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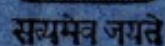
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DIRECTORATE GENERAL OF HEALTH SERVICES
MINISTRY OF HEALTH, GOVERNMENT OF INDIA,
NEW DELHI-1.



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सत्यमेव जयते

ANNUAL REPORT
OF THE
**DIRECTORATE GENERAL OF
HEALTH SERVICES**
1958

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INTRODUCTION

The period under review is that of the year 1958. During the past few years after independence, the health of the nation has, no doubt, made considerable progress and the expectation of life at birth has gone up. Matters connected with health fall largely in the State activities. The Centre is, however directly responsible even for State subjects concerning Centrally Administered Areas of Manipur, Delhi, Tripura, Himachal Pradesh and Andaman and Nicobar Islands.

In general the matters in the fields of public health, medical relief, professional education, medical research and industrial health are primarily the responsibility of the States themselves. The function of the Central Government in regard to the matter in the State list can be stated to be co-ordination, collection and supply of information, supply of expert technical assistance and advice and such other assistance as can be given for the promotion of health and well-being of the country. In this report we have attempted to draw a picture of the state of the health of the country and of the existing health organisations. In attempting to do so it is gratifying to note that the year under review has many favourable features including the launching of the National Malaria Eradication Programme in place of control which have directly and indirectly contributed to an upsurge in medical and public health movement and expansion. In controlling other communicable-diseases like Filaria, Tuberculosis, Leprosy and Venereal Diseases, appreciable progress has been made during the year under report, although the progress was to some extent hampered in several parts of the country on account of shortage of trained personnel or of supplies and equipment, etc. The information contained in this annual report was supplied partly by the State health authorities in reply to a set of questionnaires issued by this Directorate and partly by the various sections of this Directorate. Some of the State authorities, sent again these questionnaires to their large number of administrative units to send the material to this Directorate direct. Every effort has been made to collect information and to compile and complete the picture as far as the year is concerned. We will strive to enlarge the scope of this publication and to make it more useful. In that we bank on the cooperation of State health authorities who are our source of information.

Our thanks are due to all administrative medical officers who collected and supplied us with the materials and data and thus helped us in bringing out the annual report for the year.

NEW DELHI-1,
The 17th September, 1963 }

K. N. RAO

Additional Director General of Health Services

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CHAPTER I

POPULATION, VITAL AND HEALTH STATISTICS

Population—The last decennial census of population was taken in 1951. 3,569 lakhs of persons were enumerated in the Indian Union excluding the State of Jammu and Kashmir and the tribal areas of Assam where no census could be conducted, but the estimate of population of the State of Jammu and Kashmir was given to be 4.41 million. Thus the total population was 361.8 million and the percentage increase during the decade 1941—1951 was 14.71.

India is a rapidly growing nation. Over the last 30 years the population increased by 113.7 million from 248.1 million in 1921 to 361.8 million in 1951. According to tentative estimates of the Planning Commission, it is estimated that during 1961 and 1966, the population will be 430.8 and 479.6 million respectively. The following tables give the population for different census years:

Census year	Total population (in millions)
1921	248.1
1931	273.5
1941	312.8
1951	361.8
1956	391.5 (Estimated)

For inter-censal years only estimates can be attempted and the following table gives the mid-year estimated population for the year under review and the corresponding density for different States—

Sl. No.	States	Mid-year esti- mated popula- tion	Density per sq. mile
1.	Andhra Pradesh	34.41	326
2.	Assam	10.28	122
3.	Bihar	41.67	620
4.	Bombay	54.85	288
5.	Jammu and Kashmir	4.71	55
6.	Kerala	15.75	1,054
7.	Madhya Pradesh	27.71	162
8.	Madras	33.14	661
9.	Mysore	22.08	295
10.	Orissa	15.32	254
11.	Punjab	17.23	366
12.	Rajasthan	17.72	134
13.	Uttar Pradesh	68.59	605
14.	West Bengal	28.80	842
<i>Union Territories :</i>			
1.	Andaman and Nicobar Islands	0.03	9
2.	Delhi	2.18	3,772
3.	Himachal Pradesh	1.15	105
4.	Manipur	0.63	73
5.	Tripura	0.75	182
6.	Pondicherry	0.37	*
7.	Laccadive, Minicoy and Amindivi Islands	0.02	*
	INDIA	397.39	315

NOTE :—*Information not available.

The total population for 1958 was 397.39 millions and the density rose from 309 in 1957 to 315 in 1958. In respect of the individual States, the densities of Delhi, Kerala and West Bengal were 3,772, 1,054 and 842 respectively while at the other end Rajasthan, Himachal Pradesh and Manipur had 134, 105 and 73 respectively.

An important study of population is its age composition. The following table gives the percentages of population of India in different age groups as in 1951 and the estimates given by the Planning Commission for these age-groups:—

Categories	Age-group (in years)	Percentages of population		
		1951	1956	1959
(i) Infants and young children	0—4	13.5	14.8	16.3
(ii) Boys and girls	5—14	24.8	22.7	23.4
(iii) Young men and women	15—24	17.4	18.9	17.9
	25—34	15.6	15.4	14.7
(iv) Middle aged men and women	35—44	11.9	11.6	11.4
	45—54	8.5	8.1	8.1
(v) Elderly persons	55—64	5.1	4.9	5.0
	65 and over	3.2	3.6	3.2

Another important feature of the population is number of female population per 1,000 of male population. The table below gives the value as obtained in 1951 census for re-organised States in the country.

States/Union Territories	Females per 1,000 males (1951 census)
1. Andhra Pradesh	986
2. Assam	879
3. Bihar	990
4. Bombay	944
5. Kerala	1,028
6. Madras	1,007
7. Mysore	966
8. Madhya Pradesh	967
9. Orissa	1,022
10. Punjab	858
11. Rajasthan	921
12. Uttar Pradesh	910
13. West Bengal	864
14. Delhi	768
15. Himachal Pradesh	914

Females were less in number than males in all the States except Kerala, Madras and Orissa.

Vital and Health Statistics—Registration of births and deaths is of paramount importance as it enables to assess the changes during the intercensal years. Although registration as such is a century old, the system is unsatisfactory and the position in different States in regard to full coverage and accuracy differs widely. The population of registration areas of some of the States based on 1951 census is given below :—

States/Union Territories						Population	Registration area (in sq. miles)
1. Andhra Pradesh	..	..	..	..	..	30,165,858	102,904
2. Assam	..	..	..	..	..	9,043,707	85,062
3. Bihar	..	..	..	..	..	38,783,778	67,113
4. Bombay	..	..	..	..	..	24,821,961	190,668
5. Kerala	..	..	..	..	..	13,549,118	*
6. Madhya Pradesh	..	..	..	..	..	26,071,637	171,052
7. Madras	..	..	..	..	..	29,980,085	50,174
8. Mysore	..	..	..	..	..	19,401,193	74,861
9. Orissa	..	..	..	..	..	13,386,730	49,736
10. Punjab	..	..	..	..	..	16,134,890	47,062
11. Rajasthan	..	..	..	..	..	9,345,600	*
12. Uttar Pradesh	..	..	..	..	..	63,215,742	113,423
13. West Bengal	..	..	..	..	..	26,278,846	34,197
14. Andaman and Nicobar Islands	..	..	..	..	..	30,971	3,215
15. Delhi	..	..	..	..	..	1,744,072	578
16. Himachal Pradesh	..	..	..	..	..	1,109,466	10,922
17. Manipur	..	..	..	..	..	577,635	8,629

Note :— * Figures not available.

The degree of under-registration does not, in fact, depend on the legal position. Although it may be compulsory in a State, registration can not be said to cover all the events. The coverage of vital events varies from State to State. Broadly the States can be divided into three groups viz., satisfactory, fragmentary and deficient. The first group containing the erstwhile States of Andhra, Orissa, Punjab, Uttar Pradesh, West Bengal, Ajmer and Coorg; the second one comprises of Assam, Himachal Pradesh, Hyderabad and Travancore-Cochin and last one Bhopal, Kutch, Madhya Bharat, Manipur, PEPSU, Rajasthan, Saurashtra and Tripura. But in 1956, changes took place due to the re-organisation of States. It may consequently be said that the coverage of registration of births and deaths was much poorer than in the earlier States. In this connection, it is relevant to quote the following observation of the Registrar General, India:—

“The coverage of registration of births and deaths in these areas was even poorer than that in the main State. The inclusion of these areas, therefore, resulted in decline in the birth and death rates for the reorganised States.”

The following table gives the registered birth rates for different States. Birth-rate, death-rate and infant mortality rate, as reported by the Registrar General, India during the year 1958 were as follows :—

States					Birth Rates	Death Rates	Infant Mortality Rates
1. Andhra Pradesh	..	..	..	..	18.9	10.4	85.9
2. Assam	..	..	..	..	8.8	3.8	77.4
3. Bihar	..	..	..	..	13.2	7.7	74.0
4. Bombay	..	..	..	..	28.6	15.8	112.6
5. Delhi	..	..	..	..	29.1	8.9	85.3
6. Kerala	..	..	..	..	24.3	7.5	49.5
7. Madras	..	..	..	..	27.0	13.1	103.4
8. Madhya Pradesh	..	..	..	..	17.5	11.6	146.7
9. Mysore	..	..	..	..	23.5	10.5	70.9
10. Orissa	..	..	..	..	25.4	18.4	155.2
11. Punjab	..	..	..	..	38.1	14.2	108.4
12. Uttar Pradesh	..	..	..	..	15.9	9.7	103.0
13. West Bengal	..	..	..	..	22.7	9.5	80.4

It can be seen from the table that Punjab reported the highest birth rate (38.1) followed by Delhi (29.1), Bombay (28.6), Madras (27.0), Orissa 25.4 and Kerala (24.3). The lowest birth rate was reported in Uttar Pradesh (15.9).

The death rate, as can be seen from the table, was the highest in Orissa (18.4) followed by Bombay (15.8), Punjab (14.2), Madras (13.1), Andhra (10.4) and Uttar Pradesh (9.7). The lowest death rate was recorded in Assam (3.8), while West Bengal, Mysore, Kerala and Bihar reported respectively 9.5, 10.5, 7.5 and 7.7. The pooled value for all the States except Assam and Bihar was 11.9 per mille of population.

Regarding the Infant Mortality Rate, Orissa reported the highest rate (155.2) followed by Madhya Pradesh (146.7); Bombay (112.6), Madras (103.4) and Uttar Pradesh (103.0). The lowest rate was reported in Mysore (70.9). The pooled value of all the States excluding Assam and Bihar was 102.4 per mille of live births.

The Birth, Death and Infant Mortality Rates in rural and urban areas of the various States in India during the year 1958 were as follows :—

States					Birth Rates	Death Rates	Infant Mortality Rates
1. Andhra Pradesh—							
Rural	..	..	..	..	17.9	10.5	88.0
Urban	..	..	..	..	24.3	10.3	26.6
2. Assam—							
Rural	..	..	..	..	8.1	3.6	81.6
Urban	..	..	..	..	21.1	7.5	46.7
3. Bihar							
Rural	..	..	..	..	13.5	7.9	73.1
Urban	..	..	..	..	9.8	5.3	88.1

States						Birth Rates	Death Rates	Infant Mortality Rates
4. Bombay—								
	Rural	..	..	..	..	29.5	17.3	115.2
	Urban	..	..	..	..	26.6	12.4	106.4
5. Delhi—								
	Rural	..	..	..	..	27.5	10.7	119.2
	Urban	..	..	..	..	29.4	8.5	79.4
6. Kerala—								
	Rural	..	..	..	..	24.3	7.4	49.6
	Urban	..	..	..	..	24.6	8.0	48.5
7. Madras—								
	Rural	..	..	..	..	24.4	12.6	105.4
	Urban	..	..	..	..	34.2	14.4	99.5
8. Madhya Pradesh—								
	Rural	..	..	..	..	17.7	11.9	149.2
	Urban	..	..	..	..	16.3	10.0	128.5
9. Mysore—								
	Rural	..	..	..	..	23.2	10.8	75.1
	Urban	..	..	..	..	24.5	9.5	59.7
10. Orissa—								
	Rural	..	..	..	..	25.3	18.4	157.0
	Urban	..	..	..	..	34.3	18.9	117.5
11. Punjab—								
	Rural	..	..	..	..	39.0	15.4	115.7
	Urban	..	..	..	..	34.5	9.2	73.1
12. Uttar Pradesh—								
	Rural	..	..	..	..	13.9	9.1	99.5
	Urban	..	..	..	..	27.8	13.3	113.3
13. West Bengal—								
	Rural	..	..	..	..	23.4	9.5	71.6
	Urban	..	..	..	..	20.5	9.4	112.9

The urban and rural values of the rates for different States are given in the table above. It can be seen from the table that the rural rates in many of the States were lower than the urban values, probably due to reason that the urban areas constitute better areas of registration. The combined values of the birth-rate for the group of States excluding Assam, Bihar, Kerala and Mysore given above gives 21.9 for the rural areas and 27.0 for the urban areas. The corresponding figures for the death-rate and infant mortality rate were 12.3, 11.9 and 110.0, 101.9 respectively. It may be noted that the rural and urban differences in death rate and infant mortality rate on the one hand and the birth-rate on the other hand were in opposite directions. The following table gives the values for the years 1956—58 and corroborates the conclusion given above:

Years and Areas						Birth Rates	Death Rates	Infant Mortality Rates
1956—								
	Rural	..	..	..	..	22.3	10.9	108.
	Urban	..	..	..	..	27.1	10.9	98.1
1957—								
	Rural	..	..	..	..	21.4	11.7	110.1
	Urban	..	..	..	..	26.6	11.6	97.1
1958—								
	Rural	..	..	..	..	21.9	12.3	110.0
	Urban	..	..	..	..	27.0	11.9	101.9

Information on the sex ratio of live-births is given in the following table for different States according to rural and urban areas for the years 1956—58:—

States	Years	Still births			Sex ratio*			
		Rural	Urban	Total	Rural	Urban	Total	
1. Andhra Pradesh	..	1956	1,646	3,382	5,028	107	108	107
		1957	1,740	3,783	5,523	107	108	107
		1958	814	4,123	4,937	106	108	107
2. Assam	..	1956	1,317	270	1,587	106	110	106
		1957	1,232	166	1,398	101	101	101
		1958	1,102	252	1,354	103	107	103
3. Bihar	..	1956	†	†	760	109	122	110
		1957	†	†	641	110	118	110
		1958	†	†	1,068	109	113	109
4. Bombay	..	1956	3,124	9,462	12,586	108	109	108
		1957	6,623	9,818	16,441	109	109	109
		1958	5,834	12,610	18,444	109	110	109
5. Kerala	..	1956	1,624	1,656	3,280	107	107	107
		1957	2,306	1,980	4,286	106	108	107
		1958	2,291	1,845	4,136	106	106	106
6. Madhya Pradesh	..	1956	5,442	368	5,810	108	117	109
		1957	5,419	1,936	7,355	106	112	107
		1958	7,525	758	8,283	106	112	106
7. Madras	..	1956	74,072	30,235	104,307	107	106	107
		1957	2,667	11,924	14,591	108	106	107
		1958	2,342	11,583	13,925	107	106	107
8. Mysore	..	1956	2,056	3,088	5,144	105	103	104
		1957	1,939	3,169	5,108	105	104	104
		1958	8,654	4,959	13,613	106	107	106
9. Orissa	..	1956	9,408	492	9,900	107	106	107
		1957	7,570	335	7,905	†	†	107
		1958	†	†	†	107	100	107
10. Punjab	..	1956	834	577	1,411	113	113	113
		1957	633	583	1,216	114	116	115
		1958	600	671	1,271	115	112	114
11. Rajasthan	..	1956	7,444	1,016	8,460	120	117	119
		1957	5,694	624	6,318	122	122	122
		1958	9,612	725	10,337	†	†	†
12. Uttar Pradesh	..	1956	1,661	2,502	4,163	124	112	121
		1957	1,836	2,246	4,082	125	113	122
		1958	1,196	1,518	2,714	123	116	121
13. West Bengal	..	1956	6,397	4,458	10,855	109	108	109
		1957	5,715	3,878	9,593	109	109	109
		1958	5,587	4,095	9,682	109	108	109
14. Andaman and Nicobar Islands.		1956	2	16	18	114	100	105
		1957	1	4	5	101	112	108
		1958	—	10	10	97	98	97
15. Delhi	..	1956	18	545	563	119	108	109
		1957	19	491	510	117	110	111
		1958	20	517	537	111	108	109
16. Himachal Pradesh		1956	†	†	†	113	114	113
		1957	†	†	†	†	†	†
		1958	52	5	57	113	103	112
17. Manipur	..	1956	2	—	2	129	122	125
		1957	—	—	—	125	142	128
		1958	3	106	109	121	114	119

NOTE— * It represents male live births per 100 female live births.

