	88	83
3.	Bombay	26	36	226	156	656	674	392	415	249	353	150	1,940
4.	Madhya Pradesh	20	20	133	127	659	585	13	16	51	21	10	—
5.	Madras	70	123	486	1,459	1,197	389	—	490	477	349	4,710	422
6.	Orissa	13	13	70	72	321	349	5	8	1	30	—	1,204
7.	Punjab	13	13	103	63	280	369	36	34	—	6	639	91
8.	Uttar Pradesh	49	—	183	—	1,115	—	47	—	41	—	84	—
9.	West Bengal	15	16	296	337	534	913	204	153	539	549	1,227	988
10.	Hyderabad	44	46	310	385	—	—	—	—	20	22	—	1,024
11.	Jammu & Kashmir	16	4	23	50	102	93	—	—	—	—	—	—
12.	Madhya Bharat	16	11	42	70	109	233	20	13	—	—	10	12

TABLE No. 1—*contd.*

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
13.	Mysore	23	36	135	168	458	579	—	—	3	9	—	140
14.	Pepsu	4	4	71	6	134	154	—	—	—	—	—	5
15.	Rajasthan	24	29	121	196	290	450	1	—	1	—	5	—
16.	Saurashtra	7	—	74	—	199	—	—	—	12	—	35	—
17.	Travancore-Cochin	8	22	316	381	32	1	—	—	56	23	40	71
18.	Ajmer-Merwara	2	3	14	13	26	26	—	—	1	1	1	5
19.	Bhopal	—	2	4	14	27	27	—	3	—	43	—	—
20.	Bilaspur	1	1	3	4	—	—	—	—	—	—	2	—
21.	Coorg	1	1	4	4	17	20	—	1	1	—	—	—
22.	Delhi	2	2	40	53	50	54	—	2	17	27	77	123
23.	Himachal Pradesh	4	4	14	14	36	61	—	—	—	—	—	—
24.	Kutch	1	1	8	12	20	25	—	1	1	1	10	8
25.	Manipur	1	2	—	19	29	24	—	—	—	—	—	—
26.	Tripura	—	—	2	3	23	32	—	—	—	2	—	1
27.	Vindhya Pradesh	11	—	4	20	41	64	—	—	—	—	2	1
28.	Andaman & Nicobar Islands	1	1	5	4	6	7	—	—	—	—	—	—

TABLE No. 2

Appendix

Number of officers Solely Employed in Public Health and Jail Departments as on 31st December, 1949

S. No.	Name of State	(Distt. Health Officer)		(Asstt. Health Officer)		Sanitary Inspectors	Others						Miscellaneous posts	Medical Personnel employed solely in Jail Deptt.	REMARKS	
		Medical Graduates	Medical Licentiates	Medical Graduates	Medical Licentiates		Vaccinators	Epidemic Asstt.	Entomological Asstts.	Field Asstts.	Nursing orderlies	Laboratory Asstt.				Malariaologists
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
1.	Assam	6	2	—	8*	8†	47	—	1	25	17	18	1	—	6	*Sub-divisional Medical Officer †99 rural Health Inspectors.
2.	Bihar	17	—	—	34	64	190	388	25	650	—	22	4	—	94	—
3.	Bombay	22	—	—	—	280	379	67*	2	—	—	—	15	233	27	*Epidemic Medical Officers.
4.	Madhya Pradesh	—	—	—	98	122	430	141	1*	387†	3	2	10	—	—	*Entomologist †Includes 234 labourers for six months.
5.	Madras	33	—	108	—	976*	970	—	37†	221	—	49	—	1,298	24	*Includes 476 Health Inspectors. †Includes 2 Senior Entomologists.
6.	Orissa	10	1	—	40	180*	296	200	8†	31	—	4	1	—	14	*Health Inspectors. †Includes 1 Entomologist.

TABLE No. 2—contd.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
7.	Punjab	23*	1 †	2	12	108	12 ‡	—	4	—	—	24	1	54	16	*Includes 7 Municipal Health Officers. † Municipal Health Officers. ‡ Includes 1 Superintendent of Vaccination.
8.	Uttar Pradesh	74*	33 †	6 ‡	62 §	534	845	167	—	—	215	41	—	—	66	*Includes 25 Municipal Medical Officers. † Municipal Medical Officers. ‡ School Health Officers. § Includes 8 School Health Officers.
9.	West Bengal	13	—	37*	1	34	462	200	—	5	206	35	4	235	25	*Includes 35 Sub-divisional Health Officers.
10.	Hyderabad	—	—	50	41	323	111	—	6	—	—	2	2*	8	—	*Of Civil Surgeon rank (Class I Grades).
11.	Jammu & Kashmir	—	—	—	—	19	28	—	—	—	—	11	—	—	4	
12.	Madhya Pradesh	2	—	—	7	146	—	—	—	—	15	2	2*	—	4	*Includes 1 Anti-malaria Officer. 1 Malaria Inspector.
13.	Mysore	8*	—	—	99	454	15	2	2	367	14	25	5	—	2	*1 Vacant.
14.	Pepsu	4*	—	—	—	28	99	—	—	—	—	—	—	—	8	*Divisional Health Officers.

15.	Rajasthan	3	3	5		67	253	—	—	—	146	3	5	—	—	—
16.	Saurashtra	—	1	—	—	3	72	1	2	5	2	2	2*	—	1	*Includes 1 Malaria Officer.
17.	Travancore-Cochin	4	—	—	2	76	90	—	2*	32	—	2	10	487	2	*Assistant Medical Surgeon Entomology.
18.	Ajmer-Mewara	—	—	1	—	12	17	—	—	—	—	—	4*	—	3	*Includes 1 Malaria Officer.
19.	Bhopal	—	1*	—	—	16	25	—	—	—	—	—	—	—	—	*Health Officer under Municipal Board, Bhopal. † Under the Deptt. of Medical & Health Service in 1949.
20.	Bilaspur	—	—	—	—	2	—	—	—	—	—	—	—	—	—	—
21.	Coorg	1	—	—	1	4	8	—	1	8	—	2	1	—	1*	*Part time Medical Officer.
22.	Delhi	4	—	5	2	60	32	2	—	—	—	4	9*	18	2	*Includes Anti-Malaria Officer and Superintendent (1 each)
23.	Himachal Pradesh	—	—	—	—	1	16*	—	—	—	—	—	—	—	4†	*2 Vaccination Superintendents. † Superintendent, Jails.
24.	Kutch	—	—	—	—	—	14*	—	—	—	—	—	—	—	—	*Includes 2 Inspectors.
25.	Manipur	—*	—	—	1	—	30†	—	—	—	1	—	5	2	—	*Chief Medical Officer works as District Health Officer. *Includes 16 seasonal.
26.	Tripura	—	—	—	—	—	2	—	—	—	—	—	1	6	1*	*Compounder.
27.	Andhra Pradesh	—	—	—	—	5	88	—	—	—	—	—	—	—	5*	*Compounders.
28.	Andaman & Nicobar Islands.	—	—	1*	—	2	—	—	—	—	—	2	—	—	—	*Officer incharge, Public Health.

TABLE No. 3

Appendix

Number of Officers Solely Employed in Public Health and Jail Departments as on 31st December, 1952

S. No.	Name of State	District Health Officers		Asstt. Health Officers			Others									REMARKS
		Medical Graduates	Medical Licentiates	Medical Graduates	Medical Licentiates	Sanitary Inspectors	Vaccinators	Epidemic Asstt.	Entomological Asstt.	Field Asstts.	Nursing orderlies	Laboratory Asstt.	Malariaiologists	Miscellaneous posts	Medical personnel employed solely in jail Deptt.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
1.	Assam	5	3	3*	—	108	54	—	1	23	16	12	1	—	—	*2 Asstt. Directors and 1 Director of Pastuer Institute.
2.	Bihar	16	—	8	—	24*	150	121†	1	25	—	20	5	—	50	*B. C. G. technicians. †Includes 21 Epidemic Doctors & 100 Health Assistants.
3.	Bombay	21	—	14	38	293	476	8	2	—	—	6	—	199	27	
4.	Madhya Pradesh	—	—	—	37	106	537	184	—	660	3	2	11	24	16	
5.	Madras	44	58	5	12	1,358	17	1,151	8*	248	—	49	4	1,384	43	Includes 421 Health Inspectors on special P. H. duties *1 chief and 7 senior entomologist.

6.	Orissa	12*	1	5	13	177	296	157	3	21	—	6	—	—	14	*Includes 2 Municipal Health Officers.
7.	Punjab	19	—	—	16	67	—	—	3	27	—	12	2*	42	19	*Includes 1 Asstt. Malaria Officer.
8.	Uttar Pradesh	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
9.	West Bengal	35*	2*	39	2	515	1,630	75	—	248	251	78	41	—	25	*Includes Municipal Health Officers.
10.	Hyderabad	10*	—	75	—	403	130	—	—	—	—	—	—	104	6	*Designated as Asstt. Directors of Health.
11.	Jammu & Kashmir	—	2	—	—	—	35	—	—	—	—	13	—	—	2	—
12.	Madhya Bharat	—	—	16	—	13	147	—	—	—	—	2	1*	—	9	*Anti-malaria Officer.
13.	Mysore	63	—	—	114	669	14	—	3	—	1	26	—	363	5	—
14.	Pepsu	4	—	—	—	29	99	—	—	—	—	2	1	—	13*	*3 Part time.
15.	Rajasthan	25	—	12	—	103	320	—	—	—	—	34	—	—	33	—
16.	Saurashtra	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
17.	Travancore-Cochin	4	—	—	—	121	397	—	—	35	4	2	—	8	—	—
18.	Ajmer-Merwara	1	—	3	—	11	16	1	1	—	—	—	8*	—	3	*Includes 1 Malaria Officer.
19.	Bhopal	—	—	—	—	16	22	—	—	—	—	—	—	—	—	—
20.	Bilaspur	—	—	4	1	2	2	—	—	—	—	—	—	—	—	—
21.	Coorg	1	—	—	1	2	6	—	1	9	—	2	—	5	—	—
22.	Delhi	7	2	5	1	64	4	—	—	—	—	4	—	—	2	—

TABLE No. 3—*contd.*

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
23.	Himachal Pradesh	.	—	—	—	4	17	—	—	—	—	—	—	—	—	—
24.	Kutch	.	—	—	—	—	14	—	—	24	—	1	8	—	—	—
25.	Manipur	.	—	—	—	1	30*	—	—	—	20	1	—	—	2	*Includes 16 seasonal.
26.	Tripura	.	—	—	—	1	2*	—	—	—	—	—	11	—	1	*About 25 to 30 are appointed for 3 months during winter every year.
27.	Vindhya Pradesh	.	2	—	—	3	3	71	—	1	—	1	—	—	6	—
28.	Andaman & Nicobar Islands.	.	1	—	1	—	1	—	—	—	—	2	—	—	—	—

TABLE No. 4
Cholera & Cholera Immunisations

S. No.	Name of State	Year	Number of Districts in the State	Districts affected by Cholera	Death rate due to Cholera	Peak period	Number of anti-cholera inoculations performed
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1.	Assam	1949	17	8	0.2	May-June	563,566
		1950	17	10	0.2	Do.	1,138,384
		1951	17	7	0.08	Do.	444,911
		1952	17	6	0.03	Do.	*
2.	Bihar	1949	18	17	0.2	April-May-June	3,239,032
		1950	18	17	0.6	June-July	4,058,676
		1951	18	16	0.1	Aug-Sept.	3,960,569
		1952	18	16	0.3	Do.	5,492,034
3.	Bombay	1949	28	16	0.08	June-July-Aug.	1,712,850
		1950	28	21	0.01	Sept.-Oct.	2,440,478
		1951	28	11	0.04	June-July-Aug.	880,042
		1952	28	15	0.05	March	1,559,147
4.	Madhya Pradesh	1949	22	21	0.2	July-Aug.	1,361,079
		1950	22	19	0.2	May-June-July	1,683,634
		1951	22	14	0.04	January	518,894
		1952	22	16	0.08	June-July	1,117,096
5.	Madras	1949	26	22	0.2	Jan.-Feb.	4,602,435
		1950	26	24	0.6	June	6,002,457
		1951	26	24	0.3	Jan.-Feb.	4,690,156
		1952	26	24	0.2	Oct.—Dec.	5,005,093
6.	Orissa	1949	13	12	0.8	April—July	1,057,023
		1950	13	13	0.4	Feb.—April	1,839,975
		1951	13	11	0.5	Do.	5,168,403
		1952	13	13	0.5	June-July	*
7.	Punjab	1949	13	6	0.02	June-July-Aug.	325,864
		1950	13	6	0.01	July	207,656
		1951	13	1	0.00	Aug.	120,516
		1952	13	1	0.00	June	279,578
8.	Uttar Pradesh	1949	51	49	0.4	April-May-June	3,311,947
		1950	51	37	0.1	May-June	1,558,385
		1951	51	28	0.09	September	981,387
		1952	51	44	0.2	July—Aug.	2,305,157
9.	West Bengal	1949	15	13	0.6	Jan—March	4,280,558
		1950	15	15	0.7	March—May	5,297,308
		1951	15	14	0.2	April-May	2,782,596
		1952	15	13	0.2	May	3,057,438
10.	Ajmer	1949	1	—	—	—	18,886
		1950	1	—	—	—	10,173
		1951	1	—	—	—	8,598
		1952	1	1	0.1	May	—
11.	Coorg	1949	1	—	—	—	2,340
		1950	1	—	—	—	—
		1951	1	1	0.5	—	—
		1952	1	—	0.00	—	—
12.	Delhi	1949	1	1	—	—	547,620
		1950	1	1	0.01	July	664,068
		1951	1	—	—	—	599,375
		1952	1	1	—	—	613,670

*Figures not available.

TABLE No. 5

Table showing the Morality Indices due to Diarrhoea and Dysentery with the Mean of the Period as the Base in the States.

Sl. No.	Name of State	Year	Deaths from- Dysentery and Diarrhoea ex- pressed as percent- age of the mean of 1949—52
(1)	(2)	(3)	(4)
1.	Assam	1949	123·07
		1950	104·65
		1951	82·80
		1952	89·52
2.	Bihar	1949	91·85
		1950	126·85
		1951	93·35
		1952	88·02
3.	Bombay	1949	107·75
		1950	92·16
		1951	94·67
		1952	105·42
4.	Madhya Pradesh	1949	100·22
		1950	97·48
		1951	116·12
		1952	86·17
5.	Madras	1949	83·44
		1950	110·36
		1951	98·63
		1952	107·58
6.	Orissa	1949	109·66
		1950	100·31
		1951	70·74
		1952	119·29
7.	Punjab (I)	1949	89·73
		1950	107·47
		1951	85·86
		1952	116·97
8.	Uttar Pradesh	1949	63·74
		1950	55·52
		1951	137·46
		1952	149·21
9.	West Bengal	1949	111·81
		1950	120·20
		1951	189·65
		1952	178·28
10.	Ajmer	1949	94·13
		1950	96·33
		1951	71·06
		1952	138·82
11.	Coorg	1949	43·24
		1950	52·70
		1951	93·24
		1952	211·48
12.	Delhi	1949	103·51
		1950	94·08
		1951	84·37
		1952	117·94

TABLE No. 6

Sl. No.	Name of State	Year	Deaths due to Dysentery & Diarrhoea as percentage of deaths from "all causes"
(1)	(2)	(3)	(4)
1.	Assam	1949	8.3
		1950	7.4
		1951	6.3
		1952	6.8
2.	Bihar	1949	0.6
		1950	0.8
		1951	0.5
		1952	0.6
3.	Bombay	1949	3.4
		1950	3.0
		1951	3.3
		1952	3.4
4.	Madhya Pradesh	1949	3.5
		1950	3.4
		1951	4.2
		1952	3.8
5.	Madras	1949	6.0
		1950	6.9
		1951	7.1
		1952	7.9
6.	Orissa	1949	8.1
		1950	7.9
		1951	5.5
		1952	5.7
7.	Punjab	1949	1.5
		1950	1.4
		1951	1.4
		1952	1.9
8.	Uttar Pradesh	1949	1.8
		1950	1.5
		1951	4.2
		1952	4.6
9.	West Bengal	1949	6.2
		1950	6.9
		1951	5.9
		1952	6.1
10.	Ajmer	1949	2.2
		1950	4.7
		1951	2.2
		1952	3.1
11.	Coorg	1949	3.0
		1950	4.7
		1951	8.0
		1952	*
12.	Delhi	1949	7.0
		1950	5.5
		1951	5.7
		1952	*
13.	India	1949	92.18
		1950	100.23
		1951	100.72
		1952	106.88

*Information not available.

TABLE No. 7

Appendix

Deaths due to Respiratory Diseases

S. No.	Name of State	Period	Death Rates due to Respiratory Diseases per 1000 of Population
(1)	(2)	(3)	(4)
1.	Assam	Mean of 1945—48	0.4
		1949	0.4
		1950	0.4
		1951	0.4
		1952	0.4
2.	Bihar	Mean of 1945—48	0.08
		1949	0.07
		1950	0.08
		1951	0.08
		1952	0.07
3.	Bombay	Mean of 1945—48	4.6
		1949	3.3
		1950	2.6
		1951	2.4
		1952	2.6
4.	Madhya Pradesh	Mean of 1945—48	1.4
		1949	0.9
		1950	0.7
		1951	1.3
		1952	1.1
5.	Madras	Mean of 1945—48	1.9
		1949	1.7
		1950	1.7
		1951	1.5
		1952	1.6
6.	Orissa	Mean of 1945—48	0.6
		1949	0.8
		1950	0.6
		1951	0.6
		1952	0.5
7.	Punjab	Mean of 1945—48	1.85
		1949	1.9
		1950	1.9
		1951	1.7
		1952	2.1
8.	Uttar Pradesh	Mean of 1945—48	0.65
		1949	0.5
		1950	0.5
		1951	0.8
		1952	0.8
9.	West Bengal	Mean of 1945—48	1.6
		1949	1.5
		1950	1.4
		1951	1.3
		1952	1.5

TABLE No. 7—*contd.*

(1)	(2)	(3)	(4)
10.	Ajmer	Mean of 1945—48	1·85
		1949	1·5
		1950	1·5
		1951	1·4
		1952	1·5
11.	Coorg	Mean of 1945—48	0·4
		1949	0·2
		1950	0·3
		1951	0·3
		1952	0·6
12.	Delhi	Mean of 1945—48	3·9
		1949	2·3
		1950	2·6
		1951	2·5
		1952	2·8

TABLE No. 8

Appendix

Deaths due to violence

Sl. No.	Name of State	Year	Suicides and Homicides			Wounds and accidents			Rabies	Snake bites and by wild beasts	Total	Deaths by Violence	
			Deaths	Ex-pressed as per-centage of total deaths by violence	Ex-pressed as per-centage of mean of the period	Deaths	Ex-pressed as per-centage of total deaths by violence	Ex-pressed as per-centage	No. of deaths	No. of deaths	Deaths	Ex-pressed as per-centage of deaths from all causes	Ex-pressed as per-centage of the mean of the periods
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
1.	Assam	1948	194	13.6	62.5	519	75.3	99.4	8	68	689	1.1	93.3
		1949	165	22.1	109.2	476	63.8	91.2	25	80	746	1.2	101.1
		1950	153	21.9	101.3	473	67.6	90.6	15	58	699	1.1	94.7
		1951	140	18.5	92.7	503	66.6	96.4	35	77	755	1.3	102.3
		1952	201	25.0	133.1	637	79.3	122.0	20	45	803	1.4	108.8
2.	Bihar	1948	731	15.7	105.9	1,362	29.2	88.7	15	2,561	4,659	0.9	95.3
		1949	650	12.7	94.2	1,708	30.0	111.3	480	2,279	5,117	1.2	104.7
3.	Bombay	1948	747	10.9	40.7	5,192	75.6	79.2	87	841	6,867	1.4	80.7
		1949	785	10.0	42.7	6,064	77.3	92.5	70	930	7,849	1.2	92.2
		1950	813	9.8	44.3	6,343	76.2	96.7	155	1,018	8,329	1.4	97.9

		1951	675	6.9	36.7	7,312	75.1	111.5	189	1,381	9,737	1.7	114.4
		1952	655	6.7	35.7	7,874	80.6	120.1	202	1,041	9,772	1.6	114.8
4.	Madhya Pradesh	1948	1,349	27.4	122.6	2,133	43.3	107.7	255	1,186	4,923	0.94	119.3
		1949	1,185	27.0	107.7	2,067	47.0	104.4	237	907	4,396	0.94	106.5
		1950	1,049	27.6	95.4	1,885	49.6	95.2	209	654	3,797	0.81	92.0
		1951	818	24.1	74.4	1,836	54.0	92.7	102	641	3,397	0.75	82.3
5.	Madras	1948	3,540	31.0	98.0	5,567	48.8	110.2	323	1,989	11,419	1.19	108.5
		1949	3,501	33.5	96.8	5,053	48.3	100.0	417	1,483	10,454	1.18	99.3
		1950	3,808	36.2	105.4	4,832	45.9	95.6	402	1,479	10,521	0.98	99.9
		1951	3,807	37.1	99.8	4,762	49.0	94.2	279	1,068	9,716	1.04	92.3
6.	Orissa	1948	818	31.8	109.9	905	35.1	86.3	172	681	2,576	1.43	97.8
		1949	748	33.0	100.5	871	38.4	83.0	147	504	2,270	1.28	86.2
		1950	482	24.1	64.8	672	33.7	64.1	259	584	1,997	1.20	75.8
		1951	423	20.2	56.9	906	43.3	86.4	256	508	2,093	1.25	79.5
		1952	1,251	29.6	168.1	1,891	44.7	180.8	195	962	4,231	1.54	160.6
7.	Punjab (I)	1948	117	4.1	86.6	2,519	89.1	118.3	60	132	2,828	1.37	114.4
		1949	102	4.9	75.6	1,803	87.0	84.8	33	134	2,972	0.98	83.9
		1950	145	6.9	107.4	1,782	85.2	88.8	117	147	2,091	0.78	84.6
		1951	130	5.0	96.8	2,207	85.5	101.7	50	217	2,604	1.24	105.4
		1952	179	6.5	132.5	2,322	84.1	109.2	44	215	2,760	1.4	111.6

TABLE No. 8—concl'd.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
8.	Uttar Pradesh	1948	697	8.0	73.4	6,191	71.0	96.8	57	1,767	8,722	1.07	97.5
		1949	745	8.4	73.5	6,357	71.9	98.8	98	1,634	8,834	1.15	98.7
		1950	701	9.3	73.9	5,391	71.5	83.9	224	1,823	7,539	0.89	84.3
		1951	1,275	11.0	134.4	7,517	64.8	116.9	355	2,436	11,583	1.59	129.4
		1952	1,327	13.2	139.8	6,633	66.4	103.9	288	1,768	10,061	1.46	112.4
9.	West Bengal	1948	1,116	15.0	82.1	4,171	55.9	96.0	142	1,811	7,461	1.93	98.9
		1949	1,475	18.6	108.5	4,551	57.5	104.7	120	1,767	7,918	2.12	104.9
		1950	1,365	18.3	100.4	4,495	60.1	103.4	126	1,492	7,478	2.08	99.1
		1951	1,482	20.2	109.0	4,173	56.9	195.9	118	1,560	7,333	2.33	97.2
10.	Ajmer	1951	1	1.0	50.0	79	80.6	98.8	—	18	98	1.11	89.0
		1952	3	2.9	150.0	81	78.6	101.3	—	19	103	0.84	103.0
11.	Delhi	1948	8	1.9	53.3	401	92.8	105.5	13	10	432	3.02	102.1
		1949	22	5.3	146.6	360	87.0	94.7	23	9	414	2.58	97.8

TABLE No. 9

Appendix

Statement Showing the Number of Venereal Diseases Patients treated in Various States During 1949—52.

Sl. No.	Name of State	Year	Indoor					Outdoor					Total
			Syphilis		Gonor- rhoea	Chanc- roid	Other Vene- real Di- seases	Syphilis		Gonor- rhoea	Chanc- roid	Other Vene- real Di- seases	
			Ac- quired	Conge- nital				Ac- quired	Conge- nital				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
1.	Assam	1949	371	1	81	42	46	1,758	296	755	45	836	4,235
		1950	115	48	84	3	17	1,440	11	708	51	110	2,587
		1951	134	25	62	2	9	1,519	206	831	20	142	2,950
		1952	100	37	164	33	3	828	113	1,007	20	183	2,588
2.	Bihar	1949	1,134	454	472	241	485	24,750	3,032	13,206	815	3,397	47,976
		1950	1,103	321	419	154	1,316	23,140	3,854	13,085	450	8,797	52,639
		1951	746	174	465	17	365	20,179	5,144	12,589	607	7,396	53,485
		1952	596	148	464	11	409	21,871	4,827	14,375	524	10,404	54,286
3.	Bombay	1949	2,339	188	900	234	353	32,223	5,736	19,923	9,323	7,265	78,484
		1950	1,056	143	360	117	223	26,696	2,325	18,538	8,180	17,596	73,360
		1951	1,320	317	522	169	541	39,610	2,700	20,116	10,248	19,076	94,619
		1952	1,095	162	459	158	259	37,011	1,907	20,408	11,601	18,506	91,566

TABLE No. 9—contd.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	
4. Madhya Pradesh	.	.	1949	1,380	409	794	70	201	24,331	3,241	14,740	514	2,262	47,942
			1950	1,096	154	417	194	471	14,054	2,851	7,729	532	3,747	31,245
			1951	1,066	1,383	854	69	792	15,313	7,823	17,689	1,095	12,031	58,115
			1952	1,138	1,178	707	79	944	14,699	5,798	12,530	1,128	8,381	46,582
5. Madras	.	.	1949	—151,637*		—142,596*		—19,456*		71,162*		61,746	257,805	
			1950	7,055	2,066	8,747	1,145	3,839	67,123	18,113	72,668			20,707
					395					5,201				
			1951	5,928	1,764	6,823	1,009	6,051	86,021	13,173	86,122			11,624	61,316	279,831
			1952	8,547	3,057	15,992	1,634	14,842	87,642	31,641	152,235	17,870	31,771	415,231
6. Orissa	.	.	1949	2,560	3,407	624	1,310	1,685	12,883	1,918	9,508	1,516	3,744	39,155
			1950	1,702	109	824	78	156	19,664	1,986	14,380	1,260	3,544	43,703
			1951	3,537	335	1,257	381	761	18,983	3,285	9,582	3,166	3,597	44,884
			1952	1,901	261	1,479	114	343	20,451	2,211	14,231	1,147	4,101	46,239
7. Punjab	.	.	1949	—522—		380	3	75	—5,170—		2,902	71	183	9,311
			1950	696	67	371	48	131	3,709	212	1,709	67	185	7,195
			1951	321	79	166	11	101	1,943	399	1,420	76	534	6,050
			1952	858	69	414	20	87	8,710	1,004	3,453	191	1,520	16,326
8. Uttar Pradesh	.	.	1949	1,432	285	935	71	65	30,497	5,796	18,339	840	4,957	63,216
			1950	3,491	462	809	35	256	19,570	5,812	11,833	624	4,178	47,070

	1951	1,241	482	1,339	455	1,160	8,463	6,959	13,333	2,117	6,569	42,118
	1952	1,001	329	1,331	28	1,061	21,118	6,506	4,181	1,148	18,129	54,832
9. West Bengal	1949	1276		2,704	303	105	7,097	523	3,615	586	6,828	19,888
	1950	480		295	18	162	11,317	858	5,430	1,155	9,614	31,801
	1951	56	—	33	—	14	12,852	583	7,169	1,230	14,521	36,458
	1952	112	9	88	9	59	12,769	743	8,875	1,289	16,737	40,413
10. Hyderabad-Deccan	1949	335	50	174	26	59	5,871	186	6,667	58	30	13,456
	1950	27	235	181	—	32	172	27,105	32,859	23	62	60,696
	1951	612	446	758	—	120	7,335	14,970	28,293	—	1,663	54,197
	1952	292	19	71	24	32	4,966	69	3,083	67	46	8,669
11. Jammu & Kashmir	1949	770	41	221	5	—	3,833	126	5,309	7	2,186	13,669
	1950	+	+	+	+	+	+	+	+	+	+	+
	1951	+	+	+	+	+	+	+	+	+	+	+
	1952	+	+	+	+	+	1,844	92	154	4	25	2,119
12. Madhya Bharat	1949	177	—	179	3	481	4,016	34	5,395	—	93,712	103,997
	1950	223	11	88	17	74	2,721	453	2,633	174	1,469	8,213
	1951	280	9	106	5	75	4,674	460	5,011	1,005	5,157	16,782
	1952	221	1	102	31	128	4,383	369	5,959	307	8,714	20,215

TABLE No. 9—*contd.*

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)			
13. Mysore	1949	496	18	370	7	107	3,764	78	3,003	12	346	8,201
					1950	285	4	168	188	6	12,561	31	3,424	1,094	109	50,204
					1951	2,436	134	2,123	2,070	266	7,349	381	1,734	157	909	17,559
					1952	154	18	92	33	23	4,918	323	637	999	1,134	8,341
14. Pepsu	1949	17	22	6	23	—	1,107	90	667	53	67	2,052
					1950	35	26	31	96	60	1,047	2,618	826	12	526	5,277
					1951	91	106	134	2	22	3,372	214	1,222	41	148	5,352
					1952	354	29	183	18	54	4,482	143	2,075	158	169	7,665
15. Rajasthan	1949	673	6	285	14	182	7,968	314	4,370	388	1,864	19,795
					1950	1,137	75	485	217	150	10,135	221	4,734	300	392	18,058
					1951	1,670	17	407	260	759	8,676	368	5,500	839	580	19,076
					1952	939	138	346	59	200	11,458	1,030	6,644	1,179	2,083	24,071
16. Saurashtra	1949	197	94	120	50	—	930	212	1,156	103	—	2,862
					1950	207	81	236	29	—	8	54	1,208	38	16	3,355
					1951	174	1	115	—	1	1,969	127	1,201	17	—	3,604
					1952	280	45	211	6	46	1,984	423	1,873	38	561	5,467

17. Travancore-Cochin	1949	259	36	99	1	—	778	92	275	251	348	2,039
	1950	326	—	154	4	—	1,620	252	1,267	104	364	4,091
	1951	332	—	155	6	—	1,550	280	1,296	94	402	4,115
	1952	676	—	408	9	315	2,884	559	1,796	337	1,600	8,584
18. Ajmer	1949	65	2	17	4	—	539	11	312	2	1	953
	1950	90	50	4	3	62	703	28	229	10	99	1,324
	1951	38	15	.	6	26	424	9	160	2	146	834
	1952	25	9	14	6	33	279	26	260	37	115	804
19. Bhopal	1949	106	—	84	—	6	901	8	425	—	20	1,550
	1950	151	16	89	—	—	182	39	764	3	33	1,277
	1951	94	34	669	—	74	278	34	705	—	12	1,900
	1952	1,196	—	87	—	—	2,923	—	649	—	1,472	6,327
20. Bilaspur	1949	2		4	—	—	40	60	8	—	—	114
	1950	13	—	—	—	—	154	3	100	—	—	275
	1951	10	3	4	—	4	184	17	171	9	45	447
	1952	4	—	4	—	—	326	21	39	62	3	409
21. Coorg	1949	43		35	—	19	275	319	9	62	—	762
	1950	58	5	30	1	4	42	7	99	4	59	309
	1951	58	6	69	3	14	128	18	95	10	9	410
	1952	191	8	153	4	47	87	11	61	1	47	610

TABLE No. 9—concl'd.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	
22.	Delhi	1949	56	2	12	—	—	6,956	46	1,345	35	344	8,796	
		1950	73	13	21	7	5	8,795	185	1,708	24	61	8,892	
		1951	125	18	49	—	—	6,162	286	1,335	20	5	8,000	
		1952	50	18	22	2	40	11,162	394	2,938	64	1,766	16,456	
23.	Madhya Pradesh	1949	2,865	85	1,785	45	120	1,268	66	843	17	90	7,157	
		1950	1,283	96	768	27	78	2,669	200	776	57	219	6,173	
		1951	255	13	46	—	32	3,063	201	1,243	38	113	5,004	
		1952	—	—	—	—	—	5,641	192	1,212	56	63	7,164	
24.	Kutch	1949	—	13	—	3	—	—	—	252	104	—	—	372
		1950	28	—	3	—	—	303	—	117	—	—	—	451
		1951	10	—	1	—	—	127	18	—	—	—	—	156
		1952	10	—	—	—	—	137	15	—	—	—	—	162
25.	Manipur	1949	85	16	67	—	44	460	61	343	14	1	1,091	
		1950	71	10	69	14	—	444	36	252	51	2	949	
		1951	106	21	104	8	44	938	84	406	13	5	1,729	
		1952	62	18	57	3	40	364	88	622	99	88	1,441	
26.	Tripura	1949	—	—	—	—	—	29	1	126	—	—	156	
		1950	—	—	—	—	—	91	—	246	—	—	337	

	1951	4	—	—	—	—	169	—	279	—	—	452
	1952	2	2	3	—	—	228	—	328	—	—	563
27. Vindhya Pradesh	1949	112	4	55	1	23	2,008	52	1,175	8	92	3,530
	1950	199	1	163	—	13	3,949	515	2,780	9	445	8,074
	1951	157	9	53	1	18	2,876	56	1,693	—	320	5,183
	1952	449	2	247	2	17	2,025	53	1,008	5	239	4,047
28. Andaman & Nicobar Islands	1949	77	2	17	4	5	126	—	60	—	—	291
	1950	<hr/>										146
	1951	29	—	15	—	—	180	7	8	—	—	239
	1952	40	1	22	—	—	79	3	—	—	—	145

*Figures given by Madras are statistics for both indoor & outdoor cases.