† Figures not available.

— Nil information.

It is very clear from the table that the number of male births in all the States was invariably higher than the female births except in Andaman and Nicobar Islands which reported 97 during the year under report. It may also be noted that both in urban and rural areas, the number of male live births were higher than female live births.

Information on still births is also incorporated in the table given above. It can be seen that Bombay, Madras and West Bengal reported 18,444, 13,925 and 9,682 still births respectively during the year 1958. It is important to note that Punjab and Delhi reported the relatively less number of still births which are respectively 1,271 and 537 among the group of States given, in the above table.

It is necessary that deaths should be recorded according to cause, age and sex. Normally, the accurate information regarding the cause of death is not available in the context of un-developed nature of statistics and lack of diagnostic facilities in the country. The registration of deaths is, therefore, mainly confined to Cholera, Smallpox, Plague and the groups of diseases viz., Dysentery and Diarrhoea, Fevers and Respiratory diseases. The remaining causes are usually shown in one group entitled "others".

Information on the percentages of deaths among total deaths in different age groups is given below:—

Years	Age in year									
	Under 1	1—4	5—9	10—14	15—19	20—29	30—39	40—49	50—59	60 & over
1956 ..	21.6	18.8	5.0	3.6	3.7	6.2	6.4	7.0	7.9	20.4
1957 ..	20.1	19.6	5.6	3.4	3.6	6.6	6.8	7.4	8.6	23.1
1958 ..	19.7	20.2	6.0	3.4	3.3	6.2	6.2	6.8	8.4	18.5

The table is based on the data from the States of Andhra Pradesh, Bombay, Delhi, Kerala, Madhya Pradesh, Madras, Mysore, Orissa, Punjab, Uttar Pradesh and West Bengal. Although the percentages of 1956 and 1957 are not strictly comparable, they will, however, broadly indicate the trends of the percentages in different age groups for the reason that many of the important States are also covered during the year under report.

Information on maternal mortality rates, as reported by the various State Health Directorates, is given below:—

States/Union Territories	Maternal Mortality Rates per mile of live-births
1. Andhra Pradesh ..	4.70
2. Assam ..	9.88
3. Bihar ..	†
4. Bombay ..	4.90

States/Union Territories	Maternal Mortality Rates per mille of live-births
5. Kerala	†
6. Madhya Pradesh	2.74
7. Madras	†
8. Mysore	5.00
9. Orissa	†
10. Punjab	0.79
11. Rajasthan	8.1
12. Uttar Pradesh	1.86
13. West Bengal	†
14. Himachal Pradesh	1.50
15. Manipur	2.50
16. Pondicherry	9.23
17. Andaman and Nicobar Islands	†
18. Delhi	†

Note:—†Information not available.

All India value is not attempted for the reason that the information from all the States is not available but a value of 10.4 for Maternal Mortality was estimated.

It would indeed be of great importance to compare the all India estimate with those of the other countries. The following table gives the values of other countries:—

Countries	Maternity Mortality Rates per mille of live-births
1. Union of South Africa	0.5
2. Canada	0.5
3. U. S. A.	
(i) White	0.3
(ii) Non-white	1.2
4. Portugal	1.3
5. Japan	1.7
6. Germany	1.3
7. Austria	0.9
8. Belgium	0.7
9. France	0.6
10. Norway	0.5
11. Sweden	0.4
12. Australia	0.6
13. New Zealand	0.7
14. Denmark	0.4
15. Netherlands	0.6
16. England and Wales	0.5
17. Ceylon	0.4
18. India (estimated)	10.4

¹ The proportional mortality in the age group of 50 years and above is usually considered to be an index of the health conditions in the country.

The following Table shows the proportional mortality in India for the years 1953—1958. This information is given to highlight the fact that since 1953 the proportional mortality has not apparently decreased.

Years									Proportional mortality in the age group of 50 years and above
1953	..	..	..	..	..	..	..	..	27.3
1954	..	..	..	..	..	..	..	..	26.7
1955	..	..	..	..	..	..	..	..	27.4
1956	..	..	..	..	..	..	..	..	28.4
1957	..	..	..	..	..	..	..	..	31.7
1958	..	..	..	..	..	..	..	..	26.9

The expectation of life at birth is a very important index of the health conditions in the country. During the decade 1941—1950, the expectation of life at birth was 32.5 for male and 31.7 for female. Since 1891 the expectation of life at birth can be seen from the following table :—

Years	Expectation of life at birth	
	Male	Female
1891—1901	23.6	24.0
1901—1911	22.6	23.3
1911—1921	†	†
1921—1931	26.9	26.6
1931—1941	26.9	26.6
1941—1951	32.5	31.7
1951—1956 } estimated	37.76	37.49
1956—1961 }	41.68	42.06

Note:—†Information not available.

The above table clearly shows the increasing trend during the last 60 years of the expectation of life at birth, but it is also to be noted that the expectation of life for female was slightly less than (that of male) during the period 1921—1956.

The above discussion relates to the expectation at birth only, but its value at any particular age is a good index of the net result of incidence of mortality at all subsequent ages. The table given below gives the expectation of life at the ages, 0, 10, 20, 30, 40 and 50 respectively:—

Age in years							Expectation of life during 1941—1950	
							Male	Female
0	..	..	..	..	..	..	32·45	31·66
10	..	..	..	..	..	..	38·97	39·45
20	..	..	..	..	..	..	33·03	32·90
30	..	..	..	..	..	..	26·58	26·18
40	..	..	..	..	..	..	20·53	21·06
50	..	..	..	..	..	..	14·89	16·15
60	..	..	..	..	..	..	10·13	11·33

CHAPTER II

GENERAL EPIDEMIOLOGY

SMALLPOX

Smallpox is one of the major communicable diseases which is not only known to the lay public but also notifiable throughout the country. It takes annually a heavy toll of lives and is widely spread in all the States of the country. The following table gives the seizures and deaths during the last five years:—

Years							Cases	Deaths
1953	..	..	..	..	..	..	35,024	31,692
1954	..	..	..	..	..	..	45,117	36,163
1955	..	..	..	..	..	..	37,537	23,059
1956	..	..	..	..	..	..	42,574	14,903
1957	..	..	..	..	..	..	71,138	54,129
1958	..	..	..	..	..	..	157,914	132,439

The average attacks and deaths during the period given in the above table can be seen to be 64,884 and 48,731 respectively.

Similar information for some of the foreign countries is given for the years 1953 to 1957 in the following table:—

Years			Afghanistan		Burma		Indonesia	
			Cases	Deaths	Cases	Deaths	Cases	Deaths
1953	..	..	1,813	28	164	18	2,584	363
1954	..	..	1,725	61	216	32	1,878	277
1955	..	..	1,345	54	1,675	319	1,377	460
1956	..	..	1,002	5	4,223	1,495	2,817	2,154
1957	..	..	226	1	2,739	594	1,550	320

Years			Iraq		Iran		Pakistan	
			Cases	Deaths	Cases	Deaths	Cases	Deaths
1953	..	..	251	37	148	1	†	1,425
1954	..	..	22	—	55	—	†	714
1955	..	..	72	5	542	48	3,261	1,360
1956	..	..	2,173	281	1,616	175	†	3,473
1957	..	..	1,924	222	1,008	42	†	18,373

NOTE:—†=Information not available.

=Nil information.

During the year under review the information is available for all the States except Bihar. On the basis of this information the number of deaths recorded in the whole of the country was 132,439. Consequently, the death rate for the country was 9.4. Information on annual basis on the number of cases is available

for only 13 States. In order to build up an all-India picture the number of cases reported were supplemented from the weekly information. Thus the total number of cases worked out to be 157,914. However, for calculating the case fatality rate, the information available in the annual proforma was utilised and the case fatality rate for India was 43·8.

Strict comparison with the previous years is not possible for the reason that the coverage for both the years is not the same. However, on the basis of the information for the States which have reported last year as well as during the year under review, the number of cases and deaths during the year 1958 were 53,535 and 22,767 respectively as against 34,062 and 11,688 during the last year.

The comparison clearly reveals that during the year 1958, the incidence was larger than during the previous year. Similarly, mortality was nearly two times larger.

The State-wise information giving the number of districts infected, number of cases notified, case fatality rates and the peak months during the year under report is given in Table No. I.

The percentages of deaths and death rates in different States were as follows:—

States	Percentages of deaths due to Smallpox		Death Rates per million of population	
	1958	1957	1958	1957
1. Andhra Pradesh	4·72	2·57	490	400
2. Assam	0·14	0·16	49	8
3. Bihar	†	1·87	†	100
4. Bombay	3·32	1·22	510	200
5. Kerala	1·31	0·42	101	101
6. Jammu and Kashmir	†	†	†	†
7. Madhya Pradesh	0·71	3·92	88	†
8. Madras	1·28	0·84	165	100
9. Mysore	2·71	1·65	284	200
10. Orissa	10·11	2·00	1,813	400
11. Punjab	0·14	0·08	22	10
12. Rajasthan	†	3·90	†	40
13. Uttar Pradesh	4·44	1·24	411	100
14. West Bengal	5·60	3·50	522	400
II. Union Territories—				
1. Andaman and Nicobar Islands	—	—	—	—
2. Himachal Pradesh	†	0·02	†	—
3. Delhi	0·63	†	47	†
4. Manipur	0·88	—	34	20
5. Tripura	†	—	†	—
6. Pondicherry	†	—	†	—

NOTE:—Nil Information.

† Figures not available.

The situation regarding the prevalence of smallpox in various States of India during the year under review was as follows:—

Andhra Pradesh—During the year under report 25,884 cases were reported with 16,180 deaths whereas during 1957 corresponding figures were 20,588 and 4,573 and the case fatality rates during the two years respectively were 62·5 and 22·2. This comparison clearly indicates that the case fatality during the year under report was far higher than during 1957.

As can be seen from the number of villages infected during the years 1957 and 1958, the spread of the disease was more in 1958 than in 1957. It is also significant to note that the peak months of the disease were February and March during the two years 1958 and 1957 respectively. The peak months for the previous years were as follows:—

Years	Peak period of the incidence of the disease						
1954	March
1955	March
1956	June

Perhaps the peak incidence of the disease in the State was round about the period February to June. The reasons for this particular peak have to be investigated from the epidemiological point of view.

During 1958, there was definite seasonal prevalence with its peak in February and with its lowest peak in October.

All preventive and control measures were undertaken mass vaccination, disinfection of infected premises and articles, isolation and treatment of cases wherever possible were carried out. Total number of primary vaccinations and revaccinations during the years were 13.47 lakhs and 58.03 lakhs respectively. It was reported that the percentages of successful vaccination among the primary and re-vaccination were respectively 91 and 10 per cent. About 2,000 posters both in English and Telegu were printed and distributed among the public to educate them about the disease.

The incidence of the disease was found to be the highest in the Srikakulam district with 3,399 cases followed by Guntur which reported 3059 cases. The least incidence was recorded in the district of Khammam with only 6 cases. The following table gives the district-wise attacks for the last three years:—

Districts	Smallpox Cases		
	1956	1957	1958
1. Adilabad	—	5	736
2. Anantapur	335	95	1,482
3. Chittoor	225	509	903
4. Cuddapah	86	555	1,030
5. Godavari East	1,441	279	586
6. Godavari West	687	482	1,147
7. Guntur	1,896	1,789	3,059
8. Hyderabad	248	695	719
9. Karimnagar	1	21	548
10. Krishna	1,122	1,133	1,113
11. Kurnool	866	1,126	2,282
12. Mahbubnagar	18	15	217
13. Medak	8	38	2,050
14. Nalgonda	30	137	1,227
15. Nellore	546	477	932
16. Nizamabad	—	45	1,022
17. Srikakulam	132	1,136	3,399
18. Visakhapatnam	327	506	2,024
19. Warangal	6	26	1,402
20. Khammam	197	60	6

It can be inferred from the above table that the coastal districts viz., Guntur, Krishna, East Godavari, West Godavari, Visakhapatnam, Srikakulam were the worst affected during all the three years.

During fairs and festivals, all necessary precautionary measures were taken and there was no outbreak of epidemic during the year under report.

Assam—In the State of Assam the incidence of the disease during the year under report was slightly less than during the year 1957. The number of cases notified were 416 and 551 respectively. Number of deaths reported during the two years were 57 and 67 respectively. Thus the case fatality rates worked out to be nearly the same during the two years respectively. The death rate per mille of population worked out to be 0.05 and the percentage of deaths due to Smallpox to total number of deaths was 0.14 during the year under report. All the eleven districts were affected with the disease. The incidence was found to be at its peak during the month of March with 66 cases out of 416 and 17 deaths out of 57.

All the necessary preventive and precautionary measures were taken expeditiously by the staff of the Directorate of Public Health. The total number of primary and re-vaccinations were respectively 345,317 and 985,332. At the fairs and festivals all preventive measures were undertaken. It is gratifying to note that there was no outbreak of any infectious diseases.

Bombay—Smallpox is notifiable in the State and is also endemic. All the districts were affected by the disease. 4,755 villages out of the total of 54,915 were affected by the disease during the year under report. Total number of 60,450 cases were notified out of which 28,262 proved fatal and total number of deaths during 1957 were only 9,389, thus pointing to the severity of the disease during the year under report. The case fatality rate was 46.78 and the percentage of Smallpox deaths to the total number of deaths from all causes was 3.3. The specific death rate was 0.51.

The highest incidence of the disease was reported in the month of March during the year 1957. The incidence was high in the districts of East Khandesh, Akola, Nanded, Osmanabad, Parbhani, West Khandesh, Aurangabad, Kolhapur, Bhandara and Kutch. Zalawad district reported the disease in sporadic form and in other districts the incidence was only moderate.

Mass vaccination campaign was organised in all the affected and threatened areas and the total number of vaccinations performed was 8,289,470, the numbers of primary vaccinations and re-vaccinations being 1,157,055 and 7,132,415 respectively. Propaganda in favour of vaccination and prompt notification of the disease was carried out. Temporary vaccinators were appointed in a large number to assist the regular vaccination staff in the mass vaccination work.

In the former Bombay State, intensive programme of vaccination was undertaken in 1954 in order that immunity may be maintained at the highest level. As a result of this programme, 72 lakhs of vaccinations were performed and it is expected to cover the entire population of former Bombay State in a couple of years. In the new areas of Bombay State, steps were in progress to re-organise the vaccination programmes so as to cover the entire population of these areas within the period of two years. There was also a proposal to cover the entire vulnerable population by vaccination in all the Community Development and National Extension Services Blocks throughout the State from early 1959 and to complete it within a period of 4 to 5 months.

It would also be relevant to know that deaths due to Smallpox among children below 1 year of age and 1—10 years of age constituted nearly 23 per cent and 67 per cent respectively.

Kerala—The disease is notifiable under the Public Health Act of the State and is also endemic. During the year under review, the disease assumed localised epidemic form in certain parts of the State. In all 3,938 cases and 1,514 death were reported as against 1,601 cases and 601 deaths during the year 1957. The case fatality rates worked out to be 38·4 and 37·5 respectively. The percentage of deaths due to Smallpox was 0·94 per cent of the total deaths and death rate was 0·10 per mille of population. All the nine districts were affected by the disease and the highest incidence was reported to be in the month of December, which was reported from 625 villages out of 4,615 in the State.

Vaccination was adopted in all the affected areas on a campaign basis and special staff was also deputed for duty in the affected areas. Isolation sheds were constructed in localities where it was found necessary. Primary and re-vaccinations performed were 688,549 and 3,470,907 respectively and the percentages of successful vaccinations in these two categories were 77 and 44 respectively.

During fairs and festivals no epidemic broke out on account of the special measures undertaken by the health authorities. It would not be out of place to mention that deaths among children having 0-10 years of age constituted a very high percentage of 77·7.

Madhya Pradesh—The disease is endemic in the State. 13,275 cases and 2,416 deaths were reported during 1958 as against 5,266 cases and 4,766 deaths during 1957. Although the case fatality rate was only 18 per cent as against 90 per cent during the previous year, the incidence was more than double of that year. The specific death rate was only 0·09 out of the total death rate of 11·6. The total number of districts affected with the disease was 34 out of 38 and the number of villages 1,037 out of the total number of 39,562. The incidence of the disease was found to be at the peak during the month of May with 2,784 cases and 572 deaths.

Intensive vaccination campaign was launched in the rural and urban areas. The Medical Health Officers, Health Assistants and Sanitary Inspectors also gave a helping hand to the Vaccinators in the vaccination campaign.

The total number of vaccinations performed were 1,981,941 as against 1,365,818 during the year 1957. Primary and revaccinations were respectively 779,264 and 1,202,677. The percentage of successful vaccinations in the two categories were 72 and 38 respectively. The number of Smallpox deaths reported among children under 1 year and 1—10 years were respectively 1921 and 487. Thus the percentage of deaths in these two groups together was 99·7.

Madras—The disease was in epidemic form during the year under report and also during the earlier year. According to report of the Health Officer, 14,841 cases were reported against 11,427 cases during the year 1957. The number of deaths reported during the two years were 5,498 and 3,893 respectively. Out of the total number of deaths due to Smallpox 3,212 deaths occurred in rural areas and 2,286 in the urban areas.

The Madras City alone was responsible for nearly one fourth of the total mortality from the disease in the entire State. The districts of Chingleput, Salem, North Arcot, Coimbatore and Tanjore experienced a mild epidemic. Sporadic cases were reported from the other districts. The disease was on the decline towards the end of the year under review and it can be said that it continued from the earlier years upto the year 1958. As in the other States, the number of deaths in the age-group of 0—10 years were 3,471 out of the total 5,498 deaths. This large proportion of death in the age group 1—10 years shows that many children escaped from primary vaccinations.

As regards the preventive measures, epidemic reserved Health Inspectors were fully mobilised in the infected areas. 6,885,051 vaccinations were conducted as against 6,802,293 during 1957. Usual vaccination off-season in summer was cancelled on account of epidemic of Smallpox and house-to-house survey to detect hidden cases of Smallpox and unprotected children were undertaken and vigorous vaccination campaigns were carried out. The scheme of systematic re-vaccinations of 1/10th of the population in each district was conducted during the year under review.

Mysore—The disease was reported from all the districts of the State. The total number of deaths, occurred during the year under report was 6,169 as against 4,670 during the year 1957. Information on the incidence as such was not available. The specific death rates during the years 1958 and 1957 were 28·4 and 21·8 respectively. This clearly indicated high incidence of the disease during the year under review and indeed the percentage of deaths to the total was 2·7 approximately as against 1·9 during the year 1957.

4,923 and 505 deaths were reported from the rural and urban areas (excluding cities). The total number of deaths reported in the cities was 741. The percentages of Smallpox deaths to total deaths in rural, urban and cities were respectively 2·8, 1·7 and 1·3.

The specific death rate was the highest in the Mysore district (141·2) and lowest in the Chickmagalur district (5·9). Among the cities, the Mysore City reported the highest death-rate (84·9) followed by Bangalore Corporation (37·9) and Kolar Gold Fields City (24·9).

The total number of vaccinations conducted during the year under report were 4,125,315 as against 3,027,927 during the year 1957. Since the epidemic was forecast in the early part of the year and all District Health Officers and the Officer-in-charge of Vaccine Institute were made alert. Prompt action was taken to check the spread of the infection by undertaking intensive vaccination programme in all the infected and threatened areas. Planned vaccination programme was undertaken in all the Health Unit areas of the State. Besides, mass vaccination programmes were undertaken in non-health unit areas like Tumkur, Mysore, Raichur and Gulberga etc.

Punjab—The disease was reported from all the eighteen districts of the State. 2,382 cases were reported during 1958 as against 1,192 cases during 1957. The corresponding figures for the number of deaths were respectively 362 and 199. The case fatality rates remained more or less the same during the two years. The incidence of Smallpox in the State was double than that of during the year 1957.

The break-up of number of deaths in rural and urban areas of the State was 90 and 272 respectively and the actual death rates were 0.03 and 0.02 respectively. The seasonal increase of the disease started during the month of March and continued during the second quarter and reached the peak level in the month of May. Since the month of July, it showed a decline with an abrupt increase in the third month of the last quarter.

Study of incidence and deaths according to districts, reveals that Karnal district recorded the highest incidence of the disease followed by Patiala, Ambala, Rohtak and Sangrur. The highest number of deaths was recorded in Patiala closely followed by Bhatinda, Ambala, Karnal and Sangrur.

The deaths reported in the broad age-groups are given as follows—

Age group	Smallpox death during the year 1958	
	Number	Percentage
(i) Under 1 year	73	20.2
(ii) 1—10 years	191	52.8

Total vaccinations performed were 3,985,537 as against 2,927,900 during 1957. The number of primary and re-vaccinations were respectively 727,300 and 3,258,237. Compulsory revaccination was in force in the State and Epidemic Diseases Act of 1897 was applied to the whole of the State. Grants-in-aid to Local Bodies were given to combat the disease in the State. 147,602 c.c. of the vaccine lymph were issued to the various indentors, both within and outside the State.

Rajasthan—The disease spread to 860 villages and in 15 districts out of 26. In all 7,487 cases and 2,202 deaths were reported during the year under review. During 1957, the number of cases and deaths reported were 4,801 and 1,471 respectively, thereby pointing to the epidemic conditions that prevailed in the State during 1958. The number of attacks and deaths were the highest in the month of April. The death rate was as high as 12.5 per lakh of population and the case fatality rate was 29.1. As in all the other States, the percentages of deaths in the age-groups below 1 year, 1—10 years and above were very high and are given below—

Age-group	Percentage of Smallpox deaths
(i) Under 1 year	16.0
(ii) 1—10 years	55.5
(iii) 10 years and above	28.5

All the necessary preventive measures were undertaken. A total number of 1,272,437 vaccinations were performed as against 1,116,910 during the year 1957. Primary and re-vaccinations performed were 568,813 and 703,624 respectively. The percentages of successful vaccinations were 65 and 28 in the two groups respectively. It is relevant to mention here that primary vaccination was compulsory both in the urban and rural areas while compulsory re-vaccination was not in force in the entire State.

Uttar Pradesh—The disease is notifiable both in urban and rural areas of the State. The spread of the disease was more during the year under report

as compared with the previous year 1957. A total number of 28,336 deaths was reported; 3,048 from the urban areas and 25,288 from the rural areas. During 1957 only 7,103 deaths were recorded. The districts worst affected during 1958 were Agra, Ghazipur, Deoria and Basti. The percentage of Smallpox deaths to the total deaths were as high as 4.3. The deaths among the age group of 0—10 years were 11,002 out of total number of 28,336 deaths mentioned above.

Extensive preventive measures were undertaken in the State to combat the disease which was widely spread giving a death rate of 0.41 during the year under review. The total number of vaccination performed were of the order of 62 lakhs of which 21 lakhs were primary vaccinations and 41 lakhs re-vaccinations. Of all the States in India barring Madras, the State reported the highest percentage of successful vaccinations during the year under report. Compulsory vaccination and revaccination was in force only in the Municipal towns and not in the rural areas of the State.

Himachal Pradesh—Four out of five districts were affected with the disease. The disease is not endemic in the Territory and cases were imported from the neighbouring States of Punjab and Uttar Pradesh. 116 cases and 21 deaths were reported due to Smallpox with a percentage of deaths of total number of deaths as small as 0.002. Comparison with 1957 shows higher incidence during the year 1958 both in respect of cases and deaths. The case fatality rate was of the order of 18.1 in 1958 and 10.5 in 1957.

Total number of vaccinations were 310,769 as against 154,439 during 1957. The number of successful vaccinations out of the total number of 4,589 primary vaccinations was as small as 15 per cent only, while among the re-vaccinations, the percentage was reported to be 85.

Manipur—The incidence of Smallpox was slightly less than that of during 1957, whereas the number of deaths recorded were more than that of during the year 1957. The disease is not endemic in the Territory although it is notifiable. All the 15 deaths were confined to the age-group of 1—10 years. It was found from investigation that the disease was reported from the neighbouring State of Assam. Necessary precautionary measures, such as isolation and disinfection and immunisation, were undertaken. A total number of 100,486 vaccinations were performed. The successful vaccination among the primary group was reported to be 86 per cent. There was also a proposal under consideration to make vaccination compulsory in the rural and urban areas of the Territory.

Tripura—The disease was imported from East Pakistan into the 5 bordering Sub-divisions of the Territory. In all, 242 cases with 60 deaths were reported. The incidence was highest in the month of March with 82 cases and 10 deaths. The case fatality rate for the disease was 25 per cent i.e. one out of every 4 cases died due to the disease. The disease occurred sporadically and no special epidemic staff and regulations were deemed necessary to combat the disease. Nonetheless, 454,585 vaccinations were performed.

Pondicherry—The disease is notifiable and is endemic throughout the year. The districts of Pondicherry, Karikal and Mahe were affected during the year under report accounting for 415 cases and 176 deaths

9,686 primary vaccinations and 39,191 re-vaccinations were performed during the year under report. Although re-vaccination was not legally compulsory, it was extensively performed during the time of epidemics. Primary vaccination was compulsory and a valid certificate of vaccination against Smallpox was a pre-requisite for school admissions.

PLAGUE

Plague is one of the six quarantinable diseases, which is notifiable throughout the country. It is only reported from a few pockets of the country.

The disease was reported from only three States during the year under report. In all 179 deaths were reported from the States excepting Bihar and West Bengal from where no information was available. The death rate and the percentage of deaths on an all India basis were negligible. The details of the incidence of the disease in the States, from where infection was reported, are as follows:—

Assam—Only one case and one death was reported and no special precautions dealing with the disease were found to be necessary.

Mysore—The disease recorded, 174 deaths during the year under report as against 125 deaths during the previous year. The highest incidence of mortality was recorded only in Raichur and Bidar districts followed by Mysore and Hassan districts. Although the mortality was reported from certain other districts too, they were only in a small proportion. The percentage of deaths due to Plague to total deaths was, 0.08 for State as a whole, but for individual districts like Bidar, Raichur, Shimoga and Hassan districts, the percentages were respectively 2.90, 0.14, 0.86 and 0.19. Coupled with the death rates, which were 6.9, 5.9, 0.7 and 0.1 for the districts given above, it can be seen that the disease was found to be quite important in overall pattern of mortality therein.

Uttar Pradesh—In this State only 4 deaths were recorded as against 48 deaths during the year 1957. Out of 4 deaths, 3 deaths occurred in the Sultanpur district during the month of April.

CHOLERA

Cholera is one of the quarantinable diseases which is notifiable throughout the country. The disease is endemic in certain parts and is reported year after year. During the year under review, there was an epidemic of the disease in the country. The States of Andhra Pradesh, Bombay, Madhya Pradesh, Madras, Uttar Pradesh and Orissa were severely affected with the disease while the Territories of Himachal Pradesh, Andaman & Nicobar Islands and Manipur were completely free from the disease. The death rate covering the country as a whole was 120 per million of population. The percentage of deaths due to the disease to total deaths from all causes was 1.2. Table No. 2 gives the death rates as well as the percentages in respect of the individual States in the country. From the table, it can be seen that the rates, as well as percentages, were high particularly in the States of Andhra Pradesh, Mysore, Madhya Pradesh and Orissa. Of the three main quarantinable diseases viz., Cholera, Plague, Smallpox, Plague is almost negligible in the country and of the remaining two diseases,

Smallpox tops in morbidity and mortality as well in the spread of the disease. Cholera, on the other hand, although continual and re-occurring all the years round, occupies only secondary position. As against 132,439 deaths due to Smallpox, only 44,450 deaths were recorded due to Cholera during the year under report. The spread of the disease is indicated by the number of villages infected. During the year under review Cholera was reported from 15,128 villages spread over 18 States in the country, the details of which can be seen in Table 3.