TABLE No. 10

Appendix

Statement Showing the Number of Leprosy Patients treated in the Various States in India During the Years 1949—52

Sl. No.	State	Year	No. of patients treated	No. of patients discharged as						REMARKS
				Cured	Non-Infectious	Symptom free	Disease Arrested	Apparently Cured	Decidedly Improved	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1.	Assam	1949	1,820	8	30	23	17	25	36	
		1950	1,922	7	39	52	19	5	32	
		1951	1,944	30	13	31	19	12	29	
		1952	1,348	7	18	15	57	19	103	
2.	Bihar	1949	13,651	128	—	587	—	—	4,427	
		1950	13,395	263	1,419	644	473	383	4,324	
		1951	14,911	205	3,628	523	634	530	3,668	
		1952	27,861	+	+	+	+	+	+	
3.	Bombay	1949	13,478	173	221	271	452	2,535	1,230	
		1950	19,672	952	1,084	382	377	3,008	2,285	
		1951	16,086	365	329	375	477	579	3,115	
		1952	17,330	103	523	700	1,245	872	2,070	
4.	Madhya Pradesh	1949	9,973	—	1	211	56	—	1,840	
		1950	9,952	—	1	152	94	—	1,938	

		1951	10,750	180	366	293	962	400	888
		1952	1,857	—	1	96	67	—	—
5.	Madras	1949	157,310	107	2,855	2,017	2,869	3,026	4,028
		1950	92,843	342	1,399	442	2,802	1,567	3,583
		1951	40,521	3,061	1,183	1,279	911	1,292	491
		1952	107,238	153	1,230	957	1,078	2,584	2,819
6.	Orissa	1949	6,537	—	1,787	117	732	—	51
		1950	1,314	58	40	123	52	28	111
		1951	12,506	121	308	119	344	336	911
		1952	1,862	71	21	98	34	62	196
7.	Punjab	1949	683	35	31	55	63	6	208
		1950	422	—	9	9	27	8	65
		1951	382	—	8	2	2	11	122
		1952	329	—	—	—	—	28	59
8.	Uttar Pradesh	1949	6,413	42	458	78	473	218	632
		1950	5,668	81	998	186	489	335	1,267
		1951	10,750	180	366	293	962	400	888
		1952	22,284	225	381	331	977	429	836
9.	West Bengal	1949	45,871	+	+	+	+	+	+
		1950	7,158	36	684	637	545	322	2,213
		1951	16,739	585	1,508	1,424	961	1,010	4,579
		1952	46,147	246	387	1,226	1,207	455	1,728

TABLE No. 10—contd.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
10.	Hyderabad-Deccan	1949	134,004	66	205	38	179	188	69	
		1950	4,580	—	366	25	146	40	156	
		1951	994	—	12	34	17	43	382	
		1952	5,916	—	40	97	64	—	456	
11.	Jammu & Kashmir	1949	180	5	10	10	5	4	—	
		1950	188	8	11	10	6	4	14	
		1951	248	—	—	—	41	36	30	
		1952	+	+	+	+	+	+	+	
12.	Madhya Bharat	1949	308	—	46	10	6	13	5	
		1950	812	—	67	38	7	—	14	
		1951	308	5	62	62	22	22	54	
		1952	251	—	50	7	78	13	22	
13.	Mysore	1949	345	18	4	27	35	43	20	
		1950	320	24	17	27	9	20	65	
		1951	293	13	23	25	7	18	24	
		1952	346	50	32	10	80	40	10	
14.	Pepsu	1949	—	—	—	—	—	—	—	
		1950	202	—	—	—	8	—	21	

		1951	200	—	8	—	22	—	—	
		1952	196	—	9	11	10	11	155	
15.	Rajasthan	1949	272	—	72	13	14	12	10	
		1950	66	—	—	8	41	4	10	
		1951	159	20	22	16	6	2	29	
		1952	102	—	1	—	21	63	23	
16.	Saurashtra	1949	1,377	+	+	+	+	+	+	
		1950	103	+	+	+	+	+	+	
		1951	1,090	+	+	+	+	+	+	
		1952	Information not received							
17.	Travancore-Cochin	1949	2,285	17	406	32	97	58	483	
		1950	2,302	59	379	36	88	24	403	
		1951	2,268	20	70	179	149	55	266	
		1952	2,304	68	75	44	51	26	1,081	
18.	Ajmer	1949	3	+	+	+	+	+	+	
		1950	14	+	+	+	+	+	+	
		1951	10	+	+	+	+	+	+	
		1952	11	+	+	+	+	+	+	
19.	Bhopal	1949	39	+	+	+	5	8	+	
		1950	37	+	+	+	9	11	—	
		1951	18	—	4	6	8	—	—	
		1952	41	—	—	—	24	—	—	

TABLE No. 10—concl'd.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
20.	Bilaspur	1949	—	—	—	—	—	—	—	—
		1950	—	—	—	—	—	—	—	—
		1951	—	—	—	—	—	—	—	—
		1952	—	—	—	—	—	—	—	—
21.	Coorg	1949	8	+	+	+	+	+	+	+
		1950	15	+	+	+	+	+	+	+
		1951	11	+	+	+	+	+	+	+
		1952	7	+	+	+	+	+	+	+
22.	Delhi	1949	95	+	+	+	+	+	+	+
		1950	134	—	99	—	35	—	—	
		1951	169	—	141	—	—	6	22	
		1952	171	—	—	—	147	—	24	
23.	Himachal Pradesh	1949	106	—	—	2	1	2	—	
		1950	64	—	—	7	—	—	—	
		1951	75	—	—	4	2	8	—	
		1952	80	—	—	5	3	8	—	
24.	Kutch	1949	1	+	+	+	+	+	+	
		1950	—	—	—	—	—	—	—	

		1951	—	—	—	—	—	—	—
		1952	—	—	—	—	—	—	—
25.	Manipur	1949	134	—	4	—	—	—	3
		1950	116	—	—	3	7	—	10
		1951	110	—	4	—	—	8	8
		1952	88	—	—	1	5	4	4
26.	Tripura	1949	5	—	1	1	2	—	1
		1950	5	—	—	1	2	—	2
		1951	7	—	1	2	2	—	2
		1952	133	—	50	30	27	25	1
27.	Vindhya Pradesh	1949	—	—	—	—	—	—	—
		1950	141	—	—	—	—	—	34
		1951	214	—	—	—	30	—	4
		1952	17	—	—	6	6	5	—
28.	Andaman & Nicobar Islands	1949	2	+	+	+	+	+	+
		1950	—	—	—	—	—	—	—
		1951	—	—	—	—	—	—	—
		1952	3	+	+	+	+	+	+

TABLE No. 11

Appendix

Statement Showing Information Regarding Institutions for the Blind (1949—52)

Name & Location of the Institution	Government or private	Accommodation on 31-12-52	1949		1950		1951		1952		Total No. of inmates on 31-12-52	Expenditure			
			No. Admitted	No. trained	No. Admitted	No. trained	No. Admitted	No. trained	No. Admitted	No. trained		1949	1950	1951	1952
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
ASSAM	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
BIHAR															
Patna Blind School, Patna.	—	+	+	+	+	+	4	1	+	+	+	+	+	21,317	+
BOMBAY															
1. The Victoria Memorial School for the Blind, Tardeo, Bombay.	Private	100	17	11	17	14	12	15	14	15	60	34,163	32,328	+	4,000
2. Dadar School for the Blind, Dadar Road, Bombay.	Private	60	35	36	34	12	11	5	—	—	32	24,021	27,574	+	28,894
3. N. S. D. Home for the Blind, B. S. D. School, Worli, Bombay.	Private	100	21	—	63	—	13	60	21	—	81	28,813	28,868	27,740*	71,284*
4. Poona School & Home for the Blind, 14-Koregaon Park, Poona.	Private	100	10	50	33	—	20	75	—	—	55	18,000	21,621	34,976*	40,364*

5. The Happy Home for the Blind, Worli, Bombay.	Private	40	6	6	11	—	—	21	3	—	32	8,300	11,125	13,653*	10,000
6. School for the Blind Navrangpura, Ahmedabad.	Private	25	8	22	2	20	3	—	5	26	26	4,974	2,722	3,141*	11,476*
7. School for the Deaf and Blind, Mehsana.	Private	72	+	+	20	15	17	16	18	22	55	+	23,364	23,565*	24,816*

MADHYA PRADESH

Blind boys Institute, Nagpur.	Private	40	12	7	39	10	7	2	7	1	31	13,830	14,924	17,479	18,000
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MADRAS

1. Govt. School, Poonanallee.	Govt.	100	+	+	19	—	+	—	12	10	54	+	70,442	+	16,997
2. Govt. School, Cuddapah.	Govt.	26	14	—	9	—	+	—	9	—	36	2,977	5,488	+	5,256
3. Govt. School, Salem.	Govt.	50	—	+	11	—	+	—	7	1	34	+	5,727	+	4,769
4. Govt. School, Karsargod.	Govt.	25	—	+	12	—	+	—	3	—	16	+	2,047	+	5,957
5. Aided School, Rentachintla.	Private	50	—	+	11	3	—	—	5	1	38	+	5,802	+	10,113
6. T. D. T. A. Boys School, Palayamkottai.	Private	100	—	—	13	12	—	—	13	11	41	+	10,054	+	15,095
7. T. D. T. A. Girls School, Palayamkottai.	Private	40	—	—	3	—	—	—	23	4	44	+	7,224	+	7,047

*Information not received.

TABLE No. 11—*contd.*

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
8. School for Deaf & the Blind, Teyampet.	Private	220	—	—	7	3	—	—	11	6	68	+	55,445	+	49,476
ORISSA	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
PUNJAB															
1. Institute for the Blind, Lohgarh Gate, Amritsar.	Private	60	26	14	23	4	26	10	17	4	54	30,186	33,034	28,938	35,747
2. Khalsa Institute for, Blind, G. T. Road, Amritsar.	Private	40	7	3	13	3	6	6	8	3	25	1,000	10,928	2,861	10,324
U. P.															
1. Sharp Memorial School & Home, Dehra Dun.	Private	70	3	—	2	—	1	1	+	+	+	36,340	35,712	35,712	+
2. House for the Blind, Attached to Sitapur Eye Hospital, Sitapur.	Private	20	20	—	—	—	11	11	13	13	4	3,942	+	2,682	2,711
WEST BENGAL															
1. Institution for the Blind, Kalimpong, Distt. Darjeeling.	Private	30	2	4	+	+	9	4	7	—	27	16,989	+	14,605	16,738
2. Calcutta Blind School, Behala, Calcutta.	Private	200	112	+	+	+	35	18	—	—	+	100,000	+	97,769	+

HYDERABAD DECCAN

1. Govt. School for the Blind & Deaf Malakpet, Hyderabad Deccan.	Govt.	50	+	+	20	15	5	65	8	5	30	+	48,619	600	400
														<i>Rs. per capita</i>	<i>Rs. per capita</i>
2. Mahatma Gandhi Blind School, Gulberga.		(Opened in 1950; details not available)													

JAMMU & KASHMIR

Nil

MADHYA BHARAT

1. Blind, Deaf & Dumb, School, Indore.	Private	20	8	—	+	+	2	7	3	7	7	5,600	+	1,200	1,500
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MYSORE

1. School for the Deaf & Blind, Mysore.	Govt.	100	14	—	10	+	12	+	10	1	54	30,710	40,000	38,338	43,671
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PEPSU

Nil

RAJASTHAN

Nil

SAURASHTRA

1. Andh Vidharthi Bhuvan, Sorath D'istt.	Private	25	Opened in 1950	—	+	3	—	+	—	+	Opened in 1950	4,000	5,167	+
2. Krishnakumarsinhji School & Home for Blind, Gohilwad Distt.	Private	15	Do	2	+	5	15	2	+	16	Do.	4,778	5,144	4,493

TABLE No. 11—concl'd.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
TRAVANCORE-COCHIN	Nil														
AJMER															
Home & School for the Blind, Ajmer.	Govt.	35	6	—	4	—	12	7	19	6	35	2,464	5,000	14,047	34,203
BHOPAL															
BILASPUR															
COORG															
DELHI															
HIMACHAL PRADESH															
KUTCH	Nil														
MANIPUR															
TRIPURA															
VINDHYA PRADESH															
ANDAMAN & NICOBAR ISLANDS															

*Opened in 1950.

+Information not received.

TABLE No. 12

Appendix

Statement Showing the Number of Eye Patients Treated and Eye Operations Performed In the Various States During 1949—52

Serial No.	States	Year	Patients treated		Operations	
			Indoor	Outdoor	Major	Minor
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1.	Assam	1949	905	59,749	538	439
		1950	820	67,964	447	332
		1951	915	63,842	161	584
		1952	4,472	25,000	899	337
2.	Bihar	1949	9,733	68,544	7,293	3,257
		1950	8,741	181,331	6,349	5,080
		1951	13,850	193,057	11,013	25,895
		1952	11,363	245,379	10,812	8,666
3.	Bombay	1949	19,937	424,189	12,318	15,806
		1950	21,521	484,788	11,036	16,577
		1951	22,674	583,915	12,259	9,890
		1952	21,079	510,185	16,301	9,750
4.	Madhya Pradesh	1949	8,473	265,720	2,129	2,269
		1950	6,412	205,313	3,425	2,440
		1951	—311,058—	—6,664—		
		1952	—302,624—	—8,303—		
5.	Madras	1949	394,482	1,837,936	21,755	11,692
		1950	40,735	715,159	19,340	20,373
		1951	40,275	599,706	24,345	19,536
		1952	29,679	779,172	22,779	28,452
6.	Orissa	1949	1,530	190,652	725	2,159
		1950	1,567	199,012	572	1,533
		1951	1,993	297,656	784	18,771
		1952	2,216	225,875	953	1,985

TABLE No. 12—*contd.*

(1)	(2)	(3)	(4)	(5)	(6)	(1)
7.	Punjab	1949	25,578	165,780	14,315	10,524
		1950	24,733	369,008	17,305	10,776
		1951	39,346	519,777	19,268	26,463
		1952	27,871	443,341	17,255	16,200
8.	Uttar Pradesh	1949	35,036	543,577	17,436	31,546
		1950	182,456	822,524	18,979	36,170
		1951	216,233	914,962	27,149	43,697
		1952	73,209	859,572	15,692	53,592
9.	West Bengal	1949	17,494	347,656	11,889	9,510
		1950	+	+	+	+
		1951	50,523	279,122	7,025	9,627
		1952	82,231	319,277	7,573	19,558
10.	Hyderabad Deccan ..	1949	4,859	220,533	4,263	3,220
		1950	4,792	199,973	2,871	1,330
		1951	13,715	298,781	3,820	3,950
		1952	4,993	62,371	3,035	3,921
11.	Jammu & Kashmir ..	1949	1,726	57,915	1,104	3,190
		1950	+	+	+	+
		1951	1,905	38,635	—13,552—	
		1952	+	+	+	+
12.	Madhya Bharat	1949	5,605	249,785	3,788	2,146
		1950	4,660	270,217	4,784	12,298
		1951	3,912	90,608	3,751	2,348
		1952	3,576	137,370	2,956	1,762
13.	Mysore	1949	5,469	448,642	—11,087—	
		1950	4,945	593,233	—7,079—	
		1951	4,840	329,385	11,125	7,101
		1952	5,309	459,541	—8,591—	

TABLE No. 12—*contd.*

(1)	(2)	(3)	(4)	(5)	(6)	(7)
14. Rajasthan	1949	7,280	210,159	2,732	3,286
		1950	8,208	147,174	3,020	3,167
		1951	6,525	96,299	5,955	2,336
		1952	15,482	813,494	6,930	11,509
15. Saurashtra	1949	12,551	68,797	1,576	1,037
		1950	37,236	62,576	1,486	888
		1951	36,551	67,692	1,706	1,207
		1952	12,329	54,529	1,486	1,002
16. Travancore Cochin	1949	5,582	67,759	932	4,063
		1950	4,542	154,905	6,071	24,749
		1951	13,818	131,753	4,385	24,231
		1952	7,033	134,230	3,639	3,110
17. Pepsu	1949	1,175	63,528	702	393
		1950	2,154	183,689	1,216	10,071
		1951	16,477	146,267	645	1,940
		1952	15,773	187,999	962	1,403

+Information not received.

TABLE No. 13

Appendix

Statement Showing the Number of Special Institutions for the Treatment of T.B., V.D., Leprosy and Eye Diseases in the various States During the Years (1949—1952)

S.No.	State	Year	Leprosy Hospitals		Home Asylums & Colonies		Beds		Tuberculosis				Clinics		Beds	Venereal Diseases				Beds	Remarks
			Govt.	Ptc.	Govt.	Ptc.	Govt.	Ptc.	Clinics & Dispensaries	Hospitals	Sanatoria	Govt.	Ptc.	Govt.		Ptc.	Clinics	Beds	Eye Diseases			Eye Hospitals
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
1.	Assam	1949	—	—	5	4	+	577	1	—	—	—	2	1	75	1	—	—	—	—	—
		1950	—	—	5	4	+	623	1	—	—	—	2	1	75	1	—	—	—	—	—
		1951	—	—	5	4	+	653	1	—	—	—	2	1	75	2	—	—	1	25	—
		1952	1	—	3	4	+	642	1	—	—	—	2	1	75	2	—	—	1	25	—
2.	Bihar	1949	—	—	—	9	72	2,208	—	—	1	1	16	—	199	2	—	—	—	—	—
		1950	—	2	—	7	+	1,717	—	—	1	2	16	—	455	2	—	—	—	—	—
		1951	—	2	—	7	+	1,950	—	—	1	2	16	—	455	2	—	—	—	—	—
		1952	—	2	—	7	66	2,000	—	—	1	2	16	—	455	2	—	—	—	—	—
3.	Bombay	1949	4	6	3	3	+	2,028	1	3	1	9	16	4	1,634	7	69	2	13	400	—
		1950	6	8	1	1	+	2,106	1	3	1	9	16	4	1,738	6	56	2	13	419	—
		1951	5	8	2	2	+	2,163	1	3	1	10	16	4	1,830	6	62	2	14	468	—

		1952	13	—	1	3	+	2,181	1	3	1	11	+	—	1,708	11	79	2	14	454
4.	Madhya Pradesh	1949	—	—	1	8	*81	2,187	—	—	—	1	4	—	218	—	—	—	1	60
		1950	—	—	1	9	*104	2,747	—	—	—	1	4	—	213	—	—	—	1	60
		1951	—	—	1	9	*104	2,787	—	—	—	1	4	—	209	—	—	—	2	105
		1952	—	—	1	9	*143	2,767	—	—	1	1	4	—	309	—	—	—	2	130
5.	Madras	1949	—	6	2	9	+	3,140	1	1	2	6	9	1	1,451	15	290	1	6	428
		1950	—	10	2	6	+	3,309	—	1	2	9	17	1	1,980	14	245	1	6	526
		1951	—	11	2	5	+	3,075	—	3	2	8	—	—	1,866	18	284	1	6	568
		1952	—	4	2	11	11	2,920	1	4	2	8	19	3	2,528	22	307	1	6	505
6.	Orissa	1949	—	—	—	10	*75 †143 *90	721	1	—	—	—	—	1	31	+	+	—	—	—*Rural Clinics.
		1950	—	—	2	11	†211	851	1	—	—	—	—	1	31	13	12	—	—	— † Clinics attached to the various hospitals & Dispensaries in the state, No. of such clinics for the years 1951 & 1952 is not available.
		1951	—	—	2	11	*93	902	1	—	—	—	—	1	31	13	16	—	—	—
		1952	—	—	2	11	*96	931	1	—	—	—	—	1	41	13	16	—	—	—

* (†25 + ‡56) † Special Treatment Centres.

(†28 + ‡76)

(†28 + ‡76)

(†28 + ‡115) ‡ Centres attached to various Headquarters, Hospitals.

TABLE No. 13—*contd.*

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
7.	Punjab	1949	—	—	—	4	136	592	1	—	1	3	1	4	627	2	26	1	1	164	
		1950	—	—	—	9	137	592	1	—	2	—	1	5	264	2	26	1	1	169	
		1951	—	—	—	8	137	442	1	—	2	—	2	7	297	3	29	1	2	336	
		1952	—	—	—	8	139	442	1	—	2	—	2	7	297	3	33	1	2	336	
8.	U. P.	1949	—	2	—	13	+	1,164	—	1	1	4	5	14	530	—	—	1	5	615	
		1950	—	2	—	13	+	1,174	—	1	1	3	7	12	579	5	26	1	6	733	
		1951	—	2	—	14	+	1,205	—	1	3	5	4	15	813	6	26	1	7	987	
		1952	—	2	1	13		2	1,288	—	1	4	4	5	14	828	6	23	1	6	937
9.	West Bengal	1949	—	1	1	5	87	802	1	4	—	2	2	11	1,119	13	+	—	—	—	
		1950	—	2	1	5	95	844	2	4	1	2	4	9	1,250	22	80	—	—	—	
		1951	—	2	1	5	95	968	2	3	1	2	4	9	1,526	22	80	—	—	—	
		1952	—	2	1	5	92	892	2	3	1	2	4	10	1,526	26	80	—	—	—	
10.	Hyderabad Deccan	1949	—	1	1	2	128	760	1	—	1	—	1	—	426	1	20	—	—	—	
		1950	—	1	2	2	126	835	1	—	1	—	1	1	566	1	20	—	—	—	
		1951	—	1	2	3	126	670	1	—	2	—	2	—	631	1	20	1	—	100	
		1952	1	1	3	3	138	704	1	—	2	—	2	—	709	1	20	1	—	100	

11. Jammu & Kashmir	1949	—	—	2	—	—	170	2	—	—	—	—	—	124	—	—	—	—	—
	1950	—	—	2	—	—	175	2	—	—	—	—	—	125	—	—	—	—	—
	1951	—	—	2	—	—	170	2	—	1	—	—	—	160	1	—	—	—	—
	1952	+	+	+	+	+	+	2	—	1	—	—	—	160	1	—	+	+	+
12. Madhya Bharat	1949	—	—	3	1	—	199	—	—	1	—	7	—	133	—	—	—	+	+
	1950	—	—	3	1	—	212	—	—	1	—	7	—	133	—	—	—	2	114
	1951	—	—	3	1	—	197	—	—	1	—	5	—	198	—	—	—	2	125
	1952	—	—	3	1	—	199	—	—	1	—	11	—	214	—	—	—	+	+
13. Mysore	1949	—	—	1	—	—	112	1	—	3	1	3	—	496	1	12	1	—	175
	1950	—	—	1	—	—	112	1	—	3	1	5	—	508	1	12	1	—	175
	1951	—	—	1	—	—	112	1	—	3	1	5	—	531	1	16	1	—	200
	1952	—	—	1	—	—	112	1	—	3	1	5	—	605	1	40	1	—	205
14. Pepsu	1949	—	—	—	—	—	—	—	—	1	—	1	—	45	1	—	—	—	—
	1950	—	1	—	—	—	150	—	—	1	—	1	—	46	1	—	—	—	—
	1951	—	1	—	—	—	150	—	—	1	—	1	—	46	2	6	—	—	—
	1952	—	1	—	—	—	150	—	—	1	—	1	—	54	2	6	—	—	—

TABLE No. 13—*contd.*

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
15. Rajasthan	1949	—	—	2	—	—	—	83	3	—	1	—	4	—	144	—	—	—	1	42	
	1950	—	—	2	—	—	—	83	3	—	1	—	4	—	145	—	—	—	2	114	
	1951	—	—	2	—	—	—	88	4	—	1	—	1	—	226	—	—	—	2	125	
	1952	—	—	2	—	—	—	89	4	—	1	—	1	—	226	—	—	—	3	235	
16. Saurashtra	1949	—	—	2	—	—	—	90	—	1	—	—	—	—	64	—	—	—	—	—	
	1950	—	—	2	—	—	1	80	—	1	—	—	—	—	64	—	—	—	—	—	
	1951	—	—	2	—	—	1	80	1	1	—	—	—	—	151	—	—	—	—	—	
	1952	—	—	2	—	—	1	80	1	1	—	—	—	1	145	—	—	—	—	—	
17. Travancore-Cochin	1949	1	2	1	—	—	—	1,340	1	—	—	—	2	—	206	2	—	2	—	95	
	1950	1	2	1	—	—	—	1,340	1	—	1	—	3	—	356	2	—	2	—	95	
	1951	1	2	1	—	—	—	1,492	1	—	1	—	4	—	366	2	—	1	—	150	
	1952	1	3	1	—	—	—	1,618	Information not received							2	—	1	1	160	
18. Ajmer	1949	—	—	—	—	—	—	—	—	—	—	1	1	—	160	1	—	—	—	—	
	1950	—	—	—	—	—	—	—	—	—	—	1	1	—	160	1	—	—	—	—	
	1951	—	—	—	—	—	—	—	—	—	—	1	1	—	160	1	—	—	—	—	
	1952	—	—	—	—	—	—	—	—	—	—	1	1	—	160	1	—	—	—	—	

19. Bhopal	1949	—	—	1	—	—	20	—	—	—	—	1	—	—	—	—	—	—	—
	1950	—	—	1	—	—	32	—	—	—	—	1	—	—	—	—	—	—	—
	1951	—	—	1	—	—	36	—	—	—	—	1	—	10	1	—	—	—	—
	1952	1	—	—	—	—	36	—	—	—	—	1	—	10	1	—	—	—	—
20. Bilaspur	1949	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	1950	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	1951	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—
	1952	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—
21. Coorg	1949	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	1950	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	1951	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	1952	—	—	—	—	—	—	—	—	—	—	2	—	37	—	—	—	—	—
22. Delhi	1949	—	—	—	—	1	—	1	—	—	—	3	172	1	—	—	—	1	104
	1950	—	—	—	—	1	—	1	—	—	—	3	183	2	2	—	—	1	150
	1951	—	—	—	—	1	—	1	—	—	—	3	183	2	2	1	—	1	162
	1952	—	—	—	—	1	—	1	—	—	—	1	3	295	2	2	1	2	362

TABLE No. 13—*contd.*

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
23.	Himachal Pradesh	1949	—	—	2	—	—	54	—	—	—	—	1	—	—	1	—	—	—	—	—
		1950	—	—	2	—	—	54	—	—	—	—	1	—	10	2	—	—	—	—	—
		1951	—	—	2	—	8	53	—	—	—	—	2	—	35	4	6	—	—	—	—
		1952	—	—	2	—	8	57	—	—	—	—	3	—	39	4	16	—	—	—	—
24.	Kutch	1949	—	—	—	—	—	—	—	—	—	1	—	—	37	—	—	—	1	6	—
		1950	—	—	—	—	—	—	—	—	—	1	—	—	37	—	—	—	1	24	—
		1951	—	—	—	—	—	—	—	—	—	1	—	—	37	—	—	—	1	24	—
		1952	—	—	—	—	—	—	—	—	—	1	—	1	37	—	—	—	1	15	—
25.	Manipur	1949	—	—	1	1	—	102	1	—	—	—	—	—	16	—	—	—	—	—	—
		1950	—	—	1	1	—	110	1	—	—	—	—	—	16	—	—	—	—	—	—
		1951	—	—	1	1	—	120	1	—	—	—	—	—	16	—	—	—	—	—	—
		1952	—	—	1	1	—	132	1	—	—	—	1	—	16	1	+	—	—	—	—
26.	Tripura	1949	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		1950	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		1951	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		1952	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—

7.	Vindhya Pradesh	1949	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
		1950	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		1951	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		1952	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
28.	Andaman Nicobar Islands	1949	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
		1950	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
		1951	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
		1952	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	

TABLE No. 14

Statement Showing the Expenditure (in Rupees) Incurred in the Various States on Tuberculosis, Leprosy and Eye Hospitals During the Years 1949-52

Serial No. (1)	State (2)	TUBERCULOSIS				LEPROSY				EYE HOSPITALS			
		1949 (3)	1950 (4)	1951 (5)	1952 (6)	1949 (7)	1950 (8)	1951 (9)	1952 (10)	1949 (11)	1950 (12)	1951 (13)	1952 (14)
		Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1.	Assam	1,54,853	1,50,000	1,98,201	2,13,491	+	+	+	1,98,250	—	—	21,000	25,200
2.	Bihar	2,05,672	3,36,048	4,66,932	5,86,093	2,89,071	5,00,000	3,72,721	3,12,046	—	—	—	—
3.	Bombay	30,98,087	28,73,023	+	+	8,53,311	8,50,742	8,94,881	8,98,647	2,21,413	1,31,384	5,76,909	2,04,079
4.	Madhya Pradesh	3,32,704	2,35,591	2,61,504	4,26,552	3,29,337	2,84,793	3,56,161	3,55,823	39,232	35,631	57,970	61,000
5.	Madras	18,56,698	21,78,097	21,31,550	32,61,234	10,10,018	11,53,258	11,91,402	11,45,435	48,12,734	28,129	4,05,818	4,68,030
6.	Orissa	1,49,873	99,294	1,05,666	1,25,427	1,19,843	1,64,367	2,04,025	2,75,769	—	—	—	—
7.	Punjab	9,19,008	3,22,017	3,48,326	1,35,500	1,37,765	1,34,598	1,20,974	1,20,477	35,000	1,98,562	2,06,248	95,184
8.	U. P.	7,36,770	5,27,575	4,86,000	7,61,320	1,79,671	4,87,480	1,86,693	1,88,537	4,32,880	6,17,728	8,50,176	5,38,593
9.	West Bengal	14,27,384	13,01,327	12,99,000	28,01,577	7,24,443	6,37,105	10,50,895	6,10,678	—	—	—	—
10.	Hyderabad Deccan	4,52,962	6,65,670	6,65,670	7,65,000	2,19,800	2,21,000	2,21,652	2,51,471	—	—	52,802	1,06,993
11.	Jammu & Kashmir	1,03,370	1,19,954	1,35,856	1,35,000	36,441	17,382	49,725	not received	—	—	not received	not received
12.	Madhya Bharat	80,100	1,25,090	82,815	1,07,281	37,991	47,472	44,530	46,137	+	+	+	+
13.	Mysore	4,80,187	3,51,773	5,52,648	6,00,000	+	+	+	+	1,46,014	1,29,362	1,82,086	1,63,729
14.	Pepsu	92,000	82,038	1,21,311	75,752	—	42,956	44,698	43,067	—	—	—	—
15.	Rajasthan	2,32,323	1,89,002	2,23,576	2,61,267	*18,500	*18,000	*20,000	17,500	1,000	+	+	+
16.	Saurashtra	+	1,50,000	90,918	1,05,318	28,984	31,921	32,927	39,860	—	—	—	—
17.	Travancore Cochin	2,39,000	3,32,274	4,98,919	not recd.	+99,752	2,88,233	2,78,538	4,27,409	80,989	66,960	68,907	75,257
18.	Ajmer	2,12,500	3,32,351	3,30,475	3,60,238	+	+	+	+	—	—	—	—

19.	Bhopal	—	—	—	—	8,611	8,362	12,410	11,881	—	—	—	—
20.	Bilaspur	—	—	—	—	—	—	—	—	—	—	—	—
21.	Coorg	—	—	—	—	—	—	+	+	—	—	—	—
22.	Delhi	4,54,263	4,41,005	6,07,968	8,32,544	2,499	5,434	5,250	6,882	83,362	90,346	1,22,882	2,14,564
23.	Himachal Pradesh	—	—	—	—	18,333	24,000	29,623	30,047	—	—	—	—
24.	Kutch	15,000	39,000	39,000	43,586	—	—	—	—	+	7,049	5,138	+
25.	Manipur	9,114	6,500	7,000	8,000	20,400	21,541	+13,125	+13,550	—	—	—	—
26.	Tripura	—	—	—	—	+	+	+	+	—	—	—	—
27.	Vindhya Pradesh	—	—	—	—	+	+	+	+	—	—	—	—
28.	Andaman & Nicobar Islands	—	—	—	—	—	—	—	—	—	—	—	—

*Expenditure on Government Leper Asylum, Jaipur only.
 ×Expenditure on Leprosy Sanatorium, Nooranad only.
 +Expenditure on Government Leprosy Asylum, Imphal, Manipur.

TABLE

Statement Showing Statistics of Important Work Attended at the

Particulars (1)	Port							
	CALCUTTA				BOMBAY			
	1949 (2)	1950 (3)	1951 (4)	1952 (5)	1949 (6)	1950 (7)	1951 (8)	1952 (9)
(A) INWARD TRAFFIC								
(i) Vessels arriving at the port	1,347	1,131	1,370	1,519	1,675	1,669	1,746	1,872
(ii) Country crafts arriving at the port.	—	—	—	—	119	16,656	16,941	16,810
<i>Passenger vessels medically inspected</i>								
(i) arriving from foreign ports .	9	9	10	7	71	64	55	54
(ii) arriving from coastal ports .	—	—	—	2	2	3	1	—
<i>Cargo vessels medically inspected</i>								
(i) arriving from foreign ports .	110	83	119	81	55	49	65	59
(ii) arriving from coastal ports .	—	—	—	—	—	1	—	—
<i>Country crafts medically inspected</i>								
(i) from foreign ports . . .	—	—	—	—	—	—	2	—
(ii) from coastal ports . . .	—	—	—	—	7	—	—	—
(iii) Passengers medically inspected	1,252	742	2,311	965	3,555	31,525	28,331	32,421
(iv) Crew medically inspected .	1,746	6,019	8,129	6,019	13,037	15,722	15,908	16,451
(v) Infected ships	2	6	6	5	33	43	38	34
(vi) Deaths due to infectious diseases	—	—	—	—	—	—	—	—
(B) OUTWARD TRAFFIC								
(i) Vessels leaving the ports .	1,345	1,139	1,343	1,519	1,834	1,872	1,943	2,042
(ii) Country crafts leaving the port	—	—	—	—	14,077	19,449	13,257	10,957
<i>Passenger vessels medically inspected</i>								
(i) For foreign ports . . .	104	74	75	69	139	160	180	202
(ii) For coastal ports . . .	—	—	—	—	—	—	—	—
<i>Cargo vessels medically inspected</i>								
(i) for foreign ports	938	837	1,100	1,179	698	641	704	793
(ii) for coastal ports	—	—	—	—	—	—	—	—
<i>Country crafts medically inspected</i>								
(i) for foreign ports	—	—	—	—	69	219	1,034	94
(ii) for coastal ports	—	—	—	—	—	—	—	—
(iii) Passengers medically inspected	20,295	29,405	22,602	22,044	62,221	58,460	66,089	71,587
(iv) Crew medically inspected .	66,920	56,326	65,983	70,318	55,478	53,200	55,890	61,314
(v) Ships issued with Deratization Certificates.	78	44	71	50	100	43	32	47
(vi) Ships issued with Deratization Exemption Certificates.	182	128	147	174	140	99	108	156

Central Port Health Organisation during the Years 1949—52

Health				Organisation							
Madras				Cochin				Visakhapatnam			
1949	1950	1951	1952	1949	1950	1951	1952	1949	1950	1951	1952
(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)
878	576	605	587	791	850	815	897	455	430	528	180
—	—	—	2	498	329	423	362	7	—	13	3
72	55	61	63	—	—	—	16	11	2	—	—
39	—	—	—	—	—	—	—	2	—	—	—
713	513	543	521	11	232	305	309	20	7	28	18
93	8	1	2	5	—	3	1	5	9	8	6
—	—	—	1	—	—	1	2	—	—	—	—
—	—	—	—	240	324	291	264	—	—	—	—
48,876	29,892	28,975	29,568	2	549	699	1,180	12,268	406	15	—
58,075	36,584	38,192	37,644	3,453	11,035	10,442	21,162	3,118	1,230	2,152	1,542
8	7	4	2	3	—	2	1	2	—	—	1
—	—	—	—	—	—	—	—	—	—	—	—
879	555	602	588	790	848	806	869	451	429	530	580
3	1	4	1	470	338	396	344	9	—	13	3
—	—	54	56	—	—	—	7	11	2	—	—
—	—	—	—	—	—	—	—	—	—	—	—
250	235	288	301	353	355	356	353	209	222	280	306
—	—	—	—	—	—	—	—	—	—	—	—
—	3	4	1	2	3	7	11	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—
23,941	30,833	24,718	39,670	1,208	747	472	1,109	1,773	399	217	118
24,470	23,529	35,534	24,804	20,527	19,342	20,265	21,375	13,690	13,960	15,351	17,371
—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—

TABLE

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
<i>Seamen's Clinics</i>								
Attendance in outpatient Department								
(i) New Cases	2,008	2,035	1,931	3,199	800	1,150	1,426	1,834
(ii) Old Cases	8,941	11,254	9,688	23,918	3,029	4,282	5,017	9,989
Attendance in in-patient Department	Seamen's Clinic Calcutta is not equipped with indoor treatment facilities.				33	124	273	242
<i>Medical examination (previously called as pre-entry) of seamen by Government doctors</i>								
(i) Seamen examined	11,689	11,611	15,444	—	8,105	14,533	11,266	—
(ii) Temporary unfit	1,986	2,941	1,234	—	1,558	3,138	4,005	—
(iii) Permanently unfit	481	318	600	—	197	217	113	—

NO. 15 *contd.*

(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)
------	------	------	------	------	------	------	------	------	------	------	------

There are no seamen's clinics at Madras, Cochin and Visakhapatnam under the control of the Central Governm

—	335	382	—				—	—	—	126	73
—	21	50	—	—	—	—	—	—	—	19	—
—	—	—	—	—	—	—	—	—	—	—	—

TABLE

Statement Showing Particulars of Aircraft which Arrived from and left for

Particulars of vessels (1)	Airport							
	Bombay		Airport		Calcutta		Airport	
	1949 (2)	1950 (3)	1951 (4)	1952 (5)	1949 (6)	1950 (7)	1951 (8)	1952 (9)
<i>Inward Traffic</i>								
Aircraft inspected . . .	788	893	933	1,107	1,931	2,435	2,329	2,728
Passengers medically inspected . . .	12,183	17,914	20,533	22,139	35,371	55,863	55,847	62,225
Crew medically inspected . . .	5,800	7,040	7,322	8,424	12,012	16,836	17,509	21,373
Infected aircraft . . .	—	—	—	—	—	—	—	—
Deaths due to infectious cases . . .	—	—	—	—	—	—	—	—
<i>Outward Traffic</i>								
Aircraft inspected . . .	825	874	909	980	2,054	2,445	2,495	2,828
Passengers medically inspected . . .	16,036	19,865	21,271	21,947	31,950	42,819	51,557	56,806
Crew medically inspected . . .	6,162	6,947	7,166	7,961	11,530	16,989	17,968	20,317
Infected aircraft . . .	—	—	—	—	—	—	—	—
Deaths due to infectious cases . . .	—	—	—	—	—	—	—	—
Suspected cases of yellow fever quarantined.	78	26	33	129	—	—	—	—

Foreign Countries from Major Airports in India during the Years 1949—52

Health				Organisation							
Tiruchirappali Airport				Madras Airport				Delhi Airport			
1949	1950	1951	1952	1949	1950	1951	1952	1949	1950	1951	1952
(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)
179	736	741	710	701	455	396	388	—	—	57	365
1,701	8,872	1,024	8,931	7,329	4,141	3,924	4,539	—	—	1,367	784
753	2,991	2,967	2,872	2,852	1,866	1,551	1,569	—	—	406	2,561
—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—
178	245	743	711	695	465	391	386	—	—	293	327
2,387	10,277	13,091	11,568	9,592	4,534	4,557	4,984	—	—	7,379	7,566
745	2,947	2,980	2,869	2,835	1,870	1,546	1,562	—	—	2,257	2,505
—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—
—	1	2	9	—	1	2	—	—	—	—	—

TABLE NO. 17

Accommodation for Prisoners

Serial No.	States	Average Daily population				Authorised Accommodation Excluding Hospitals and Observation Cells				No. of persons per 100 units of Authorised Accommodation			
		1949	1950	1951	1952	1949	1950	1951	1952	1949	1950	1951	1952
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
1.	Assam	3,921	4,387	4,012	3,858	3,129	3,381	6,381	3,550	125	130	119	109
2.	Bihar	15,513	14,908	19,229	18,620	17,274	16,678	6,678	16,678	90	89	103	111
3.	Bombay	18,762	17,114	18,363	19,289	22,407	21,329	21,329	17,988	84	80	86	107
4.	Madhya Pradesh	6,762	5,857	6,439	6,179	9,753	9,624	9,509	9,509	69	61	68	65
5.	Madras	26,661	25,515	26,188	25,424	25,852	25,852	23,992	22,807	103	99	109	111
6.	Orissa	3,925	3,407	3,798	3,795	5,234	4,964	4,964	4,964	75	69	76	76
7.	Punjab	9,272	8,517	8,336	8,560	6,423	6,423	7,076	6,557	144	133	118	130
8.	Uttar Pradesh	29,810	29,827	29,004	31,978	32,783	33,539	32,681	34,793	91	89	89	92
9.	West Bengal	12,308	11,479	11,837	11,298	11,003	12,108	2,280	11,680	112	95	96	97
10.	Travancore-Cochin	1,147	1,106	1,001	+	1,301	1,301	1,301	+	88	85	77	+
11.	Saurashtra	935	876	1,055	926	1,295	1,295	1,361	1,052	72	67	77	88
12.	Hyderabad	9,286	9,070	6,642	5,315	7,253	7,317	7,253	5,253	128	124	92	101
13.	Madhya Bharat	2,608	2,917	3,174	2,912	4,484	4,484	4,484	4,605 ¹	58	63	71	63

14.	Rajasthan	.	.	.	.	3,433	3,417	3,488	3,879	5,912	5,912	5,912	5,912	58	58	59	66
15.	Pepsu	.	.	.	.	1,701	1,301	1,323	1,597	2,447	2,447	2,447	2,447	70	53	64	65
16.	Mysore	.	.	.	.	1,714	1,514	1,454	1,758	2,013	2,013	2,013	2,013	85	55	72	87
17.	Ajmer	.	.	.	.	405	311	309	207	544	544	544	544	74	37	57	38
18.	Coorg	.	.	.	.	34	28	36	35	113	113	113	113	30	25	32	31
19.	Tripura	.	.	.	.	183	146	110	117	80	117	128	112	228	125	86	194
20.	Vindhya Pradesh	.	.	.	.	141	153	198	+	739	739	758	+	19	21	26	+
21.	Manipur	.	.	.	.	184	262	+	254	315	315	315	260	58	83	+	98
22.	Bilaspur	.	.	.	.	15	17	30	16	936	936	936	936	2	2	3	2
23.	Kutch	.	.	.	.	99	120	125	148	290	290	290	290	34	41	43	51
24.	Himachal Pradesh	.	.	.	.	167	112	173	208	243	243	243	23	69	46	71	88
25.	Bhopal	.	.	.	.	446	459	496	367	685	670	670	670	65	69	74	55

+Data Not Available.

TABLE NO. 18

Sickness Rate among Prisoners

Serial No.	States	Year	Sickness rate as percentage of total hospital admissions due to									
			Malaria	Dysentery	Diar-rhoea	Pneu-monia	T.B. of Lungs	Respira-tory Diseases	Influenza	Enteric Fever	Small-pox	Pyrexia of Uncertain origin
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1.	Assam	1949	19.4	15.7	4.3	1.3	0.8	6.9	8.7	0.6	—	1.7
		1950	27.7	34.1	5.6	3.3	0.01	10.2	11.8	0.7	—	1.3
		1951	16.0	25.7	4.8	3.8	0.7	6.8	6.5	0.4	—	4.0
		1952	17.4	18.2	5.0	3.3	0.2	9.3	2.1	0.4	—	0.7
2.	Bihar	1949	20.0	10.7	5.2	0.9	0.6	4.2	5.3	0.5	0.004	1.0
		1950	21.3	11.6	4.2	0.8	0.9	4.4	6.5	1.7	0.1	1.1
		1951	18.4	11.0	3.8	0.5	0.7	5.0	3.8	1.7	0.08	1.0
		1952	18.4	12.7	3.4	0.6	0.7	5.0	5.5	0.9	0.02	1.3
3.	Bombay	1949	22.5	5.9	2.9	1.2	1.4	5.6	0.3	0.3	0.06	0.4
		1950	19.8	3.8	2.3	0.9	1.3	3.8	0.3	0.3	0.04	0.3
		1951	18.7	3.7	3.3	1.1	1.9	4.7	0.1	0.2	0.04	0.8
		1952	15.3	5.2	3.4	0.6	2.0	4.3	0.4	0.2	0.03	2.3
4.	Madhya Pradesh	1949	15.3	4.7	4.9	1.3	1.7	6.0	0.6	0.3	0.03	6.7
		1950	15.9	4.9	6.1	1.7	1.3	5.7	0.4	0.3	0.4	12.6

		1951	14.6	5.5	5.3	2.0	1.5	6.8	—	0.3	0.7	9.7
		1952	16.8	9.6	5.3	2.0	2.3	9.0	0.3	0.6	0.01	6.4
5.	Madras	1949	14.7	5.5	5.3	1.2	0.9	3.1	3.9	0.03	0.1	2.7
		1950	7.5	4.2	3.5	1.5	0.9	3.4	7.4	0.03	0.4	2.4
		1951	5.8	5.2	6.7	1.3	0.8	3.5	7.3	0.02	0.6	3.5
		1952	4.7	4.7	4.7	1.0	1.0	2.7	0.09	0.09	0.2	2.3
6.	Orissa	1949	16.0	5.4	2.5	1.1	0.5	3.9	2.3	2.6	—	1.0
		1950	18.9	4.8	6.5	0.5	1.6	2.2	3.5	0.3	—	1.8
		1951	17.2	2.3	5.6	0.6	0.4	2.4	0.7	0.4	0.1	2.4
		1952	12.0	2.3	2.4	0.06	0.06	0.01	0.2	0.2	0.2	0.9
7.	Punjab	1949	38.0	1.2	1.7	1.1	0.4	3.5	1.5	0.3	0.003	3.7
		1950	49.0	4.1	2.4	0.9	0.3	3.9	0.9	0.2	0.009	2.4
		1951	40.3	2.7	2.9	0.7	0.8	6.1	0.3	0.4	—	1.2
		1952	37.4	3.1	3.7	0.9	0.6	9.4	0.8	0.6	0.01	0.8
8.	Uttar Pradesh	1949	18.7	2.6	1.9	0.8	0.8	3.8	—	—	—	—
		1950	15.9	3.0	2.1	1.3	0.9	3.8	—	—	—	—
		1951	17.9	3.6	3.4	0.7	1.5	4.5	—	—	—	—
		1952	24.5	2.6	2.1	0.7	1.3	5.8	—	—	—	—
9.	West Bengal	1949	31.9	9.7	6.0	1.1	0.6	3.6	3.8	0.01	0.08	0.9
		1950	30.1	16.5	6.4	1.2	0.7	3.7	2.2	0.5	0.2	6.7

TABLE NO. 18 *contd.*

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
		1951	25.2	11.7	5.5	0.9	0.9	4.9	3.0	0.5	0.04	3.2
		1952	29.3	8.6	6.1	0.7	0.9	4.4	2.5	0.2	0.08	1.8
10.	Travancore-Cochin	1949	—	—	1.0	1.0	5.2	—	—	0.5	—	—
		1950	—	—	0.7	—	2.4	0.7	—	1.2	—	1.2
		1951	—	—	0.8	—	5.4	—	—	2.1	—	2.9
		1952	—	—	—	—	—	—	—	—	—	—
11.	Saurashtra	1949	42.0	9.2	12.1	0.8	0.5	9.6	1.7	0.2	—	0.01
		1950	51.0	12.2	9.7	0.5	0.5	8.9	2.1	0.2	—	—
		1951*	—	—	—	—	—	—	—	—	—	—
		1952*	—	—	—	—	—	—	—	—	—	—
12.	Hyderabad	1949	25.1	13.5	5.2	2.6	0.04	8.5	0.8	0.07	0.1	3.9
		1950	21.0	4.9	4.4	0.8	0.2	12.5	1.7	0.5	0.07	7.9
		1951	20.9	8.2	6.3	0.5	0.2	13.6	2.8	0.06	0.05	0.1
		1952	18.9	6.2	7.4	0.4	0.07	19.6	2.6	5.6	—	19.6
13.	Madhya Bharat	1949	17.3	2.8	3.8	0.2	0.07	9.5	—	—	0.02	0.01
		1950	11.2	1.7	3.7	0.2	0.05	7.7	0.3	—	0.01	0.01
		1951*	—	—	—	—	—	—	—	—	—	—
		1952*	—	—	—	—	—	—	—	—	—	—

TABLE NO. 18 *contd.*

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
19.	Tripura	1949	11.7	16.4	13.2	0.3	0.3	6.5	7.8	0.5	—	21.6
		1950	12.6	19.8	12.9	0.7	0.7	6.1	18.7	—	—	1.5
		1951	13.8	13.2	10.2	—	—	11.4	8.4	—	—	14.4
		1952	13.0	23.5	14.8	—	0.4	4.3	8.7	—	—	12.2
20.	Vindhya Pradesh	1949	16.6	2.3	4.5	0.05	0.006	11.2	0.3	0.6	—	—
		1950	18.7	3.2	3.2	0.05	0.006	7.0	2.0	0.6	—	—
		1951	13.8	2.2	2.5	0.2	0.003	6.5	0.9	0.7	—	—
		1952*	—	—	—	—	—	—	—	—	—	—
21.	Manipur	1949	10.3	12.8	5.1	16.3	10.3	7.7	—	7.7	—	—
		1950	25.0	4.5	4.5	20.5	—	22.7	—	—	—	—
		1951	40.8	6.1	—	0.5	1.4	14.1	—	0.5	—	—
		1952	29.6	—	2.8	2.8	—	8.5	—	—	—	—
22.	Kutch	1949	81.4	4.8	1.1	—	—	3.7	5.0	—	—	—
		1950	64.4	18.4	4.3	—	0.09	6.5	3.2	—	—	—
		1951	66.7	19.6	4.9	—	0.06	4.4	1.2	—	—	—
		1952*	—	—	—	—	—	—	—	—	—	—
23.	Himachal Pradesh	1949	16.6	5.9	3.2	4.6	—	15.7	0.8	—	—	—
		1950	7.1	3.1	1.0	0.08	0.01	10.4	2.5	—	—	—

	1951	2.8	1.4	0.4	0.2	0.05	8.7	0.1	—	—	—
	1952	4.1	0.9	1.0	0.3	0.02	8.7	0.1	—	—	—
24. Bhopal	1949	19.6	13.1	—	5.6	3.7	—	—	—	—	—
	1950	46.0	18.3	—	—	—	—	—	—	—	—
	1951	47.6	43.9	—	0.7	0.3	—	—	—	—	—
	1952	55.5	26.4	—	—	0.9	—	—	—	—	—

+Data Not Available.

TABLE NO. 19

Appendix

Death Rates among Prisoners

S. No.	States	Years	Death Rate Per 100 Hospital Admissions Due to										
			Malaria	Dysen- tery	Diar- rhoea	Pneum- onia	T.B.of Lungs	Respira- tory Diseases	Influ- enza	Enteric Fever	Small- pox	Pyrexia of Uncertain origin	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	
1.	Assam	1949	0.4	0.9	1.1	20.6	18.2	2.8	—	13.3	—	2.3	
		1950	0.7	1.3	1.8	22.1	50.0	9.1	—	13.3	—	3.7	
		1951	0.6	2.7	—	11.7	73.3	18.3	—	11.1	—	—	
		1952	0.7	1.7	2.5	16.7	—	6.7	—	—	—	8.3	
2.	Bihar	1949	0.3	0.6	0.3	22.1	30.2	0.2	—	3.8	—	—	
		1950	0.2	1.3	0.2	8.6	24.4	1.0	—	1.6	14.2	1.7	
		1951	0.3	1.0	0.8	9.8	31.9	1.3	0.2	2.3	10.0	—	
		1952	0.2	0.6	0.2	7.3	21.9	0.9	—	2.5	4.23	—	
3.	Bombay	1949	0.1	0.1	0.5	5.9	13.8	0.7	—	16.7	—	—	
		1950	0.1	0.4	0.3	3.3	17.3	1.2	—	5.1	—	—	
		1951	0.3	0.3	0.3	0.8	12.3	0.7	—	8.3	—	—	
		1952	—	0.3	0.8	7.1	8.6	0.5	—	10.3	—	—	
4.	Madhya Pradesh	1949	1.0	1.3	6.4	12.5	14.5	1.6	—	22.2	—	0.5	
		1950	1.1	0.9	1.4	5.0	31.0	1.5	—	25.0	—	0.3	

		1951	0.5	0.7	2.9	7.5	23.7	1.7	—	25.0	21.1	—
		1952	0.8	1.3	0.8	8.5	9.3	2.8	—	23.1	—	—
5.	Madras	1949	1.2	1.3	2.2	16.0	14.2	2.6	0.5	22.0	—	1.0
		1950	0.6	5.4	2.9	16.0	18.8	3.6	0.2	—	3.0	0.4
		1951	0.5	0.6	2.9	5.0	22.1	1.6	0.1	—	5.6	0.9
		1952	0.9	0.5	1.2	3.5	13.8	3.8	0.2	12.5	—	—
6.	Orissa	1949	—	1.1	—	8.3	33.3	0.8	—	—	—	—
		1950	0.5	4.2	1.3	22.2	25.5	1.3	—	11.1	—	—
		1951	0.2	1.1	—	19.0	29.4	—	—	6.3	50.0	—
		1952	0.3	0.9	1.4	—	16.7	—	—	—	—	—
7.	Punjab	1949	0.06	0.7	0.9	4.8	18.0	0.9	—	—	—	0.4
		1950	0.07	0.6	2.6	7.8	31.2	0.2	—	—	—	0.4
		1951	0.1	1.3	0.8	8.2	14.3	0.8	—	2.6	—	1.0
		1952	—	—	0.6	22.4	11.5	0.2	—	4.0	—	—
8.	Uttar Pradesh	1949	0.2	0.5	0.5	3.4	9.0	0.5	—	—	—	—
		1950	0.4	0.4	0.3	2.4	12.8	1.3	—	—	—	—
		1951	0.2	0.6	1.4	9.0	9.4	0.8	—	—	—	—
		1952	0.2	0.2	1.1	9.2	10.2	0.8	—	—	—	—
9.	West Bengal	1949	0.2	0.5	0.1	6.9	11.5	2.1	—	—	—	1.4
		1950	0.2	0.5	0.3	5.6	14.9	0.7	—	8.7	6.7	1.6

TABLE No. 19—contd.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
		1951	0·1	0·1	0·1	4·8	13·6	0·6	—	4·2	16·7	1·1
		1952	0·08	0·07	0·2	4·5	9·0	0·4	—	—	—	—
10.	Travancore-Cochin	1949	—	—	—	—	10·0	—	—	—	—	—
		1950	—	—	—	—	20·0	—	—	20·0	—	—
		1951	—	—	—	—	15·4	—	—	—	—	—
		1952	—	—	—	—	12·5	—	—	—	—	—
11.	Saurashtra	1949	0·3	1·3	—	28·6	50·0	—	—	—	—	—
		1950*	—	—	—	—	—	—	—	—	—	—
		1951	—	—	—	—	33·3	—	—	—	—	—
12.	Hyderabad	1949	0·05	0·02	0·2	1·3	84·6	0·04	—	—	2·1	—
		1950	0·1	0·1	0·07	8·0	14·8	0·03	—	24·5	13·0	—
		1951	0·02	—	—	2·0	12·8	0·03	—	23·1	10·0	0·09
		1952	0·02	—	—	7·1	13·3	0·02	—	—	—	—
13.	Madhya Bharat	1949	0·03	—	—	25·3	—	0·2	—	—	—	—
		1950	—	—	—	12·5	22·6	1·4	—	—	—	—
		1951	0·3	—	5·7	13·6	21·4	—	—	—	—	—
14.	Rajasthan	1949	0·4	0·8	—	4·0	20·0	—	—	—	—	0·9
		1950	1·2	0·1	—	23·0	10·0	1·0	—	—	—	0·3
		1951	—	0·4	0·4	2·1	9·1	—	—	—	—	0·5

		1952	0.1	0.1	0.2	1.6	15.4	0.2	—	—	—	—
15.	Pepsu	1949	3.3	—	0.2	33.3	33.3	—	—	—	—	—
		1950	0.8	—	—	100.0	—	0.04	—	—	—	—
		1951	—	2.0	0.5	33.3	—	—	—	33.3	—	—
		1952	—	—	0.5	—	—	—	—	—	—	—
16.	Ajmer	1949	—	—	—	—	33.3	—	—	—	—	—
17.	Tripura	1949	—	—	—	—	—	4.0	—	—	—	—
		1950	—	—	—	50.0	—	—	—	—	—	—
18.	Vindhya Pradesh	1949	—	1.3	0.7	42.8	—	—	—	—	—	—
		1950	—	0.6	—	25.0	—	—	—	—	—	—
		1951	—	1.9	0.3	17.2	33.3	—	—	—	—	—
		1952	—	—	—	—	100.0	—	—	—	—	—
19.	Manipur	1949	—	—	50.0	—	—	—	—	—	—	—
		1950	—	—	—	11.1	—	—	—	—	—	—
		1951	—	—	—	50.0	—	—	—	—	—	—
20.	Kutch	1949	—	—	—	—	—	—	4.3	—	—	—
		1950	—	—	—	—	100.0	—	—	—	—	—
		1951	—	—	—	—	100.0	—	—	—	—	—
		1952	—	—	—	—	—	0.7	—	—	—	—
21.	Himachal Pradesh	1950	—	0.5	—	—	—	—	—	—	—	—

*Not Available,

TABLE No. 20

Appendix

Comparison Between the Various Rates among Prisoners, State-wise

Sl. No.	States	Admission rate per 1,000 Average Daily Strength				Death rate per 10,000 Average Daily Population				Constantly Sick rate per mile			
		1949	1950	1951	1952	1949	1950	1951	1952	1949	1950	1951	1952
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
1.	Assam	455	614	533	418	121.8	18.2	16.0	13.7	30.0	31.6	30.6	24.0
2.	Bihar	967	745	733	759	5.9	7.1	7.3	5.5	31.4	31.7	31.2	31.0
3.	Bombay	672	778	644	788	6.7	6.7	5.3	5.3	16	15.8	13.2	13.7
4.	Madhya Pradesh	471	391	405	381	8.0	9.2	9.3	9.5	15.5	11.8	12.6	14.9
5.	Madras	411	346	489	359	9.6	8.5	8.9	6.6	11.7	10.4	11.7	10.6
6.	Orissa	820	1,121	913	2,469	9.2	15.0	8.7	8.8	29.7	33.4	33.0	44.2
7.	Punjab	1,364	1,317	1,002	1,030	6.1	8.1	6.5	4.1	27	30	32	27
8.	Uttar Pradesh	763	598	501	550	5.6	4.8	4.5	4.5	23.1	19.1	16.1	15.7
9.	West Bengal	1,309	1,270	1,244	1,459	6.8	7.6	6.2	4.8	39.7	36.2	37.1	36.7
10.	Travancore-Cochin	169	380	242	—	1.7	3.6	4	—	14	33	28	40.5
11.	Saurashtra	919	691	479	1,402	6.4	1.1	1	1.8	19	18	55	96.1
12.	Hyderabad	3,373	3,451	3,267	4,055	5.4	6.7	3.4	2.1	91	78	52	52
13.	Madhya Bharat	—	—	24	22	—	—	6.4	7.2	—	—	13.8	14.3
14.	Rajasthan	312	381	352	2,341	3.7	12.2	3.4	5.6	20	6	7	64.1
15.	Pepsu	1,083	1,003	1,139	1,316	2.4	0.9	2.0	5.1	90	111	88	115

16.	Mysore	390	410	422	250	—	1	3·5	3·4	37	10	166	20·8
17.	Ajmer-Merwara	316	225	254	174	4	—	3·2	4·8	·8	8·4	—	9·9
18.	Coorg	—	—	82	—	—	—	—	—	—	—	12·9	2·0
19.	Tripura	2,103	1,904	1,518	1,965	32	13	9	17	38	34	36	21·8
20.	Vindhya Pradesh	133	121	103	—	49	50	51	—	37	43	32	—
21.	Manipur	21	12	57	18	16·3	4·3	—	12·6	4	6	10	2
22.	Kutch	—	12	—	13	10	8	8	13·2	20	25	40	47
23.	Himachal Pradesh	—	—	—	—	—	—	—	—	5·2	17·4	12·8	—
24.	Ehopal	—	—	—	—	11·2	6·5	8·1	—	—	—	—	—

TABLE No. 21

Appendix

Health of Prisoners

Sl. No.	States	Percentage of prisoners											
		Who gained weight				Who remained stationary				Who lost weight			
		1949	1950	1951	1952	1949	1950	1951	1952	1949	1950	1951	1952
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
1.	Assam	33	51	41	42	31	32	44	47	16	17	15	11
2.	Bihar	52	64	65	55	40	29	27	40	8	7	8	5
3.	Bombay	44	32	27	28	37	55	58	58	19	13	15	14
4.	Madhya Pradesh	59	58	40	40	31	38	53	54	10	4	7	6
5.	Madras	59	51	53	51	38	46	43	43	3	3	4	6
6.	Orissa	66	65	66	55	23	26	25	34	11	9	9	11
7.	Punjab (I)	37	39	38	44	60	58	60	51	3	3	2	5
8.	Uttar Pradesh	41	40	39	36	53	54	55	59	6	6	6	5
9.	West Bengal	49	60	60	30	40	29	29	65	11	11	11	5
10.	Hyderabad	29	40	35	44	52	44	51	45	19	16	14	11
11.	Madhya Pradesh	60	65	54	51	28	25	36	43	12	10	10	6
12.	Mysore	25	83	18	27	64	11	75	65	11	6	7	8
13.	Pepsu	*	50	50	70	*	49	49	25	*	1	1	5
14.	Rajasthan	48	60	58	62	38	27	30	30	14	13	12	8

15.	Saurashtra	40	43	47	43	36	40	37	41	11	17	16	16
16.	Travancore-Cochin	71	83	67	44	18	0	18	45	11	7	15	11
17.	Ajmer	56	20	30	40	42	68	60	50	2	12	10	10
18.	Bhopal	*	*	47	34	*	*	52	65	*	*	1	1
19.	Bilaspur	72	84	82	90	25	15	18	10	3	1	—	—
20.	Coorg	88	71	83	60	7	23	8	23	5	6	9	12
21.	Himachal Pradesh	64	69	74	30	27	9	20	65	9	12	6	5
22.	Manipur	*	70	43	49	*	2	9	41	*	28	38	10
23.	Tripura	35	34	30	32	45	50	60	62	20	16	10	6
24.	Vindhya Pradesh	51	*	*	*	11	*	*	*	38	*	*	*

*Not Available.

TABLE No. 22

Appendix

Institutional Health Facilities by Railways for their employees.

Sl. No.	Name of Railways	Year	No. of Hospitals	No. of Dispensaries	No. of Beds	No. of Beds reserved for T.B. in other Sanatoria	No. of maternity & child welfare centres	No. of cases treated for					Total
								Cholera	Small pox	Plague	Malaria	Other	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
1.	Bengal Nagpur Railway.	1949	6	52	236	7	14*	101	215	7	37,574	570,418	608,315
		1950	10	52	244	7	2*	509	491	15	10,478	1,167,161	1,178,654
		1951	10	53	244	7	3*	41	954	2	14,757	654,941	670,695
2.	East Indian Railway	1949	13	72	641	17	23	110	375	3	28,364	769,449	798,301
		1950	13	72	699	21	23	119	739	2	14,297	650,908	666,065
		1951	13	72	699	21	23	62	663	3	11,049	937,737	949,514
3.	Assam Railway	1949	6	36	152	—	—	15	1	—	8,904	133,924	142,844
		1950	8	42	219	—	—	27	59	—	20,699	185,097	205,932
		1951	8	40	204	—	—	16	113	—	25,440	240,113	265,682
4.	Eastern Railway	1952	13	106	786	34	22	113	237	—	31,671	1,058,661	1,090,682
5.	Oudh & Tirhut Railway.	1949	3	18	108	1	1	47	84	—	9,381	379,860	389,372
		1950	3	20	185	—	1	21	301	48	21,808	201,708	223,886

6.	North Eastern Railway.	1951	3	20	203	—	1	11	219	—	20,319	78,971	99,520
		1952	11	61	471	—	1	24	68	2	44,679	164,601	209,274
7.	Jodhpur Railway	1949	5	(incl. dispensaries)	9	—	—	—	25	—	1,937	45,114	47,140
		1950	5	(,)	9	—	—	—	5	—	2,220	55,798	57,913
		1951	5	(,)	—	—	—	—	—	—	1,497	52,980	54,479
8.	G.I.P. Railway	1949	8	35	268	20	3	27	1,748	84	22,457	345,458	369,774
		1950	8	39	—	—	—	10	1,940	35	25,170	356,017	383,172
9.	B.B.C.I. Railway	1949	6	52	226	23	14	5	339	—	58,063	344,305	402,712
		1950	6	47	227	23	14	5	312	—	59,306	363,496	423,119
10.	Hyderabad State Railway.	1949	1	10	174	—	1	2	116	5	18,723	23,670	42,516
		1950	2	11	161	—	1	2	142	5	19,189	22,678	41,426
11.	Central Railway	1951	11	50	452	—	3	15	1,651	4	40,486	101,770	149,926
		1952	11	51	453	—	3	24	179	1	46,702	119,142	166,048
12.	Western Railway	1951	8	67	251	13	14	1	288	—	67,298	435,158	502,745
		1952	9	51	241	17	21	3	270	—	73,634	453,604	527,511
13.	Mysore State Railway	1949	—	7	—	—	1	8	4	2	23,409	102,486	125,909
		1950	—	7	—	—	1	—	4	2	18,013	87,546	105,565
14.	South Indian Railway	1949	7	25	192	—	9	8	24	—	4,438	397,685	402,155
		1950	7	24	201	—	9	—	105	—	50,245	374,274	412,639

TABLE No. 22—*contd.*

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
15. M. & S.M. Railway	1949	3	38	217	—	4	28	199	1	3,052	455,963	459,243	
	1950	3	38	217	—	4	45	393	—	3,626	451,102	455,166	
16. Southern Railway	1950	—	—	—	—	—	87	486	2	21,261	1,000,970	1,022,806	
	1952	—	—	—	—	—	119	223	—	14,082	872,529	886,953	
17. East Punjab Railway	1949	9	12	167	—	3	8	88	—	3,748	257,441	261,285	
	1950	9	12	202	—	—	—	105	—	50,245	362,289	412,639	
	1951	9	12	204	3	2	62	663	3	11,049	937,737	949,514	
18. Northern Railway	1952	67 (Including Dispensaries)		399	6	11	7	160	—	65,694	631,178	697,049	

TABLE No. 23

Appendix

Medical Staff maintained by Railways

Sl. No.	Name of Railways	Year	Supervisory Staff		No. of Assistant Surgeons	No. of Compounders	No. of Matrons Asstt. Matrons Nurses etc.	No. of Mid-wives, Dais & Health Visitors	Expenditure on Medical Department
			No. of C.M.O.	No. of D.M.O.s A.M.O.s					
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1.	Bengal Nagpur Railway	1949	1	5	91	51	37	10	1,503,000
		1950	1	5	92	52	41	13	—
		1951	1	6	95	58	43	22	4,066,000
2.	East Indian Railway	1949	1	13	188	150	84	36	7,288,000
		1950	1	13	192	191	107	26	6,920,000
		1951	1	14	192	186	109	24	7,817,000
3.	Assam Railway	1949	—	5	76	66	7	1	2,396,000
		1950	—	5	92	79	129	1	2,600,000
		1951	—	5	94	89	152	5	3,000,000
4.	Eastern Railway	1952	1	15	212	181	121	28	3,890,500
5.	North Eastern Railway	1951	—	5	38	44	26	1	—
		1952	1	9	136	129	60	2	4,827,000
6.	G.I.P. Railway	1949	1	12	86	80	52	1	1,638,320
		1950	1	13	86	81	60	3	—

TABLE No. 23—contd.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
7.	B.B.C.I. Railway	1949	1	8	88	84	24	22	1,106,401
		1950	1	8	88	87	26	22	1,158,547
8.	Central Railway	1951	1	16	117	107	71	7	5,342,247
		1952	1	16	126	114	77	16	—
9.	Western Railway	1951	1	11	111	126	32	1	1,450,569
		1952	1	12	116	136	34	1	1,662,595
10.	Oudh & Tirhut Railway	1949	1	3	41	41	22	2	773,000
		1950	1	4	39	45	23	1	1,725,000
11.	East Punjab Railway	1949	—	3	44	38	13	7	693,374
		1950	—	3	42	38	—	7	—
		1951	—	3	42	45	16	9	—
12.	Jodhpur Railway	1949	—	5	8	—	—	3	59,800
		1950	—	—	5	7	—	3	62,100
		1951	—	1	5	3	3	3	67,100
13.	Northern Railway	1952	—	9	133	124	50	12	22,61,901
14.	Hyderabad Railway	1949	1	2	21	16	10	9	364
		1950	1	2	22	17	10	9	327,213
15.	Mysore Railway	1949	—	1	8	8	—	6	107,266
		1950	1	1	8	2	—	5	71,310

16.	M.S.M. Railway	. . . . .	1949	—	4	75	45	29	9	1,608,466
			1950	—	4	74	52	31	9	2,005,000
17.	South Indian Railway	. . . . .	1949	1	5	57	69	16	10	415,905
			1950	1	5	56	70	16	13	—
18.	Southern Railway	. . . . .	1951	1	12	150	146	58	27	4,088,000
			1952	1	12	150	145	56	25	—

NOTE—C.M.O.—Chief Medical Officer.

D.M.O.—District Medical Officer.

A.M.O.—Assistant Medical Officer.

TABLE No. 24

Appendix

Statement showing the numbers of dispensaries other than regular Hospitals & dispensaries, in the rural areas of the various States of India during the years 1949—1952.

Sl. No.	States	Year	Subsidized dispensaries			Travel- ling dispen- saries	Village aid- centres	Others		No. of Dis- pensaries		Total Ex- penditure on Rural Me- dical Re- lief (Rupees)
			Allo- pathic	Ayur- vedic	Unani			Allo- pathic	Ayur- vedic or Unani	Opened	Closed	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1.	Assam	1949	54	6	—	11	4	—	—	31	1	Not availabl
		1950	88	6	—	10	—	—	—	25	4	No separate figure avail- able
		1951	109	6	—	11	—	—	—	26	2	Not available
		1952	110	6	—	20	—	—	—	22	7	Not available
2.	Bihar	1949	75	100	17	1	—	—	—	3	1	2,375,500
		1950	67	107	17	1	6	22	—	9	1	1,845,000
		1951	32	107	17	1	2	1	—	4	1	1,002,000
		1952	50	107	17	2	—	2	—	8	2	1,096,963
3.	Bombay	1949	100	241	11	4	344	—	—	68	34	940,896
		1950	388	283	11	6	328	1	—	95	25	1,021,961
		1951	424	322	9	6	277	1	—	85	98	1,126,595

		1952	441	336	8	10	501	1	—	53	8	1,155,149
4.	Madhya Pradesh	1949	4	14	1	78	—	—	—	1	1	2,377,643
		1950	4	11	—	26	—	5	—	7	4	3,270,870
		1951	3	10	—	13	—	5	—	9	1	3,264,700
		1952	3	10	—	39	—	5	—	2	—	3,818,600
5.	Madras	1949	264	230	3	—	—	—	82	61	51	Not available
		1950	251	251	4	1	—	—	81	26	12	Do.
		1951	268	268	5	4	3	—	95	15	20	338,823
		1952	228	398	—	6	4	27	—	85	15	5,853,167
6.	Orissa	1949	6	4	1	7	11	—	—	10	—	2,100,006
		1950	7	7	1	7	9	—	—	28	1	2,305,107
		1951	5	8	1	6	11	—	—	7	5	2,111,742
		1952	—	—	—	—	—	—	—	—	—	*Not received
7.	Punjab	1949	63	—	—	—	19	—	—	2	1	1,802,444
		1950	79	4	3	—	19	—	—	16	—	1,964,109
		1951	83	8	3	—	19	—	—	9	—	2,044,456
		1952	83	9	5	—	19	—	—	4	—	3,183,299
8.	Uttar Pradesh	1949	134	62	19	60	—	—	—	148	4	Not available
		1950	132	93	27	60	—	2	—	147	4	88,712,500
		1951	107	67	17	60	—	—	—	11	1	3,945,300
		1952	—	60	17	59	—	4	—	—	5	3,707,554

TABLE No. 24—*contd.*

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
9.	West Bengal	1949	—	1	6	200	—	3	—	23	1	8,267,105
		1950	—	3	6	206	—	3	—	60	19	10,411,102
		1951	348	—	—	206	—	3	—	26	9	10,812,200
		1952	348	—	—	206	—	3	—	17	11	9,983,013
10.	Hyderabad Deccan	1949	11	—	30	17	—	—	—	—	—	779,973
		1950	11	—	30	16	—	—	—	—	—	369,408
		1951	—	38	—	20	—	1	2	5	3	17,69,774
		1952	—	36	—	14	3	4	—	1	2	1,748,433
11.	Jammu & Kashmir	1949	—	1	—	—	—	—	—	—	—	1,734,785
		1950	—	—	—	—	—	—	—	—	—	—*Not received
		1951	—	—	—	1	—	—	—	—	22	994,500
		1952	—	—	—	—	—	—	—	—	—	—
12.	Madhya Bharat	1949	—	9	—	2	—	—	2	100	—	1,155,434
		1950	1	6	—	—	—	—	2	24	1	1,205,434
		1951	1	4	—	6	—	—	2	5	—	1,220,500
		1952	2	7	—	—	—	—	4	16	—	1,543,877
13.	Mysore	1949	12	—	—	12	—	—	14	—	—	849,928
		1950	—	—	—	—	—	—	—	—	—	—
		1951	12	—	—	12	—	—	9	—	—	1,098,548

		1952	—	—	—	12	—	—	—	5	9	1,438,516
14.	Pepsu	1949	—	—	—	3	—	—	—	1	—	170,675
		1950	—	—	—	—	—	—	—	—	—	—
		1951	—	Not received		3	—	—	Not received		—	387,800
		1952	—	—	—	3	—	—	”	—	—	—
15.	Rajasthan	1949	1	—	—	5	—	—	—	16	1	2,059,497
		1950	1	—	—	5	—	—	—	—	—	—
		1951	1	—	—	3	9	—	—	—	—	Not available
		1952	1	81	3	2	—	—	—	1	—	Not known
16.	Saurashtra	1949	—	—	—	2	—	—	—	—	—	403,157
		1950	1	23	—	2	—	2	—	—	—	1,442,428
		1951	—	40	3	2	—	1	—	4	—	1,500,000
		1952*	—	—	—	—	—	—	—	—	—	*Not received
17.	Travancore-Cochin	1949	38	—	—	—	—	—	—	6	1	987,600
		1950	37	253	2	—	—	—	7	14	1	1,575,805
		1951	37	—	—	—	—	—	—	7	1	1,039,910
		1952	17	294	2	—	—	—	—	8	2	518,960
18.	Ajmer	1949	—	—	—	1	—	—	—	Not received		Not received
		1950	—	1	—	1	—	—	—	—	—	155,484
		1951	—	1	—	1	—	—	—	—	—	161,372
		1952	—	5	—	1	—	—	—	14	—	116,910

TABLE No. 24—*contd.*

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
19.	Bhopal	1949	—	—	—	—	—	—	—	—	—	59,538
		1950	—	1	—	1	—	—	—	—	—	186,753
		1951	—	3	—	—	—	—	—	—	—	284,056
		1952	—	3	—	—	—	—	—	—	—	339,458
20.	Bilaspur	1949	—	—	—	—	—	—	—	—	—	25,000
		1950	—	—	—	—	—	—	—	—	—	Not available
		1951	—	—	—	—	—	—	—	—	—	Not available
		1952	—	—	—	—	—	—	—	—	—	Not known
21.	Coorg	1949	1	—	—	8	—	—	—	2	—	103,835
		1950	1	—	—	15	—	—	—	2	—	115,673
		1951	1	—	—	15	—	—	—	2	—	89,038
		1952	1	—	—	13	—	—	—	1	1	86,070
22.	Delhi	1949	—	—	—	2	—	1	—	—	—	77,950
		1950	—	—	—	2	—	—	—	—	—	29,109
		1951	—	—	—	2	—	1	—	4	1	166,054
		1952	—	—	—	2	—	1	—	2	—	237,383
23.	Himachal Pradesh	1949	1	1	—	1	—	—	—	—	—	176,642
		1950	—	—	—	1	—	—	—	3	—	Not separate figure
		1951	1	6	6	1	—	—	—	1	—	286,868

TABLE No. 25

Appendix

Statement showing the number of general hospitals and dispensaries (Allopathic), the number of hospital beds and the number of patients treated in the various States of India during the years 1949—52.