The details of the incidence of the disease in each State, based on annual figures, are given below:—

States/Union Territories	Cholera	
	Cases	Deaths
1. Andhra Pradesh	15,633	8,101
2. Assam	240	52
3. Bombay	20,170	7,374
4. Kerala	103	27
5. Madhya Pradesh	8,088	3,896
6. Madras	6,786	2,312
7. Mysore	†	5,743
8. Orissa	†	7,795
9. Punjab	26	10
10. Rajasthan	69	33
11. Uttar Pradesh	†	6,751
12. West Bengal	†	5,295
13. Andaman and Nicobar Islands	—	—
14. Delhi	†	25
15. Himachal Pradesh	—	—
16. Manipur	—	—
17. Tripura	10	3
18. Pondicherry	96	34

Note : —†=Information not available.

— Nil information.

Andhra Pradesh—During 1958, the infection of the disease was reported from the neighbouring States and spread from one district to another, from one village to another, following the routes taken by labourers in search of work during the paddy transplantation and harvest season. The incidence was reported from 2,027 villages and spread over all districts of the State. 15,633 cases were reported as per the report received by the Health Officers. The number may be more as many of the cases might not have been notified to the health staff. The total number of deaths reported was 8,101. The death rate and the percentage of deaths due to Cholera were respectively 0.25 and 2.36. The corresponding figures for 1957 were 4,557 and the death rate and the percentage of deaths were respectively 0.17 and 1.08. The highest incidence of the disease was in the month of August with 2,938 cases and 1,481 deaths. It may be noted that the outbreak of Cholera epidemic occurred usually during the periods of July-August and January-February in the deltaic areas of the State.

All the necessary preventive measures were undertaken by the health staff. A total number of 4,527,304 inoculations were performed during the year 1958 as against 2,390,272 during the previous year. Additional health staff both from the epidemic reserve as well as from the infected areas were requisitioned for the epidemic control work. Usual preventive measures such as disinfection of infected places and chlorination of drinking water supplied, isolation and treatment of patients were also undertaken. Nearly 115 fairs and festivals were held with a probable gathering of 32 lakhs of population. No outbreak was reported.

Assam—A total number of 240 cases with 52 deaths were reported as against 252 cases and 39 deaths during the year 1957. The incidence of the disease was the highest in November, while during the year 1957 the peak incidence was in October. Epidemiological investigations would in this respect throw light, why the peak was usually in the winter months. The case fatality rate reported was as much as 45 per cent as against 16 per cent during 1957. The death-rate for the State as a whole was only 0.006 and the percentage of deaths due to the disease to total deaths was only 0.13. All the necessary preventive and other control measures were undertaken. A total number of 805,602 inoculations were performed.

Bombay—A severe outbreak of cholera was reported in certain parts of the State during the year under report. 20,170 cases with 7,374 deaths were recorded in the State. The disease was prevalent throughout the year, although 60 per cent of the total deaths occurred during the period from July to October.

The districts of Banaskantha, Amreli, Sabarkantha, Ratnagiri, Kutch, Sorath, Zallawad, Gohilwad, Halar and Madhya Saurashtra were completely free from epidemic, but the disease prevailed in an epidemic form in the districts of Nagpur, Wardha, Aurangabad, Osmanabad, Nanded, East Khandesh, West Khandesh, Nasik, Surat, Sholapur, Akola, Amravati and Buldana. The mortality from the disease was not far different from that of the year 1957 but it should be stated that the mortality in both the years 1957 and 1958 was significantly higher than the average of the previous five years. The percentage of Cholera deaths to total deaths from all causes was, no doubt, high, the figures being 0.86 in relation to the percentages of the other States barring Andhra Pradesh, Mysore, Orissa, Madhya Pradesh and West Bengal. It is also significant to note that the death rate was more or less the same during both the years as can be seen from Table No. 2.

Extensive preventive measures were undertaken to control the disease. Temporary Cholera regulations under the Epidemic Diseases Act, 1849 were applied to all the affected and threatened areas. Five mobile hospitals with 60 beds each were established in addition to the existing small hospitals for the isolation of the patients. In all, 6,088 cases of cholera were isolated and treated. The other usual preventive measures were also undertaken. 7,324,844 inoculations were performed during 1958 as against 6,964,338 inoculations during the year 1957.

Kerala—The disease is not endemic in the State, but during 1958 it was imported from the neighbouring districts of the Madras State. Only 3 districts and 17 villages of the State were affected by the disease during the year under report. A total number of 103 cases with 27 deaths were reported. The percentage of deaths due to cholera to total deaths was only 0.002, indicating thereby that cholera is not a leading cause of death in the State. A total number of 170,279 inoculations were performed to combat the disease.

Madhya Pradesh—The incidence of the disease was far higher during the year under report in comparison with 1957. A total number of 8,088 cases with 3,896 deaths were recorded as against 4,631 and 2,235 during the year 1957. The number of villages affected was 3,135 as against 2,961 during the year 1957. The highest incidence was recorded in the month of May with 1,642 cases and 1,024 deaths. The death rate due to the disease was 0.14 and the percentage of deaths to total deaths was as much as 1.21. Nearly 10 per cent of the total deaths in the country as a whole was contributed by this State alone.

Preventive measures such as inoculation, disinfection of wells and other sources of water supply were vigorously done. Distribution of drugs and disinfection were carried out in the districts. Emergency Cholera Regulations were enforced in the infected districts of the State. Special preventive measures were also undertaken at important fairs and festivals. A total number of 4,077,497 inoculations were performed as against 2,589,153 during 1957.

Madras—The disease was slightly less prevalent during 1958 in comparison with 1957. 6,786 cases with 2,312 deaths were reported during 1958 as against 8,648 cases with 2,930 deaths during 1957. The case fatality rates were more or less the same (34 per cent nearly) in both the years. The epidemic, which was merely confined to the first four months of the year was, in fact, a continuation of the epidemic during 1957. The mode of spread of infection was by the movement of the agricultural labourers. It may, in this connection, be mentioned that the deltaic areas of the Kaveri is endemic with cholera, the districts of Tanjore, South Arcot, Tiruchirapalli, Coimbatore and Salem were affected with the disease. Of the total number of deaths given above 733 deaths occurred in urban areas and 1,579 deaths in the rural areas. The death rates in rural and urban areas were 0.09 and 0.07 respectively, which were not far different from one another.

Apart from the usual preventive measures, anticipatory inoculations to agricultural labourers were performed in the Coimbatore district and among the residents of vulnerable areas. The full reserve Health Inspectors were concentrated to augment the normal health staff. Epidemic control vans and one mobile epidemic unit and other departmental units helped in prompt movement of staff and equipment to the affected areas and transport of patients to nearest isolation wards and sheds. Anti-cholera measures were undertaken during the pearl fishery operations at Tuticorin during March to May. A total number of 2,453,260 persons were inoculated as against 1,593,070 during the year 1957.

Mysore—The incidence and the spread of the disease during 1958 was more than in 1957. A total number of 2,743 deaths were notified as against 125 deaths during 1957. The specific death rate per lakh of population was 12·6 as against 8·2 during 1957. The incidence was confined only to the districts of Belgaum, Bellary, Dharwar, Raichur and Shimoga. The highest incidence was in Bellary district while the lowest was in South Kanara district. It is gratifying to note that Bangalore Corporation, Mysore City and the Kolar Gold Fields City were completely free from the disease. The rural and urban composition of deaths conforms to the usual expectations in as much as 2,458 and 285 deaths were recorded respectively. The specific death rates for the rural areas (15·3) was nearly double of that of the urban areas (7·6). All the preventive measures and other facilities for the treatment of patients were undertaken and 1,593,070 anti-cholera inoculations were performed both in the affected and the surrounding villages and towns.

■ *Punjab*—The magnitude of the incidence of the disease was very negligible. Only 26 cases with 10 deaths were recorded. Out of 18 districts only 5 were infected with the disease. The State is not endemic for cholera and the infection is usually imported from the endemic zones of the country or from religious congregations. During the post-independence period the incidence of the disease was almost negligible as can be seen from the following table :—

Years	Cholera	
	Cases	Deaths
1948	4,723	2,318
1949	459	266
1950	235	122
1951	20	11
1952	180	56
1953	—	—
1954	—	—
1955	—	—
1956	33	10
1957	—	—
1958	26	10

Note :— Nil information.

The high incidence of mortality in 1948 was understandable due to a large scale migration of vast masses of population following communal riots in 1947. After 1948, the disease gradually decreased and the period 1953—1955 was marked by its complete absence.

To combat the disease the provisions of the Epidemic Diseases Act were extended to all the districts of the State. The district health staff was instructed to minimise the delay in reporting cholera cases so as to ensure prompt steps for isolation and treatment of cases. In all 381,208 inoculations were performed during the year as against 75,634 during 1957. By and large, the State can be said to be free from the disease.

Uttar Pradesh—The disease is notifiable in the State. A total number of 6,751 deaths from cholera were reported, of which 463 in urban and 6,288 in rural areas. The number of deaths during 1958 were far less than the figure for

1957, which was 16,648. The disease was reported from 1,269 villages. The spread of the disease during 1958 was also less than during 1957, when only 3,054 villages were infected. The death rate due to the disease was 0.19, while the percentage of cholera deaths to total deaths was 1.02. The districts of Bareilly, Rampur and Sitapur were most severely affected. The district of Bareilly alone registered 1,439 deaths which were the highest of all. The highest incidence of the disease was reported during the months of September and October during the year 1958 while it was in the month of August during 1957.

The usual preventive measures were undertaken and a total of 5,812,748 inoculations were performed as against 7,485,923 during 1957. Compulsory inoculation was enforced during all the fairs and festivals held during the year as well as on the pilgrimage routes to Badrinath and Kedarnath and consequently, no outbreak of any epidemics was reported thereat.

Rajasthan—During the year under review the incidence of cholera was very little when only 69 cases and 33 deaths were reported. The disease is not endemic in the State. Only two districts viz., Jaipur and Sawai-Madhopur were infected with the disease during 1958. Among them, 29 deaths from Jaipur and 4 deaths from Sawai-Madhopur districts were recorded. The total number of anti-cholera inoculations performed during the year was 75,634.

Himachal Pradesh—The disease is notifiable in this Territory and no incidence was reported. As a preventive measure, 4,918 anti-cholera inoculations were performed.

Manipur—As in the case of Himachal Pradesh, no incidence was reported in this Territory. 47,571 anti-cholera inoculations were performed.

Tripura—The disease was reported in sporadic nature. 10 cases with two deaths were reported. The disease affected only 6 villages. No special epidemic staff was requisitioned nor any special regulations were enforced. 95,455 anti-cholera inoculations were performed. Six fairs were in all, held with an average congregation of 6,000 each and no outbreak of the disease was reported.

Pondicherry—96 cases and 34 deaths were reported due to this disease from the two districts of Pondicherry and Karikal. The percentage of deaths to total deaths was as high as 42 per cent. It may be noted that 30 deaths out of 34 were reported only in the month of January.

Andaman and Nicobar Islands—The Territory was free from the disease during the year under report.

MALARIA

Among all the diseases that have afflicted mankind, malaria was for centuries one of the most formidable problems of human race, both because of its world-wide distribution and its evil effects on the vitality and the physical development of the populations.

Malaria was the most serious public health problem in India. Whether from the point of view of enhanced mortality, sickness and individual suffering or from its effect on the vitality, well being of the people or the paralysing

effect on industry, agriculture, exploitation of the mineral or other natural resources of the country or indirect losses to the people and the Government in a variety of ways, it had no comparison in the list of diseases that prevailed in this country.

The National Malaria Control Programme was started in India in 1953 with the objective of bringing down malaria transmission to such a low level that the disease will cease to be a major public health problem.

The success of the programme was so resounding that it became quite apparent by 1957 that malaria eradication was a feasible proposition, particularly in view of the reports that a few other countries have already achieved this objective. Accordingly the Control Programme was switched over to a National Malaria Eradication Programme in April, 1958.

The National Malaria Eradication Programme was launched in the country in April, 1953. The programme which started during the third year of the First Five Year Plan was extended to the Second Plan period and functioned for five years from 1953-54 to 1957-58. During the first year of the operation, 84 units functioned. With the allotment of more units in the subsequent years, the total number of units in operation stood at 192.5 in 1957-58.

As per plan of operation 230 endemic units were to be established during 1958-59, the first year of National Malaria Eradication Programme. However, only 225.25 units were established.

The assessment of the effect of spray operation on the malaria transmission is done by working out spleen rate and parasite rate in children between 2 to 10 years and parasite rate in infants.

The over-all reduction in the epidemiological indices by the end of 1958-59, the first year of the National Malaria Eradication Programme as compared to 1953-54 initial year of National Malaria Control Programme was as follows:—

Category	Years		Percentage of reduction
	1953-54	1958-59	
1. Child Spleen Rate	15.7	3.2	79.0
2. Child Parasite Rate	3.9	0.5	87.0
3. Infant Parasite Rate	1.6	0.3	81.0

The reduction in the proportional case rate was from 10.8 in 1953-54 to 4.0 in 1958-59 i.e. by 63.0 per cent.

The State-wise child spleen rates, child parasite rates, infant parasite rates and proportional case rates of malaria for 1953-54 and 1958-59 are shown in Table No. 4.

In so far as the information is available, the following is the detailed information regarding the prevalence of malaria in different States:—

Andhra Pradesh—Out of a total population of 33.5 millions in the States 24.5 millions live in hyper-endemic areas, 8.36 in hyper-meso-endemic areas and 0.5 in difficult areas.

9 endemic units functioned in the State. In addition to the above units, anti-malaria operations were also carried out in Tangbhadra, Nagarjunasagar and Mutchkund hydro-electric areas.

92.2 lakhs people were protected by spray operations. Child spleen rate, child parasite rate and infant parasite rate were recorded to be 8.2 per cent, 7.9 per cent and 1.6 per cent in 1958-59 as compared with 18.3 per cent, 6.6 per cent and 3.6 per cent in 1953-54. Proportional case rate of malaria was reduced to 7.1 per cent in 1958-59 as compared with 8.7 per cent in 1953-54.

Assam—The State of Assam has been known to be intensively malarious from a very long time and the entire population of 9.9 millions live in hyper-meso-endemic areas. Prior to the launching of National Malaria Control Programme activities were restricted to some of the Tea Estates and these comprise of anti-larval measures.