Sl. No.	State	Year	Urban or Rural	Government		Govt. aided		Local bodies		Missionary		Others		Total		Beds	No. of patients treated	
				Hos- pi- tals	Dis- pen- saries	Hos- pi- tals	Dis- pen- saries	Hos- pi- tals	Dis- pen- saries	Hos- pi- tals	Dis- pen- saries	Hos- pi- tals	Dis- pen- saries	Hos- pi- tals	Dis- pen- saries		Indoor	Outdoor
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
1.	ASSAM	1949	Urban	35	3	2	—	9	—	—	—	1	5	47	8	2,041		
			Rural	21	179	—	—	9	134	—	—	7	24	37	337	353		
			Total	56	182	2	—	18	134	—	—	8	29	84	345	2,394	82,914	1,703,57
		1950	Urban	36	1	2	—	9	—	—	—	5	2	52	3	2,139		
			Rural	24	108	—	—	8	133	—	—	9	117	41	358	449		
			Total	60	109	2	—	17	133	—	—	14	119	93	361	2,588	43,319	2,208,547
	1951	Urban	37	2	2	—	9	—	—	—	5	—	53	2	2,278			
		Rural	23	218	—	—	11	132	—	—	8	29	42	379	403			
		Total	60	220	2	—	20	132	—	—	13	29	95	381	2,681	45,313	2,112,938	
	1952	Urban	41	9	2	1	9	—	5	—	—	—	57	10	2,316			
		Rural	7	278	—	—	—	149	5	—	1	7	13	434	292			
		Total	48	287	2	1	9	149	10	—	1	7	70	444	2,608	31,532	1,720,494	
2.	BIHAR	1949	Urban	37	4	19	—	12	7	—	—	20	8	88	19	4,067		
			Rural	9	20	6	2	25	411	—	—	11	42	51	475	1,491		
			Total	46	24	25	2	37	418	—	—	31	50	139	494	5,558	150,132	5,575,453
		1950	Urban	43	8	9	1	12	10	4	—	16	7	84	26	6,514		
			Rural	6	20	6	2	36	443	8	3	5	43	61	511	1,387		
			Total	49	28	15	3	48	453	12	3	21	50	145	537	7,901	141,663	3,824,623

3. BOMBAY	1951	Urban	60	5	5	—	21	11	7	—	21	7	114	23	5,724	375,576	6,456,986		
		Rural	24	22	5	1	57	437	9	2	10	34	105	496	2,051				
		Total	84	27	10	1	78	448	16	2	31	41	219	519	7,775				
	1952	Urban	59	5	2	2	23	10	9	—	19	13	112	30	5,735			491,710	7,473,094
		Rural	25	37	4	4	57	448	10	3	8	21	104	513	2,051				
		Total	84	42	6	6	80	458	19	3	27	34	216	543	7,786				
	1949	Urban	66	36	12	47	21	63	—	—	42	17	141	163	8,591				
		Rural	14	319	2	95	2	143	—	—	24	59	42	616	2,162				
		Total	80	355	14	142	23	206	—	—	66	76	183	779	10,753			289,821	6,461,687
	1950	Urban	60	28	12	37	10	73	22	9	17	58	121	205	9,216				
		Rural	26	285	1	94	2	181	10	1	3	65	42	626	2,428				
		Total	86	313	13	131	12	254	32	10	20	123	163	831	11,644			355,081	5,903,072
	1951	Urban	53	30	20	44	24	51	17	4	28	66	142	195	10,160				
		Rural	18	222	4	119	1	123	8	5	3	79	34	548	2,082				
		Total	71	252	24	163	25	174	25	9	31	145	176	743	12,242			307,998	6,266,177
	1952	Urban	56	29	13	37	18	61	15	—	17	29	119	156	10,423				
		Rural	18	237	5	74	6	87	9	1	2	83	40	484	1,805				
		Total	74	266	18	111	24	148	24	1	19	112	159	640	12,228			494,806	6,491,504
4. MADHYA PRADESH	1949	Urban	44	6	28	3	72	12	—	—	20	22	164	43	4,301				
		Rural	7	8	24	9	62	105	—	—	17	38	110	160	667				
		Total	51	14	52	12	134	117	—	—	37	60	274	203	4,968	290,103	5,216,855		
	1950	Urban	51	4	28	3	71	11	—	—	24	22	174	40	3,698				
		Rural	—	4	24	9	62	105	—	—	17	36	103	157	576	375,011	5,372,667		
		Total	51	8	52	12	133	116	—	—	41	58	277	197	4,274				
	1951	Urban	51	4	28	3	71	11	6	—	18	22	174	40	4,055				
		Rural	—	4	24	9	62	120	8	7	9	29	103	169	410	92,519	46,461		
		Total	51	8	52	12	133	131	14	7	27	51	277	209	4,665				

TABLE No. 25—contd.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
		1952	Urban	52	4	28	3	71	11	6	—	18	22	175	40	4,183		
			Rural	—	4	24	9	62	120	8	—	9	29	103	169	610		
			Total	52	8	52	12	133	131	14	—	27	51	278	209	4,793	107,193	4,874,730
5.	MADRAS	1949	Urban	254	20	17	1	19	79	—	—	70	36	360	136	12,019		
			Rural	90	61	13	55	89	332	—	—	32	63	224	511	4,565		
			Total	344	81	30	56	108	411	—	—	102	99	584	647	16,584	777,061	5,216,855
		1950	Urban	108	21	16	1	17	97	—	—	39	21	180	140	14,435		
			Rural	83	75	11	93	86	391	—	—	46	116	226	675	4,754		
			Total	191	96	27	94	103	488	—	—	85	137	406	815	19,189	419,307	9,376,565
		1951	Urban	103	17	11	11	20	87	23	1	11	22	168	138	16,911		
			Rural	92	83	11	98	63	354	37	3	22	48	225	586	6,954		
			Total	195	100	22	109	83	441	60	4	33	70	393	724	23,865	813,252	210,79,013
		1952	Urban	121	22	6	10	25	102	33	—	16	24	201	158	—		
			Rural	87	106	8	97	65	321	33	6	13	93	206	623	23,471	926,955	23,432,008
			Total	208	128	14	107	90	423	66	6	29	117	407	781	—		
6.	ORISSA	1949	Urban	16	1	1	1	+	5	—	—	—	—	17	6	1,210		
			Rural	97	66	4	1	26	102	—	—	7	16	134	186	1,779		
			Total	113	67	5	2	26	107	—	—	7	16	151	192	2,989	48,933	3,329,279
		1950	Urban	17	1	1	1	+	5	—	—	—	—	18	7	1,210		
			Rural	108	78	4	1	26	102	—	—	5	12	143	193	1,800		
			Total	125	79	5	2	26	107	—	—	5	12	161	200	3,010	63,912	3,985,063
		1951	Urban	28	1	1	—	2	5	—	1	1	2	32	9	1,755		
			Rural	83	99	—	3	19	103	2	—	3	10	107	215	1,441		
			Total	111	100	1	3	21	108	2	1	4	12	139	224	3,196	87,748	4,345,221

	1952	Urban	+	+	+	+	÷	+	+	+	+	+	+	+	+	+	+
		Rural	÷	+	+	÷	+	+	+	+	+	+	+	+	+	+	÷
		Total	÷	+	+	+	+	+	+	+	+	+	+	+	+	+	÷
7.	PUNJAB	1949	Urban	62	15	14	12	18	50	—	—	7	1	101	68	5,350	
			Rural	—	23	—	6	2	239	—	—	—	66	2	334	1,377	
			Total	62	38	14	18	20	289	—	—	7	67	103	402	6,727	152,112 3,329,279
		1950	Urban	52	33	4	—	18	51	12	3	9	4	95	81	5,158	
			Rural	1	33	2	72	2	244	1	2	3	1	9	352	1,917	
			Total	53	56	6	72	20	295	13	5	12	5	104	433	7,075	161,612 5,441,810
		1951	Urban	66	24	4	—	23	51	12	3	9	7	114	85	6,486	
			Rural	1	83	2	72	2	210	1	2	3	1	9	368	1,596	
			Total	67	107	6	72	25	261	13	5	12	8	123	453	8,082	174,725 5,694,858
		1952	Urban	61	3	4	11	22	61	12	2	9	4	108	115	6,252	
			Rural	2	108	2	82	2	165	1	2	3	1	10	358	2,196	
			Total	63	145	6	93	24	226	13	4	12	5	118	473	8,448	181,431 5,727,617
8.	UTTAR PRADESH	1949	Urban	155	25	2	4	19	59	—	—	11	45	187	135	7,072	
			Rural	14	80	—	12	93	242	—	—	70	108	177	442	2,959	
			Total	169	105	2	16	112	301	—	—	81	153	364	577	10,031	246,664 10,379,379
		1950	Urban	176	43	16	24	39	51	8	1	30	60	269	179	8,807	
			Rural	40	171	4	51	68	222	5	5	28	44	145	493	2,618	
			Total	216	214	20	75	107	273	13	6	58	104	414	672	11,425	421,536 10,638,193
		1951	Urban	176	43	16	24	39	51	3	1	30	60	269	179	9,643	
			Rural	40	173	5	51	68	222	5	5	28	44	146	495	2,959	
			Total	216	216	21	75	107	273	13	6	58	104	415	674	12,593	332,323 18,067,071
		1952	Urban	+	+	÷	+	+	+	+	+	+	÷	+	+	÷	+
			Rural	+	+	+	÷	÷	+	+	+	÷	+	+	+	+	÷
			Total	+	+	÷	+	÷	+	÷	+	+	+	+	+	÷	+

TABLE No. 25—contd.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
9.	West Bengal	1949	Urban	60	1	17	9	17	64	—	—	54	21	148	95	11,550		
			Rural	151	—	5	32	9	482	—	—	14	107	179	621	6,278		
			Total	211	1	22	41	26	546	—	—	68	128	327	716	17,828	237,858	5,241,557
	1950	Urban	300	21	15	11	23	58	2	—	11	5	133	95	10,168	248,214	4,63,869	
		Rural	26	44	7	30	4	504	3	10	3	52	43	640	2,445			
		Total	326	65	22	41	27	562	5	10	14	57	176	735	12,613			
	1951	Urban	82	21	14	11	23	56	2	—	11	6	132	94	9,564	345,154	5,436,545	
		Rural	27	44	7	30	4	503	3	10	3	52	44	639	2,543			
		Total	109	65	21	41	27	559	5	10	14	58	176	733	12,107			
	1952	Urban	82	21	14	11	24	56	2	—	12	6	134	94	9,911	327,352	5,233,681	
		Rural	27	44	7	30	6	503	3	10	3	52	46	639	2,952			
		Total	109	65	21	41	30	559	5	10	15	58	180	733	12,863			
10.	Hyderabad	1949	Urban	27	144	—	—	—	9	—	—	—	72	27	225	4,002		
			Rural	—	—	11	—	—	—	—	—	—	20	—	31	—		
			Total	27	144	11	—	—	9	—	—	20	72	58	225	4,002	88,483	4,070,457
	1950	Urban	28	144	—	—	—	9	—	—	—	—	72	28	225	Separate figures not available	98,170	4,419,907
		Rural	1	—	11	—	—	—	1	—	—	20	—	33	—			
		Total	29	144	11	—	—	9	1	—	20	72	61	225	4,152			
	1951	Urban	28	189	—	—	—	9	—	—	—	—	27	28	225	4,306		
		Rural	—	—	11	—	—	—	22	—	—	—	—	33	—			
		Total	28	189	11	—	—	9	22	—	—	27	51	225	4,306	123,096	5,103,370	
	1952	Urban	28	191	—	—	—	9	—	—	—	—	27	228	227	4,456	120,551	5,233,317
		Rural	—	—	11	—	—	—	22	—	—	—	—	33	—			
		Total	28	191	11	—	—	9	22	—	—	27	61	227	4,456			

11.	JAMMU & KASHMIR . . .	1949	Urban	8	13	4	—	—	—	—	—	—	12	13	472	11,339	1,403,438	
		Rural	—	72	—	—	—	—	—	—	—	—	—	72	198			
		Total	8	85	4	—	—	—	—	—	—	—	—	12	85			670
	1950	Urban	+	+	+	+	+	+	+	+	+	+	+	+	+	+	÷	+
		Rural	÷	+	+	+	+	+	+	+	+	÷	+	÷	+	+	+	+
		Total	+	÷	+	+	÷	+	÷	+	+	+	+	+	+	+	+	+
	1951	Urban	+	÷	+	+	+	+	+	+	+	+	+	+	+	+	+	÷
		Rural	+	+	+	+	÷	+	+	÷	+	+	÷	+	+	+	÷	+
		Total	+	÷	+	+	+	+	÷	÷	÷	+	+	÷	+	+	+	+
	1952	Urban	+	+	+	÷	+	÷	+	+	+	+	+	÷	÷	÷	+	÷
		Rural	÷	÷	÷	+	+	÷	+	+	÷	+	+	+	+	+	+	÷
		Total	÷	+	÷	+	+	÷	+	÷	+	÷	÷	÷	÷	+	+	+
12.	MADHYA BHARAT . . .	1949	Urban	43	50	—	—	—	—	—	—	—	43	50	2,522	+	+	
		Rural	2	182	—	—	—	—	—	—	—	—	—	2	182			193
		Total	45	232	—	—	—	—	—	—	—	—	—	45	232			2,715
	1950	Urban	45	85	—	5	—	5	—	—	3	5	48	100	3,163	62,278	4,135,285	
		Rural	5	424	—	7	—	—	—	—	—	4	5	435	254			
		Total	50	509	—	12	—	5	—	—	3	9	53	535	3,417			
	1951	Urban	49	70	—	—	—	—	4	1	1	—	54	71	2,631	63,372	4,134,725	
		Rural	—	444	—	7	—	—	7	—	—	—	7	451	693			
		Total	49	514	—	7	—	—	11	1	1	—	61	522	3,324			
	1952	Urban	37	58	2	—	—	—	1	—	—	—	40	58	2,691	131,415	7,073,724	
		Rural	—	204	—	1	—	—	1	—	—	—	1	205	196			
		Total	37	262	2	1	—	—	2	—	—	—	41	263	2,887			
13.	MYSORE	1949	Urban	37	12	4	—	4	31	—	—	1	1	46	44	4,427	141,070	7,675,947
		Rural	2	59	—	1	25	291	—	—	1	1	28	352	977			
		Total	39	71	4	—	29	322	—	—	2	2	74	396	5,404			

TABLE No. 25—contd.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
		1950	Urban	38	14	—	—	4	31	8	3	1	1	51	49	4,542		
			Rural	3	56	—	—	25	291	4	—	—	2	32	358	1,129		
			Total	41	70	—	—	29	322	12	3	1	3	83	407	5,671	141,933	7,69,1372
		1951	Urban	37	10	—	—	4	31	8	3	1	—	50	44	4,534		
			Rural	3	58	—	—	29	304	4	—	—	1	36	363	927		
			Total	40	68	—	—	33	335	12	3	1	1	86	407	5,461	150,140	7,385,654
		1952	Urban	37	12	—	—	4	31	8	3	1	—	50	46	4,761		
			Rural	2	60	—	—	30	298	4	—	—	1	36	359	1,179		
			Total	39	72	—	—	34	329	12	3	1	1	86	405	5,940	157,096	7,792,673
	14.	PEPSU	1949	Urban	29	25	—	—	—	—	—	—	—	29	25	1,064		
			Rural	1	66	—	—	—	—	—	—	—	—	1	66	61		
			Total	30	91	—	—	—	—	—	—	—	—	30	91	1,125	288,915	2,624,023
		1950	Urban	29	25	1	—	—	—	—	—	—	—	31	25	1,064		
			Rural	1	84	—	—	—	—	—	—	—	—	1	84	61		
			Total	30	100	1	—	—	—	1	—	—	—	32	109	1,125	222,828	1,493,786
		1951	Urban	29	63	1	—	—	—	1	—	—	—	31	63	989		
			Rural	1	46	—	—	—	—	—	—	—	—	1	46	67		
			Total	30	109	1	—	—	—	1	—	—	—	32	109	1,056	209,253	2,734,741
		1952	Urban	44	37	—	—	—	—	—	—	—	—	44	37	1,022		
			Rural	1	55	—	—	—	—	—	—	—	—	1	55	48		
			Total	45	92	—	—	—	—	—	—	—	—	45	92	1,070	246,986	2,758,520
	15.	RAJASTHAN	1949	Urban	58	97	—	2	—	—	—	7	3	65	102	4,224		
			Rural	10	208	—	1	—	1	—	—	—	4	10	214	741		
			Total	68	305	—	3	—	1	—	—	7	7	75	316	4,965	83,366	6,24,6746

	1950	Urban	160	66	1	1	—	—	1	—	—	—	162	66	4,939		
		Rural	63	78	8	—	1	1	—	—	—	8	72	87	267		
		Total	223	143	9	1	1	1	1	—	—	8	234	153	5,206	99,196	7,967,579
	1951	Urban	162	81	—	—	—	—	1	—	16	3	179	84	4,894		
		Rural	56	84	—	—	—	—	—	—	1	7	57	91	248		
		Total	218	165	—	—	—	—	1	—	17	10	236	175	5,142	99,927	5,549,608
	1952	Urban	167	73	—	—	—	—	1	—	29	58	197	131	4,901		
		Rural	56	80	—	—	—	1	—	—	4	13	60	94	311		
		Total	223	153	—	—	—	1	1	—	33	71	257	225	5,212	99,215	9,412,568
16.	SAURASHTRA	1949	Urban	20	17	—	—	—	—	—	—	—	20	17	1,496		
		Rural	8	200	2	—	—	—	—	—	—	—	10	200	387		
		Total	28	217	2	—	—	—	—	—	—	—	30	217	1,883	+	+
	1950	Urban	20	17	—	—	—	—	—	—	—	—	20	17	1,494		
		Rural	8	200	1	—	—	—	—	—	—	—	9	200	437		
		Total	28	217	1	—	—	—	—	—	—	—	29	217	1,931	+	+
	1951	Urban	+	+	+	+	+	+	+	+	+	+	+	+	+		
		Rural	+	+	+	+	+	+	+	+	+	+	+	+	+		
		Total	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	1952	Urban	25	32	—	—	3	2	1	—	4	—	33	34	1,651		
		Rural	3	196	1	—	—	—	—	—	—	—	4	196	232		
		Total	28	228	1	—	3	2	1	—	4	—	37	230	1,883	75,340	1,978,622
17.	TRAVANCORE-COCHIN	1949	Urban	42	8	2	1	—	—	—	—	—	44	9	3,309		
		Rural	10	132	14	21	—	—	—	—	—	—	24	153	1,289		
		Total	52	140	16	22	—	—	—	—	—	—	68	162	4,598	134,643	3,505,781
	1950	Urban	42	8	2	—	—	—	—	—	—	—	44	8	3,309		
		Rural	10	132	14	21	—	—	—	—	—	—	24	153	1,289		
		Total	52	140	16	21	—	—	—	—	—	—	68	161	4,598	134,643	3,505,781

TABLE No. 25—contd.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
		1951	Urban	43	8	2	—	—	—	—	—	—	—	45	8	3,441		
			Rural	10	138	14	21	—	—	—	—	—	—	24	159	1,309		
			Total	53	146	16	21	—	—	—	—	—	—	69	167	4,750	140,102	3,626,243
		1952	Urban	49	3	3	—	1	—	—	—	—	—	53	3	5121		
			Rural	3	150	2	30	—	—	3	11	6	58	14	249	2,470		
			Total	52	153	5	30	1	—	3	11	6	58	57	252	7,591	180,609	4,386,851
18.	AJMER	1949	Urban	3	—	1	2	1	1	—	—	4	—	9	3	761		
			Rural	—	3	—	5	—	—	—	—	1	—	1	8	71		
			Total	3	3	1	7	1	1	—	—	5	—	10	11	832	13,540	485,659
		1950	Urban	4	2	1	—	1	1	2	—	1	—	9	3	761		
			Rural	—	9	—	—	—	—	1	—	—	—	1	9	75		
			Total	4	11	1	—	1	1	3	—	1	—	10	12	836	10,650	215,968
		1951	Urban	4	2	1	—	1	1	2	—	1	—	9	3	761		
			Rural	—	9	—	—	—	—	1	—	—	—	1	9	75		
			Total	4	11	1	—	1	1	3	—	1	—	10	12	836	10,758	407,437
		1952	Urban	6	3	—	—	1	1	2	—	—	—	9	4	373		
			Rural	—	8	—	—	—	—	1	—	—	—	1	8	242		
			Total	6	11	—	—	1	1	3	—	—	—	10	12	615	7,037	309,206
19.	BHOPAL	1949	Urban	2	4	—	—	—	—	—	—	—	—	2	4	380		
			Rural	1	11	—	—	—	—	—	—	—	—	1	11	53		
			Total	3	15	—	—	—	—	—	—	—	—	3	15	433	52,492	147,797
		1950	Urban	2	5	—	—	—	—	—	—	—	—	2	5	370		
			Rural	1	17	—	—	—	—	—	—	—	—	1	17	140		
			Total	3	22	—	—	—	—	—	—	—	—	3	22	510	19,848	709,374

20. BILASPUR	1951	Urban	3	5	—	—	—	—	—	—	—	3	5	425	1,537	306,030	
		Rural	—	17	—	—	—	—	—	—	—	—	17	104			
		Total	3	22	—	—	—	—	—	—	—	3	22	529			
		1952	Urban	2	5	—	—	—	—	—	—	—	2	5	430	92,903	782,618
		Rural	1	17	—	—	—	—	—	—	—	1	17	140			
		Total	3	22	—	—	—	—	—	—	—	3	22	570			
		1949	Urban	1	—	—	—	—	—	—	—	—	1	—	20	377	34,917
		Rural	—	2	—	—	—	—	—	—	—	—	2	8			
		Total	1	2	—	—	—	—	—	—	—	1	2	28			
		1950	Urban	1	—	—	—	—	—	—	—	—	1	—	20	602	70,609
		Rural	—	2	—	—	—	—	—	—	—	—	2	4			
		Total	1	2	—	—	—	—	—	—	—	1	2	24			
		1951	Urban	1	—	—	—	—	—	—	—	—	1	—	20	564	79,969
		Rural	—	2	—	—	—	—	—	—	—	—	2	8			
		Total	1	2	—	—	—	—	—	—	—	1	2	28			
		1952	Urban	1	—	—	—	—	—	—	—	—	1	—	20	+	+
		Rural	—	3	—	—	—	—	—	—	—	—	3	12			
		Total	1	3	—	—	—	—	—	—	—	1	3	32			
21. COORG	1949	Urban	2	—	—	—	—	—	—	—	—	2	—	181	12,183	289,529	
		Rural	—	—	—	1	2	12	—	—	—	2	13	127			
		Total	2	—	—	1	2	12	—	—	—	4	13	308			
		1950	Urban	2	—	—	—	—	—	—	—	—	2	—	252	12,901	278,112
		Rural	—	—	—	1	2	9	—	—	—	2	10	71			
		Total	2	—	—	1	2	9	—	—	—	4	10	323			
		1951	Urban	2	—	—	—	—	—	—	—	—	2	—	342	14,658	260,555
		Rural	—	—	—	1	2	10	—	—	—	2	11	74			
		Total	2	—	—	1	2	10	—	—	—	4	11	416			

TABLE No. 25—contd.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
		1952	Urban	2	—	—	—	—	—	—	—	—	—	2	—	342		
			Rural	—	—	—	1	2	14	—	—	—	—	2	15	86		
			Total	2	—	—	1	2	14	—	—	—	—	4	15	428	13,924	134,965
22.	DELHI	1949	Urban	8	7	2	1	3	17	—	—	3	1	16	26	1,675		
			Rural	—	2	—	—	—	7	—	—	—	—	—	9	36		
			Total	8	9	2	1	3	24	—	—	3	1	16	35	1,711	47,072	459,651
		1950	Urban	10	6	1	—	3	15	1	—	3	1	18	22	1,805		
			Rural	—	—	—	—	—	7	—	—	—	—	—	7	47		
			Total	10	6	1	—	3	22	1	—	3	1	18	29	1,852	110,391	2,072,162
		1951	Urban	12	12	4	—	3	15	1	—	—	—	20	27	1,823		
			Rural	—	—	—	—	—	7	—	—	—	—	—	7	42		
			Total	12	12	4	—	3	22	1	—	—	—	20	34	1,865	87,112	2,491,418
		1952	Urban	÷	+	+	+	+	÷	+	+	+	+	+	+			
			Rural	÷	+	+	÷	+	÷	+	+	+	+	+	+			
			Total	+	+	+	+	+	+	+	÷	÷	+	÷	+			
23.	HIMACHAL PRADESH	1949	Urban	10	1	—	—	—	—	—	—	—	—	10	1	239		
			Rural	10	23	—	—	—	—	—	—	—	—	10	23	115		
			Total	20	24	—	—	—	—	—	—	—	—	20	24	354	11,299	293,645
		1950	Urban	10	—	—	—	—	—	—	—	—	—	10	—	317		
			Rural	17	25	—	—	—	—	—	—	—	—	17	25	158		
			Total	27	25	—	—	—	—	—	—	—	—	27	25	475	11,758	207,104
		1951	Urban	10	17	—	—	—	—	—	—	—	—	10	17	459		
			Rural	—	29	—	—	—	—	—	—	—	—	—	29	130		
			Total	10	46	—	—	—	—	—	—	—	—	10	46	589	27,044	387,299

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		1952	Urban	11	3	--	--	--	--	--	--	11	3	527		
			Rural	11	31	--	--	--	--	--	--	11	31	144		
			Total	22	34	--	--	--	--	--	--	22	34	671	69,121	616,118
24-	KUTCH	1949	Urban	5	2	--	--	--	--	1	--	6	2	108		
			Rural	2	13	--	--	--	--	4	23	6	36	10		
			Total	7	15	--	--	--	--	5	23	12	38	118	2,028	175,716
		1950	Urban	5	2	--	--	--	--	1	--	6	2	108		
			Rural	2	12	--	--	--	--	4	23	6	35	10		
			Total	7	14	--	--	--	--	5	23	12	37	118	2,194	179,698
		1951	Urban	5	2	--	--	--	--	1	--	6	2	114		
			Rural	2	12	--	--	--	--	4	23	6	35	10		
			Total	7	14	--	--	--	--	5	23	12	37	124	1,843	152,193
		1952	Urban	5	2	--	--	--	--	1	--	6	2	114		
			Rural	2	13	--	--	--	--	4	23	6	36	10		
			Total	7	15	--	--	--	--	5	23	12	38	124	2,227	178,033
25.	MANIPUR	1949	Urban	4	1	--	--	--	--	--	--	4	1	166		
			Rural	10	5	--	--	--	--	--	--	10	5	77		
			Total	14	6	--	--	--	--	--	--	14	6	242	838	75,066
		1950	Urban	4	1	--	--	--	--	--	--	4	1	182		
			Rural	10	8	--	--	--	--	--	--	10	8	81		
			Total	14	9	--	--	--	--	--	--	14	9	263	2,349	193,323
		1951	Urban	5	1	--	--	--	1	--	--	6	1	225		
			Rural	11	12	--	--	--	4	--	--	15	12	94		
			Total	16	13	--	--	--	5	--	--	21	13	319	3,375	308,333
		1952	Urban	5	1	--	--	--	--	--	--	5	1	200		
			Rural	11	22	--	--	--	4	--	--	15	22	130		
			Total	16	23	--	--	--	4	--	--	20	23	330	3,463	281,858

TABLE No. 25—contd.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)		
26.	TRIPURA	1949	Urban	1	9	—	—	—	—	—	—	—	—	1	9	78				
			Rural	—	13	—	—	—	—	—	—	—	—	—	—	13	—			
			Total	1	22	—	—	—	—	—	—	—	—	—	—	1	22	78	962	119,815
		1950	Urban	1	9	—	—	—	—	—	—	—	—	—	—	1	9	78		
			Rural	—	13	—	—	—	—	—	—	—	—	—	—	1	17	—		
			Total	1	22	—	—	—	—	—	—	—	—	—	—	2	26	78	2,949	165,695
	1951	Urban	1	9	—	—	—	—	—	—	—	—	—	—	2	9	78			
		Rural	—	13	—	—	—	—	—	1	4	—	—	—	1	23	—			
		Total	1	22	—	—	—	—	—	1	4	—	—	—	2	32	78	2,928	245,502	
	1952	Urban	2	9	—	—	—	—	—	—	—	—	—	—	2	9	117			
		Rural	—	20	—	—	—	—	—	1	3	—	—	—	1	23	12			
		Total	2	29	—	—	—	—	—	1	3	8	—	—	3	32	129	37,609	30,955	
27.	VINDHYA PRADESH	1949	Urban	21	—	—	—	—	—	—	—	4	—	25	—	615				
			Rural	25	36	—	—	—	—	—	—	—	4	—	29	36	340			
			Total	16	36	—	—	—	—	—	—	—	—	—	—	54	36	955	31,771	991,006
		1950	Urban	18	—	—	—	—	—	—	1	—	2	1	21	1	681			
			Rural	22	33	—	—	—	—	—	—	2	4	2	26	37	256			
			Total	40	33	—	—	—	—	—	1	2	6	3	47	38	821	26,163	681,944	
		1951	Urban	18	—	—	—	—	—	—	1	—	2	1	21	1	600			
			Rural	23	34	—	—	—	—	—	—	2	4	2	27	38	156			
			Total	41	34	—	—	—	—	—	1	2	6	3	48	39	756	14,094	527,286	
		1952	Urban	17	—	—	—	—	—	—	1	—	—	1	18	1	734			
			Rural	24	34	—	—	—	—	—	—	2	6	2	30	38	186			
			Total	41	34	—	—	—	—	—	1	2	6	3	48	39	920	17,543	648,326	

28.	ANDAMAN & NICOBAR ISLANDS.	1949	Urban	2	—	—	—	—	—	—	—	—	2	—	244			
			Rural	3	8	—	—	—	—	—	—	—	—	3	8	140		
			Total	5	8	—	—	—	—	—	—	—	—	5	8	384	+	+
		1950	Urban	2	—	—	—	—	—	—	—	—	—	2	—	250		
			Rural	3	9	—	—	—	—	—	—	—	—	3	9	143		
			Total	5	9	—	—	—	—	—	—	—	—	5	9	393	+	+
		1951	Urban	2	—	—	—	—	—	—	—	—	—	2	—	240		
			Rural	3	8	—	—	—	—	—	—	—	—	3	8	153		
			Total	5	8	—	—	—	—	++	—	—	—	5	8	393	5,968	51,447
		1952	Urban	2	—	—	—	—	—	—	—	—	—	2	—	230		
			Rural	3	10	—	—	—	—	—	—	—	—	3	10	140		
			Total	5	10	—	—	—	—	—	—	—	—	5	10	370	7,534	55,826

TABLE No. 26

Appendix

Statement showing the expenditure incurred on medical relief by the various State Governments during the years 1949—52

Sl. No.	Name of State	Expenditure on medical relief			
		1949-50	1950-51	1951-52	1952-53
(1)	(2)	(3)	(4)	(5)	(6)
PART A					
		Rs.	Rs.	Rs.	Rs.
1.	Assam	40,84,648	39,75,491	48,75,921	49,65,003
2.	Bihar	25,19,200	46,89,911	1,06,74,551	1,07,03,170
3.	Bombay	2,24,14,143	2,75,45,578	2,97,21,033	2,60,77,135
4.	Madhya Pradesh	48,78,268	50,09,701	62,53,999	69,23,809
5.	Madras	2,55,81,124	2,93,50,688	3,34,90,721	3,67,42,405
6.	Orissa	52,58,676	49,47,089	51,20,768	
7.	Punjab	55,13,794	57,11,211	63,70,355	70,61,957
8.	U. P.	1,14,72,061	1,92,68,100	2,14,03,806	
9.	W. Bengal	81,46,056	3,05,59,000	3,30,28,000	3,25,39,000
PART B					
10.	Hyderabad	47,99,573	86,57,734	91,27,461	84,23,802
11.	Jammu & Kashmir	15,47,800			
12.	Madhya Bharat	45,46,370	66,91,200	65,09,672	71,20,422
13.	Mysore	64,14,000	82,04,700	79,96,000	98,92,000
14.	Pepsu	23,00,000	22,40,622	38,75,545	24,82,633
15.	Rajasthan	82,97,996	+	65,66,249	1,05,03,600
16.	Saurashtra	40,25,000	41,12,000		39,02,402
17.	Travancore-Cochin	32,12,416	*49,14,700	65,56,288	89,56,695
PART C					
18.	Ajmer	5,63,023	*5,98,650	5,52,139	13,43,473
19.	Bhopal	3,30,305	7,35,348	8,77,025	12,16,896
20.	Bilaspur	57,031	50,000	60,276	78,500
21.	Coorg	3,70,758	3,90,508	3,99,000	3,76,000
22.	Delhi	57,95,392		65,79,011	
23.	Himachal Pradesh	5,97,348	8,49,239	9,42,154	10,66,390

TABLE No. 26—*contd.*

(1)	(2)	(3)	(4)	(5)	(6)
24.	Kutch	3,36,192	3,71,646	4,34,131	4,32,068
25.	Manipur	1,76,313	*2,10,000	*2,21,000	3,21,000
26.	Tripura	1,50,946	2,81,319	2,17,999	3,35,180
27.	Vindhya Pradesh	6,95,585	10,78,000	7,58,092	14,00,075
28.	Andaman & Nicobar Islands .	+	*4,42,045	5,28,813	4,92,223

*Includes expenditure on public Health as well.
 +Data not available.

TABLE No. 27

Appendix

Statement showing the amount of grants-in-aid made to hospitals and dispensaries in the various States during the Years 1949—52.

Sl. No.	Name of State	Grants-in-aid			
		1949-50	1950-51	1951-52	1952-53
(1)	(2)	(3)	(4)	(5)	(6)
PART A					
		Rs.	Rs.	Rs.	Rs.
1.	Assam	2,82,738	4,64,155	4,50,000	8,65,771
2.	Bihar	6,91,327	9,82,414	10,92,524	12,53,272
3.	Bombay	2,27,961	6,51,719	7,09,875	12,58,201
4.	Madhya Pradesh	4,27,218	3,66,803	5,87,925	6,87,676
5.	Madras	12,01,769	13,38,497	12,20,777	11,32,374
6.	Orissa	4,32,537	3,05,072	2,42,023	+
7.	Punjab	12,04,119	9,84,147	8,39,973	9,45,668
8.	U. P.	29,58,962	31,32,500	26,50,814	+
9.	West Bengal	9,67,806	2,24,200	27,46,835	29,72,392
PART B					
10.	Hyderabad	92,081	6,03,932	+	77,889
11.	Jammu & Kashmir	26,248	+	+	+
12.	Madhya Bharat	22,220	22,220	12,930	4,900
13.	Mysore	24,710	36,130	26,860	41,851
14.	Pepsu	600	600	6,519	24,100
15.	Rajasthan	7,152	+	+	+
16.	Saurashtra	29,000	37,500	+	1,37,286
17.	Travancore-Cochin	58,267	8,400	94,608	38,072
PART C					
18.	Ajmer	40,280	24,080	76,300	1,100
19.	Bhopal	1,704	—	—	—
20.	Bilaspur	—	—	—	—
21.	Coorg	38,624	4,000	—	4,000
22.	Delhi	11,19,806	4,13,448	13,02,291	+

TABLE No. 27—*contd.*

(1)	(2)	(3)	(4)	(5)	(6)
23.	Himchal Pradesh	3,109	—	—	—
24.	Kutch	8,200	8,200	18,600	13,600
25.	Manipur	—	—	—	—
26.	Tripura	500	500	500	500
27.	Vindhya Pradesh	—	—	—	—
28.	Andaman & Nicobar Islands	—	—	—	—

TABLE No. 28

Appendix

X-ray Facilities in the States

Sl. No.	State	Total No. of general hospitals & Dispensaries	No. of hospitals having X-ray sets	No. of X-ray sets		No. of X-ray examinations	Total No. of general hospitals dispensaries	No. of hospitals with X-ray sets	No. of X-ray sets		No. of X-ray Examinations
				Major	Minor				Major	Minor	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
PART 'A'											
1.	Assam	429	7	8	5	11,128	514	2	6	15	18,311
2.	Bihar	633	15	9	10	16,340	759	7	9	14	28,629
3.	Bombay	962	69	80	44	340,367	799	34	66	83	382,635
4.	Madhya Pradesh	477	20	1	10	23,361	487	28	20	17	593,829
5.	Madras	1,231	32	5	25	412,331	1,188	52	58	49	298,453
6.	Orissa	343	8	13	1	8,424	—	14	5	14	8,761
7.	Punjab	505	18	13	14	42,584	591	22	8	23	51,174
8.	Uttar Pradesh	941	44	26	34	53,287	—	66	33	60	82,358
9.	West Bengal	1,043	26	40	20	77,610	913	21	14	37	53,103
PART 'B'											
10.	Hyderabad	283	9	8	11	38,033	288	15	8	12	51,877
11.	Jammu & Kashmir	97	3	2	1	7,408	—	3	2	4	10,799
12.	Madhya Bharat	277	15	10	12	20,391	304	22	12	22	55,305

13.	Mysore	470	16	21	19	137,031	471	21	14	29	131,416
14.	Pepsu	121	5	4	1	3,689	137	6	4	7	18,685
15.	Rajasthan	391	24	17	24	39,285	482	30	18	34	50,925
16.	Saurashtra	247	9	8	10	15,042	267	15	8	16	18,401
17.	Travancore-Cochin	230	8	7	6	74,450	319	11	13	8	95,618
PART 'C'											
18.	Ajmer	21	2	2	3	7,049	22	3	3	4	10,568
19.	Bhopal	18	1	1	1	4,523	2	1	1	1	6,802
20.	Bilaspur	3	—	—	—	—	4	—	—	—	—
21.	Coorg	17	1	1	1	461	19	2	—	2	2,764
22.	Delhi	51	4	3	10	27,985	—	5	10	17	54,417
23.	Himachal Pradesh	44	1	1	—	717	56	6	3	3	4,719
24.	Kutch	50	1	1	—	572	50	2	1	1	2,083
25.	Manipur	20	1	1	—	244	43	1	1	—	374
26.	Tripura	23	1	1	—	31	35	1	1	—	903
27.	Vindhya Pradesh	90	3	1	2	887	87	4	—	5	1,115
PART 'D'											
28.	Andaman & Nicobar Islands	13	1	1	1	25	1	—	—	1	315
		9,230	344	344	264	1,362,507	7,895	465	318	478	2,034,339

TABLE No. 29

Appendix

Statement Showing the Number of Blood Banks in Various States of India and the Work Done by Them
During the Years 1949—52.

Sl. No.	State	Year	Number of Blood-banks	Number of donors blood	Quantity of blood collected c.c.	Quantity of whole blood issued	Number of blood transfusions	Volume of Serum Plasma		Number of officers trained	REMARKS	
								Manufac- tured c.c.	Supplied c.c.			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	
1.	Assam	1949	—	—	—	—	—	—	—	—	—	
		1950	—	—	—	—	—	—	—	—	—	
		1951	1	39	10,600	9,300	35	—	—	—	3	
		1952	1	135	47,250	47,250	135	—	—	—	—	
2.	Bihar	1949	2+(4 Centres)	1,772	460,420	232,330	1,274	118,090	89,720	4		
		1950	2+(4 Centres)	1,763	463,680	304,550	1,588	81,530	92,050	2		
		1951	3	2,070	558,580	406,035	1,921	63,600	65,120	1		
		1952	6	3,846	47,350	33,950	2,773	4,980+ 18 Bottles	4,980+ 18 Bottles	—		
3.	Bombay	1949	16	6,509	1,566,240	1,305,470	2,644	969,500	420,150	12		
		1950	14	8,198	1,537,795	1,201,468	4,607	583,250	410,250	30		
		1951	9	7,540	2,358,875	1,449,045	3,488	401,750	490,950	2		
		1952	7	9,606	3,180,465	2,072,430	5,727	777,500	341,250	—		

4. Madhya Pradesh	1949	—	71	25,000	25,000	71	—	—	—
	1950	—	77	31,675	31,675	77	—	—	—
	1951	1	269	79,770	72,770	217	—	—	2
	1952	1	513	171,070	162,776	485	—	—	—
5. Madras	1949	18	8,736	3,025,274	1,559,315	4,116	472,745	379,980	86
	1950	18	10,001	3,780,930	2,372,505	4,811	1,607,450	579,450	27
	1951	19	10,375	4,299,285	2,679,365	7,075	1,595,260	554,470	21
	1952	21	13,198	14,293,164	3,534,555	8,372	526,740	431,640	10
6. Orissa	1949	1	4	670	670	25	—	—	—
	1950	1	21	5,180	5,180	21	—	—	—
	1951	1	135	27,800	27,800	135	—	—	1
	1952	1	277	53,910	53,910	270	—	—	—
7. Punjab	1949	3	1,133	483,325	311,975	974	20,355	17,385	7
	1950	3	1,990	650,875	492,230	1,559	53,705	41,500	6
	1951	3	2,047	647,096	526,841	1,689	36,680	36,680	2
	1952	4	2,267	706,455	560,025	1,858	32,400	22,850	13
8. U.P.	1949	1+(8 Centres)	602	178,810	167,100	579	—	3,780	—
	1950	1+(8 Centres)	851	265,185	260,115	836	—	1,500	—
	1951	1+(8 Centres)	1,195	388,810	383,510	1,200	750	750	—
	1952	1+(8 Units)	1,409	449,235	444,510	1,447	—	—	6
9. West Bengal	1949	1	4,682	1,187,130	933,145	4,096	57,600	1,11,315	7

TABLE No. 29—contd.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
		1950	1	4,630	1,119,080	1,000,500	5,892	15,400	113,760	4	
		1951	1	5,875	1,449,376	1,310,970	6,053	48,100	46,100	6	
		1952	1	6,837	1,845,870	1,727,750	7,985	35,400	25,700	3	
10.	Hyderabad	1949	—	—	—	—	37	—	—	—	
		1950	—	—	—	—	—	—	—	—	
		1951	1	133	39,900	39,900	176	—	—	—	
		1952	1	752	376	371	752	—	—	—	
11.	Jammu & Kashmir	1949	—	2	—	—	2	—	—	—	
		1950	}	Has no Blood-transfusion service							
		1951									
		1952	1	16	—	16 lbs.	16	—	—	—	
12.	Madhya Bharat	1949	1	57	22,270	22,270	57	—	—	6	
		1950	1	42	14,075	14,075	42	—	—	4	
		1951	1	97	24,350	24,350	90	—	—	7	
		1952	2	94	27,900	27,400	91	—	—	—	
13.	Mysore	1949	2	114	56,000	56,000	174	—	5,500	2	
		1950	2	176	63,600	63,600	176	—	—	—	
		1951	2	313	89,050	89,050	325	—	—	—	
		1952	2	689	203,235	203,235	689	1,440 Pints	1,419 Pints	—	

14. Pepsu	1949	--	7	3,500	3,500	7	--	--	--	
	1950	1	25	7,250	6,950	25	--	--	--	
	1951	1	45	15,800	15,500	53	150	150	9	
	1952	1	97	37,900	36,200	93	--	--	--	
15. Rajasthan	1949	2	234	86,621	77,573	245	2,500	2,050	6	
	1950	2	234	116,725	109,896	265	1,500	1,500	5	
	1951	3	212	73,670	70,875	255	2,030	2,030	1	
	1952	2	374	146,780	136,520	424	2,040	2,040	5	
16. Saurashtra	1949	5 Centres	43	4,000	4,000	43	--	--	--	
	1950	5 Centres	49	5,175	5,175	49	--	--	--	
	1951	5 Centres	40	9,175	9,175	40	--	--	--	
	1952	5 Centres	33	7,150	7,150	33	--	--	--	
17. Travancore-Cochin	1949	}	Has no Blood-transfusion service							
	1950									
	1951									
	1952	1	40	450	450	40	--	--	--	
18. Ajmer	1949	--	42	16,000	16,000	84	--	--	1	
	1950	--	38	7,400	7,400	36	--	--	--	
	1951	--	16	2,175	2,175	17	--	--	--	
	1952	--	19	--	--	24	6,400	6,400	--	
19. Delhi	1949	1	369	110,700	110,000	285	--	--	--	

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
		1950	1	876	240,500	234,500	789	—	—	1	
		1951	1	1,502	375,500	355,000	1,355	6,000	6,000	1	
		1952	1	2,088	522,000	508,700	2,035	7,250	7,250	—	
20.	Bhopal	1949	—	9	2,700	2,700	9	—	—	—	
		1950	—	—	—	—	—	—	—	—	
		1951	—	7	—	—	7	—	—	—	
		1952	—	—	—	10	10	—	—	—	
21.	Himachal Pradesh	1949	—	—	—	—	—	—	—	—	
		1950	—	—	—	—	—	—	—	—	
		1951	—	—	—	—	—	—	—	—	
		1952	—	24	800	800	4	—	—	—	
22.	Coorg	1949	—	2	1,200	1,200	3	—	—	—	
		1950	—	—	—	—	—	—	—	—	
		1951	—	2	20	20	2	—	—	—	
		1952	—	4	32	32	4	—	—	—	
					(Ozs.)	(Ozs.)					
					(Ozs.)	(Ozs.)					
23.	Andaman & Nicobar Islands	1949	—	—	—	—	—	—	—	—	
		1950	—	—	—	—	—	—	—	—	
		1951	—	—	—	—	—	—	—	—	
		1952	—	11	—	—	7	—	—	—	

Other States had no Blood transfusion services.

TABLE No. 30

Appendix

Statement Showing the Names and Locations of Mental Hospitals in Various States of India, Bed-Capacity, Number of Patients Admitted During the Years 1949—52 and expenditure Incurred during 1949—52

Sl. No.	State	Name & Location of	Sanctioned Accommodation		Number of patients carried over from 1948	No. of new patients admitted during				Number of Patients at the end of 1952	Expenditure in rupees		REMARKS
			1949	1952		1949	1950	1951	1952		1949-50	1952-53	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
1.	ASSAM	Assam Mental Hospital, Tezpur	716	716	721	172	197	198	187	710	3,99,681	3,79,334	
2.	BIHAR	Hospital for Mental Diseases, Kanke	336	400	256	176	163	208	263	369	8,08,212	12,01,199	
3.	BOMBAY	Indian Mental Hospital, Ranchi	1,310	1,380	1,268	281	466	—	195	1,222	11,75,928	12,45,522	
		N. M. Mental Hospital, Thana	390	390	736	658	748	847	896	1,092	6,64,853	8,13,508	
		Mental Hospital, Ratnagiri	176	176	214	61	79	98	104	278	1,43,883	1,39,737	
		Central Mental Hospital, Yeravda	1,247	1,247	1,692	930	927	1,036	1,045	1,734	18,83,062	1,699,599	
		Mental Hospital, Ahmedabad	267	267	391	318	256	281	336	448	3,32,540	2,88,771	
		Mental Hospital, Dharwar	199	199	278	122	135	119	112	308	1,83,784	1,97,665	
		Mental Hospital, Baroda	75	75	No information	27	22	36	80	No information	74,836		
4.	MADHYA PRADESH	Mental Hospital, Nagpur	600	600	540	190	161	197	228	549	3,39,153	3,76,383	
5.	MADRAS	Govt. Mental Hospital, Madras	888	888	1,915	745	784	819	880	1,870	13,07,487	11,34,630	
		Govt. Mental Hospital, Waltair	164	210	230	165	138	181	157	207	1,34,268	1,12,757	
		Govt. Mental Hospital, Kozhikode	364	364	500	232	211	236	234	626	2,96,639	3,33,594	
6.	PUNJAB	Punjab Mental Hospital, Amritsar	600	500	Nil	107	517	309	445	521	7,15,833	5,39,907	
7.	U. P.	Mental Hospital, Agra	622	622	564	350	342	377	400	576	5,41,692	6,22,761	
		Mental Hospital, Bareilly	408	408	278	98	117	124	186	321	3,97,454	2,16,953	
		Mental Hospital, Banaras	373	331	280	36	49	26	37	224	1,75,428	1,64,434	

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
8.	WEST BENGAL	Mental Hospital, Mankunda & Calcutta.	60	60	38	74	71	53	63	51	27,691	23,856	
		Lambiri Park Mental Hospital, Tiljala, 24-Parganas.	50	80	44	96	146	168	164	67	1,28,779	1,52,538	
		Bangya-Unmad Asram, Vivekanand Road, Dum-Dum.	80	80	48	127	129	128	143	43	55,000	60,989	
		Mental Observation Ward, Bhowanipur, Calcutta.	30	30	12	148	188	149	98	14	42,548	71,632	
		Bodhi Peet Hospital for Mentally Deficients.	—	90	3	—	—	—	31	25	—	21,880	
9.	HYDERABAD	Govt. Mental Hospital, Jalna	258	258	461	299	370	331	414	574	2,71,299	2,44,557	
10.	JAMMU & KASHMIR	Mental Hospital, Sringar	24	24	23	37	33	—	25	15	6,097	6,148	
11.	MADHYA BHARAT	Mental Hospital, Gwalior	120	120	110	179	154	215	202	122	52,477	62,142	
		Mental Hospital, Indore	50	50	34	43	45	34	34	61	22,482	23,985	
12.	MYSORE	Govt. Mental Hospital, Bangalore	300	300	354	760	725	741	768	331	3,27,098	3,03,410	
13.	RAJASTHAN	Mental Hospital, Jodhpur	60	60	53	41	50	38	33	58	No information	17,949	
		Mental Hospital, Jaipur	100	100	100	63	103	61	61	87	54,016	40,681	
		Mental Hospital, Udaipur	23	24	13	49	37	32	19	23	11,326	13,268	
14.	SAURASHTRA	Mental Hospital, Bhavnagar	12	18	12	2	8	6	5	15	11,152	13,597	
15.	TRAVANCORE-COCHIN	Hospital for Mental Diseases, Colampara, Trivandrum.	201	201	229	319	454	544	560	248	1,04,877	1,32,338	
		Mental Hospital, Trichur	93	141	212	111	194	194	185	234	90,386	1,10,414	
TOTAL			10,196	10,409	11,609	6,989	8,024	7,767	8,546	13,103	1,07,05,130	1,11,85,465	

N.B.—Other States had no Mental Hospitals.

TABLE No. 31

Appendix

*Statement Showing the Production and Sale of Various Products
Manufactured at the Haffkine Institute During the year 1952.*

Name of the product (1)	Manufactured (2)	Sale (3)	Free distri- bution if any (4)
Tetanus Antitoxin . . .	465,000, ccs	5,36,462 ccs	
Tetanus Antitoxoid . . .	45,000 ccs	1,736 ccs	
Diphtheris Antitoxin . . .	1,74,800 ccs	1,45,263 ccs	
Diphtheria Formal Toxioid . . .	1,74,000 ccs	369 ccs	
Anti-Dysentery Serum . . .	Nil	1,470 ccs	
Anti-gas Gangrene Serum (Welchii)	42,800 ccs	77,545 ccs	
Special Horse Serum . . .	—	—	
Normal Horse Serum . . .	11,200 ccs	2,450 ccs	
Anti plague Serum . . .	—	1,040 ccs	
Lyophilised Polyvalent Antisnake Venom Serum.	1,48,400 ccs	71,090 ccs	
Plague vaccine	49,45,075 ccs	47,52,780 ccs	
Cholera vaccine	45,83,966 ccs	38,09,576 ccs	
T. A. B. vaccine	2,71,143 ccs	4,10,754 ccs	
Glucose saline in 500 ccs . . .	38,001 bottles	38,182 bottles	
Glucose 5% in 500 ccs . . .	9,798 bottles	9,562 bottles	
Glucose 25% in 10 ccs . . .	4,289 bottles	4,220 bottles	
Glucose 25% in 500 ccs . . .	1,227 bottles	1,218 bottles	
Normal saline	3,509 bottles	3,267 bottles	
Hypertonic saline	2,017 bottles	1,772 bottles	
4% Sodium Citrate in 500 ccs . . .	767 bottles	742 bottles	
Protein Hydrolysate in 400 ccs . . .	7,420 bottles	7,361 bottles	
Sodium Sulphate Isotonic in 500 ccs.	813 bottles	762 bottles	
50% Glucose 100 ccs . . .	116 bottles	103 bottles	
Distilled water in 500 ccs . . .	892 bottles	753 bottles	
Dried Blood Plasma	375·0 litres	421·00 litres	Out of these 101·25 lit- res were sup- plied free.
Vitamin AD tablets	35,36,000 tablets	35,14,875 tablets	

TABLE No. 31—*contd.*

(1)	(2)	(3)	(4)
Vitamin BC tablets	46,82,000 tablets	46,92,700 tablets	
Vitamin BC3 tablets	2,92,500 tablets	3,16,400 tablets	
Vitamin B1 tablets	1,70,700 tablets	2,09,125 tablets	
Vitamin B2 tablets	21,750 tablets	40,175 tablets	
Vitamin C tablets	2,34,000 tablets	2,48,075 tablets	
Nicotinic Acid tablets	1,30,500 tablets	1,36,650 tablets	
Sulphathiazole	4,860 lbs.	19,42,500 tablets	{ 100 × 12 boxes—5 cc amp.* 40 × 20 boxes—20 cc amp.* 30 × 500 ccs-bottles 117 lbs.- Powder
Pemon	5,250 lbs.	5,160 lbs.	
		(Injectibles)	

Statement of examinations done, drugs tested etc., in the year 1952

1. Bacteriological examination—	
(a) Public Health Samples	114
(b) Diagnostic Deptt. Samples	6,287
2. Clinical Pathological examinations	19,982
3. Experimental Pathology examinations—	
(a) Morbid Histology	444
(b) Experimental Pathology	1,685
4. No. of Drugs tested	1,524
5. Biochemical examinations	6,552
6. Antirabic Treatments	7,779 No. of Per- sons applied
7. Supply of Antirabic treatments to—	
Human cases of other centres	17,604
Veterinary use	827

TABLE No. 32

Appendix

Statement Showing the Supply of B. C. G. Vaccine and Tuberculin
(P.P.D.) to Various States and Private Agencies in India from
January to December 1952.

Sl. No.	State	Quantity supplied	
		BCG Vaccine cc (3)	Tuberculin 5 T.U. cc. (4)
(1)	(2)		
1.	Assam	26,735	39,890
2.	Ajmer	17,005	45,400
3.	Bihar	54,370	1,12,750
4.	Bombay	48,075	1,75,720
5.	Bhopal	11,000	22,000
6.	Delhi	23,950	33,400
7.	East Punjab	1,74,245	4,16,940
8.	Himachal Pradesh	26,100	32,750
9.	Hyderabad (Dn.)	13,300	32,930
10.	Jammu & Kashmir	7,720	41,250
11.	Madras	9,905	23,780
12.	Madhya Bharat	1,32,600	2,94,360
13.	Madhya Pradesh	10,805	25,950
14.	Mysore	24,475	46,350
15.	Manipur	5,945	14,350
16.	Orissa	9,620	36,500
17.	Pepsu	82,050	1,38,200
18.	Rajasthan	4,950	10,350
19.	Saurashtra	23,400	33,800
20.	Travancore-Cochin	64,200	1,47,850
21.	Tripura	460	1,300
22.	Uttar Pradesh	1,49,750	3,07,795
23.	Vindhya Pradesh	615	1,425
24.	West Bengal	73,290	1,41,250
25.	Assam Tea Estates (Private Agencies)	17,380	30,600
TOTAL		10,11,945	22,06,890

TABLE No. 33

Appendix

Statement Showing the Hospitals Attached to the Various Medical Colleges in India for Training and the Number of Beds Available for Teaching Purposes in Each Subject as at the End of 1952

S. No.	Name of educational Institute	Controlling Authority	University or Examining Body to which Affiliated	Degrees & Diplomas granted	Duration of Course	No. of beds available for Teaching Purposes										Name of attached Hospitals used for training purposes	REMARKS	
						Surgical	Medical	Gynaecology	Obstetrics	Ophthalmology	E.N.T.	Children	Tuberculosis	Orthopaedic	Others			Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
1.	Assam Medical College, Dibrugarh.	Government	Gauhati University.	University.	M.B.B.S.	5½ yrs.	101	118	(98)	32	26	12	16	—	24	427	1. Assam Medical College, Hospital, Barbari. 2. Assam Medical College, Hospital Maternity Section, Dibrugarh.	
2.	Prince of Wales Medical College, Patna.	Patna University.	Patna University.	University.	M.B.B.S.	5 yrs.	200	136	(106)	80	25	68	26	26	107	774	Patna Medical College Hospital.	
3.	Darbhanga Medical College, Darbhanga.	Government	Bihar University.	University.	M.B.B.S.	5 yrs.	156	108	(108)	—	46	18	14	Including Surgical.	—	422	Darbhanga Medical College Hospital.	
4.	B. J. Medical College, Poona.	Government	1. University of Poona. 2. College of Physicians & Surgeons, Bombay.	of &	M.B.B.S. M.S. M.D. Medicine. M.D. Gynaecology & Obs. M.D. Pathology.	5 yrs. 3 yrs. after passing the 3rd M.B.B.S. Examination. Do. Do. Do.	75	90	(45)	10	10	10	22	27	16	305	1. Sasson Hospitals, Poona. 2. K. E. M. Hospitals, Poona. 3. Cantonment General Hospital. 4. Infectious Diseases Hospital.	

M.D. Pharmacology. Do.
 D.O.M.S. 1 yrs.
 D.G.O. 6 months Do.
 D.C.H. 1 yr. Do.
 D.P.M. 18 months Do.
 D. Ortho. 1 yr. Do.
 D.P.B. 18 months Do.
 D.A. 1 yr. Do.
 D. Ana. 3 Sessions. Do.
 D. Phy. 3 Academic terms. Do.
 M.C.P.S. 5 yrs.
 F.C.P.S. 2 yrs. after passing the 3rd M. B. B. S. Examination.

5. Central Mental Hospital, Poona.

5. B. J. Medical College, Ahmedabad.	Government	1. Gujrat University.	M.B.B.S.	5 yrs.	79	122	48	91	54	7	16	15	16	282	730	1. The Civil Hospital, Ahmedabad.
		2. College of Physicians & Surgeons, Bombay.	M.D.	3 yrs. after-obtaining M. B. B. S. degrees.												
6. Grant Medical College, Bombay.	Government	Bombay University.	M.B.B.S.	4½ yrs. 1 yr. post-Exam. training according to new curriculum.	203	169	40	56	100	12	100	20	25	49	774	1. J. J. Group of Hospitals. 2. C. J. Ophthalmic Hospitals.

8.	Topiwala National Medical College, Bombay.	Bombay Municipal Corporation.	1. Bombay University. 2. College of Physicians & Surgeons of Bombay.	M.B.B.S. M.D.M.S. D. Ped. & M.S.C. D.G.O. D.C.H. D.P.B. M.C.P.S F.C.P.S.	5½ yrs. 3 yrs. after Graduation. 15 months Do. 2 yrs. Do. 9 months Do. 12 months Do. 18 months Do. 5 yrs. 24 months Do.	80	84	20	40	18	16	25	7	20	20	330	1. B. Y. L. Nair Charitable Hospital. 2. Arthur Road Hospital. 3. Mental Hospital, Thana. 4. Cama & Albless Hospital.
9	Medical College, Baroda.	Government	M. S. University of Baroda.	M.B.B.S.	5 yrs.	95	92	(77)	20	12	24	—	—	20	59	99	Shree Sayaji General Hospital, Baroda.
10.	Medical College, Nagpur.	Do.	Nagpur University.	Do.	Do.	132	125	46	93	54	10	27	50	20	38	607	Medical College Hospital, Nagpur.
11.	Andhra Medical College, Visakhapatnam.	Do.	Andhra University.	M.B.B.S. M.S.M.D. D.G.O. D.O. D.V.D. Diploma in Anaesthesia, Diploma in Pharmacy course. Sanitary Inspectors Course.	Do. 1 yrs. after MBBS 2 yrs. 1 yr.	186	196	65	54	68	22	36	51	—	24	702	1. King George's Hospital, Visakhapatnam. 2. Mental Hospital, Waltair.
12.	Christian Medical College, Vellore.	Non-Govt.	Madras University.	M.B.B.S.	5½ yrs. Old regulations. 4½ yrs. New regulations	97	89	30	77	70	11	—	—	12	114	501	1. Christian Medical, College. 2. Mary Taber School Hospital, Vellore (Eye Hospital). 3. Union Mission T. B. Sanatorium, Arogyavaram. 4. Govt. Mental Hospital, Madras. 5. Infectious Diseases Hospital, Madras. 6. Vaccine Depot, Madras.

TABLE No. 33—contd.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	
13.	Guntur Medical College, Guntur.	Government	Andhra University.	This institution provides instruction only for the pre-clinical course and students who pass the 1st M.B.B.S. Examination are transferred for the clinical course to other colleges in the State.		—	—	—	—	—	—	—	—	—	—	—	—	For the present, no Hospital is attached.	
14.	Medical College, Madras.	Govt.	Madras University.	M.B.B.S. 5 years B.Sc. 1 Do. P. Pharmacy 3 Do. T.D.D. 1 Do. D.C.L.Sc. 1 Do. Diploma in pharmacy, 2 Do.		340	363	(472)	302	12	—	—	—	1900	3389			1. Government Hospital, Madras. 2. Government Ophthalmic Hospital, Madras. 3. Government Hospital for Women and Children Egmore, Madras. 4. Government T.B. Institute, Egmore, Madras. 5. Infectious Diseases Hospital, Tendiarpet, Madras.	
15.	Stanley Medical College, Madras.	Govt.	Madras University.	M.B.B.S. * M.S. 2 years after M.D. Graduation.		239	211	(20)	36	30	46	—	36	92	710			1. Govt. Stanley Hospital, Madras. Students admitted in July 1952 to study for 4½ years; those admitted prior to that date to study for 5 years. 2. Govt. Raja Sir Ramaswamy Mudaliar's Lying-in-Hospital, Madras. 3. Govt T. B. Hospital, Madras. 4. Govt. Hospital, for women and Children, Madras. 5. Govt. Mental Hospitals, Madras. 6. Govt. Ophthalmic Hosp., Madras.	

																					7. Govt. Barnard Institute of Radiology, Govt. General Hosp., Madra .	
																					8. Infectious Diseases Hospital, Madras.	
16.	Sriram Chandra Bhanj Medical College, Cuttack.	Govt.	Utkal University.	M.B.B.S.	5 years.	154	127	40	34	50	28	34	16	30	18	531					Sriram Chandra Bhanj Medical College Hospital, Cuttack.	
17.	Medical College, Amritsar.	Govt.	Punjab University.	M.B.B.S. B.Pharmacy D.T.D. M.S.M.F. D.O.M.S. D.D.	5 yrs. 3 yrs. 1 yr. after obtaining M.B.B.S. 1 yr. Do. 2 yrs. 2 yrs.	159	88	80	—	(68)	24	80	26	52	577							1. V. J. Hospital, Amritsar. 2. Punjab Mental Hosp., Amritsar. 3. Govt Hospital for Women Amritsar. 4. The Ram Lal Eye Hosp., Amritsar. 5. Sir Gujjarmal Kesradeve T. B. Sanatorium, Amritsar. 6. Municipal Infectious Diseases Hosp., Amritsar. 7. Punjab Dental Hosp., Amritsar.
																					The Admission to this class was discontinued till the condensed M.B. B.S. Course lasts.	
18.	Sarojini Naidu Medical College, Agra.	Govt.	Agra University	M.B.B.S. M.D.M.S.	5 years 3 years after graduation.	120	98	39	38	60	5	20	20	included in Surgical	400							1. Sarojini Naidu Hospital, Agra. 2. Mental Hospital, Agra. 3. Infectious Diseases Hosp., Agra.
19.	Mahatma Gandhi Memorial Medical College, Lucknow.	Lucknow	Lucknow University.	M.B.B.S. M.D.M.S. D.M.R.E. D.L.O. D.T.D. D.C.P. D.O.M.S.	5 yrs. 3 yrs. after graduation. 1 yr. Do. 1 yr. Do. 1 yr. Do. 1 yr. Do. 1 yr. Do.	212	194	(120)	92	36	20	60	36	137	907							1. Gandhi Memorial Hospital. 2. Queen Mary's Hospital. 3. Kasturba T. B. clinic (T.B. Hosp.)

TABLE No. 33—contd.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
																	4. Infectious Diseases Hospital.	
																	5. Leper Hospital.	
																	6. Balram Hospital.	
																	7. King George's Hospital.	
20.	Medical College, Calcutta.	Govt.	Calcutta University.	Uni-	M.B.B.S. M.M.F. D.G.O. D.O.M.S. T.D.D.	5 years 5½ years. 1 yr. after graduation 2 yrs. Do. 1 yr.	267	175	78	77	135	—	—	—	—	67	799	1. Medical College group of Hosp. including Prince of Wales Hospital, Eden Hosp., Eye Infirmary, Ezra Hosp., & Sir John Anderson Casualty Block.
							32	11	4							+47		
21.	Calcutta National Medical Institute (College), Calcutta.	Non-Govt.	Calcutta University	Uni-	M.B.B.S.	5 years	137	194	(110)	25	14	14	—	10	60	584	1. Chittaranjan Hospital. 2. Calcutta Medical School, Hospital.	
22.	Nilratan Sircar Medical College, Calcutta.	Govt.	Calcutta University.	Uni-	M.B.B.S.	5 years. & internship of 6 months.	202	122	(112)	26	14	24	—	14	272	786	1. Nilratan Sircar Medical College, Hosp., Calcutta.	
23.	R. G. Kar Medical College, Calcutta.	Medical Education Society of W. Bengal in a council consisting of 14 members.	Calcutta University & State Medical Faculty of W. Bengal.	Uni-	M.B.B.S. M.M.F. M.D.M.S. M.O. D.G.O. D.O.M.S.	5½ yrs. Do. No definite course 1 yr. after graduation. 2 yr. Do.	159	158	(116)	38	30	10	20	—	34	555	1. A Hospital for Medical cases, Eye & E. N. T. cases. 2. A Hospital for surgical cases. 3. A Hospital for Obstetrics & Gynaecological cases. 4. A Hospital for Infectious cases.	

24.	Osmana Medical College, Hyderabad.	Govt.	Osmania University.	Uni-	M.B.B.S.	5 years	288	300	50	100	150	50	60	—	20	24	1,042	<ol style="list-style-type: none"> 5. Out-Patients Department including Surgical, Medical, Children, & other Special Departments. 6. Bhawanipur Mental Hospital.
																		<ol style="list-style-type: none"> 1. Osmania General Hosp., Hyderabad. 2. Sarojini Devi Hosp., Asafnagar. 3. The Isolation Hosp., Hyderabad. 4. The Leper Clinic Dhoolpith, Hyderabad. 5. Mental Hospital, Hyderabad.
25.	G. R. Medical College, Gwalior.	Govt.	Agra University		M.B.B.S. M.D., M.S.	5 yrs. 2 yrs. after graduation.	76	100	40	60	40	16	40	76	20	—	468	<ol style="list-style-type: none"> 1. J. A. Hospital, Lashkar. 2. Mental Hospital, Lashkar. 3. G. R. Tuberculosis Hospital. 4. Kamla Raja Hospital, Lashkar.
26.	Mahatma Gandhi Memorial Medical College, Indore.	Govt.	Agra University		M.B.B.S.	5 years	108	134	16	53	54	14	35	44	—	20	478	<ol style="list-style-type: none"> 1. King Edward Hospital, Indore. 2. Maharaja Tukojirao Hospital, Indore.
27.	Medical College, Mysore.	Govt.	Mysore University.		M.B.B.S. M.B.B.S. condensed course. I.T.D. M.Sc. in Biochemistry.	5½ yrs. 3½ yrs. 1 yr. after graduation. 1 yr.	137	100	19	141	48	6	71	350	12	98	982	<ol style="list-style-type: none"> 1. Krishna Rajendra Hospital, Mysore. 2. Cheluvambu Hospital, Mysore. 3. Princess Krishnamm T. B Sanatorium, Mysore. 4. Epidemic Diseases Hospital, Mysore.