14 units functioned in the State. The National Malaria Eradication Programme was initiated in the State with an establishment of 5 units in 1955-56 and 70.91 lakhs of people were protected during the year by insecticidal spray.

The Child spleen rate, child parasite rate and infant parasite rate were recorded to be 23.4, 4.3 and 4.2 per cent during 1958-59. The proportional case rate of malaria was reduced to 23.2 per cent in 1958-59 from 35.4 per cent in 1953-54.

Bombay—In all 32 units were functioning in Bombay State during 1958-59. Out of a total population of 52.8 millions 17, millions live in hypo-endemic areas and 35.8 millions in hyper-meso-endemic areas.

37.8 millions people were protected during 1958-59 by insecticidal spray. Child spleen rate, child parasite rate and infant parasite rate were recorded to be 1.4 per cent, 0.5 per cent and 0.4 per cent respectively in 1958-59 as against 5.4 per cent, 2.7 per cent and 2.1 per cent in 1953-54. Proportional case rate of malaria was reduced to 4.4 per cent in 1958-59 as compared with 14.2 per cent in 1953-54.

Bihar—In all 20 units were functioning in Bihar State during 1958-59. Out of a total population of 42.8 millions, 20 millions live in hyper-meso-endemic areas and 22.0 millions in hypo-endemic areas and 0.8 in urban areas where only anti-larval measures were in operation.

20.4 millions people were protected by insecticidal spray. Child spleen rate, child parasite rate and infant parasite rate were reduced to 2.9 per cent, 0.1 per cent and 0.1 per cent in 1958-59 as compared with 56.1 per cent, 4.3 per cent and 3.6 per cent in 1953-54. Proportional case rate of malaria was reduced to 6.7 per cent in 1958-59 as compared with 20.6 per cent in 1955-56.

Jammu and Kashmir—Out of a total population of 4.4 millions in Jammu and Kashmir State, one million live in hyper-meso-endemic areas, one million in hypo-endemic areas and 2.4 millions live in non-malarious areas.

One endemic unit was functioning in the State during 1958-59. The National Malaria Eradication Programme was launched in the State during 1955-56.

5.7 lakhs people were protected by spray operation. Child spleen rate, child parasite rate and infant parasite rate were recorded to be 0.6 per cent, 0.0 per cent and 0.0 per cent in 1958-59 as compared to 5.0 per cent, 1.3 per cent and 0.0 per cent in 1955-56. Proportional case rate of malaria which was recorded to be 10.2 per cent in 1955-56 was reduced to 3.6 per cent in 1958-59.

Kerala—Out of a total population of 15 millions in the State, 3.5 millions live in hyper-meso-endemic areas, 11 millions in hypo-endemic areas and 0.5 million in non-malarious areas. 3.5 units were functioning during 1958-59. 26.9 lakhs persons were protected due to insecticidal spray. Child spleen rate, which was recorded to be 4.1 per cent in 1953-54 was reduced to 0.1 per cent in 1958-59. Child parasite and infant parasite rates which were recorded to be 1.3 per cent and 0.05 per cent in 1954-55 were reduced to 0.0 per cent in 1958-59. Proportional case rate of malaria which was recorded to be 0.8 per cent in 1953-54 was reduced to 0.3 per cent in 1958-59.

Madhya Pradesh—Out of a total population of 29 millions, 25.5 millions live in hyper-meso-endemic areas and 3.5 millions in hypo-endemic areas.

Communications in a few districts in North-West sectors is very poor, particularly the hill sections present usual operational difficulties. Areas which pose such problems are Bastar, Chhindwara, Mandasaur and Tikamgarh.

20 endemic units were functioning in the State during 1958-59 which protected 20.2 million people by spray operations.

Child spleen rate, child parasite rate and infant parasite rate were recorded to be 5.5 per cent, 1.4 per cent and 0.4 per cent in 1958-59 as compared with 34.7 per cent, 1.7 per cent and 7.0 per cent in 1953-54. Proportional case rate of malaria which was recorded to be 18.2 per cent in 1953-54 was reduced to 5.5 per cent in 1958-59.

Madras—Out of a total population of 33.0 millions, 3.7 millions live in hyper-meso-endemic areas, 27.75 millions in hypo-endemic areas and 1.55 millions in healthy areas.

3.7 units were functioning in the State during 1958-59, which protected a population of 4.0 millions by insecticidal spraying.

Child spleen rate, child parasite rate and infant parasite rate which were recorded to be 7.4 per cent, 2.7 per cent and 0.7 per cent in 1954-55 were reduced to 1.9 per cent, 0.4 per cent and 0.0 per cent in 1958-59. Proportional case rate of malaria which was recorded to be 5.2 per cent in 1954-55 was reduced to 2.4 per cent in 1958-59.

Mysore—Out of a total population of 20.9 millions, 19.13 millions people live in hyper-meso-endemic and 4.5 millions in hypo-endemic areas. 14.63 units were functioning during the year under report, which protected a population of 15.2 millions by insecticidal spraying.

Child spleen rate, child parasite rate and infant parasite rate were recorded to be 0.5 per cent, 0.2 per cent and 0.1 per cent in 1958-59 as compared with 6.0 per cent, 3.5 per cent and 0.1 per cent in 1953-54. Proportional case rate of malaria was reduced to 1.5 per cent in 1958-59 from 7.1 per cent, in 1953-54.

Orissa—Out of a total population of 14.6 millions, 6.5 millions live in hyper-meso-endemic areas, 4 millions in difficult areas and 4 millions in hypo-endemic areas. 10.50 units were functioning in the States, which provided protection to a population of 13.1 millions by spray operation.

For decades the State of Orissa had been known as a highly malarious State in India. There has been a considerable reduction in the incidence of malaria since launching of the control measures in 1953-54.

Child spleen rate, child parasite rate and infant parasite rate were reduced to 13.1 per cent, 1.3 per cent and 0.6 per cent, in 1958-59 as compared to 31.4 per cent, 2.0 per cent and 4.1 per cent in 1953-54. Proportional case rate of malaria was recorded to be 14.4 per cent in 1953-54 and was reduced to 8.3 per cent in 1958-59.

Punjab—Out of a total population of 17.6 millions, 11 millions live in hyper-meso-endemic areas and 6.6 millions in hypo-endemic areas. 11 endemic units were functioning in the State during 1958-59, which provided protection to 7.8 millions people by spray operation.

Child spleen rate, child parasite rate and infant parasite rate were recorded to be 1.1 per cent, 0.04 per cent, and 0.01 per cent in 1958-59 as against 6.1 per cent, 1.1 per cent and 0.2 per cent, in 1953-54. There had been a considerable reduction in the proportional case rate of malaria which was reduced from 7.7 per cent in 1953-54 to 2.9 per cent in 1958-59.

Rajasthan—Out of a total population of 17.6 millions, 9.67 millions live in hyper-meso-endemic areas, 7 millions in hypo-endemic areas and 0.93 millions in healthy areas. 8.67 units were functioning in the State during 1958-59, which provided protection to 6.8 millions persons by insecticidal spraying.

Child spleen rate, child parasite rate and infant parasite rate were recorded to be 5.6 per cent, 2.7 per cent and 2.2 per cent in 1958-59. Proportional case rate of malaria was reduced to 9.5 per cent in 1958-59 as compared with 11.1 per cent in 1955-56.

Uttar Pradesh—Out of a total population of 69.5 millions 40 millions live in hyper-meso-endemic areas, 27 millions in hypo-endemic areas and 2.5 millions in non-malarious areas.

40 units were functioning in the State during 1958-59, which provided protection to population of 41.1 million by spray operation.

Child spleen rate, child parasite rate and infant parasite rate which were recorded to be 13.6 per cent, 5.4 per cent and 0.4 per cent in 1953-54 were reduced to 4.4 per cent, 0.4 per cent and 0.3 per cent respectively in 1958-59. The proportional case rate of malaria which was recorded to be 14.9 per cent in 1953-54 was reduced to 5.5 per cent in 1958-59.

West Bengal—Out of a total population of 28.8 millions in West Bengal 23 millions live in hyper-meso-endemic areas, 2.8 millions in hypo-endemic areas, 2.8 millions in Calcutta and Howrah Cities and 0.2 million in altitudes of about 5,000 ft. high.

23 units were functioning in West Bengal during 1958-59, which provided protection to 24.5 millions by spray operation. Child spleen rate and child parasite rate were reduced to 1.2 per cent and 0.0 per cent in 1958-59 as compared with 20.3 per cent and 1.1 per cent in 1953-54. Infant parasite rate was recorded to be 0.0 per cent in 1958-59. Proportional case rate of malaria which was recorded to be 27.1 per cent in 1953-54 was reduced to 2.5 per cent in 1958-59.

DYSENTERY AND DIARRHOEA

This group of diseases is important in the country in so far as morbidity and mortality are concerned. The following table gives the number of deaths in the country during the last four years along with the percentages to the total mortality. It is very clear from the table that as much as 5.5 per cent of deaths in the country was accounted for by this disease.

Years							Total deaths due to dysentery and diarrhoea	Percentage of deaths due to dysentery and diarrhoea to total deaths
1954	..	..	..	..	..	..	179,785	4.7
1955	..	..	..	..	..	..	141,439	5.1
1956	..	..	..	..	..	..	148,013	5.5
1957	..	..	..	..	..	..	184,412	5.2
1958	..	..	..	..	..	..	159,240	5.5

Table No. 5 gives the percentages of deaths due to dysentery and diarrhoea to total deaths and death rates per mille of population. It can be seen from this table that Assam recorded the highest percentage of deaths followed by Madras (8.0) and Mysore (6.8). The State of Punjab recorded the lowest percentage of deaths (3.0) in the country. The States of Andhra Pradesh, Bombay and Uttar Pradesh reported percentages of 5.2, 4.7 and 4.4 respectively. Among the Union Territories, Pondicherry recorded the highest percentage of mortality (13.3) Tripura (10.9), Andaman & Nicobar Islands (9.6), Manipur (7.7) and Delhi (7.4).

The death rate due to this specific group of diseases was the highest in Madras (1.1), followed by Bombay (0.8). Pooling the available information, the total number of deaths due to this group of diseases reported to be 159,240, which constituted a percentage of 5.5.

It may also be mentioned that this group of diseases is one of the five specific diseases for which the information is available as a part of registration procedure. The detailed available information for the various States is given below:—

Andhra Pradesh—During the year under review 17,796 deaths out of a total of 342,341 deaths due to all causes were reported as against 15,898 deaths during the previous year. The death rate per mille due to this group of diseases was 0.54 during the year under report as against 0.49 during 1957 thus showing an increase during the year under report. The urban and rural composition of the deaths was as follows:—

Category					Deaths due to dysentery and diarrhoea	Percentage of deaths to total mortality	Death Rates per mille of population
Rural	..	..	..	..	14,551	5.2	0.52
Urban	..	..	..	..	3,245	6.2	0.65

Assam—The State of Assam reported 3,377 deaths during the year under report as against 3,098 deaths during the previous year. The death rates were respectively 0·34 and 0·32.

Bombay—40,696 deaths were registered due to Dysentery and Diarrhoea as against 36,530 deaths during the previous year. Out of these total number of deaths, 9,531 deaths were due to Dysentery and 31,165 deaths were due to Diarrhoea. The death rates in respect of these diseases were 0·2 and 0·6 respectively per mille of the estimated population.

Kerala—6,993 deaths were recorded due to this group of diseases during 1958 as against 9,768 deaths during the year 1957. The death rate for the year was 0·50 based on the estimated population of 1958. The percentage of deaths was 6·1 in 1958 as against 6·8 during the previous year. It may also be mentioned that the mortality due to this group was the third largest among the specific diseases, the first two being Fevers and Respiratory diseases.

Madhya Pradesh—A total number of 14,799 deaths due to Dysentery and Diarrhoea were reported in the State and the death rate based on the estimated population of 1958 was 0·5 and the percentage of deaths was 4·6.

Madras:—34,406 deaths due to Dysentery and Diarrhoea were registered with 21,353 deaths in the rural areas and 13,053 deaths in the urban areas. The death rates were respectively 0·88 and 1·52. The percentage of deaths due to this group of diseases was 8·0. The high death rate as well as the percentage due to this group of diseases was partly due to better registration system existing in the State.

Mysore—15,509 deaths due to this group of diseases were reported as against 10,702 deaths during the year 1957. The incidence was highest in the Mysore district and the lowest in Bidar district of the State. The rural and urban composition of the deaths revealed that 6·4 per cent of the total deaths occurred in the rural and the remaining in the urban areas including the cities.

Punjab—7,882 deaths were reported from the State during the year under report with a death rate 0·45 per mille of population. 5,703 and 2,179 were reported under Dysentery and Diarrhoea respectively. The corresponding information for 1957 was respectively 4,413 and 2,240. From this it is clear that Dysentery recorded an increase while Diarrhoea showed a slight decrease. The rural and urban composition of the events show that the urban areas accounted for 1,800 deaths while the rural areas 6,082. The respective death rates were 0·43 and 0·52. The differential death rates in urban and rural areas may perhaps be on account of poorer registration in the rural areas compared with the urban areas in the State.

Uttar Pradesh—There were in all 29,709 deaths during the year under report as against 26,607 deaths during 1957. Out of the total, deaths 7,875 deaths were reported from the urban areas and 21,834 deaths from the rural areas. The death rate was 0·4 for the State as a whole. The percentage of deaths due to this group of diseases to total deaths was 4·4.

Rajasthan—The data on mortality due to this disease is not available from the rural areas. However, the incidence of the disease as reported from the hospitals and dispensaries revealed that 334,960 cases were reported due to Dysentery and Diarrhoea with only 142 deaths. The registration in the State,

as is well known, is quite unsatisfactory and consequently it is not possible to assess the extent of the disease for the State as a whole.

Himachal Pradesh—In this territory 25,559 cases of Dysentery and Diarrhoea were reported during the year under report as against 45,023 cases during the year 1957. The deaths reported were 1,001. The high incidence of the disease was mainly due to bad water supply and weather. The death rate was reported to be 0·84 per mille of population.

Manipur—195 deaths were reported in this territory with a death rate of 0·31 per mille of population.

Pondicherry—A total number of 32,775 cases were reported with 1,075 deaths. Due to this group of diseases the percentage of deaths due to this disease to total deaths was 13·3.

Tripura—A total number of 33 deaths were reported during the year under report.

Delhi—15,036 deaths were reported due to this group of diseases out of a total of 20,865 deaths. The percentage of these deaths to the total mortality was 7·4.