TABLE No. 33—concl'd.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
28.	Sawai Man Singh Medical College, Jaipur.	Govt	Rajputana University.	M.B.B.S.	5 yrs.	192	180	24	55	74	12	44	48	48	47	724	1. Sawai Man Singh Hospital, Jaipur. 2. State Zenana Hospital, Jaipur. 3. Mental Hospital, Jaipur. 4. K. G. Vth Sanatorium Hospital, Jaipur. 5. Lazeratto and Isolation Hosp. Jaipur.	
29.	Medical College, Trivandrum.	Govt	Travancore University.	M.B.B.S.	5 yrs.	—	—	—	—	—	—	—	—	—	—	—	1. A Women and Children's Hospital with 340 beds. 2. A general Hospital with 450 beds was being constructed for clinical instruction.	
30.	Lady Hardinges Medical College, New Delhi.	Non-Govt.	Delhi University.	M.B.B.S.	5 yrs.	43	56	44	40	—	25	74	—	14	—	296	1. Lady Hardinge Hospital, New Delhi. 2. T. B Hospital, Delhi. 3. Infectious Diseases Hospital, Delhi. 4. Mental Hospital, Agra. 5. Irwin Hospital, New Delhi.	

TABLE No. 34

Appendix

Statement Showing the Number of Students Admitted to and Passed out from the Various Medical Colleges in India and the Total Expenditure Incurred on them etc.

Sl. No.	Name & Location of the College	Total No. of Seats	Seats reserved for Ladies	1949		1950		1951		1952		No. of Students on roll		Total Expenditure		Cost of teaching per students per year		Capitation charges per annum		REMARKS			
				No. of Students admitted	No. of Students qualified	No. of Students admitted	No. of Students qualified	No. of Students admitted	No. of Students qualified	No. of Students admitted	No. of Students qualified	1949	1952	1949	1952	1949	1952	1949	1952				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)			
													Rs.	Rs.	Rs.	Rs.	Rs.	Rs.					
1.	Assam Medical College, Dibrugarh.	65	7(10%)	M. W.	56 8	— —	64 4	— —	65 3	45 6	59 6	40 2	154 10	237 26	5,65,076	6,25,891	3,446	1,724	1,500	1,500			
2.	Prince of Wales Medical College, Patna.	100	20(12%)	M. W.	90 10	110 12	82 18	67 5	80 20	76 5	88 12	106 9	530 31	515 66	3,29,976	6,49,485	588	1,118	Nil	Nil			
3.	Darbhanga Medical College, Darbhanga.	72		M. W.	56 2	— —	58 3	— —	67 —	76 6	66 6	56 11	363 24	542 26	2,53,786	4,67,752	656	823	Nil	2,379			
4.	B. J. Medical College, Poona.	95		M. W.	42 18	— 1	56 19	— —	74 18	34 8	70 23	33 19	207 29	300 100	4,07,338	4,88,782	1,610	1,222	Nil	Nil			
5.	B. J. Medical College, Ahmedabad.	75	No reservation	M. W.	53 5	3 1	61 4	6 1	43 7	33 6	65 8	23 8	181 72	310 36	4,89,306	5,09,778	2,037	1,473	750	* *Capitation fees are charged from a student of the State which has not agreed to charge fees from the students of Bombay State on reciprocal basis.			
6.	Grant Medical College, Bombay.	140		M. W.	90 30	121 22	102 23	121 22	114 30	134 45	120 20	154 28	727 186	634 149	5,11,975	6,20,201	561	792	750	Nil			
7.	G. S. Medical College, Bombay.	82		M. W.	62 20	66 33	59 27	94 24	66 16	76 31	66 16	88 14	411 117	453 131	4,55,881	4,95,277	844	1,070	500	500			
8.	Topiwala National Medical College, Bombay.	60		M. W.	69 11	— —	74 11	— —	51 9	7 3	54 6	43 11	237 81	310 57	2,07,154	3,71,520	719	982	Nil	Nil			

TABLE No. 34—contd.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	
9.	Medical College, Baroda.	40	} No reservation.	M.	37	—	38	—	31	—	30	—	37	135	1,14,816	3,82,304	2,870	2,515	750	750	
				W.	3	—	2	—	8	—	8	—	3	17							
10.	Medical College, Nagpur.	60		M.	93	—	95	—	52	16	47	83	302	440	9,06,791	19,33,072	2,583	3,732	500	500	
			W.	17	—	17	—	9	5	13	13	49	780								
11.	Andhra Medical College, Visakhapatnam.	55		M.	51	36	63	35	42	68	40	65	288	471	4,77,310	5,57,380	1,290	999	Nil	Nil	
			W.	13	9	18	16	13	18	15	14	82	97								
12.	Christian Medical College, Vellore.	45		M.	17	1	20	2	20	4	20	8	44	95	3,42,028	7,36,059	1,700	1,763	Nil	Nil	
			W.	27	4	25	30	25	4	25	8	151	137								
13.	Guntur Medical College, Guntur.	52	9(20%)	M.	42	25	43	29	43	51	46	53	90	107	1,42,025	1,53,076	1,268	823	Nil	Nil	
			W.	8	5	6	10	7	6	6	8	22	15								
14.	Medical College, Madras.	125		M.	90	88	96	108	92	117	83	102	902	690	8,42,201	9,72,743	754	1,074	240	Nil	
			W.	35	38	29	16	93	36	42	26	214	216								
15.	Stanley Medical College, Madras.	100		M.	55	59	75	63	76	89	75	79	367	760	3,89,775	5,88,913	756	616	Nil	Nil	
			W.	17	9	25	10	24	13	25	21	98	196								
16.	Sriram Chandra Bhanj Medical College, Orissa.	50	5(10%)	M.	30	33	44	37	43	37	44	30	181	209	5,54,122	4,60,883	2,639	1,904	Nil	Nil	
			W.	3	3	6	6	7	5	6	3	29	33								
17.	Medical College Amritsar.	80	13	M.	76	59	75	73	67	49	66	71	425	536	8,26,794	7,12,041	1,241	1,447	850	Nil	
			W.	14	18	21	11	15	16	15	17	89	97								
18.	Sarojini Naidu Medical College, Agra	75	15	M.	42	67	41	72	42	46	61	46	198	226	5,24,016	12,30,261	1,532	3,956	*1,000	Nil	*From the students of other provinces
			W.	20	9	20	13	20	10	15	21	68	85								
19.	Mahatma Gandhi Medical College, Lucknow.	133	25	M.	117	80	182	103	168	101	198	125	619	921	8,24,588	12,15,563	1,175	1,062	*2,000	Nil	*From the students of other states
			W.	26	4	28	4	34	17	31	12	80	142								
20.	Medical College, Calcutta.	235		M.	206	130	160	93	122	17	218	210	985	1,258	7,13,572	16,22,533	594	1,167	1,509	2,805	
			W.	22	18	19	22	14	4	24	25	123	133								
21.	Calcutta National Medical Institute College, Calcutta.	100		M.	106	—	106	—	111	—	94	6	194	—							
			W.	3	—	5	—	5	—	18	—	4	561								
22.	Nilratan Sircar Medical College, Calcutta.	150		M.	96	—	99	—	132	—	138	—	192	30	3,58,070	6,07,841	1,428	615	Nil	Nil	
			W.	11	—	12	—	19	—	18	—	21	613								

23.	B. G. Kar Medical College, Calcutta.	125		M. W.	130 —	165 4	123 —	157 4	110 —	79 —	125 —	246 6	568 18	77 1,301	4,22,249	7,11,156	1,983	1,031	1,509	2,805	
24.	Lake Medical College, Calcutta.	closed		M. W.	145 8	179 8	127 6	200 7	Admission closed	66 4	— closed	— closed	1,150 23	39 closed	2,25,659 5,51,724	2,47,090 closed	277 941	279 closed	2,000 Nil	2,000 closed	(At the time of admission)
25.	Osmania Medical College, Hyderabad.	80	24(30%)	M. W.	49 21	33 3	57 23	38 4	62 23	42 5	61 28	37 11	326 73	372 124	3,20,741	5,30,208	804	1,069	Nil	120	
26.	G. R. Medical College, Gwalior.	65	5	M. W.	43 7	—	40 7	—	64 11	38 6	61 5	36 4	160 21	265 37	2,18,522	3,74,891	1,207	1,172	1,000	1,500	
27.	Mahatma Gandhi Memorial Medical College, Indore.	51	5	M. W.	46 4	—	45 9	—	46 5	—	43 8	21 1	88 9	258 33	4,21,511	3,65,866	2,140	1,257	*1,300 †1,500	*1,300 †1,500	*Against reserved seats †Against non-reserved seats
28.	Medical College, Mysore.	75	15(20%)	M. W.	59 19	23 3	73 15	20 6	65 18	28 8	61 13	26 8	254 65	336 81	1,34,689	2,29,747	422	551	1,000	Nil	
29.	Sawai Man Singh Medical College, Jaipur.	80	16(20%)	M. W.	66 3	—	55 10	—	64 16	—	64 16	28 7	182 17	332 52	2,01,680	4,49,246	1,013	1,170	1,000	Nil	
30.	Medical College, Trivandrum.	60	No reservation.	M. W.			Started in 1951	40 20	—	43 17	—	Started in 1951	83 37	Started in 1951	22,30,547	Started in 1951	9,209	Started in 1951	Nil		
31.	Lady Hardinge Medical College, New Delhi.	40	*40	M. W.	— 48	— 37	— 40	— 28	— 40	— 42	— 40	— 21	— 209	— 255	10,00,768	14,44,579	4,788	5,665	1,500	Nil	*This college exclusively meant for women students.
TOTAL		2,565	265	M. W.	2,174 435	1,273 265	2,218 457	1,316 241	2,052 461	1,365 331	2,206 485	1,805 359	9,839 1,991	13,370 2,602	1,37,34,393	2,19,65,675					

Note—In statement above—
M—Men
W—Women

TABLE No. 35

Statement Showing the Teaching Staff Employed at the Various Medical College in India During 1952

Sl. No.	Name and Location of the College	Professors		Assistant Professors				Lecturers				Readers		Demonstrators		Others		REMARKS										
		Paid		Hony.		Paid		Hony.		Paid		Hony.		Paid		Hony.												
		Whole time	Part time	Whole time	Part time	Whole time	Part time	Whole time	Part time	Whole time	Part time	Whole time	Part time	Whole time	Part time	Whole time	Part time											
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)		
1.	Assam Medical College, Dibrugarh.	12	—	—	—	12	—	—	—	—	2	—	—	—	—	—	—	—	17	—	—	—	11	—	—	—		
2.	Prince of Wales Medical College, Patna.	14	—	—	—	—	—	—	—	22	5	—	—	—	—	—	—	—	27	—	—	—	—	—	—	—		
3.	Darbhanga Medical College, Darbhanga.	9	—	—	—	—	—	—	—	16	2	—	—	—	—	—	—	—	12	—	—	—	4	—	—	—		
4.	B. J. Medical College, Poona .	4	—	—	—	—	—	—	—	6	1	—	21	—	—	—	—	—	—	—	—	—	13*	—	—	18†	*Junior Lecturers. †Asstt. Honoraries.	
5.	B. J. Medical College, Ahmedabad.	4	—	—	—	—	—	—	—	7	—	16	—	—	—	—	—	—	—	—	—	—	12*	—	17†	*Junior Lecturers. †Tutors.		
6.	Grant Medical College, Bombay	3	2	—	8	—	—	—	—	6	1	—	10	—	—	—	—	—	16	11	—	—	—	—	52	109		
7.	G. S. Medical College, Bombay	5	—	—	33	6	—	—	16	—	—	—	—	—	—	—	—	—	16	—	—	—	5	4	—	—		
8.	Topiwala National Medical College, Bombay.	8	—	—	—	5	—	—	—	—	—	—	43*	—	—	—	—	—	—	18	—	—	1	2	—	—	*Included 19 Assistant Lecturers.	
9.	Medical College, Baroda. . .	4	—	—	—	—	—	—	—	5	—	—	—	—	—	—	—	—	—	2	—	—	7*	—	—	24	*Junior Lecturers.	
10.	Medical College Nagpur. . .	7	—	—	—	—	—	—	—	12	1	—	—	10	1	—	—	—	21*	—	—	—	3	—	—	—	*Included Tutors.	
11.	Andhra Medical College, Visakhapatnam.	17	—	—	1	35	—	—	2	9	—	—	—	—	—	—	—	—	13	—	—	—	2	—	—	—		
12.	Christian Medical College, Vellore.	24	—	1	—	—	—	—	—	7	—	—	—	—	—	—	—	—	8	—	—	—	32	—	—	—	*Included Associate Professors.	
13.	Guntur Medical College, Guntur	3	—	—	—	8	—	—	—	1	—	—	—	—	—	—	—	—	9	—	—	—	—	—	—	—	—	
14.	Medical College, Madras . . .	34*	—	—	—	20†	—	—	—	—	—	—	—	—	—	—	—	—	—	62	—	—	—	—	—	—	—	*Included Lecturers. †Included Tutors.

15.	Stanley Medical College, Madras	13	8	4	—	38	—	—	—	4	—	—	2	—	—	—	12	—	—	—	1	2	—	—
16.	Sriram Chandra Bhan Medical College, Orissa.	11	1	—	—	10	—	—	—	—	—	—	3	—	—	—	12	1	—	—	9	1	—	—
17.	Medical College, Amritsar	10	—	—	—	16	—	—	—	1	—	—	—	—	—	—	15	—	—	—	15	6	—	—
18.	Sarojini Naidu Medical College, Agra.	8	—	—	—	—	—	—	—	19	3	—	—	8	—	—	18	—	—	—	11	—	—	—
19.	Mahatma Gandhi Memorial Medical College, Lucknow.	10	1	—	—	—	—	—	—	25	9	—	—	18	5	—	23	1	—	—	1	—	—	—
20.	Medical College Calcutta	21	1	—	—	12	—	—	—	1	—	—	—	—	—	—	41	—	—	—	14	—	—	—
21.	Calcutta National Medical Institute College, Calcutta.	5	13	—	—	—	4	—	—	—	4	—	—	—	—	—	—	21	—	—	—	3	—	—
22.	Nitraton Sircar Medical College, Calcutta.	15	—	3	—	2	—	—	—	—	—	—	—	—	—	—	28	—	—	—	8	—	8	—
23.	R. G. Kar Medical College, Calcutta.	14*	—	—	—	—	—	—	—	13	—	—	—	—	—	—	20	—	—	—	—	51	—	—
24.	Osmania Medical College, Hyderabad.	7	11	—	—	—	11	—	2	19	—	—	—	7	—	—	—	1	—	—	5	—	—	—
25.	S. R. Medical College, Gwalior	8	—	—	—	3	—	—	—	12	—	—	—	3	—	—	14	—	—	—	—	—	—	—
26.	Mahatma Gandhi Memorial Medical College, Indore.	7	1	—	—	3	—	—	—	8	3	—	1	4	1	—	16	—	—	—	—	—	—	—
27.	Medical College, Mysore	5	8	—	—	5	3	—	—	14	7	—	—	—	—	—	—	—	—	—	—	—	—	—
28.	Sawai Man Singh Medical College, Jaipur.	4	5	—	—	—	2	—	—	6	12	—	—	5	6	—	16	1	—	—	—	3	—	—
29.	Medical College, Trivandrum	4	—	—	—	1	—	—	—	5	—	—	—	—	—	—	8	—	—	—	—	—	—	—
30.	Lady Hardinge Medical College, New Delhi.	8	—	—	—	10	—	—	—	12	8	—	—	—	—	—	13	—	—	—	—	—	—	—

*Included Associate Professors.

TABLE No. 36

Statement Showing the Hospitals Attached to the Various Medical Schools in India for Training and the Number of Beds Available for Teaching Purposes in Each Subject as the End of 1952

Serial No.	Name of the School	Date of laying Foundation Stone	Controlling Authority	University of Examining Body to which Affiliated	Degrees or Diplomas Granted	Duration of Course	No. of beds available for teaching purposes										Name of Attached Hospitals	REMARKS	
							Surgical	Medical	Gynaecological	Obstetrics	Ophthalmic	E. N. T.	Children	Tuberculosis	Orthopaedic	Others			Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
						Yrs.													
1.	Christian Medical School, Miraj.	1897	Board Administration under the Board of Foreign Missions of the Presbyterian Church in the U.S.A.	Colleges of Physicians and Surgeons of Bombay M. P. Medical Examination Board, Nagpur (M.P.).	L.C.P.&S. (Bom.)	4 1/2	78	58	13	—	—	12	16	—	21	134	332	1. Wanless Hospitals, Miraj. 2. Leprosy Hospital. 3. Wanless T.B. Sanatorium, Wanlesswadi.	
2.	Robertson Medical School, Nagpur.	July, 1914	Government	M. P. Medical Examination Board, Nagpur (M.P.)	M.H.A. Medical Health Asstt.).	3	95	60	(—31—)	10	5	—	50	—	—	29	280	1. Mayo Hospital, Nagpur.	
3.	Arya Medical School, Ludhiana.	June, 1934	The Managing Body, Arya Med. School & Dayanand Hosp., Ludhiana.	Punjab State Med. Faculty.	L.S.M.F.	4 1/2	40	40	(—12—)	(—28—)	—	—	—	—	—	—	120	1. Dayanand Hospital, Ludhiana.	
4.	Christian Medical College, Ludhiana	1894	Non-Government	Do.	L.M.F.	4	39	58	40	41	30	5	59	10	Included in surgical.	28	310	1. Memorial Hospital, Ludhiana.	
	Niratan Sirkar Medical School, Calcutta	1873	Government	State Medical Faculty of West Bengal.	L.M.F.	4	202	122	(112)	26	14	24	—	14	272	786	1. Niratan Sirkar Medical College Hospital, Calcutta.		

6.	Ronaldshay Medical School, Burdwan.	1920	Govt.	State Medical Faculty	L.M.P.	4 Yrs.	54	44	10	10	2	—	24	—	21	175	1. Burdwan Fraser Hospital.
7.	Jackson Medical School, Jalpaiguri.	1930	Do.	Do.	Do.	Do.	43	50	13	9	—	—	10	—	16	131	1. General Hospital Jalpaiguri.
8.	Calcutta Medical School, Calcutta.	1923	Non-Government	Do.	Do.	Do.	14	24	(-10)	—	3	3	—	—	—	51	1. Calcutta Medical School, Hospital.
9.	National Medical Institute, Calcutta.	1920	Do.	Do.	Do.	Do.											
10.	Medical School, Bangalore.	1917	Mysore University.	Mysore University.	L. M. P.	4	625	(300)	205	Included in Medical & Surgical beds in Gynaecological and obstetric beds.	150	500	1880				1. Victoria Hospital Bangalore. 2. Vani Vilas Hospital Bangalore. 3. Minto Ophthalmic Hospital Bangalore. 4. Isolation Hospital, Bangalore. 5. Mental Hospital, Bangalore 6. S.D.S. Sanatorium. 7. Vaccine Institute, Bangalore.

TABLE

Statement showing the number of Students Admitted to and Passed out from

Serial No.	Names and Location of the School	Total No. of Seats	Seats Reserved for ladies	1949 No. of Students admitted	1950 No. of Students qualified	No. of Students admitted	No. of Students qualified	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
1.	Christian Medical School, Miraj.	New admissions stopped.	New admission stopped.	Men Women New admission stopped.	83 2	New admission stopped.	5 1	
2.	Robertson Medical School, Nagpur.	60	No Reservation	Men Women	87 5	27 2	80 4	
3.	Arya Medical School, Ludhiana.	35	No Reservation	Men Women	35 —	25 —	35 —	
4.	Women's Christian Medical College, Ludhiana.	30	This School is exclusively meant for Women.	Men Women	— 50	— 13	— 45	
5.	Nilratan Sirkar Medical School, Calcutta.	Fresh admission stopped.	Fresh admission stopped.	Men Women	New admission stopped. 179 21	New admission stopped.	170 14	
6.	Ronaldshay Medical School, Burdwan.	Do.	Do.	Men Women	Do. —	61	Do. 1	
7.	Jackson Medical School, Jalpaiguri.	Do.	Do.	Men Women	Do. —	29	Do. —	
8.	Calcutta Medical School, Calcutta.	Do.	Do.	Men Women	Do. 4	97	Do. 3	
9.	National Medical School, Calcutta.	Do.	Do.	Men Women	Do. 1	46	Do. 1	
10.	Sammilani Medical School, Bankura.	Closed	Closed	Men Women	Do. —	42	Do. 4	
11.	Medical School Bangalore.	112	22 (20%)	Men Women	88 18	41 13	105 23	
237				Men Women	210 73	630 56	220 72	590 55

Various Medical Schools in India and Expenditure Incurred on them etc.

1951		1952		No. of Students on roll.		Total Expenditure				Cost of teaching per Student		Capitation Charges per annum.	
No. of Students admitted	No. of Students qualified.	No. of Students admitted	No. of Students qualified	1949	1952	1949	1952	1949	1952	1949	1952	1949	1952
(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)		
						Rs.	Rs.	Rs.	Rs.	Rs.	Rs.		
Fresh admission closed.	20	Fresh admission stopped.	50	138	90	19,913	19,412	207	211	Nil.	Nil.		
46	6	57	48	92	148	1,06,187	11,395	975	721	Do.	Do.		
4	2	3	6	7	10								
35	24	26	24	152	157	1,32,483	1,74,896	625	880	Do.	Do.		
				4	10								
45	14	30	17	126	168	4,58,459	5,32,215	2,850	3,09	5,000 for the whole course.	4,000 for the whole course.		
Fresh admission stopped.	152	Fresh admission stopped	69	467	75	1,78,419	1,17,262	254	1,430	Fresh admission stopped.			
	24		7	53	7								
Do.	65	Do.	73	177	133	77,742	29,298	358	211	Do.	—		
	4		1	6	6								
Do.	56	Do.	9	141	3	68,057	80,757	513	2,308	Do.	—		
				1									
Do.	89	Do.	31	251	17	3,253	32,848	117	84	Do.	—		
	3		1	6									
Do.	1,106	Do.	46	416	34	46,104		130		Do.	—		
	1			2									
Do.	28	Closed	105	Closed		23,027	Closed	310	Closed	Do.	Closed	60	
			4										
102	51	88	45	272	398	72,883	95,507	180	192	60			
24	19	24	15	84	100								
187	597	171	395	2,211	1,059	11,18,456	11,97,147						
73	68	66	48	298	303								

TABLE

Statement Giving the Strength of teaching

Sl. No.	Name of the Medical School	Professors				Asstt. Professors				Lecturers			
		Paid		Hony.		Paid		Hony.		Paid		Hony.	
(1)	(2)	W.T.	P.T.	W.T.	P.T.	W.T.	P.T.	W.T.	P.T.	W.T.	P.T.	W.T.	P.T.
1.	Christian Medical School, Miraj	—	—	—	8	—	—	—	—	—	—	—	—
2.	Robertson Medical School Nagpur.	—	—	—	—	—	—	—	—	8	4	—	—
3.	Arya Medical School Ludhiana.	—	—	—	—	—	—	—	—	4	1	—	5
4.	Christian Medical College, Ludhiana.	—	—	—	—	—	—	—	—	15	3	—	—
5.	Nilratan Sarkar Medical School Calcutta.	—	—	—	—	—	—	—	—	—	—	—	—
6.	Ronaldshay Medical School Burdwan.	—	—	—	—	—	—	—	—	—	—	—	—
7.	Jackson Medical School, Jalpaiguri.	6	—	—	—	—	2	—	—	—	—	1	—
8.	Calcutta Medical School Calcutta.	10	—	—	—	2	—	—	—	—	—	—	—
9.	National Medical School Calcutta.												
10.	Medical School Bangalore.	—	—	—	—	—	—	—	—	10	19	—	—

Staff Employed by Medical Schools, 1952

Readers				Demonstrators				Others				Remarks			
Paid		Hony.		Paid		Hony.		Paid		Hony.		Paid		Hony.	
W.T.	P.T.	W.T.	P.T.	W.T.	P.T.	W.T.	P.T.	W.T.	P.T.	W.T.	P.T.	W.T.	P.T.	W.T.	P.T.
(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	7	3	—	—	—	—	—	—	—	—	—	—
—	—	—	—	8	3	—	—	5	—	—	—	—	—	—	—
—	—	—	—	8	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	2	—	—	—	7	1	—	1	—	—	—	—
—	—	—	—	—	5	—	—	7*	—	—	2*	—	—	—	*Teacher
—	—	—	—	1	—	—	—	7	—	—	—	—	—	—	—
—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

TABLE

Statement showing the number of students Admitted to and passed out from

S. No.	Name of the College.	Controlling Authority	University or examining body to which affiliated	Degrees and Diplomas Granted	Duration of the course	1949				
						Annual admission	No. of students admitted		No. of students qualified	
							M.	W.	M.	W.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1.	Sir Currimbhoy Ebrahim Memorial Dental College and Hospital, Bombay.	Government	Bombay University	B.D.S. 4 L.D.S. 4	4 yrs.	30	20	—	9	—
2.	The Nair Hospital Dental College, Bombay.	Bombay Municipal Corporation.	*	L.D.Sc.	4	60	23	8	5	1
3.	Punjab Government Dental College and Hospital Amritsar.	Government	Punjab University	B.D.S.	4	14	This College was			
4.	College of Dentistry, King George Medical College, Lucknow.	Lucknow University	Lucknow University	B.D.S.	4 (for under 20 graduate) 2 (for medical graduates)	12	—	—	—	—
5.	Calcutta Dental College and Hospital, Calcutta.	Government	Calcutta University	B.D.S.	4	25	47	1	9	—
Total						149	102	9	23	1

*The Diploma Examination is conducted jointly by a Board of Examiners partly nominated by the Government of Bombay and partly appointed by the Dental Board of the College.

Note— M—Men
W—Women

Various Dental Colleges in India and the Expenditure Incurred on them etc.

1950		1951		1952		Total No. of students	Total Expenditure in Rs.	Names of attached Hospitals used for Training purposes											
No. of students admitted	No. of Students qualified	No. of Students admitted	No. of Students qualified	No. of Students admitted	No. of students qualified														
M. W.	M. W.	M. W.	M. W.	M. W.	M. W.	M	1949	1952											
(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	
18	2	15	2	25	3	17	—	24	6	13	—	58	4	75	10	34,266	99,090	J.J. Group of Hospitals Bombay.	
28	2	15	3	22	5	11	5	58	8	15	5	72	23	102	21	71,292	151,171	B.Y.L. Nair Charitable Hospital, Bombay.	
opened	in	1952	—	—	12	2	—	—	Opened in 1952	12	2	Opened in 1952	42,197	1.	Punjab Government Dental Hospital Amritsar for all Subject.				
																			Dental 2. V. J Hospital, Amritsar for the required General Medical Subject.
10	—	—	—	9	—	Opened in 1949.	20	—	1	—	12	—	18	—	57,778	61,923	1.	Gandhi Memorial and Associated Hospitals Lucknow.	
																			2. Dental Hospital Lucknow.
20	3	17	—	21	—	18	24	—	31	—	119	1	85	2	39,957	117,145	1.	Calcutta Dental College & Hospital, Calcutta.	
																			2. Nilaratan Sircar Medical College and Hospital, Calcutta.
76	7	47	5	77	8	27	5	136	16	60	5	261	28	292	35	203,293	471,526		

TABLE No. 40

Appendix

Statement showing the technical staff Employed at the Various Colleges in India during 1951

Sl. No.	Name of the College	Professors		Asstt. Professors		Lecturers		Readers		Demonstrators		Others		Remarks													
		Paid	Hony.	Paid	Hony.	Paid	Hony.	Paid	Hony.	Paid	Hony.	Paid	Hony.														
		WT. PT;	WT. PT;	WT. PT;	WT. PT;	WT. PT;	WT. PT;	WT. PT;	WT. PT;	WT. PT;	WT. PT;	WT. PT;	WT. PT;		WT. PT;												
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	
1.	Sir C.E.M. Dental College & Hospital, Bombay					1								6									5		7		Clinical Tutors
2.	Nair Hospital Dental College Bombay		6												1												53 (including clinical Assitants)
3.	Punjab Govt. Dental College & Hospital, Amritsar	2																					2				

4. College of
Dentistry,
King Geor-
ges Medical
College,
Lucknow

— — — — — (3) — (1) — — — — 2 — — — — 1 — — — —

Calcutta
Dental Col-
lege, & Hos-
pital, Cal-
cutta ..

1 — — — — — 1 — — — — 6 — — — — 2 5 — — — —

Note : WT denotes Whole Time ; PT denotes Part-Time.

TABLE

Statement showing Information Regarding the Training of Nurses in

S. No.	Name of State	Year	Total Number of Seats for Training of—										
			General Nursing	Junior Nursing, i.e. with B. Grade certificate		Nursing of women and Children	Midwives	Assistant Midwives	Health Visitors	Male Nurses	Nurse—Dais	Dais	General Nursing.
			M. W.	M. W.	M. W.								M. W.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	
1. Madras		1949	— 513	— — —	— — —	322	— — —	— — —	226	— — —	— — —	— — —	516
		1950	— 487	— — —	— — —	628	— — —	— — —	25 152	— — —	— — —	— — —	337
		1951	— 507	— — —	— — —	495	— — —	— — —	25 168	— — —	— — —	— — —	305
		1952	— 461	— — —	21 — —	562	— — —	— — —	25 169	— — —	— — —	— — —	323
2. Bombay		1949	12 861	— 3 —	18 233	— 27 24 39	— 20	— — —	— — —	— — —	— — —	8 466	
		1950	33 708	2 13 —	168	— 31 — 43 4	17	— — —	— — —	— — —	— — —	22 350	
		1951	67 785	11 29 22	— 313	— 16 — 8 —	2	— — —	— — —	— — —	— — —	29 345	
		1952	18 561	— — —	— 115	— 25 — 12 —	2	— — —	— — —	— — —	— — —	21 299	
3. Uttar Pradesh		1949	499	— — —	— — —	100	— 30 10 25	— 1,008	— — —	— — —	— — —	138 —	
		1950	430	— — —	— — —	116	— — 18 — —	1,000	— — —	— — —	— — —	47 107	
		1951	149	— — —	— — —	— — —	43 10 — —	1,043	— — —	— — —	— — —	48 131	
		1952	152	— — —	— — —	28	— — 10 — —	1,230	— — —	— — —	— — —	17 157	
4. Bihar		1949	1 144	173 — —	33 32	— — —	5 3	6 1 66	— — —	— — —	— — —	— — —	
		1950	2 135	5 63 — —	20	— — 3 8 19	140	1 22	— — —	— — —	— — —	— — —	
		1951	14 36	14 132	1 13 21	— 4 4 — 2	120	— 38	— — —	— — —	— — —	— — —	
		1952	135	— 5 121	— — 33	— — 4 3 15	75	— 64	— — —	— — —	— — —	— — —	
5. Madhya Pradesh		1949	167	— — 17	— 41 111	— — 15 20 10	5	— 83	— — —	— — —	— — —	— — —	
		1950	8 165	— 13 31	— 86	— 2 19 3 —	5	5 59	— — —	— — —	— — —	— — —	
		1951	15 238	— — —	15 99	— — 9 — —	4	— 111	— — —	— — —	— — —	— — —	
		1952	304	— — —	54 — 110	— — 9 — —	246	— 96	— — —	— — —	— — —	— — —	
6. West Bengal		1949	— 361	— 374	— 25 203	— 80 30 20	— 5	— 333	— — —	— — —	— — —	— — —	
		1950	— — —	— — —	— 246	— 130 14 20	— 18	— 202	— — —	— — —	— — —	— — —	
		1951	294 265	193 486	79 79 247	— 200 16 23 20	18	— 205	— — —	— — —	— — —	— — —	
		1952	— 265	— 486	— 79 247	— 200 16 20 10	18	— 200	— — —	— — —	— — —	— — —	
7. Punjab		1949	10 85	— 6 —	61 51	— — 2 42 29	1	— 64	— — —	— — —	— — —	— — —	
		1950	— 71	— 58 —	32 29	— — — 56 29	— — —	— — —	— — —	— — —	— — —	— — —	
		1951	12 105	— — 31	— 18	— — — 52 6	18	7 27	— — —	— — —	— — —	— — —	
		1952	10 179	— 16 —	32 40	— 15 37 43 47	414	7 79	— — —	— — —	— — —	— — —	

Part A, B, C & D States During 1949—52

Number of admitted for training											Number actually passed out after completion of training									
Number of admitted for training											Number actually passed out after completion of training									
Junior Nursing, i.e. with B Grade Certificate	Nursing of Women & Children	Midwives	Assistant Midwives	Health Visitors	Male Nurses	Nurse-Dais	Dais	General Nursing	Junior nursing, i.e. with B Grade Certificate	Nursing W. & C.H.	Midwives	Assistant Midwives	Health Visitors	Male Nurses	Nurse-Dais	Dais.	REMARKS			
(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)			
M	W	M	W					M	W	M	W	M	W							
—	—	—	—	7	—	—	—	144	—	—	—	—	—	—	—	—	—	—		
—	—	—	—	468	—	1	89	—	—	—	—	—	—	—	—	—	—	—		
—	—	—	—	323	—	10	100	—	—	—	—	—	—	—	—	—	—	—		
—	—	—	—	21	481	—	10	149	—	—	—	—	—	—	—	—	—	—		
—	9	—	24	142	24	4	16	—	20	3	342	—	7	2	16	143	5	—		
—	6	—	16	160	21	—	37	—	29	4	182	10	—	—	—	94	47	3		
15	11	—	6	248	20	16	—	—	2	2	189	9	13	4	—	170	22	1		
—	—	—	—	135	21	3	9	—	3	10	185	—	—	—	—	112	11	—		
—	—	—	—	32	28	8	25	—	219	34	—	—	—	—	—	35	23	6		
—	—	—	—	52	18	19	—	—	600	10	38	—	—	—	—	32	28	9		
—	—	—	—	36	7	—	—	—	252	11	99	—	—	—	—	28	7	—		
—	—	—	—	27	—	7	—	—	—	15	85	—	—	—	—	20	—	6		
27	25	26	—	26	—	—	1	3	2	3	36	16	—	9	—	29	—	—		
—	36	—	—	32	—	—	1	18	95	—	21	—	10	—	—	16	—	1		
1	41	—	13	10	4	4	—	2	90	—	37	3	45	—	13	25	4	—		
—	37	—	37	26	—	4	1	10	54	—	44	—	20	—	—	19	—	2		
11	—	21	—	74	—	8	4	—	5	—	38	—	2	—	11	29	—	5		
—	12	8	—	77	2	8	1	—	3	14	41	—	1	—	1	33	—	8		
—	—	15	—	76	—	8	—	—	—	4	49	—	—	—	—	10	35	—		
—	—	—	—	21	86	—	5	—	—	246	49	—	—	—	—	13	45	—		
—	297	—	15	150	70	30	20	—	5	—	56	—	58	—	15	188	—	6		
—	175	—	79	186	50	14	20	—	7	—	66	—	68	—	11	122	—	6		
427	—	—	65	161	99	14	16	—	12	1	63	3	50	—	14	169	73	14		
—	450	—	70	190	84	16	20	—	10	—	48	—	72	—	13	212	33	13		
—	8	—	14	43	—	—	11	24	—	—	20	4	—	—	9	21	—	5		
—	44	—	27	7	27	3	31	34	—	—	25	—	9	—	1	24	—	15		
—	27	6	—	11	—	1	10	—	10	2	24	5	—	3	—	8	—	7		
—	11	—	11	33	15	30	35	46	308	—	41	—	17	—	8	18	3	11		

Men and Women

Assistant Nurses-cum-Midwives

TABLE

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
8. Assam	1949	6 172	3 62	— 20	17	—	—	—	—	—	18	1 123
	1950	2 156	6 6	—	6	—	—	—	—	—	31	1 103
	1951	3 242	8 15	—	41	—	—	—	—	—	—	2 145
	1952	1 114	52	—	33	—	—	—	—	—	5	1 87
9. Orissa	1949	21 55	—	—	10	—	—	2	—	—	29	5 55
	1950	6 53	—	—	15	—	—	—	—	—	34	6 47
	1951	6 65	—	—	18	—	—	—	—	—	42	6 65
	1952	— 36	—	—	13	—	—	3	—	—	43	36 —
10. Rajasthan	1949	— 41	—	1	—	—	—	—	69	15	16	— 16
	1950	—	— 16	—	5	—	—	—	—	9	19	17 26
	1951	55	—	6 19	—	—	—	—	—	17	14	64 —
	1952	38	—	—	14	—	—	—	28	—	—	17 34
11. Mysore	1949	116	— 2	—	— 128	—	—	—	7	—	—	97 —
	1950	122	— 2	—	— 138	—	—	—	7	—	—	67 —
	1951	12 32	—	—	5	—	—	—	—	—	—	12 32
	1952	— 52	—	—	99	—	—	—	—	—	—	— 52
12. Madhya Bharat	1949	17	— 5	— 2	— 17	—	—	—	3	—	17	3 11
	1950	— 26	2 3	—	— 23	—	—	17	—	—	90	16 —
	1951	2 48	— 15	—	— 19	—	—	3	—	—	22	1 35
	1952	1 88	1 27	18	— 6	—	—	21	—	—	10	51 —
13. Jammu & Kashmir	1949	10	—	—	—	—	—	—	—	—	8	5 —
	1950	— 15	—	—	—	—	—	—	—	—	56	— 13
	1951	—	—	—	—	—	—	—	—	—	—	— —
	1952	— 17	—	—	— 12	—	—	—	—	—	8	3 —
14. Travancore Cochin	1949	—	—	—	—	—	—	—	—	—	—	— —
	1950	— 22	—	—	—	—	—	—	—	—	—	22 —
	1951	— 69	—	—	—	—	—	—	—	—	—	— 27
	1952	109	—	—	—	—	—	—	—	—	—	54 —
15. Hyderabad	1949	64	—	— 38	— 62	—	—	12	8	—	—	6 34
	1950	101	—	— 52	— 49	—	—	—	7	—	—	30 —
	1951	80	—	—	— 60	—	—	8	—	—	48	56 —
	1952	20 45	—	—	— 30	—	—	—	—	—	—	19 27
16. Saurashtra	1949	40	—	—	—	15	—	—	—	—	—	— —
	1950	— 64	—	—	— 17	—	—	—	21	—	—	— 27
	1951	10 61	—	—	—	23	—	—	25	—	18	— 11
	1952	3 72	—	—	— 29	—	—	—	10	—	24	52 —
17. Pepsu	1949	— 8	—	— 2	— 2	—	1	—	—	—	10	8 —
	1950	— 6	—	—	—	—	—	—	—	4	10	— 6
	1951	6	—	—	—	—	—	—	—	6	10	3 —
	1952	6	—	—	—	—	—	—	—	4	12	— 6

No. 41^e—contd.