RESPIRATORY DISEASES

It is a common knowledge that registration of deaths is not quite satisfactory in the country and the information on the causes of deaths is still worse off. Usually it is available for the three important diseases viz., Cholera, Smallpox and Plague and the information on other notifiable diseases is by far scanty, for the reason that lack of proper diagnostic facilities hinder the actual determination of the diseases and the causes of deaths. Diseases of the Respiratory System include Pneumonia, Bronchitis and Phthisis. This group is important and causes heavy mortality. The following table shows the death rates and percentages of deaths due to this group of diseases:—

States	Percentage of deaths to total deaths	Death rates per mille of population
1. Andhra Pradesh	5·9	0·61
2. Assam	+	+
3. Bihar	+	+
4. Bombay	13·9	2·00
5. Jammu and Kashmir	+	+
6. Kerala	10·1	0·58
7. Madhya Pradesh	+	+
8. Madras	9·8	1·50
9. Mysore	11·9	+
10. Orissa	+	+
11. Punjab	14·3	2·15
12. Rajasthan	12·0	+
13. Uttar Pradesh	8·0	+
14. West Bengal	+	+
<i>Union Territories:—</i>		
1. Andaman and Nicobar Islands	19·0	+
2. Delhi	25·2	+
3. Himachal Pradesh	+	+
4. Manipur	9·8	0·39
5. Tripura	4·9	+
6. Pondicherry	16·10	+

NOTE:— + Information not available.

It can be seen from the table cited on pre-page that the Union Territory of Delhi returned the highest percentage followed by Andaman and Nicobar Islands, Pondicherry and Punjab. The comparison between the States is also difficult for the reason that degree of registration varies from one State to another. These percentages go to indicate the importance of the disease in the country. Of this particular group of diseases, T.B. is perhaps most important and it has attracted much attention from the health authorities.

The position in the individual States was as follows:—

Andhra Pradesh—There were 20,088 deaths as against 21,599 deaths during 1957. The death rate during 1958 was 0·61 as against 0·67 during 1957. In urban areas 5,201 deaths were recorded with a death rate of 1·03 per mille of population while 14,887 deaths were recorded in rural areas with a death rate of 0·54 per mille of population.

Assam—3,545 deaths were recorded with 1,919 male deaths and 1,626 female deaths. During the year under report, there were slightly less number of deaths than 3,667 deaths during the previous year.

Bombay—The number of deaths reported were 117,623 giving a death rate of 2·2 per mille of estimated population. 2,419 deaths were due to Pneumonia and 24,751 due to Pulmonary T.B. and 4,173 due to Whooping Cough and the remaining ones due to other diseases were reported.

Kerala—8,828 deaths from Respiratory Diseases were recorded in the State with a death rate of 0·58 per mille of population.

Madras—Information for different diseases in this group is not separately available.

2,918 deaths from Pulmonary T.B. were reported from the municipal areas giving a death rate of 0·51. The corresponding information during 1957 was 3,256 with a death rate of 0·58. The figures of mortality due to this group of diseases in non-municipal areas of the State are not available.

Mysore—20,119 deaths from respiratory diseases were reported during the year under report as against 21,936 deaths during the previous year. In the urban areas 3,530 deaths were reported and the remaining 15,669 deaths were reported from the rural areas. The cities accounted for 920 deaths. The percentages of these deaths to the total mortality were 11·9, 9·0, and 3·8 respectively. The incidence of the respiratory diseases was found to be the highest in the district of Bijapur and the lowest in Bidar district. It would be of interest to note that among the cities, Hubli accounted for the highest percentage of deaths while the Bangalore Corporation the least. The table below gives the number of deaths as well as the percentages due to respiratory diseases:—

Cities	Deaths	Percentages
1. Bangalore Corporation	245	1·74
2. Belgaum City	86	5·69
3. Hubli	200	18·85
4. Kolar Gold Fields	66	3·37
5. Mysore	101	2·76
6. Mangalore.. .. .	222	12·33

Punjab—37,769 deaths were reported as against 36,378 deaths in the previous year. The death rate worked out to be 2·15 and 2·09 respectively. The break up of this particular group shows that Pneumonia accounted for the highest, giving a death rate of 1·00.

The following table gives the deaths and death rates for the individual diseases:—

Diseases						Deaths	Death Rate per mille of population
(i) Pneumonia	..	..	..	..	..	17,622	1·00
(ii) T.B. of Lungs	..	..	..	..	..	2,209	0·13
(iii) Whooping Cough	..	..	..	..	..	288	0·02
(iv) Other Respiratory Diseases	..	..	..	..	..	17,650	1·00

The urban and rural composition of deaths reveals that 32,014 deaths occurred in the rural area while 5,755 deaths in the urban areas. The death-rate was 2·27 in the rural areas and 1·66 in the urban areas.

Rajasthan—The study of data of patients treated in different hospitals and dispensaries reveals that 141,379 cases were treated due to respiratory diseases with only 12 deaths.

Uttar Pradesh—The State reported 53,059 deaths during 1958 as against 45,449 deaths during 1957. The rural areas of the State reported 33,165 deaths and 19,894 deaths were reported from the urban areas.

Himachal Pradesh—The respiratory diseases recorded a death rate of 0·48. This was the third largest cause of mortality as judged by the death-rates, the first two being Fevers, Dysentery and Diarrhoea.

Manipur—There were 244 deaths due to respiratory diseases in the territory.

Tripura—Out of the total deaths only 15 deaths were reported due to respiratory diseases giving a percentage of 4·9.

Pondicherry—In this territory this group of diseases was most prevalent. The number of cases reported were 40,111 and the deaths were 1,073.

OTHER NOTIFIABLE DISEASES

The notification system is a very important source of information on the morbidity of different diseases in the country. The notifiable diseases are not the same in all the States except Cholera, Smallpox, Plague and a few other diseases. Although disease is legally notifiable, it does not necessarily mean that the information thereon can approach anywhere near completeness nor it can be confidently told that the compulsory notification was vigorously

enforced. It may also be noted that there is every possibility of the disease being wrongly reported from the obvious reason that there are no facilities for proper diagnosis. However, the information as far as available, is given below for important diseases.

Typhus—The following table gives the number of deaths reported due to Typhus in different States during the year under report:—

I. States							Deaths
1. Andhra Pradesh	..	..	..	..	..	..	+
2. Assam	..	..	..	..	..	..	210
3. Bihar	..	..	..	..	..	..	—
4. Bombay	..	..	..	..	..	..	—
5. Jammu and Kashmir	..	..	..	..	..	..	+
6. Kerala	..	..	..	..	..	..	+
7. Madhya Pradesh	..	..	..	..	..	..	+
8. Madras	..	..	..	..	..	..	+
9. Mysore	..	..	..	..	..	..	+
10. Orissa	..	..	..	..	..	..	+
11. Punjab	..	..	..	..	..	..	—
12. Rajasthan	..	..	..	..	..	..	—
13. Uttar Pradesh	..	..	..	..	..	..	3326
14. West Bengal	..	..	..	..	..	..	+
II. Union Territories—							
1. Andaman and Nicobar Islands	..	..	..	..	..	..	+
2. Delhi	..	..	..	..	..	..	+
3. Himachal Pradesh	..	..	..	..	..	..	+
4. Manipur	..	..	..	..	..	..	+
5. Tripura	..	..	..	..	..	..	+
6. Pondicherry	..	..	..	..	..	..	5

NOTE:— + Information not available.

— Nil information.

Information given above, no doubt, is very scanty and the all India picture cannot, therefore, be built-up.

Kala-azar—The deaths reported due to this disease is given in the following table. This disease was widely reported from West Bengal, Assam and from

the remaining States. So far as the information is available it does not indicate wide spread occurrence of the disease in those States.

								Number of deaths
I. States—								
1. Andhra Pradesh	..	..	..	..	..	..	..	+
2. Assam	..	..	..	..	..	..	..	109
3. Bihar	..	..	..	..	..	..	..	+
4. Bombay	..	..	..	..	..	..	..	1
5. Jammu and Kashmir	..	..	..	..	..	..	..	+
6. Kerala	..	..	..	..	..	..	..	—
7. Madhya Pradesh	..	..	..	..	..	..	..	+
8. Madras	..	..	..	..	..	..	..	4
9. Mysore	..	..	..	..	..	..	..	+
10. Orissa	..	..	..	..	..	..	..	+
11. Punjab	..	..	..	..	..	..	..	—
12. Rajasthan	..	..	..	..	..	..	..	—
13. Uttar Pradesh	..	..	..	..	..	..	..	—
14. West Bengal	..	..	..	..	..	..	..	537
II. Union Territories—								
1. Andaman and Nicobar Islands	..	..	..	..	..	..	..	+
2. Delhi	..	..	..	..	..	..	..	+
3. Himachal Pradesh	..	..	..	..	..	..	..	+
4. Manipur	..	..	..	..	..	..	..	+
5. Tripura	..	..	..	..	..	..	..	+
6. Pondicherry	..	..	..	..	..	..	..	2

NOTE:— Nil information.

+ Information not available.

Cerebro spinal Fever—The occurrences of deaths due to this disease are given below :—

								Number of deaths
I. States								
1. Andhra Pradesh	..	..	..	..	..	..	..	+
2. Assam	..	..	..	..	..	..	..	22
3. Bihar	..	..	..	..	..	..	..	+
4. Bombay	..	..	..	..	..	..	..	131
5. Jammu and Kashmir	..	..	..	..	..	..	..	+
6. Kerala	..	..	..	..	..	..	..	+
7. Madhya Pradesh	..	..	..	..	..	..	..	+
8. Mysore	..	..	..	..	..	..	..	+
9. Madras	..	..	..	..	..	..	..	4
10. Orissa	..	..	..	..	..	..	..	+
11. Punjab	..	..	..	..	..	..	..	11
12. Rajasthan (based on hospital deaths)	..	..	..	..	..	..	..	21
13. Uttar Pradesh	..	..	..	..	..	..	..	242
14. West Bengal	..	..	..	..	..	..	..	+
II. Union Territories:—								
1. Andaman and Nicobar Islands	..	..	..	..	..	..	..	+
2. Delhi	..	..	..	..	..	..	..	+
3. Himachal Pradesh	..	..	..	..	..	..	..	+
4. Manipur	..	..	..	..	..	..	..	+
5. Tripura	..	..	..	..	..	..	..	27
6. Pondicherry	..	..	..	..	..	..	..	+

VENEREAL DISEASES

Venereal Diseases continue to be a major public health hazard in the country. The majority of the venereal diseases cases reporting are Syphilis and Gonorrhoea while Chancroid, Lymphogranuloma Venereum and Granuloma Inguinale are comparatively less.

In the Second Five Year Plan, the Control of Venereal Diseases was included as a Centrally aided programme with a view to providing adequate number of diagnostic and treatment centres in the country with emphasis on both the curative and preventive aspects. Of the 8 State Headquarters V.D. Clinics and 75 District V.D. Clinics proposed for the Plan period, 22 District V.D. Clinics were established in the following States during the year under report:—

<i>States</i>							<i>No. of V.D. Clinics</i>
1. Andhra Pradesh	..	..	..	..	..	..	5
2. Madras	..	..	..	..	..	..	3
3. Mysore	..	..	..	..	..	..	2
4. Himachal Pradesh	..	..	..	..	..	..	7
5. Kerala	..	..	..	..	..	..	2
6. West Bengal	..	..	..	..	..	..	2
7. Andaman and Nicobar Islands	..	..	..	..	..	..	1
Total						..	22

Thus under this scheme a total of 44 V.D. Clinics were established up to 1958. With these additional Clinics it is estimated that there are about 164 V.D. Clinics in the country.

The V.D. Organization in Himachal Pradesh continued to make excellent strides towards control of these diseases in their areas. 67,080 cases were attended in the V.D. Clinics and during field surveys and treatment programmes and 7,412 cases were treated during the year under report. The total number of V.D. cases treated up to the end of 1958, since the inception of the programme, was 61,986. The seropositivity rate has come down from 37.4 per cent in 1952 to 17.6 per cent in 1958. The Union Territory of Himachal Pradesh is now having a network of 15 V.D. Clinics.

The V.D. Training and Demonstration Centre at Delhi also showed a remarkable decline in the seropositivity rate from 19.7 per cent in 1954 to 6.9 per cent in 1958.

The Adviser in Venereal Diseases in the Directorate General of Health Services, New Delhi, visited Jammu & Kashmir and worked out a Scheme for the Control of Venereal Diseases in Jammu and Kashmir State for the consideration of the State Government.

4 Medical Officers underwent Diploma Courses in Venereology at the Institute of Venereology, Madras. 37 medical and para-medical personnel were given refresher courses in the various aspects relating to venereal diseases at the V.D. Training and Demonstration Centre, New Delhi and at the Institute of Venereology, Madras.

According to the reports received from the different States, a total of 647,068 V.D. cases were given treatment during the year under report.

P.A.M. and V.D.R.L. antigens continued to be supplied free to the V.D. Clinics established under the Second Five Year Plan period.

V.D. TRAINING AND DEMONSTRATION CENTRE, NEW DELHI

This Unit, the only one of its kind directly under the Central Government, was established in 1954 to serve as a model Demonstration Unit and to impart short-term refresher courses in the modern diagnosis and treatment of venereal diseases to trainees deputed by the different State Governments in the country.

The total attendance at this Centre during 1958 was 12,853 of which 2,614 were new cases.

21 Medical Officers, 4 Laboratory Technicians, 6 Public Health Nurses and 2 Health Visitors were given short term refresher courses at this Centre during the year under review. Besides, the following were given short term orientation courses:—

Categories	No. of Students
1. 4th Year students of College of Nursing, New Delhi	37
2. Sister Tutors and Midwives, College of Nursing, New Delhi	8
3. Final Year Students of Lady Reading Health School, Delhi	59
4. Orientation Training Centre, Najafgarh (Delhi)	27
Total	131

During the period under report 8,502 blood samples were tested in the V.D. Laboratory, of which 587 were positive, i.e. 6.9 per cent as compared with 19.7 per cent in 1954. 975 blood specimens from Ante-natal Clinics were tested and the seropositivity in this group worked out to be 2.7 per cent.

The following papers were published in the Indian Journal of Dermatology and Venereology during the year under report:—

1. Marital Status and Prevalence of Venereal Diseases.
2. A comparative study on the slide modification of standard Kahn test and standard Kahn test for syphilis.
3. Tetracycline (Achromycin) in Chancroid.
4. Occupational status and prevalence of Venereal Diseases.

YAWS

Yaws is prevalent in an endemic form in the contiguous areas of Andhra Pradesh, Madhya Pradesh, Orissa and Bombay. The Anti-Yaws Teams operating in these areas with the assistance of W.H.O. and UNICEF covered a population 548,366 and treated 10,128 cases during the year under report. Upto the end of 1958, these teams had treated 1,12,907 cases.

The activities of the States in respect of the control of Venereal Diseases are briefly given below:—

Andhra Pradesh—Under the Government of India Scheme for control of V.D. and other Treponemal diseases during the Second Five Year Plan, the V.D. Clinic in Visakhapatnam, established in 1958, started functioning along with the Venereal Diseases Department of King George's Hospital. In Guntur Hospital there was a well equipped Venereology Department to cater relief to the V.D. cases. A District Venereal Diseases Clinic was sanctioned at Vellore under Second Five Year Plan and was functioning from 1958.

Bihar—No Venereal Diseases Clinic was opened during the year under report. The V.D. Clinics that were already started in seven different district headquarters were functioning efficiently. Provision of funds for purchase of equipments for the use in V.D. Clinics were made and trained staff were posted in each clinic.

Bombay—During 1953, the problem of diagnosis, treatment and control of venereal diseases, was taken up more vigorously. The W.H.O. and UNICEF gave special grants for penicillin treatment of V.D. The Government provided funds for V.D. Clinics in Bombay City and also at the Hospitals situated outside Bombay.

Kerala—Two V.D. Sections, attached to the hospitals at Palghat and Kottayam, started functioning during the year under report.

Madhya Pradesh—9,859 cases were treated in all the hospitals and dispensaries of the State. V.D. was more common in urban than in rural areas. All the hospitals and dispensaries had facilities for treatment of venereal diseases. One V.D. Unit at Ambikapur (Surguja) was functioning with UNICEF assistance. Full equipment for carrying out serological examination was provided to this unit by UNICEF. 7 V.D. Clinics were functioning each at Gwalior, Indore, Bhopal, Satna, Chhatrapur, Shahdol and Datia. 3 candidates were sent to V.D. Refresher Course at Safdarjang Hospital, New Delhi. Sanction to establish V.D. Units under Tribal Welfare Department Scheme was received from the Government during 1958 for 8 places, of which three units at Jhabua, Barwani and Pathalgaon started functioning during the year under review.

Madras—In almost all the medical institutions in the districts general out-patient treatment was given for venereal diseases. In some of the headquarters hospitals, there were V.D. Clinics manned by the Honorary Assistant Medical Officers. There were wards in some headquarters hospitals for treatment of skin and V.D. cases and the patients were treated as in-patient during the year under review. A Venereal Diseases Clinic and Serological Laboratory was run by Municipal Council, Madurai. Diagnosis and treatment of the cases were attended to in almost all the medical institutions in the district when general out-patient treatment was given for venereal diseases.

Mysore—There were 5 clinics in the State for free treatment of Venereal Diseases. Syphilis and Gonorrhoea were commonest of all venereal diseases. Apart from the clinics, patients were also given treatment as out-door patients in almost all the medical institutions in the State. The following table indicates the comparative figures for the patients treated during the years 1957 and 1958 :—

Years	No. of V.D. Clinics or Wards attached	No. of beds provided	No. of in-patients treated in all institutions	No. of out-patients treated in all the institutions
1957	5	61	3,275	86,147
1958	5	42	3,060	89,477

It is seen from the above table that the number of beds provided for the treatment of V.D. cases during 1958 was comparatively less than that of 1957.

This was because that the beds were provided for V.D. cases as and when circumstances permitted.

Orissa—28 beds were set apart in S.C.B. Medical College Hospital, Cuttack for treatment of venereal diseases. There was a clinic attached to the said hospital. V.D. Clinics were also organised in two District Headquarters Hospitals and 3 other important hospitals for treatment of V.D. cases. A special grant of Rs. 21,000 was distributed to hospitals and dispensaries mostly in scheduled areas for purchase of special medicines required for treatment of venereal diseases.

Rajasthan—The incidence of venereal diseases was on the decline during 1958. Early syphilis cases were rare as compared with chronic cases where as acute gonorrhoea urethritis cases come quite early for treatment. There was no separate hospital or clinic for the treatment of V.D. cases. Four hospitals were provided with V.D. Clinics with beds for treatment of out-patients and inpatients of venereal diseases. The total number of V.D. cases treated in all the State hospitals, dispensaries and clinics during 1958 was 19,983 as against 23,623 in the previous year.

Punjab—In the, Rajendra Hospital, Patiala, Venereal Diseases Department consisted of an out-door and indoor departments. Two beds each for male and female were provided and 615 patients were treated during the year under report.

Uttar Pradesh—The venereal diseases are rather widely prevalent in Jaunsai Bawai Pargana of Dehra Dun district. A scheme was in operation since 1953, of mass treatment by a mobile team consisting of one male and one female doctor and a base hospital of 12 beds at Chakrata.

West Bengal—During the year under review 23 V.D. Clinics were functioning in the State. There were in-door beds also in different hospitals for the treatment of patients suffering from the disease. The number of beds available was 75 as against 111 in 1957. Apart from the facilities of free treatment there was also provision for day clinics in all the Government V.D. Clinics in Calcutta. There was a Serological Laboratory (V.D.) attached to the Blood Bank Calcutta, where blood samples were tested as routine measures. In the districts, tests were done in V.D. Clinics. Anti V.D. activities were also carried out extremely in rural areas during the year under report.

Andaman and Nicobar Islands—The incidence of venereal diseases is low in this territory except in Nicobar Island where investigation carried out in the past showed a fairly high incidence of the disease. There were 56 cases (13 in Andaman and 43 in Nicobar) admitted and treated in the General hospitals in 1958 as against 44 in 1957. A scheme with a capital outlay of Rs. 0.67 lakhs exclusively for V.D. treatment in Nicobar was included in the Second Five Year Plan period.

Himachal Pradesh—15 V.D. clinics were functioning in Himachal Pradesh, of which 7 new V.D. Clinics were opened in Mahasu District during 1958 under the scheme of Intensive V.D. Control Programme of the Second Five Year Plan. The positive percentage dropped from 34.3 in 1953 to 2.3 in 1958.

Pondicherry—3,162 patients were treated as out-patients in V.D. Clinics of which 490 persons were *kahn* positive and 20 cases of venereal lymphogranuloma.

LEPROSY

Leprosy is a disease of great antiquity, its origin and early spread is largely a matter of sermise.

In India, the problem is fairly wide spread and is estimated that not less than 1.5 million persons are suffering from leprosy, one fourth of them are of infectious type. The incidence of the disease varies from region to region. The belt of highest incidence (20 to 40 cases per 1000 population) is mostly found in Eastern part of the country and include Assam, West Bengal, South Bihar, Orissa, Madhya Pradesh, Madras, Andhra Pradesh and Kerala. The areas of moderate incidence (1 to 5 cases per 1000 population) are found in the Central and Western parts of India and in the Himalayan foot hills including Bihar, Uttar Pradesh, Bombay, Himachal Pradesh and hilly parts of Punjab. The areas of low incidence (below 1 case per 1000 population) are found mostly in the Northern and Western parts of the country and including the plains of the Punjab and Western parts of Uttar Pradesh, Rajasthan and Saurashtra.

Till recently leprosy was mainly undertaken by voluntary agencies on limited seals. During the First Five Year Plan, two main steps were taken for combating the disease. The first was the establishment of a Central Leprosy Teaching and Research Institute at Chingleput in Madras. The Institute is undertaking an extensive study in curative and in prophylaxis of leprosy by drugs. The second was to launch a National Leprosy Control Scheme in collaboration with the State Governments with a view to give modern treatment to all patients suffering from leprosy in the area under control and thereby to prevent the spread of this disease. Two types of Centres were established under the scheme *viz.*, Subsidiary Centres and Treatment and Study Centres. The Subsidiary Centre provides for a survey of population (about 50,000 to 60,000 at each Centre) in order to detect early cases and to carry out mass treatment with sulphone. The Treatment and Study Centre, in addition to the above measures, carry out epidemiological surveys and scientific assessment of the results of sulphone therapy. Upto the end of the year 1958, 4 Treatment and Study Centres and 63 Subsidiary Centres were established in various States. The distribution is presented below:—

States						Treatment and Study Centres	Subsidiary Centres
1. Andhra Pradesh	..	..	..	..	..	—	6
2. Assam	..	..	..	..	..	—	1
3. Bihar	..	..	..	..	..	—	14
4. Bombay	..	..	..	..	..	—	5
5. Kerala	..	..	..	..	..	—	3
6. Madhya Pradesh	..	..	..	..	..	1	4
7. Madras	..	..	..	..	..	1	8
8. Orissa	..	..	..	..	..	—	13
9. Uttar Pradesh	..	..	..	..	..	1	5
10. West Bengal	..	..	..	..	..	1	1
11. Himachal Pradesh	..	..	..	..	..	—	1
12. Manipur	..	..	..	..	..	—	2
Total	..	..	..	..	..	4	63

NOTE:— —Nil information.

The Director, Leprosy Control Work, who was in-charge of the scheme, was responsible for inspecting and advising on the operation of the scheme. He also ensures the coordination of the activities of the various Centres through State Health Directorates, who were responsible for implementing the scheme.

A provision of Rs. 35 lakhs was made during 1958-59 as the Central Government's share of expenditure towards implementation of the Scheme. During 1958-59, the State Governments were authorised to establish 28 new Leprosy Subsidiary Centres. During the year under report the Government of India took two more steps. The first step was the setting up of the Leprosy Advisory Committee under the Chairmanship of the Union Health Minister. The members of the Committee were both official and non-official representatives of leading voluntary leprosy institutions like the Mission to Lepers, Hind Kusht Nivaran Sangh etc. The Committee was mainly to review the working of the Leprosy Control Scheme in different parts of the country and to suggest measures for the improvement of the existing schemes. The second step was a scheme for establishment of an All India Leprosy Training Centre at Medical College and Hospital, Nagpur for training of 60 Medical Officers every year. The Scheme was sanctioned during the year under report.

The activities of the States in respect of Leprosy services are briefly given below:—

Andhra Pradesh—The district welfare fund branch donated Rs. one lakh for the construction of a leprosorium. There was a separate Leprosy Clinic for treatment of leprosy cases in the Government Headquarters Hospitals, Anantapur, where 249 cases were treated during 1958. A separate Leprosy Clinic existed attached to the Department of Dermatology of King George's Hospital, Visakhapatnam. Cases of leprosy were diagnosed and separated from other skin diseases and were afterwards investigated and properly dealt with in the leprosy clinic. Visakhapatnam district is an endemic area for Hansen's disease. The total attendance of leprosy patients in Visakhapatnam during 1958 was 31,488.

Bihar—No Leprosy Subsidiary Centre was opened during the year under review. 14 Subsidiary Centres were functioning in the State as in the previous year.

Bombay—Leprosy is a common disease in more than two third of Bombay State. Except North Gujarat and Saurashtra Region of the State, the incidence of leprosy varied from 0.5 per cent to 2.5 per cent. Certain areas like Marathwada-Vidarbha, where the incidence was as high as 10 to 15 per cent. It was estimated that there were about 1,80,000 leprosy patients in the State, of which 36,000 were infectious and 1,44,000 were non-infectious. There were 25 colonies in which 3,840 patients were segregated and about 45,000 received treatment in various Hospitals, Colonies and Clinics in the State. Instructions courses for the doctors in the State were held at Bombay Acworth Leprosy Home. The State Government prepared a film on leprosy entitled "Nai Zindegi" in 1958 for show in different regions. 10 Leprosy Survey, Educational and Treatment Centres were sanctioned by the State Government at various hospitals and dispensaries during 1958. The control

of Leprosy, which was previously under the Surgeon General with the Government of Bombay was transferred to the Director of Public Health, Bombay State, Poona during the year under report.

Madhya Pradesh—The Leprosy Specialist at Raipur advised the Government in all matters pertaining to leprosy control in the State. Leprosy department maintained 85 out-door Leprosy Clinics of which 16 were special Clinics, each having a leprosy trained Medical Officer-in-charge and the remaining 69 were attached to various hospitals and dispensaries. There were 10 in-patient institutions functioning in the State of which 5 were run by State Government and 5 by various Missions to Lepers. There was one Study-cum-Treatment Centre at Raipur and 3 Subsidiary Centres at Champa, Sangar, and Shahpur. Two Leprosy Colonies were maintained by Baster district of the State. 2,186 in-patients were treated and the number of leprosy cases treated at the Study-cum-Treatment Centres and the Subsidiary Centres was 1,780.

A new Leprosy hospital was established at Dhar district during the year under report under the Tribal Welfare Department Scheme.

Madras—9,454 cases of Leprosy were detected when a comprehensive survey of leprosy cases was undertaken and a population of 18,60,286 was surveyed. Training of Health Inspectors, Sanitary Inspectors etc., in leprosy institutions was arranged. Arrangements were made to give a more intensive training in leprosy to the Gram Sevaks undergoing training in Rural Extension Training Centres of the State. The Public Health staff of the Primary Health Centres were specially instructed to do leprosy survey in their blocks and carry out treatment of leprosy cases.

Treatment and maintenance of hospitals and clinics in respect of these diseases were under the Medical Department of the State.

Mysore—With the State reorganisation in 1957 and formation of new Mysore State, leprosy assumed greater importance in the State. Leprosy, was found to be of highly endemic in Gulberga, Bidar, Raichur, Dharwar, Bijapur, South Kanara and Belgaum District and the incidence rate varies from 3 to 5 cases per 1,000 population.

The number of cases registered was 8,500 as against 7,000 in 1957 and 1,60,000 suezonone tablets were distributed. From the sample survey conducted in Kollegal, Gulberga etc., the leprosy cases in the State was estimated to be 40,000. During 1958, the State Government sanctioned 8 Leprosy Control Centres, out of which 7 were of Government of India pattern located at Gazendragud, Ilkal, Bidar, Gulberga, Mangalore, Goribidanru and Kollegal. All these Leprosy Centres excepting the one at Mangalore started functioning during the year under review. In addition, leprosy work was also being carried out by the various voluntary organisations.

Orissa—352 Leprosy Clinics including clinics attached to hospitals and dispensaries were functioning during the year under report. 1,596 beds were available in different hospitals, colonies and asylums. 16 domiciliary treatment centres continued to function, including 2 newly opened by the Hind Kushta

Nivaran Sangh. 13 Subsidiary Leprosy Centres, including 3 newly opened, during the year under report were functioning in the areas, where the incidence of leprosy was high. 3,41,670 people were examined and 4,231 leprosy cases were detected.

Rajasthan—Leprosy is not a major problem in Rajasthan as is revealed on a limited survey carried out in past in Jodhpur Division. 2 Leper Asylums functioned in the State, one at Jaipur with 40 beds and the other at Jodhpur with 55 beds. All different types of latest drugs were being used for treatment. Besides, treatment was also given to patients attending out-door in all the hospitals and dispensaries of the State. The total number of patients treated for leprosy in all the State institutions during 1958 was 1,163 as against 821 during the last year.

Uttar Pradesh—The State had one Study and Treatment Centre and 6 Subsidiary Centres modelled on the lines laid down in Government of India's Scheme for treatment and health education of leprosy cases. Instructions were also issued to all hospitals and dispensaries for providing treatment for leprosy at their out-door clinics and a regular supply of sulphone was maintained for the purpose.