(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)					
3	41	—	—	9	—	—	—	18	—	16	—	10	—	—	25	—	—	1	—	21		
4	8	—	—	15	—	—	5	—	38	—	10	—	2	—	—	6	—	—	—	18		
—	14	—	6	33	—	—	—	—	2	36	—	16	—	6	32	—	—	—	—	—		
—	75	—	—	41	—	—	2	—	5	—	32	25	—	—	—	25	—	—	—	5		
—	—	—	—	10	—	2	—	—	25	1	16	—	—	—	—	5	—	—	—	27		
—	—	—	—	14	—	—	—	—	30	3	10	—	—	—	—	8	—	—	—	29		
—	—	—	—	12	—	4	—	—	38	—	16	—	—	—	—	8	—	2	—	28		
—	—	—	—	13	—	3	—	—	53	4	17	—	—	—	—	10	—	3	—	28		
—	—	—	—	—	—	—	—	7	16	—	6	1	—	—	—	—	—	—	8	9		
—	16	—	—	6	—	—	74	9	2	10	—	—	—	—	—	4	—	—	7	9	12	
—	—	1	—	4	—	—	2	8	4	41	—	1	—	—	—	1	—	—	7	—	2	
—	—	7	—	3	—	—	12	15	—	16	10	—	—	—	—	7	—	—	—	13	—	
2	—	—	—	60	—	—	7	—	—	35	—	—	—	—	—	53	—	—	—	—	—	
4	—	—	—	58	—	—	5	—	—	36	—	—	—	—	—	61	—	—	5	—	—	
—	—	—	—	5	—	—	—	—	—	8	23	—	—	—	—	6	—	—	—	—	—	
—	—	—	—	44	—	—	—	—	—	32	—	—	—	—	—	45	—	—	—	—	—	
2	—	2	—	9	11	—	3	—	16	—	14	1	1	—	—	13	—	—	—	—	7	
4	—	—	—	7	6	11	1	—	85	3	13	1	2	—	—	3	—	—	1	—	70	
—	—	—	—	4	—	—	1	—	22	1	14	—	—	—	—	4	—	—	—	—	—	
30	—	—	—	21	10	10	—	—	20	6	—	2	—	—	—	—	—	—	—	—	16	
—	—	—	—	—	—	—	—	—	—	5	—	—	—	—	—	—	—	—	—	—	—	
—	—	—	—	—	—	—	—	—	—	40	—	—	—	—	—	—	—	—	—	—	15	
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
—	—	—	—	—	—	—	—	—	8	7	—	—	—	—	—	2	—	—	—	—	7	
—	—	—	—	—	—	—	—	—	—	12	—	—	—	—	—	—	—	—	—	—	—	
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
—	—	—	—	—	—	—	—	—	—	14	—	—	—	—	—	—	—	—	—	—	—	
—	—	—	—	—	—	—	—	—	—	28	—	—	—	—	—	—	—	—	—	—	—	
—	—	15	—	42	—	5	8	—	19	27	—	8	—	13	—	24	—	—	11	—	19	
—	—	23	—	26	—	—	7	—	19	21	—	—	—	14	—	19	—	—	—	—	18	
—	—	—	—	60	—	8	—	—	48	13	—	—	—	—	—	22	—	6	—	—	40	
—	—	—	—	15	—	—	—	—	25	7	4	—	—	—	—	9	—	—	—	—	25	
—	—	—	—	—	—	—	—	—	—	3	—	—	—	—	—	4	—	—	—	—	—	
—	—	—	—	—	—	12	—	—	—	1	—	—	—	—	—	3	—	—	3	—	—	
—	—	—	—	26	—	—	6	—	18	5	7	—	—	—	—	14	—	—	—	—	—	
—	—	—	—	25	—	—	—	—	35	97	—	—	—	—	—	13	—	—	—	—	34	
—	—	—	—	2	1	—	—	—	1	1	—	—	—	—	—	—	—	—	—	—	10	
—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	8	
—	—	—	—	—	—	—	—	5	10	—	1	—	—	—	—	—	—	—	—	—	10	
—	—	—	—	—	—	—	—	6	12	—	4	—	—	—	—	—	—	—	—	—	3	12

Includes
Midwives

TABLE

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
18.	Vindhya Pradesh	1949	—	—	—	—	—	—	—	—	—	—
		1950	—	—	—	—	—	—	—	—	—	—
		1951	—	—	—	—	—	—	—	—	—	—
		1952	—	—	—	—	—	—	—	—	—	—
19.	Himachal Pradesh	1949	—	—	—	—	—	—	—	—	—	—
		1950	—	—	8	—	—	—	—	—	—	—
		1951	—	—	8	—	—	—	—	—	—	—
		1952	—	—	8	—	—	—	—	—	8	7
20.	Bhopal	1949	—	4	—	—	—	—	—	—	—	—
		1950	—	6	—	—	—	—	4	—	60	4
		1951	4	—	—	—	—	3	—	—	55	—
		1952	12	—	—	—	—	10	—	—	90	8
21.	Delhi	1949	—	72	—	—	54	30	—	—	11	—
		1950	—	48	—	6	70	31	—	—	13	—
		1951	64	—	14	—	24	27	—	—	9	—
		1952	89	—	28	—	15	35	—	—	13	—
22.	Coorg	1949	—	—	—	—	—	—	—	—	—	—
		1950	—	—	—	—	—	16	—	—	2	—
		1951	—	—	—	—	—	—	—	—	—	—
		1952	—	—	—	—	—	—	—	—	—	—
23.	Ajmer	1949	—	—	—	17	—	8	—	—	—	14
		1950	—	—	—	8	22	—	—	—	2	—
		1951	—	—	—	8	6	15	—	—	—	—
		1952	—	—	—	8	12	—	—	—	—	19
24.	Bilaspur	1949	—	—	—	—	—	—	—	—	—	—
		1950	—	—	—	—	—	—	—	—	—	—
		1951	—	—	—	—	—	—	—	—	—	—
		1952	—	—	—	—	—	—	—	—	—	—
25.	Kutch	1949	—	—	—	—	—	—	—	—	—	—
		1950	—	—	—	—	—	—	—	—	—	—
		1951	—	—	—	—	—	—	—	—	—	—
		1952	—	—	—	—	—	—	—	—	—	—
26.	Manipur	1949	—	—	—	—	—	—	—	—	—	—
		1950	—	—	—	—	—	—	—	—	—	—
		1951	—	—	—	—	—	30	—	—	—	—
		1952	—	—	—	—	—	35	—	—	—	—
27.	Tripura	1949	—	—	—	—	—	—	—	—	—	—
		1950	—	—	—	—	—	—	—	—	—	—
		1951	—	—	—	—	—	—	—	—	—	—
		1952	—	—	—	—	—	—	—	—	—	—

TABLE

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
28. Andaman Islands.	& Nicobar	1949	--	--	--	--	--	--	--	--	--	--
		1950	--	--	--	--	--	--	--	--	--	--
		1951	--	--	--	--	--	--	--	--	--	--
		1952	--	--	--	--	--	--	--	--	--	--
29. Cooch Bihar		1949	--	6	--	--	--	--	--	--	--	6
		1950	--	--	--	--	--	--	--	--	--	--
		1951	--	--	--	--	--	--	--	--	--	--
		1952	--	--	--	--	--	--	--	--	--	--

(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	2	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

TABLE 42

Statement showing the number of Nurses, Midwives, etc., Employed during 1949-52

Name of the State	Year	Urban Areas											Rural Areas						Remarks			
		Matrons	Sister tutors	Sisters	Staff Nurses	Student Nurses	Mid-wives	Health visitors	Nurse Dais	Trained Dais	Matrons	Sister Tutors	Sisters	Staff Nurses	Student Nurses	Mid-wives	Health visitors	Nurse Dais		Trained Dais		
		M/W	M/W	M/W	M/W	M/W	W	M/W	W	W	W	M/W	M/W	M/W	M/W	M/W	M/W	W		W		
I	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21		
Madras	1949	—	—	119	148	176	—	7	—	—	—	—	—	220	—	160	—	—	—	—	—	
		32W			297W									463W								
	1950	35	22	4— 139	226— 815	159— 580*	302	7	—	9	—	—	—	25— 120	—	773	—	—	—	—	*For Urban & Rural area	
	1951	36	16	4— 134	224— 1,277	206— 659	403	7	9	—	—	—	—	18— 108	—	721	7	—	—	—		
	1952	27	15	3— 97	154— 872	179— 446	182	6	1	—	—	—	3— 10	27— 118	21	467	—	—	—	—		
Bombay	1949	—	—	6— 287	54— 513	8— 1,137	272	—	13— 104	28	—	—	3	—	24	99	7	—	—	—		
	1950	48	14	221	645	1,070	240	28	76	69	2	—	3	74	20	83	—	19	23	—		
	1951	58	3— 11	23— 240	67— 684	68— 1,119	271	12	26	27	4	2	2— 7	5— 59	4— 17	—	75	—	32	9— 38	—	
	1952	NOT RECEIVED																				
Uttar Pradesh	1949	38	8	11— 148	116— 329	57— 393	—	—	—	—	4	—	—	4— 7	10— 13	—	—	—	—	—	—	
	1950	2— 35	2— 12	14— 163	117— 355	103— 354	—	49*	—	60	3	—	9	18— 15	—	—	—	—	—	—	—	
	1951	33	1— 10	8— 144	121— 385	41— 232	237*	6*	—	205*	2	—	4	9— 19	2	—	—	—	—	—	—	*In Urban and Rural areas.
	1952	1— 42	1— 16	18— 176	172— 335	107— 503	254*	9*	—	226*	—	—	—	—	—	—	—	—	—	—	—	*In Urban and Rural areas.
Bihar	1949	9	—	68	22— 148	17— 210	28	5— 10	12	4	1	—	48	22— 30	—	34	—	17	82	—		
	1950	6	4	44	23— 286	5— 162	1— 43	4— 6	11— 21	1— 75	2	—	17	54	—	39	—	7	103	—		
	1951	8	5	65	26— 311	1— 332	49	3— 8	6— 19	— 121	1	5	20	55	26	30	—	1	115	—		
	1952	9	8	47	17— 160	5— 221	64	20	15	80	—	—	2	22	34	44	—	10	101	—		
Madhya Pradesh	1949	—	—	19	31— 138	22— 176	2— 139	3— 13	—	11	1	—	1	15	6	42	1	—	—	11	—	
	1950	12	1	23	28— 152	3— 185	151	53 22	—	16	—	—	—	11— 8	—	5	27— 7	—	—	7	—	
	1951	12	5	—	29— 167	2— 330	98	55	—	10	—	—	—	2— 10	6	31	24	—	—	6	—	
	1952	17	8	41	27— 259	316	149	2— 112	24	6	—	—	—	2— 8	—	31	54	1	—	—	—	
West Bengal	1949	—	—	85	34— 365	20— 750	24	—	5	—	6	10	—	13	17— 120	150	15	3	—	10	—	
	1950	26	5	98	32— 386	16— 838	41	7	—	14	7	3	14	15— 113	4— 185	27	3	—	—	38	—	
	1951	15	11	82	24— 362	27— 977	141	2— 15	—	15	2	—	11	9— 18	5— 9	13	4	—	—	108	—	
	1952	—	23	12	90	32— 490	16— 1,336	75	8	—	17	6	2	12	11— 19	4— 12	18	—	—	—	—	—
		West Bengal																				
		1951				1952				Urban Areas		Rural Areas		Urban Areas		Rural Areas						
		M	379	321	50	142	W	446	315	263	756											
		1. In addition, there are																				
		1. Untrained or Partially trained Nurses																				
		M	—	4	—	—	W	23	105	33	121											
		Assistant Nurse-cum-Midwives																				

TABLE 42—contd.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Punjab	1949	— 6	—	1— 25	23— 97	18— 176	42	—	— 118	— 35	—	—	4	— 10	10— 30	7	6	— 57	— 76	
	1950	8	6	24	10— 112	28— 199	25	49	170	25	2	—	3	12	29	2	26	37	34	
	1951	6	2— 5	2— 19	23— 84	24— 160	5	55	91	20	2	1	1	1— 1	13— 17	—	26	110	105	
	1952	5	2— 6	2— 31	22— 99	18— 176	26	30	— 164	— 55	4	5	4	2— 22	13— 33	— 11	—	7	2	
Assam	1949	14	—	— 34	2— 106	7— 244	70	7	—	— 3	—	—	—	— 1	—	3	—	—	—	
	1950	10	2	38	96	188	41	1	8	21	1	—	7	4	15	15	—	7	14	
	1951	12	2	40	84	2— 165	7	2	—	—	—	—	—	—	—	—	—	—	—	
	1952	10	5	36	108	201	29	3	7	6	—	—	—	3	—	1	—	—	—	
Rajasthan	1949	10	—	2— 17	169— 107	114— 73	73	5	27	13	—	—	—	63— 80	—	21	2	1	4	
	1950	9	1	12	178— 154	14— 45	106	1—	1	33	—	—	—	38	—	—	—	27	15	
	1951	7	1	16	182— 118	21	86	1— 4	— 45	11	—	—	—	31— 6	— 17	— 19	— 1	— 20	—	
	1952	6	3	21	148	54	37	6	103	35	—	—	—	—	—	17	—	1	—	
Mysore	1949	— 5	—	— 29	44— 333	7— 118	131	—	—	—	—	—	—	— 13	—	437	—	—	—	
	1950	5	—	31	47— 341	7— 124	136	—	—	—	—	—	—	13	—	390	—	—	—	
	1951	5	—	—	89— 356	52	88	—	—	—	—	—	—	28	—	446	—	—	—	
	1952	5	—	—	89— 356	58	88	—	—	—	1	—	—	28	—	422	—	—	—	
Orissa	1949	2	—	10	3—	5—	33	1	—	103	—	—	—	—	—	—	—	—	21	
	1950	1	1	10	10— 79	6— 59	65	3	—	169	—	—	—	—	—	—	—	—	—	
	1951	1	1	10	10— 96	6— 65	66	4	—	173	—	—	—	—	—	—	—	—	—	
	1952	1	1	13	2— 37	36	5	4	—	8	2	—	—	6— 60	—	30	—	—	112	
Madhya Bharat	1949	2	—	— 11	2— 33	4— 37	15	—	24— 146	— 88	—	—	—	—	—	—	—	—	—	
	1950	3	—	1— 19	10— 24	6— 37	20	21	—	—	—	—	—	—	—	—	—	—	—	
	1951	4	—	1— 19	12— 38	3— 40	24	21	14 206	— 100	—	—	—	—	—	—	—	—	153	
	1952	4	—	4— 25	6— 51	— 94	9	5— 39	15— 103	82	—	—	—	—	—	—	—	—	247	
Jammu & Kashmir	1949	— 2	—	2	— 36	— 15	— 1	—	—	— 47	—	—	—	—	—	—	—	—	36	
	1950	3	—	5	2— 25	15	3	2	5	52	—	—	—	—	—	—	—	—	—	
	1951	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	1952	—	—	2	4	8	1	1	—	83	—	—	—	—	—	—	—	—	—	

In addition, 25 men and 61 women Nurses were trained.

In addition there are 204 working nurses and 175 dais.

TABLE 42—contd.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Travancore-Cochin	1949	5	—	49	31— 266	— 47	101	2	—	—	2	—	5	— 179	—	95	1	—	—	—
	1950	—	—	62	29— 223	71	100	—	—	—	—	—	—	53	—	95	—	—	—	—
	1951	5	—	49	34— 221	69	101	4	—	—	2	—	5	179	—	95	—	—	—	—
	1952	5	6	49	34— 221	75	124	4	—	—	2	—	6	179	34	118	—	—	—	—
Hyderabad	1949	6	—	28	4— 123	28— 149	35	7	—	—	—	—	—	5— 14	14— 21	—	—	—	—	—
	1950	5	2	46	4— 162	32— 156	4	—	—	—	—	—	—	13	—	390	—	—	—	—
	1951	1	—	2	67	56	—	—	—	—	—	—	—	—	—	18	26	—	—	—
	1952	3	2	4— 87	65— 238	26— 102	8	—	—	158	—	—	—	—	—	28	—	—	—	228
Saurashtra	1949	1	—	7	4— 4	15— 40	1	—	—	1	—	—	—	—	—	—	—	—	—	—
	1950	3	1	14	13— 95	12— 68	12	—	—	—	—	—	1	58	—	—	1	—	—	—
	1951	3	2	16	81	116	23	—	—	—	—	—	—	7	—	9	1	1	—	—
	1952	2	2	— 9	5— 16	13— 103	4	—	—	—	—	—	—	1	—	5	—	—	—	1
Pepsu	1949	— 2	—	— 5	12— 49	— 8	—	2— 2	— 41	— 81	—	—	—	—	—	—	—	—	—	— 15
	1950	2	—	3	28	6	—	2	34	80	—	—	—	—	—	—	—	—	—	12
	1951	2	—	2	12— 29	— 9	—	1— 1	— 32	— 66	—	—	—	—	—	—	—	—	—	13
	1952	2	—	2	12— 33	15	—	2— 2	— 38	— 68	—	—	—	—	—	—	—	—	—	25
Vindhya Pradesh	1949	— 2	—	—	— 3	—	—	—	—	—	18	—	—	—	—	—	—	—	—	—
	1950	—	—	—	12	—	—	1	—	3	—	—	—	—	—	—	—	—	—	—
	1951	—	—	—	— 12	—	—	1	—	5	—	—	—	—	—	—	—	—	—	—
	1952	— 1	—	5	2— 12	—	—	— 1	—	5	—	—	—	—	—	—	—	—	—	—
Himachal Pradesh	1949	—	—	—	— 5	—	3	4	6	4	—	—	—	—	—	—	—	—	3	— 9
	1950	3	—	—	10	6	—	2	9	5	—	—	—	—	—	3	1	5	5	—
	1951	4	1	—	11	5	—	3	4	6	—	—	—	2	—	3	1	8	5	—
	1952	4	1	—	1— 16	— 7	—	4	12	—	—	—	—	—	—	6	1	13	3	—
Bhopal	1949	2	—	5	24	4	—	—	—	27	—	—	—	—	—	—	—	—	—	—
	1950	1	—	5	24	6	—	3	—	29	—	—	—	—	—	—	—	—	—	20
	1951	—	—	6	29	4	—	2	—	25	—	—	—	—	—	—	—	—	—	22
	1952	2	—	1—	3— 27	6	2	—	—	—	—	—	—	—	—	—	1	—	—	31
Delhi	1949	10	—	32	8— 140	— 138	22	—	1	—	—	—	—	—	—	—	—	—	—	—
	1950	11	1	56	8— 110	189	30	1	18	—	—	—	—	—	—	—	—	3	—	—
	1951	12	4	56	4— 126	—	44	52	106	1	—	—	—	—	—	1—	8—	22	—	—
	1952	11	6	56	4— 159	131*	32	1— 8	10	17	—	—	—	—	—	—	—	2	—	—

In addition
are 40
sisters.
there
junior

Figures not received.
*Urban & Rural
areas.

TABLE 42—concl'd.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	
Coorg	1949	—	—	2	2 2	—	9*	—	—	—	—	—	—	—	—	13	—	—	—	*Plus 89 Midwives.	Rura
	1950	1	—	—	4 18	—	—	—	—	—	—	—	—	—	—	12	—	—	—		
	1951	2	—	—	4 18	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
	1952	—	—	—	4 20	—	—	—	—	—	—	—	—	—	—	13	—	—	—		
Ajmer	1949	5	—	23	4 15	36	6	—	18	3	—	—	1	2 3	—	4	—	6	—		
	1950	5	1	24	12 16	19	7	—	14	8	—	1	5 4	6 6	—	9	12 8	—	—		
	1951	6	—	25	8 19	36	5	—	21	3	—	—	—	2 3	—	2	—	6	—		
	1952	9	1	18	9 19	48	10	—	15	7	—	—	—	—	—	10	—	4	—		
Bilaspur	1949	—	—	—	—	—	—	—	1	1	—	—	—	—	—	—	—	—	—		
	1950	—	—	—	2*	—	—	—	—	—	—	—	—	—	—	—	—	—	—		*Unqualified nurses
	1951	—	—	—	—	—	—	—	1	1	—	—	—	—	—	—	—	—	—		
	1952	—	—	—	1	—	—	1	—	—	—	—	—	—	—	—	—	—	—		
Kutch	1949	—	—	—	6	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
	1950	—	—	—	8	—	—	—	—	16	—	—	—	—	—	—	—	—	—		
	1951	—	—	—	8	—	—	—	—	16*	—	—	—	—	—	—	—	—	—		*Ayahas (General nurses).
	1952	—	—	—	10	—	—	—	—	17*	—	—	—	—	—	—	—	—	—		
Manipur	1949	—	—	—	3	—	2	—	—	—	—	—	—	2	—	3	—	—	—		
	1950	—	—	—	3	—	2	—	—	—	—	—	—	15	—	8	—	—	—		
	1951	—	—	—	1	—	2	—	2	—	—	—	—	10	—	4	—	—	—		
	1952	—	—	1	4	—	2	—	—	—	—	—	—	9	4	4	—	—	—		
Tripura	1949	—	—	—	—	—	1	—	—	7*	—	—	—	—	—	—	—	—	—		* Plus 7 untrained Dais
	1950	—	—	1	3	—	1	—	—	5	—	—	—	—	—	—	—	—	—		
	1951	—	—	1	4	—	1	—	—	5	—	—	—	—	—	—	—	—	—		
	1952	—	—	—	—	1	9	—	—	2	—	—	—	—	—	—	—	—	—		
Andaman & Nicobar Islands ..	1949	1	—	4	—	23 2	—	5	—	—	—	—	—	—	8	—	—	—	2		
	1950	1	—	2	26 2	—	3	—	—	—	—	—	—	—	—	—	—	—	—		
	1951	1	—	5	22 1	—	3	—	—	—	—	—	—	5	—	—	—	—	—		
	1952	1	—	5	20 1	—	4	—	—	—	—	—	—	12	—	—	—	—	—		
Cooch-Bihar	1949	—	—	—	1—4*	—	7	1	1	—	—	—	—	—	—	—	—	—	1		*Was amaigamated with West Bengal, in 1950. Plus 8 men and women locally trained nurses.

TABLE No. 43

*Number of Nurses, Midwives, etc., registered with various
Employment Exchanges*

S. No.	Name of State	Year	Nurses	Nurses trained as mid-wives also	Mid-wives	Nurses Dais	Trained Dais	Health visitors
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1.	Madras	1949	10	3	74	—	—	—
		1950	12	3	109	—	—	—
		1951	18	10	172	—	—	—
		1952	20	18	208	—	—	—
2.	Bombay	1949	4	2	3	—	—	—
		1950	3	—	3	—	—	—
		1951	17	—	22	—	—	—
		1952	4	2	3	—	—	—
3.	Uttar Pradesh	1949	2	3	8	—	—	—
		1950	11	1	11	—	—	—
		1951	5	5	6	1	—	—
		1952	12	9	15	—	—	—
4.	Bihar	1949	5	1	6	—	—	—
		1950	2	—	5	1	—	—
		1951	1	3	7	—	10	—
		1952	2	1	1	—	—	—
5.	Punjab	1949	3	—	6	8	3	—
		1950	1	—	8	6	12	—
		1951	5	1	45	11	7	—
		1952	2	1	22	38	39	—
6.	Madhya Pradesh	1949	6	7	1	—	—	—
		1950	6	3	4	—	—	—
		1951	3	9	1	—	—	—
		1952	—	16	4	—	—	—
7.	West Bengal	1949	2	—	4	—	—	—
		1950	9	3	34	—	—	—
		1951	9	1	8	—	—	—
		1952	—	5	3	—	—	—

TABLE No. 43—contd.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
8.	Assam	1949	—	—	—	—	—	—
		1950	—	1	14	—	—	—
		1951	—	2	2	—	—	—
		1952	1	—	2	—	—	—
9.	Mysore	1949	2	—	2	—	—	—
		1950	1	1	1	—	—	—
		1951	3	3	3	—	—	—
		1952	—	1	3	—	—	—
10.	Coorg	1949	—	—	—	—	—	—
		1950	2	—	2	—	—	—
		1951	3	—	2	—	—	—
		1952	1	—	1	—	—	—
11.	Ajmer	1949	1	—	—	—	—	—
		1950	—	—	—	—	—	—
		1951	1	—	2	—	—	—
		1952	4	—	3	—	—	—
12.	Delhi	1949	—	1	15	3	—	—
		1950	—	—	2	—	—	—
		1951	—	—	—	—	—	—
		1952	7	—	2	—	—	—
13.	Travancore-Cochin	1949	1	1	2	—	—	—
		1950	—	—	—	—	—	—
		1951	—	—	—	—	—	—
		1952	—	—	—	—	—	—
14.	Bilaspur	1949	—	—	—	—	—	—
		1950	—	—	—	—	—	—
		1951	—	—	—	—	—	—
		1952	1	2	—	—	—	—
15.	Rajasthan	1949	—	—	—	—	—	—
		1950	—	—	—	—	—	—
		1951	1	—	—	—	—	—
		1952	—	—	—	—	—	—
TOTAL			203	191	849	68	72	2

TABLE No. 44 *Appendix*
Number of Nurses on the State Registers on 31st December 1952

Nurses	17,683
Midwives	20,451
Health Visitors	635
As the registers are not 'live registers, the number is probably about	
Nurses	11,500
Midwives	13,500
Health Visitors	1,000

TABLE No. 45

Number of students and nurses sent abroad for basic and post-graduate training and the number of nurses returned after completion of basic and post-graduate training.

	Sent abroad						Returned after training						
	45	46	47	48	49	50	46	47	48	49	50	51	52
U. K. Student Nurses ..	—	12	23	—	—	—	—	—	—	—	4	2	14
<i>Post-graduate Nurses</i>													
U.K.	6	3	4	10*—19—8*	1	6	3	4	7*—1	8—5*	2—2*	2	
U. S. A.	—	—	—	1	1*	—	—	—	1	—	—	—	—
New Zealand	—	—	—	—	1	1	—	—	—	—1	—	1	—
<i>Candidates for Deitetics Course</i>													
U. K.	—	—	—	—	3	1	—	—	—	—	1	—	1

*Represents Men Nurses.

One nurse of the Government of Hyderabad-Deccan went to the U.K. in 1950 at her own expense to study T. B. Nursing. A Senior Sister of the same Government went to the U. K. in 1952 for a post-Graduate course.

TABLE No. 46

Number of student-nurses, student-midwives, etc., who qualified

—	1949	1950	1951	1952
General Nursing	787	955	886	1,222
Junior Certificate in Nursing	110	83	126	398
Nursing in Women and Children only	241	244	224	150
Midwifery	1352	1,436	1,421	1,456
Assistant Midwives' Course	75	123	207	173
Health Visitors Course —	56	78	55	53
Nurse Dais	22	48	69	89
Dais	634	693	411	613
TOTAL	3,277	3,660	3,399	4,159

TABLE No. 47

Appendix

Placement of nurses trained in the U. K. on Government Scholarships

Serial No.	Sponsoring Government	No. of candidates employed	Now employed	Where employed
(1)	(2)	(3)	(4)	(5)
1.	Central Government . . .	2	Ward Teaching Sisters	College of Nursing, New Delhi.
2.	Central Government . . .	3	Sisters	I.M.N.S.
		2	Staff Nurses	Irwin Hospital, New Delhi.
3.	Madras Government . . .	3	Staff Nurses	Madras State Hospitals.
4.	Bombay Government . . .	2	Staff Nurses	Bombay State Hospitals.
5.	Bengal Government . . .	1	Sister	Bengal State Hospitals.
6.	Bengal Government . . .	4	Senior-Staff Nurses.	Bengal State Hospitals.
7.	Orissa Government . . .	2	Staff Nurses	Orissa State Hospitals.
8.	Madhya Pradesh Government	1	Sister	Madhya Pradesh State Hospital.

Number of Nurses Sent Abroad for Various Post-Graduate Courses

No. of Nurses sent abroad	Sponsoring Government	Source of Scholarship	Course Taken
1	Central Govt.	Central Govt.	Nursing and Hospital Administration (New Zealand).
4	Central Govt.	Central Govt.	Dietetics (U.K.)
1	Central Govt.	Central Govt.	Industrial Nursing—male nurse (U.K.)
2	Central Govt.	Central Govt.	District Midwifery (U.K.)
1	Central Govt.	Central Govt.	Hospital Administration (U.K.)
1	Central Govt.	Central Govt.	Children's Nursing (U.K.)
2	Central Govt.	Central Govt.	Genito-urinary & Venereal Diseases Male nurses (U.K.)
1	Madras Govt.	Madras Govt.	Genito-urinary and Venerea (Diseases Male nurses U.K.)
1	Ditto	Ditto	Industrial Nursing (U.K.)
1	Ditto	Ditto	Health Visitor's Course (U.K.)
2	Bombay Govt.	Bombay Govt.	Mental Nursing (Male Nurses).
1	Ditto.	Ditto	Theory and Management of Poliomyelitis (Male Nurse) (U.S.A.).
1	Ditto	Ditto	Sister Tutors' Courses (U.K.)
2	Ditto	Ditto	Genito-urinary and Venereal Diseases Male Nurses (U.K.)
1	Tata Iron and Steel Works, Jamshedpur.	Tata Iron and Steel Works, Jamshedpur.	Hospital and Nursing Administration (New Zealand).
1	Bihar Govt.	Bihar Govt.	Hospital Administration (U.K.)
1	Ditto	Ditto	Mental Nursing (U.K.)
1	Uttar Pradesh Government.	Uttar Pradesh Government.	Tuberculosis Nursing (U.K.)

TABLE No. 49

Appendix

The following number of students were admitted and passed during the period 1949—1953 in the B. Sc. (Hons.) Nursing and post certificate courses.

Serial No.	Year	Class	No. admitted	No. Appeared in Examination	No. Passed in Exam.	Remarks
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1.	1949-50	1st year . . .	20	17	12	The students represented the States in India and Ceylon. Distribution in regard to basic education, when entering the College was 6 B.A. 15 Inter-Science, 13 Inter-Arts, 5 having had one year of College and passing admission examination of Delhi University 5 Senior Cambridge and 11 Delhi Higher Secondary.
		2nd year . . .	22	19	17	
		3rd year . . .	15	15	15	
		4th year . . .	4	4	7	
		TOTAL . . .	61	55	48	
2.	1950-51	1st year . . .	20	20	18	They were from homes all over India, <i>i.e.</i> , from Kashmir to Travancore-Cochin and Bombay to Bengal. Of the 20 Students in the 1st year, 12 had passed Inter-M-Science or Inter-Arts.
		2nd year . . .	12	12	11	
		3rd year . . .	17	17	11	
		4th year . . .	15	15	11	
		TOTAL . . .	64	64	31	
3.	1951-52	1st year . . .	26	23	17	As usual, the group was of All India nature.
		2nd year . . .	18	17	17	
		3rd year . . .	17	17	13	
		4th year . . .	15	15	15	
		TOTAL . . .	76	72	62	
4.	1952-53	1st year . . .	28	24	22	
		2nd year . . .	17	16	15	
		3rd year . . .	18	17	15	
		4th year . . .	16	16	15	
		TOTAL . . .	79	73	67	

Appendix—contd.

Year	Admitted	Appeared in Exam.	Passed		Remarks
1949-50	—	—	—	Course was not held.	
1950-51	16	14	13	7 Sisters-Tutors	} Two dropped.
1951-52	27	21	19	6 Administration	
1952-53	28	25	25	10 Sister-Tutors	} Six dropped.
				9 Administration	
				Combined Course	Three dropped.
P.H.N.	16	15	15	Public Health Nursing.	One dropped.

TABLE No. 50
Ratio of Nurses in States for the years
ending
 13-12-49
 13-12-50
 13-12-51
 13-12-52

Appendix

Serial No.	States	Nurses to beds	Nurses to population	Trained Nurses to student-nurses
(1)	(2)	(3)	(4)	(5)
1.	Madras	1:8*	1:35,696	1:2.5* for 15 beds
		1:8	Not furnished	1:2.5 for 15 beds
		† 1:8 1:15‡	Not furnished	1:2.5 fixed by Govt.
		† 1:8 1:15‡	Not furnished	1:25
2.	Bombay . . . . .	..	1:8820	—
		1:4.80	1:8239	
		1:5.60	1:9165	1:1.40
			1:8492	1:1.90
3.	Uttar Pradesh	1:18.64	1:120.659	2:5
		1:17.2	1:108095	2:5
		1:24	1:118382	2:5
		1:15	1:77092	2:5
4.	Bihar	1:14	1:62333	1:1.6
		1:13	1:70,000	3:1
		1:9	1:46939	2:1
		1:15	1:76621	3:1
5.	Madhya Pradesh	1:19	1:744244	1:2.3
		1:8.4	1:43988	1:1.2
		1:7.1	1:3114	1:1.6
		1:64	1:31952	1.58
6.	West Bengal	1:10	1:28.320	1:3
		1:9	1:36.460	1:3
		1:8	1:3535.3	1:7
		1:5.9	1:3661 According to 1951 Census.	1:6.4

TABLE No. 50—contd.

(1)	(2)	(3)	(4)	(5)
7.	Punjab	1:38·4	1:65,142·9	1:2·3
		1:38	1:22,3529	1:1·8
		1:48·1	1:14,381·3	1:1·5
		1:45·7	1:11,586·8	1:0
8.	Assam	<u>1:10</u>	<u>1:36668</u>	<u>6:13</u>
		—	—	—
		—	—	—
		—	—	—
		1:10	1:18593·56	1:2·5 (In Government Hospitals).
9.	Orissa	1:41·1	1:100,956	1:33·1
		1:20·09	1:95,299	1:62·1
		1:35·93	1:101006·52	1:1·5
		1:26·74	1:92,696·86	1:23
10.	Rajasthan	1:3 to 1:25	1:7893 to 1:96644	1:2 to nil
		423:5206	423:1,52,60,000	86:59
		423:5003	423:15290797	85:39
		1:6	1:17684	1:1
11.	Mysore	1:10	1:14,000	5:1
		1:9	1:14,000	5:1
		1:12	1:17636	2:1
		1:12	1:17636	2:1
12.	Madhya Pradesh	1:13	1:32000	1:5
		1:13	1:32000	1:3
		1:11	1:2402	2:1 M.T.Hospi- tal, Indore
		1:37	1:88380	1:1 J.A.Hospital, Lashkar
				1:025 (Burwani)
				3:2 M.T.Hospi- tal, Indore
				1:2 (J.A.Hospi- tal, Lashkar)

TABLE No. 50—contd.

(1)	(2)	(3)	(4)	(5)
13. Jammu & Kashmir	—	—	—	—
	1:17	—	—	17-13
	1:17	—	—	—
	1:20 to 1:12	—	—	6:1 to 1:1
14. Travancore-Cochin	1:14	1:20,000	4:1	
	1:15	1:30,000	4:1	
	1:14	1:20,000	4:2	
	1:14	1:20,000	4:1 (434:119)	
15. Hyderabad	1:8	1:44476	1:33	
	1:9	—	1:3	
	1:7	Not known	1:1·5	
	1:11·5	1:47221·5	1:2·9	
16. Saurashtra	1:3	1:1480	1:4	
	1:9	—	1:4	
	1:10·2	1:27712	1:1·6	
	1:8	1:21000	1:5	
17. Pepsu	1:8·5	1:46053	1:3	
	1:40	1:67000	5:1	
	1:18·8	1:64935	6:1	
	1:7	1:68627	1:1/3	
18. Vindhya Pradesh	3:625	1:1200·000		
	3:635	1:1189,000		
	1:212	1:11,89,144		
	1:52	1:2,23,590		
19. Himachal Pradesh	1:27	1:2,00,000		
	1:27	1:1,00,000	1:6	
	1:52	1:76,209	1:2	
	1:25	1:56254	1:3	

TABLE No. 50—*contd.*

(1)	(2)	(3)	(4)	(5)
20.	Bhopal	1:9	1:3337	8:1
		1:9		
		1:9	1:3337	8:1
		1:12 or 13	1:5238	1:5
		1:13 to 1:40	1:27,206	1:19
21.	Delhi	1:8	1:9000	13:10
		1:7	1:7500	12:10
		1:7	1:13413	12:10
		1:7	1:11334	1:2
22.	Coorg	32:303	44:1,68,726	5:13
		34:312	49:2,29,255	5:12
		1:12	1:5592	Nil
		1:12	1:5592	Nil
23.	Ajmer	12:100	1:10,000	61:100
		16:1000	2:10,000	24:10
		1:6	1:4800	1:2
		1:6	1:5147	1:2
24.	Bilaspur	1:20	2:1,25,000	—
		1:10	1:65,000	—
		1:20	1:12600	—
		1:10	1:63,00	—
25.	Kutch	1:24	1:1,00,000	—
		1:24	1:100,000	—
		1:23-24	1:63,000	—
		1:20 or 21	1:63,000	—
26.	Manipur	6:242	6:5,00,000	—
		19:262	28:5,79,058	—
		13:262	22:5,77635	—
		13:298	22:577635	—

TABLE No 50—*contd.*

(1)	(2)	(3)	(4)	(5)
27.	Tripura	—	—	—
		—	—	—
		—	—	—
		4:12	—	—
		1:21·4	1:91289·8	—
				—
28.	Andaman & Nicobar Islands	1:10	1:832	—
		1:10	1:900	—
		1:11	1:865	—
		1:10	1:816	—
				—
29.	Cooch Bihar	1:8·75	1:32,500	3:1
		1	—	—
		—	—	—
		—	—	—

TABLE No. 51
Number of Nurses, Midwives, etc. registered with the State Nurses
Registration Council

Appendix

31-12-49
31-12-50
31-12-51
31-12-52

Sl. No. (1)	States (2)	Nurses (3)	Mid-wives (4)	Health Vistors (5)	Nurse dais (6)	Trained Dais (7)	Remarks (8)
1.	Madras	5119	7605	Not Regd.	Nil	9	
		5301	8119	Do.	Nil	9	
		5726	8807	Do.	Nil	9	(Entered as additional qualification)
		6026	9470	Do.	Nil	9	
2.	Bombay	3401	3433	121	Nil	Nil	In the case of Regd. Nurses under Mid-wives. 68 Asst. Mid. 1949.
		3641	3687	142	Nil	Nil	
		3942	3936	153	Nil	Nil	
		4233	4245	167	Nil	Nil	
3.	Uttar Pradesh	763	409	65	Nil	Nil	90 Ditto. 1950.
		835	772	69	Nil	Nil	5 Asst. Nurses 1951
		970	631	77	Nil	Nil	118 Asst. Mid. 1951
		1145	682	82	Nil	Nil	Asst. Mid 878 Ditto 912
4.	Bihar	446	226	5	Nil	158	Do. 1021
		491	258	5	Nil	159	Do. 1007
		553	278	5	Nil	163	
		600	327	5	Nil	163	
5.	Madhya Pradesh	618	437	133	Nil	248	*G.N. 408
		738	614	136	Nil	250	W.C. 152
		809	675	140	Nil	256	M.N. 58
		936	766	142	Nil	267	G.N. 477 W.C. 193
6.	West Bengal	2789	2595	83	Nil	Nil	M.N. 68
		2988	2778	86	Nil	Nil	G.N. 620
		3154	2951	101	Nil	Nil	W.C. 231
		3267	3114	122	Nil	Nil	M.N. 85 G.N. 523

*Training centres in States in which there are no Registration Councils are affiliated to one or the other of the above Nursing Councils for purposes of registration of the trainees, e.g., training Centres in Rajasthan, Pepsu, & Hamachal Pradesh are affiliated with the Punjab Nurses Registration Council.

TABLE No. 51—*contd.*

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
7.	Punjab . . .	635	413	55	181	853	W.C. 209
		510	510	77	265	1584	M.N. 77
		879	595	92	335	2157	
		1091	750	104	437	2652	
8.	Assam . . .	346	218	1	Nil	Nil	
		388	246	2	Nil	Nil	
		491	311	4	Nil	Nil	
		550	353	5	Nil	Nil	
9.	Orissa . . .	121	87	1	Nil	179	
		137	92	4	Nil	194	
		146	108	4	Nil	203	
		158	118	4	Nil	221	

TABLE No. 52

Appendix

Grants made by some of the State Governments for improving conditions in nursing, such as, construction of nursing homes, training schools, increase in stipends, grant of pay and allowances and grant of scholarships, etc. These do not include grants made by many State Govts. for the same purpose as the amounts were not specifically mentioned.

Sl. No.	Government	Year	Amount sanctioned	Purpose for which the amount is sanctioned
(1)	(2)	(3)	(4)	(5)
1.	Uttar Pradesh	1949 1950	12,000 18,413	Furniture, crockery & Cutlery for nurses homes. As above.
2.	Bihar	1952	—	In the 5-year Plan, Rs. 50,000 in the year 1951-52, and Rs. 2,75,000 in the year 1952-53 were invested for re-organisation of the Nursing services of the State.
3.	Madhya Pradesh	1949	1,000	Amount given to Daga Memorial Hospital, Nagpur for improving conditions of nurses.
4.	West Bengal	1950 1951 1952	1,75,000 3,60,000 2,54,020	Training under the Five Year Plan of Assistant Nurses and Midwives at Burdwan Training Centre with 80 seats. *(A sum of Rs. 2,54,020 was spent on the Training of nurses during 1952-53).
5.	Punjab	1949 1949 1950 1951	17,680 5,820 26,405 25,340	Philadelphia Mission Hospital Ambala for Training nurses. Women's Christian Medical College, Ludhiana for training of dais, and nurse-dais. To various training institutions towards scholarships, stipends etc., to Health Visitors* Midwives, dais, etc. As above.
6.	Assam	1949 1950	62,179 49,042	For employment of more nursing and office staff. For improving conditions of nurses. A sum of Rs. 348 lacs has been provided in the Five Year Plan of the State on development of Nursing Services.

TABLE No. 52—contd.

(1)	(2)	(3)	(4)	(5)
7.	Orissa	1951	3,33,000 (Estimated cost)	A new building to accommodate 83 pupil nurses with a preliminary training school at S.C.B. Medical College, Hospital, Cuttack, was completed at the estimated cost.
		1952	—	For the Nurses Hostel attached to the S.C.B. Medical College, Hospital Cuttack.
8.	Pepsu	1951	2,50,000	Represents the provisions made in year's budget for the construction of a Nurses Home.
9.	Jammu & Kashmir	1949	56,480	The amount was sanctioned for the period 1949-53 for increasing the number of student nurses.
10.	Madhya Bharat	1950	2,16,000	The amount was spent on account of building and lodging expenses for nurses.
		1951	13,000	The amount was sanctioned for construction of quarters for 10 Nurses.
		1952	55,243	The amount was spent on the training of nurses.
				*There was a provision of Rs. 3,53,242 under the State Government's 5-year Plan.
11.	Saurashtra	1950	48,000	Maintenance of Nursing Association at Jamnagar and Bhavnagar.
		1951	32,280	For starting classes for training of displaced nurses and midwives, nurses for villages and Harijan girls.
		1952	—	According to State Government's 5-year Plan, 100 nurses were to be trained by the end of 1955-56 at an estimated cost of Rs. 3.45 lacs.
12.	Hyderabad	1952	10,000	Given as grant-in-aid for construction of nurses quarters at Medak Mission Hospital.
13.	Himachal Pradesh	1951	1,174	The amount was paid as stipend to the trained.
14.	Delhi	1950	60,000	Sanctioned for improving accommodation for nurses at Victoria Zenana Hospital Delhi.

TABLE No. 52—*contd.*

(1)	(2)	(3)	(4)	(5)
15.	Ajmer	1952	2,00,000	The amount was provided for Nurses Hospital under the Five Year Plan of the State Government.
16.	Tripura	1950	30,000	The amount was sanctioned for the construction of nurses quarters.
			500	The grant was made to a small missionary Hospital.
		1951	500	As above.
		1952		Provision was made for 9 Senior Nurses and 24 Junior Nurses in the Five Year Development Plan of the State Government at an estimated cost of Rs. 1,70,000.

TABLE No. 53

Summary of the Work done by Chemical Examiners of States and the Serologist, Government of India, During 1949—52
Medico-legal Investigations

Serial No.	Designation of officers	Year	Human poisoning		Animal poisoning		Stains		Miscellaneous		Total		General Analysis and Other Work	
			Cases	Articles	Cases	Articles	Cases	Articles	Cases	Articles	Cases	Articles	Cases	Articles
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
456 1.	Chemical Examiner, West Bengal, Calcutta.	1949	1,216	2,186	36	76	1,357	4,057	1	19	2,810	6,338	—	16,117
		1950	1,241	2,211	45	106	1,449	4,681	3	49	2,738	7,047	6,734	22,845
		1951	1,262	2,478	93	190	1,511	4,843	3	61	2,868	7,563	4,558	21,541
		1952	1,201	2,315	97	198	1,591	4,903	6	116	2,895	7,532	4,838	23,479
2.	Chemical Examiner, East Punjab, Kasauli.	1949	646	2,988	25	96	1,077	2,339	16	56	1,764	5,479	5,194	7,286
		1950	729	3,040	10	41	1,023	2,325	15	34	1,777	5,440	4,786	7,362
		1951	699	2,848	21	111	1,224	2,866	24	49	1,968	5,874	4,140	6,160
		1952	764	2,267	16	22	1,374	3,266	8	9	—	—	4,691	7,029
3.	Chemical Examiner, Madras.	1949	688	3,435	41	185	1,020	5,658	247	1,190	1,996	10,468	176	176
		1950	801	3,777	39	188	974	5,434	250	999	2,064	10,398	—	156
		1951	956	4,417	60	266	1,169	6,281	243	1,172	—	—	—	51
		1952	1,049	4,725	78	341	1,441	7,820	263	1,260	—	—	—	95

4.	Chemical Examiner, U.P. & M.P., Agra.	1949	392	1,249	33	70	1,107	4,665	—	36	1,532	6,020	4,181	2,200
		1950	422	1,429	16	38	1,160	5,070	2	32	1,600	6,559	1,499	2,352
		1951	396	1,338	39	82	1,303	5,950	3	50	1,741	7,420	1,754	2,800
		1952	487	1,384	21	37	1,442	6,560	5	26	1,955	8,007	1,908	2,850
5.	Chemical Analyser, Bombay.	1949	1,263	2,175	57	287	804	3,555	1,002	2,563	3,126	8,580	—	7,353
		1950	1,921	2,969	64	318	961	4,422	641	1,725	3,587	9,494	—	5,705
		1951	4,595	5,835	46	256	1,141	5,607	825	2,423	6,607	14,121	—	10,585
		1952	5,807	7,462	54	270	1,402	7,079	592	1,696	7,855	16,507	—	12,308
6.	Chemical Analyser, Baroda.	1951	473	620	—	—	59	262	7	13	—	—	18	46
7.	Chemical Examiner, J. & K., Jammu.	1951	53	150	4	9	31	81	171	171	—	—	2,719	4,373
		1952	82	214	8	15	28	81	549	1,339	—	—	1,700	1,700
8.	Chemical Examiner, Mysore, Bangalore.	1951	139	528	—	—	204	1,145	88	208	—	—	—	1,828
		1952	128	580	—	—	222	1,264	72	351	—	—	—	1,773
9.	Chemical Analyser, Indore	1951	—	554	—	—	—	1,007	—	—	—	—	—	—
		1952	362	655	7	23	206	787	179	571	—	—	146	146
10.	Chemical Examiner, Jaipur.	1951	189	279	—	—	99	338	45	93	333	710	—	—
		1952	223	446	—	—	127	635	53	109	—	—	—	—

TABLE No. 53—*contd.*

1	2	3	4	5	6	7	8	9	13	11	12	13	14	15
11.	Chief Medical Officer, Junagarhi.	1952	—	—	14	—	344	—	—	—	—	—	—	—
	TOTAL	1949	4,205	12,033	192	714	5,365	20,274	1,266	3,864	11,028	36,885	6,851	33,132
		1950	5,114	13,426	174	691	5,567	21,932	911	2,839	11,766	38,938	13,019	37,420
		1951	8,762	19,047	263	914	6,741	28,371	1,409	4,240	13,518	35,688	13,189	45,556
		1952	10,103	20,048	295	906	8,177	32,395	1,727	5,477	12,705	32,046	13,283	51,208
12.	Serologist, Government of India, Calcutta.	1949	—	—	—	—	5,672*	19,765*	—	—	—	—	12,224 † 184 †	— 1,094 †
		1950	—	—	—	—	5,039*	19,975*	—	—	—	—	12,113 † 481*	— 2,820 §
		1951	—	—	—	—	5,496*	20,907*	—	—	—	—	10,407 † 716 §	— 4,010 §
		1952	—	—	—	—	6,392*	25,807*	—	—	—	—	10,481 † 951 §	5,182 §

*Includes figures of tests carried out on behalf of other countries, as indicated on the following page:—

† Wassermann and other Blood-tests for Clinical purposes.

§ Detection of blood and Semen group from Stains, etc., for medicolegal purposes.

‡ Detection of blood group from Stains, etc., for medicolegal purposes.

Year (1)	Name of Country (2)	Stains Examined	
		Cases (3)	Articles (4)
1949	Burma	26	55
	Pakistan	1,146	2,567
1950	Burma	45	68
1951	Burma	70	139
1952	Burma	82	113

TABLE No. 54

Statements showing the number of Ayurvedic and Unani Practitioners Employed, Subsidised and Registered for 1946 and 1952.

Serial No.	State	No. of Ayurvedic & Unani Practitioners employed under						No. of subsidised Ayurvedic and Unani Practitioners on		No. of Ayurvedic and Unani Practitioners registered during		Total No. of practitioners borne on register on	
		Government		District Boards		Municipal Boards		31-12-49	31-12-52	1949	1952	31-12-49	31-12-52
		31-12-49	31-12-52	31-12-49	31-12-52	31-12-49	31-12-52						
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
1.	Assam	4	7	—	—	—	—	6	6	—	22	—	91
2.	Bihar	13	13	280	305	5	5	215	215	—	—	—	—
3.	Bombay	237	398	150	154	28	26	105	17	122	186	2,549	9,771
4.	Madhya Pradesh	11	3	81	83	25	11	14	12	779	308	779	3,677
5.	Madras	—	871	255	Included in Col. 2	75	Included in Col. 2	282	363	187	179	13,201	13,807
6.	Orissa	42	53	33	27	1	1	5	8	—	—	—	—
7.	Punjab	—	—	26	31	11	8	—	20	—	13,422	—	15,275
8.	Uttar Pradesh	508	522	391	262	26	58	56	132	1,839	1,990	14,439	25,055
9.	West Bengal	—	—	1	Not known	—	Not known	—	Not known	610	562	4,335	6,046
10.	Hyderabad Dn.	168	212	—	—	—	—	52	38	27	55	179	295
11.	Jammu & Kashmir	45	42	Included in Col. 2	—	Included in Col. 2	—	—	—	—	—	—	—

TABLE No. 55

Appendix

Statement showing the number of Ayurvedic Hospitals & Dispensaries as on 31st December, 1949

Serial No.	State	Hospitals										Dispensaries											
		Urban					Rural					Urban					Rural						
		Govt.	Muni- ci- pal	Dist- ri- ct- Board	Sub- si- dised	Pri- vate	Govt.	Muni- ci- pal	Dist- ri- ct- Board	Sub- si- dised	Pri- vate	Govt.	Muni- ci- pal	Dist- ri- ct- Board	Sub- si- dised	Pri- vate	Govt.	Muni- ci- pal	Dist- ri- ct- Board	Sub- si- dised	Pri- vate		
(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)				
1.	Assam	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6	—	
2.	Bihar	—	—	—	—	—	—	—	—	—	1	1	—	—	—	9	—	250	200	30	—	—	
3.	Bombay	1	2	—	—	8	—	—	—	—	—	28	28	—	94	20	1	83	245	470	—	—	
4.	Madhya Pradesh	—	1	—	—	1	—	—	—	—	2	19	16	6	14	5	—	62	19	2	—	—	
5.	Madras	1	—	—	—	—	—	—	—	—	2	46	—	—	—	1	—	256	289	4	—	—	
6.	Orissa	1	—	—	—	—	—	—	—	—	—	1	—	—	—	35	—	32	4	—	—	—	
7.	Punjab	—	—	—	—	—	—	—	—	—	—	8	24	—	—	—	—	—	—	—	—	—	—
8.	Uttar Pradesh	—	—	—	7	—	—	—	—	—	—	40	—	—	—	364	—	219	62	—	—	—	—
9.	West Bengal	—	—	—	1	—	—	—	—	—	—	1	—	1	14	—	—	1	—	2	—	—	—
10.	Hyderabad Dn.	—	—	—	—	—	—	—	—	—	4	—	—	—	—	—	—	—	—	—	—	—	—
11.	Jammu & Kashmir	—	—	—	—	—	—	—	—	—	3	—	—	1	—	28	—	—	—	—	—	—	—
12.	Madhya Bharat	—	—	—	—	1	—	—	—	—	—	6	—	—	—	209	—	—	9	—	—	—	—
13.	Mysore	—	—	—	—	—	—	—	—	—	1	4	—	2	5	—	1	219	—	—	—	—	—
14.	Pepsu	—	—	—	—	—	—	—	—	—	3	—	—	8	147	22	—	—	1	140	—	—	—
15.	Rajasthan	2	—	—	27	—	39	—	—	52	—	—	—	—	—	—	—	—	—	—	—	—	—
16.	Saurashtra	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	23	—	—

17.	Travancore-Cochin	.	.	.	.	6	—	—	2	—	5	—	—	4	—	2	—	—	50	—	52	—	—	269	—
18.	Ajmer	.	.	.	.	—	—	—	—	—	—	—	—	—	1	—	—	—	—	29	—	—	—	—	25
19.	Bhopal	.	.	.	.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
20.	Bilaspur	.	.	.	.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	—	—	—	—
21.	Coorg	.	.	.	.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4	—	—	3	—	3
22.	Delhi	.	.	.	.	—	—	—	—	1	—	—	—	—	—	—	8	—	—	—	—	—	—	—	—
23.	Himachal Pradesh	.	.	.	.	—	—	—	—	—	—	—	—	—	—	3	—	—	—	1	31	—	5	2	—
24.	Kutch	.	.	.	.	—	—	—	—	6	—	—	—	—	—	—	—	—	—	6	—	—	—	—	—
25.	Manipur	.	.	.	.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
26.	Tripura	.	.	.	.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
27.	Vindhya Pradesh	.	.	.	.	—	—	—	—	—	—	—	—	—	—	9	—	—	1	5	27	—	—	—	—
28.	Andaman & Nicobar Islands	.	.	.	.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

TABLE No. 56

Appendix

Statement showing the Number of Unani Hospitals and Dispensaries on 31st December, 1949

Serial No.	States	Hospitals										Dispensaries									
		Urban					Rural					Urban					Rural				
		Govt.	Muni- ci- pal Board	Dist- ri- ct Board	Sub- si- dis- ed	Pri- vate	Govt.	Muni- ci- pal Board	Dist- ri- ct Board	Sub- si- dis- ed	Pri- vate	Govt.	Muni- ci- pal Board	Dist- ri- ct Board	Sub- si- dis- ed	Pri- vate	Govt.	Muni- ci- pal Board	Dist- ri- ct Board	Sub- si- dis- ed	Pri- vate
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
1.	Assam	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2.	Bihar	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	2	—	30	15	—
3.	Bombay	—	—	—	—	—	—	—	—	—	—	—	2	9	—	46	—	—	7	1	3
4.	Madhya Pradesh	—	—	—	—	—	—	—	—	—	—	—	6	1	—	1	1	—	—	—	—
5.	Madras	—	—	—	—	—	—	—	—	—	—	—	17	—	—	—	—	—	2	3	1
6.	Orissa	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—
7.	Punjab	—	—	—	—	—	—	—	—	—	—	—	3	2	—	—	—	—	—	—	—
8.	Uttar Pradesh	—	—	—	2	—	—	—	—	—	—	—	10	—	—	—	78	—	90	19	—
9.	West Bengal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6	—
10.	Hyderabad Dn.	1	—	—	—	—	—	—	—	—	—	11	—	—	22	—	93	—	—	30	—
11.	Jammu & Kashmir	—	—	—	—	—	—	—	—	—	—	—	3	—	—	—	24	—	—	—	—
12.	Madhya Bharat	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3	—	—	—	—
13.	Mysore	2	—	—	—	—	—	—	—	—	—	1	3	—	1	1	—	—	39	—	—
14.	Pepsu	—	—	—	—	—	—	—	—	—	—	—	—	—	—	26	2	—	—	—	20
15.	Rajasthan	2	—	—	4	—	5	—	—	—	—	—	—	—	—	—	—	—	—	—	—
16.	Saurashtra	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
17.	Travancore-Cochin	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	—
18.	Ajmer	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7	—	—	—	—	—

TABLE No. 57

Appendix

Statement showing the Number of Ayurvedic Hospitals and Dispensaries as on 31st December, 1952

Serial No.	States	Hospitals										Dispensaries									
		Urban					Rural					Urban					Rural				
		Govt.	Muni- ci- pal Board	Dist- ri- ct Board	Sub- si- dis- ed	Pri- vate	Govt.	Muni- ci- pal Board	Dist- ri- ct Board	Sub- si- dis- ed	Pri- vate	Govt.	Muni- ci- pal Board	Dist- ri- ct Board	Sub- si- dis- ed	Pri- vate	Govt.	Muni- ci- pal Board	Dist- ri- ct Board	Sub- si- dis- ed	Pri- vate
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
1.	Assam	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6	—
2.	Bihar	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	9	5	275	200	450
3.	Bombay	1	1	—	—	7	—	1	—	—	5	10	20	13	10	28	28	—	170	311	411
4.	Madhya Pradesh	1	—	—	—	1	—	—	—	—	—	1	19	—	—	52	—	—	209	17	3
5.	Madras	1	1	—	—	—	—	—	—	—	—	1	83	—	—	3	1	—	360	398	2
6.	Orissa	2	—	—	—	—	—	—	—	—	—	2	1	—	—	—	44	—	27	8	—
7.	Punjab	—	—	—	—	—	—	—	—	—	—	—	8	—	—	3	—	—	24	14	—
8.	Uttar Pradesh	—	—	—	—	—	3	—	—	—	—	—	37	—	—	—	439	—	275	57	—
9.	West Bengal	—	—	—	3	6	—	—	—	—	—	—	1	—	1	16	—	—	1	—	9
10.	Hyderabad Dn.	1	—	—	—	—	—	—	—	—	—	3	—	—	—	—	53	—	—	38	—
11.	Jammu & Kashmir	—	—	—	—	—	—	—	—	—	—	3	—	—	—	—	21	—	—	—	—
12.	Madhya Bharat	1	—	—	—	1	—	—	—	—	—	—	2	—	—	—	247	—	—	5	—
13.	Mysore	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
14.	Pepsu	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
15.	Rajasthan	3	—	—	1	—	—	—	—	—	—	24	—	—	34	—	316	—	70	42	—
16.	Saurashtra	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

17.	Travancore-Cochin	.	.	.	12	—	—	3	—	—	—	—	3	—	3	—	—	—	—	46	—	—	—	—
18.	Ajmer	.	.	.	—	2	—	—	7	—	—	—	—	—	9	—	—	28	—	—	9	—	—	
19.	Bhopal	.	.	.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6	—	—	3	—	
20.	Bitaspur	.	.	.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	—	—	—	—	
21.	Coorg	.	.	.	—	—	—	—	—	—	—	—	—	—	—	3	—	—	—	—	—	—	—	
22.	Delhi	.	.	.	—	1	—	—	—	—	—	—	—	—	9	—	—	9	—	—	—	—	—	
23.	Himachal Pradesh	.	.	.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	35	—	6	—	—	
24.	Kutch	.	.	.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
25.	Manipur	.	.	.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
26.	Tripura	.	.	.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
27.	Vindhya Pradesh	.	.	.	—	—	—	—	—	—	—	—	—	11	—	—	—	—	27	—	—	—	—	
28.	Andaman & Nicobar Islands	.	.	.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	

TABLE No. 58

Statement showing the Number of Unani Hospitals and Dispensaries as on the 31st December, 1952.

Serial No.	States	Hospitals										Dispensaries									
		Urban					Rural					Urban					Rural				
		Govt.	Muni- ci- pal Board	Dist- ri- ct- Board	Sub- si- dis- ed	Pri- vate	Govt.	Muni- ci- pal Board	Dist- ri- ct- Board	Sub- si- dis- ed	Pri- vate	Govt.	Muni- ci- pal Board	Dist- ri- ct- Board	Sub- si- dis- ed	Pri- vate	Govt.	Muni- ci- pal Board	Dist- ri- ct- Board	Sub- si- dis- ed	Pri- vate
		(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
1.	Assam	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2.	Bihar	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	2	1	30	15	72
3.	Bombay	—	—	—	—	—	—	—	—	—	—	—	2	—	—	—	—	—	—	10	—
4.	Madhya Pradesh	—	—	—	—	—	—	—	—	—	—	—	3	—	—	4	—	—	7	—	—
5.	Madras	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—
6.	Orissa	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—
7.	Punjab	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7	6	8
8.	Uttar Pradesh	—	—	—	—	—	—	—	—	—	—	—	21	—	—	—	83	—	61	17	—
9.	West Bengal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10.	Hyderabad Dn.	1	—	—	—	—	—	—	—	—	—	11	—	—	—	—	90	—	—	—	—
11.	Jammu & Kashmir	—	—	—	—	—	—	—	—	—	—	3	—	—	—	—	15	—	—	—	—
12.	Madhya Bharat	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
13.	Mysore	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
14.	Pepsu	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8	—	—	—	—
15.	Rajasthan	—	—	—	—	—	—	—	—	—	—	4	—	—	—	—	—	—	—	—	—

TABLE No. 59

Appendix

Statement showing Ayurvedic and Unani Institutions Students Admitted, etc., and Teaching Staff during 1952

State and Institutions	No. of seats available for admission in 1952	No. of Students admitted during 1952	No. of Students passed out during 1952-53	Total No. of students under training during 1952-53		No. of Students for whom accommodation was available in the hospital	No. of Professors				No. of Assistant Professors, Readers, Lecturers & Demonstrators			
				Men	women		Paid		Hony.		Paid		Hony.	
							Whole time	Part time	Whole time	Part time	Whole time	Part time	Whole time	Part time
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
ASSAM														
1. Government Ayurvedic College, Gauhati.	24	13	Result not out	38	1	30	—	—	—	—	8	—	—	—
BIHAR														
1. Government Ayurvedic College, Patna.	40	26	29	136	5	—	9	—	1	—	—	—	—	—
2. Government Tibbi College, Kadam Khan Patna.	40	14	10	30	4	11	7	—	—	—	—	—	—	—

BOMBAY														
1. Aryangla Vadyak Mahavidyalaya, Satara City.	30	20	13	108	12	30	4	7	—	7	4	1	—	—
2. Shree O. H. Nazar, Ayurved, Mahavidyalaya, Surat.	40	40	17	138	29	80	2	—	—	—	1	—	2	19
3. Ayurveda Mahavidyalaya, Poona.	70	70	62	225	125	89	5	1	—	14	5	7	2	1
4. Shri J. S. Maha Gujarat Ayurvedic Medical College, Nadiad.	24	19	The examination was to take place in Oct. 1953	28	6	72	2	2	—	1	1	5	1	—
5. R.A. Podar Medical College, (Ayurvedic), Worli, Bombay.	54	76	51	143	80	—	—	—	—	—	12	5	—	—
6. Ayurved Mahavidyalaya, Ahmednagar.	20	19	13	64	3	30	5	—	—	7	—	—	—	—
MADHYA PRADESH														
1. Government Ayurvedic school, Raipur.	40	40	15	102	1	40	—	—	—	—	8	—	—	—
MADRAS														
1. Arya Vaidya Patasala, Kottakal.	45	39	18	120	1	30	4	2	—	2	—	—	—	—

TABLE No. 59—contd.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
2. Taranath Ayurveda Vidya Peetha, Bellary.	30	34	9	49	2	25	4	—	—	1	—	—	—	—
3. Shree Venkateswara Ayurveda Kalsala, Vijayawada, Krishna-District.	20	11	5	30	—	5	4	—	—	1	2	—	—	3
4. College of Indigenous medicine, Madras.	10	100	77	586	82	250	26	—	—	—	59	—	—	—
5. M. M. Ayurvedic College, Cannanore.	25	17	11	65	3	24	2	—	—	—	5	—	—	—
6. Shree Ramamohan Ayurvedic College, Guntur.	30	25	11	29	3	—	—	—	—	—	1	8	—	—
ORISSA														
1. Gopabandhu Ayur. Vidyapitha, Puri.	30	30	8	99	2	65	2	—	—	—	3	12	—	1
PUNJAB														
1. Dayanand Ayurvedic College, Jullundur.	25	20	11	55	—	20	3	5	—	1	—	—	—	2
2. S.D. (P.G.) Ayurvedic College, Bhiwani.	50	—	21	6	20	25	3	1	—	—	3	1	—	—

UTTAR PRADESH														
1.	Ayurvedic College Gurukul University, Vrindaban, Mathura.	200	52	4	—	130	50	5	—	—	—	18	—	—
2.	Rishikul Ayurvedic College, Haridwar.	50	57	28	187	—	64	6	—	—	—	7	—	—
3.	B.H.U. Ayurvedic College, Banaras.	85	85	35	433	—	160	—	—	1	—	25	3	—
4.	Shri Ram Sahai Vaidyak Sanskrit Mahavidyalaya, Meerut.	20	12	18	58	—	18	8	—	3	—	4	—	1
5.	Lalit Hari Ayurvedic College, Pilibhit.	46	45	34	170	1	80	7	2	1	—	2	3	—
6.	Arjun Ayurvedic Vidyalaya, Banaras.	50	33	13	906	6	20	2	8	—	5	—	—	—
7.	Ayurvedic Mahavidyalaya, Gurukul, University, Kangra.	50	19	17	73	—	100	8	2	1	—	—	—	—
8.	Bundel Khand Ayurvedic College, Jhansi.	100	51	25	238	12	250	14	—	—	—	60	—	—
9.	Tibbya College, M.U. Aligarh.	50	35	10	100	3	80	—	—	—	—	16	—	—
10.	Shree Baldeo Ayurvedic College, Baragaon, Banaras.	60	12	1	28	—	15	1	1	2	—	3	4	—

TABLE No. 59—contd.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
11. Shri Ultra Khand Vidyapith, Garhwal.	25	3	2	3	—	40	4	—	—	1	—	—	—	—
12. Kanya Kuberj Ayurvedic College, Lucknow.	30	21	12	93	1	12	2	1	2	2	4	—	—	—
13. Bharat Tibbia College, Saharanpur.	—	—	—	—	—	—	7	—	—	—	2	—	—	—
WEST BENGAL														
1. Vishwanath Ayurveda Mahavidyalaya, Calcutta.	30	5	—	9	—	10	3	3	2	6	8	6	4	10
2. Jamini Bhushan Ashtanga Ayurvedic Vaidyalaya, Calcutta.	100	21	10	—60—	—	10	—	10	—	1	—	5	—	1
3. Ayurvedya Prasthan, Calcutta.	5	—	1	—3—	—	2	—	—	1	2	—	—	1	—
4. Shyamadas Vaidyasahas apith, Calcutta.	50	9	1	31	—	10	3	—	1	—	—	20	—	—
HYDERABAD DN.														
1. Government Ayurvedic College, Hyderabad Dn.	40	40	7	69	14	—	—	—	—	—	9	—	—	—
2. Government Unani Tibbi College,	30	24	19	31	17	—	3	—	—	—	5	3	—	—

MADHYA BHARAT														
1. M.B. Government Ayur. College, Gwalior.	Not Fixed	11	—	36	—	—	—	—	—	—	8	8	—	—
2. Raj Kumar Singh Ayur. College, Indore.	130	126	97	122	4	25	4	6	1	1	—	—	—	—
MYSORE														
1. Government Ayur. & Unani College, Mysore.	75	71	15	158	12	—	11	8	—	—	1	—	—	—
PEPSU														
1. Pepsu Government Ayur. College, Patiala.	43	43	35	41	2	12	1	—	—	2	3	—	—	—
2. Shri Ayurved Mahavidyalaya, Barnala.	No limit	25	53	55	3	—	1	—	—	2	2	—	—	—
RAJASTHAN														
1. Rajputana Ayur. Unani Tibbi College, Jaipur.	60	13	7	22	—	—	3	—	1	—	—	—	—	—
2. Government Ayur. College, Jaipur.	No limit	20	14	63	—	20	3	—	—	—	5	—	—	—
3. H.R. Ayur. College, Ramgrah (Sikar).	20	9	52	31	33	50	3	2	—	—	2	—	—	—
SAURASHTRA														
1. Ayur. Vidyalaya, Jamnagar.	—	—	—	226	43	322	13	1	—	8	2	3	—	—

TABLE NO. 59—*contd.*

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
TRAVANCORE-COCHIN														
1. Government Ayur. College, Tri-vandrum.	125	45	20	98	9	47	—	3	3	3	7	3	—	—
DELHI														
1. Ayurvedic and Unani Tibbi College, Karolbagh Delhi.	100	41	22	155	4	75	—	—	—	—	17	—	—	—

N. B.—Information has not been received from all the Institutions at Bihar, Madras and Utter Pradesh.

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