The State had 18 leprosy institutions with 1,500 beds for in-door treatment 3 of these were State institutions and the rest were managed by Missions to Lepers or Private voluntary organisations. The State Government sanctioned grants amounting to Rs. 2,60,000 during 1958 towards the part expenses of the private institutions.

West Bengal—There were altogether 129 Leprosy Institutions, which include Homes, Hospitals, Colonies, Clinics and Segregation Camps for treatment of leprosy cases and 87,627 cases were treated therein as against 67,627 in the preceding year. The number of beds was 2,408 as against 2,350 in 1957. Arrangements were also in existence for out-door treatment of leprosy cases in 123 out-patient leprosy clinics, centres etc., as well as in six Leprosy Institutions.

The Hind Kusht Nivaran Sangh (Pashchim Bangia Shakha) carried out a survey on leprosy at 4 centres, one in each of the districts of Midnapur, Nadia, Hooghly and Howrah and 149 leprosy cases out of a total of 25,986 persons were detected giving an incidence rate of 0.6 per cent. Specialised services such as Physiotherapy Plastic and Orthopaedic Surgery for treatment of leprosy cases were available at Purulia Leprosy Home and Hospital and Gouripur Leprosy Colony, Bankura.

Andaman & Nicobar Islands—There was no hospital exclusively for treatment of leprosy and the need for the same was also not felt to that extent being small cases of leprosy in the Islands. 4 cases as against 7 cases during last year were admitted in the hospital. Patients suffering from leprosy were admitted into the isolation ward attached to the hospital for treatment. No special arrangement was in existence with regard to prevention of this disease except proper isolation of the cases and treatment of leprosy.

Himachal Pradesh—In Himachal Pradesh one Leprosy Institution at Chamba and 3 Leprosy Subsidiary Centres at Mahasobra, Mandi and Nahani were functioning and each of these institutions were having 30 beds.

The Leprosy Subsidiary Centre at Nahan started during 1958. Free diet was supplied to all the leprosy patients in the leprosy units. Since Leprosy and V.D. Organisations were combined, the lepers were also examined for A. F. B. etc.

Pondicherry—On the recommendation of the Director, Leprosy Control Work of the Government of India, a Leprologist for organising Leprosy Control work and to formulate schemes was appointed in 1958. During the survey in the villages, the Leprologist recorded 1,742 cases of which 202 were lepromatous and 1,540 were non-lepromatous type. In the Leprosy Hospitals 175 patients were treated during 1958.

Tripura—The Leprosy Clinic, which started in V.M. Hospital during 1957, continued to function in 1958. The total number of patients treated in the Clinic was 954 during the year under review.

BLINDNESS AND EYE DISEASES

The incidence of eye diseases in India is fairly high. Only a few of the larger States had hospitals exclusively for treatment of eye diseases. Other States had well equipped Ophthalmic Departments attached to the general hospitals, where adequate facilities were available. Eye camps were held at periodic intervals to give relief to the people who were unable to avail the hospital facilities. Mobile eye clinics gave facilities for treatment in rural areas. It has been 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, if given normal up bringing, schooling and training, in a useful occupation. It will be interesting to know that the W.H.O. has defined blindness as "inability to do any kind of industrial or otherwise for which sight is essential". This would mean that the criteria will vary from profession to profession.

Trachoma constituted a major problem in eye diseases and was the principal cause of total and partial blindness in many parts of India. The Trachoma Control Pilot Project under the auspices of the Indian Council of Medical Research and aided by W.H.O./UNICEF continued to carry out the survey and study of the problem. Certain States have introduced compulsory primary vaccination which can prevent blindness due to Smallpox. Examination of school children and inspection of infants and toddlers in the Maternity and Child Welfare Centres have also been introduced in some States which help to prevent blindness.

The brief account of the facilities available for treatment of eye diseases and training of blinds in various States is given below—

Andhra Pradesh—There was one Institute of Ophthalmology at Hyderabad, which catered to the needs of patients suffering from eye diseases. A mobile eye unit was also attached to the Sarojni Devi hospital, which was equipped with 100 beds for in-patient treatment. Eye camps were held in the districts, where all types of medical and surgical ophthalmic treatment was given. The incidence of blindness due to trachoma is not a common occurrence in the

Nellore district of the State. The cases requiring special treatment for eye diseases were referred to Government Headquarters Hospital, Nellore. 12,726 out-patients and 482 in-patients were treated for eye diseases in the hospitals and dispensaries of Nellore district in the Government General Hospital, Guntur. The Ophthalmic Department was one of the units of this hospital fully equipped and staffed. There was a school for the blinds at Hyderabad run by the Government during the year under report.

Assam—As usual, eye relief work including eye operations were done in all Civil Hospitals at the district and sub-divisional headquarters. Besides, minor eye complaints were treated in all the dispensaries of the State maintained by the Government and local bodies and other missionary hospitals. There was no regular Government Hospital in the State exclusively meant for treatment of eye diseases.

Bihar—Eye relief work was organised during 1958 at different places in the State through official as well as non-official agencies. Official eye relief camps were held at the Government hospitals located at Gaya, Arrah, Ranchi, Bettiah, Madhupur, Sahara and Monghyr. Deputation of Ophthalmic Surgeons and supply of drugs and equipment were made by the State Government.

Bombay—During the year 1958, eye camps were held at different places of Nasik, Poona, Kutch, Bhil, Kolaba and Wardha districts. The number of eye patients treated was 14,816 and the number of operations performed was 2,511. Many patients suffering from eye diseases availed themselves of eye treatment because of these camps.

Madhya Pradesh—Eye camps for rendering the treatment of eye patients were conducted by private organisations but they were not sufficient in number. Eye camps at different places in the State as detailed below were organised and conducted by the Government:—

Places	No. of patients examined	No. of operations performed
1. Shahjanpur	1,138	349
2. Hatta (Distt. Damoh)	1,419	277
3. Narayanganj	4,283	183
4. Maharajanj (District Chhattarpur)	601	109
5. Pathala Gaon (District Raigarh)	728	158
6. Sonkatch (Distt. Dewas)	731	180
7. Betul	1,192	115

Three more eye camps organised by the private bodies were also opened during the year under review.

Madras—During the year 1958 one Medical Officer was trained at Aligarh to do the field work in the study of incidence of Trachoma. Sanction was accorded for the formation of two mobile units, viz., one at Madras and the other

at Madurai for propaganda and eye relief camps in the villages. There were two mobile units functioning already at Trichi organised by the Red Cross Society and another at the Christian Medical College Hospital, Vellore. Two eye hospitals one at Kotagui run by a mission and the other at Vellore run by a private institution were functioning successfully. A Government Blind School at Salem and another run by the missionary at Palayam Kotti and the third at Victoria Memorial Blind School at Poonamallee were giving education to the blinds. These schools were also training the blinds in cottage industries such as weaving, basket making etc., and thus they were made to earn their livelihood independently.

Mysore—In the State of Mysore one Ophthalmic Hospital at Bangalore one mobile Ophthalmic Unit at Belagaum and one blind school at Mysore were functioning during the year 1958. The Ophthalmic unit toured the districts of South Kanara, Raichur, Bellary and a part of Gulberga district. The total number of out-door cases treated by this unit was 8,291 and the total number of operations performed was 890. A Certificate Course in Ophthalmology started in the Minto Ophthalmic Hospital, Bangalore from the year 1958.

Orissa—Although there was no eye hospital, 48 beds were earmarked in the S.C.B. Medical College Hospital, Cuttack for treatment of eye diseases. Facilities were also available in the district headquarters hospitals and Sub-divisional hospitals for treatment of common eye diseases. The scheme for survey of trachoma in the State under the auspices of the Indian Council of Medical Research started during the year under report.

Punjab—Every possible effort continued to be made during 1958 to provide adequate facilities to the population suffering from eye diseases in the Punjab State. In order to cater to the needs of the patients at places where no specific eye hospital exists, the people of far off areas who cannot derive benefit of the eye hospitals, the Government organised eye relief camps to relieve curable blindness and to eradicate diseases which cause blindness and to take measures for prevention of blindness. In these camps technical help of eye specialists and medicines were provided free of cost. Four eye hospitals, including one eye non-aided K. Jalian Hospital, and nine special eye wards with 474 beds for eye patients were functioning in the State during the year under review.

Rajasthan—There was no separate eye hospital run by the Rajasthan Government. Special facilities under eye specialists or trained doctors were provided in 13 hospitals, where 387 beds were available for eye patients. Besides, routine treatment for eye diseases were given in all public hospitals and dispensaries in the State. The number of out-door and in-door cases treated was 8,98,562 and 8,404 respectively. The number of eye operations performed during the year under review was 7,821. There was no special mobile team for trachoma work but adequate treatment was being given to such patients in general hospitals and dispensaries. 13 Camps were held in various places, where 2,348 operations were performed. General education upto Matriculation standard was being given to 50 students in a blind school run by the Government.

Uttar Pradesh—An eye hospital with 30 beds established by a private trust at Aligarh and a 40 bedded hospital established at Sitapur continued to function during the year under report. Besides, there were a few more smaller eye hospitals run by private bodies. Four eye clinics at divisional headquarters were established upto the end of the year 1958. A Trachoma Pilot Project under the aegis of the Indian Council of Medical Research and aided by the WHO/UNICEF was started in Aligarh district in the year 1956, which continued to function during the year under review.

Eye relief camps were organised in rural areas out of the funds provided by various agencies like Eye Relief Societies, N.E.S. Blocks etc.

A school for the blind was established at Sitapur Eye Hospital. The State Government was running a Blind School at Lucknow, which provided education to the blinds upto the 8th standard.

West Bengal—There was one eye hospital with 50 beds in the State and that was a privately managed institution located at Calcutta. Facilities for treatment of eye diseases were available in all major hospitals of the State. For treatment of eye cases there were 353 beds in the general hospitals of Calcutta and 114 beds in the districts. Three mobile dispensaries of the Association for the Prevention of Blindness, West Bengal were functioning as usual, mainly in the rural areas of the State. Out of 2,76,036 persons examined by the Medical Officers of these dispensaries, 237 were found blind. The percentage of the incidence of blindness in that population was 0.09.

Andaman and Nicobar Islands—There was no hospital or clinic exclusively for treatment of eye diseases in this Union Territory. All cases of eye diseases were attended to in different general hospitals. The complicated cases were referred to Specialists. The incidence of trachoma was very low. There was no school for the blinds.

Delhi—There was no eye hospital under the Municipal Corporation of Delhi during 1958. However, the Lady Hardinge Medical College and Hospital (417 beds), Dr. Shroff's Charity Eye Hospital (104 beds), Sant Parmanand Blind Relief Mission (64 beds), All India Blind Relief Society (60 beds) and Sir Ganga Ram Hospital (110 beds) catered to the needs of the eye patients in Delhi. The number of in-door and out-door patients treated in these institutions were 5,855 and 2,51,746 respectively. 9,962 eye operations were performed during the year under report. Eye relief camp and one mobile unit were run by Sant Parmanand Eye Relief Mission.

Himachal Pradesh—There was no special eye treatment of complicated eye diseases cases nor was there any institution for blind people. All eye cases were treated in the Civil Hospitals and about 50,000 people were treated for various eye diseases. The Health Educators, Public Health and Medical Officers of the rural dispensaries were delivering health talks to the public on eye diseases and their control.

Manipur—One eye relief camp was opened in the year 1958. A proposal for opening more eye camps was sanctioned for the next year to extend services to the hilly areas.

TUBERCULOSIS

Tuberculosis is a major health problem in India. A Programme of Tuberculosis Control, based on the following priorities with primary emphasis on prevention was initiated during the First Five Year Plan:—

- (1) BCG Vaccination ;
- (2) Clinics and domiciliary services ;
- (3) Training and demonstration centres ;
- (4) Beds for isolation and treatment ; and
- (5) After care and rehabilitation.

It was proposed to expand tuberculosis control measures during the Second Five Year Plan period as a national programme. Anti-tuberculosis activities of the Central and State Governments during the year under report are given below:—

BCG Vaccination Programme—Under the National Tuberculosis Control Programme the mass BCG Campaign aims to protect all susceptible population in the country and particularly the population below 20 years estimated at about 170 millions. Upto the end of 1958, about 120·5 millions persons had been tuberculin tested and about 42·3 millions BCG vaccinated. The number of technician teams working in the field rose to 161 during the period under report. The State-wise progress of BCG Campaign in India upto 31st December, 1958 is given in Table No. 6.

The Central BCG Organisation has been assisting the State Governments in the organisation and coordination of the campaign. It continued to produce and supply materials, films on BCG, filmstrips, pamphlets and other literature on tuberculosis to State Governments free of cost. An amount of Rs. 2,38,400/- was provided in the budget for 1959-60 on account of expenditure of the Central BCG Organisation. The UNICEF supplied public address equipment, vehicles and vaccination and kits costing about \$1·88 million. To encourage the work of the State BCG Organisations, the Government of India decided to give subsidy to the tune of Rs. 25 lakhs and subsidy to the States of Madras and Andhra Pradesh provided so far was to the extent of Rs. 2,000/- and Rs. 1,550/- respectively.

BCG Vaccine Laboratory Guindy, Madras—The vaccine and tuberculin for the mass BCG Campaign in the country are supplied by the BCG Laboratory at Guindy, which was especially set up for this purpose in 1948. This is the World's largest production centre of BCG vaccine. It meets the entire demand of the country in so far as tuberculin and BCG vaccine are concerned and also supplies the same to Afghanistan, Burma, Ceylon, Malaya and Pakistan. The Laboratory produced 46 million doses of tuberculin and 28 million doses of BCG vaccine during the year under report.

A pilot project for the production of freeze-dried vaccine at the laboratory was undertaken and a plant for the purpose was being installed at a cost of Rs. 3 lakhs. Trial runs were being given to Primary Drying Unit which was already installed. The Secondary Drying Unit was also received. Efforts for the procurement of machine made glass ampoules from abroad were under way.

Research Schemes

The following research schemes were in progress during 1958-59 :—

(a) The Tuberculosis Research Project, Madanapalle continued to be in operation on a limited scale during 1958-59 under the auspices of the Indian Council of Medical Research ;

(b) *BCG Assessment Scheme*—This is a long term scheme which was started in 1955. The Assessment Team of the Indian Council of Medical Research continued its study throughout the country and its progress was reviewed by the Tuberculosis Sub-Committee of the I.C.M.R. from time to time. The last review was made by the Tuberculosis Sub-Committee at its meeting held at Indore on 30th November, 1958. The work has been progressing according to plan drawn up ;

(c) *Tuberculosis Survey in India*—The report of the Tuberculosis Survey in India was finalised. The main findings were :—

1. The prevalence rates for "active" and "probably active" tuberculosis varied from 13 to 25 per 1,000 population in cities, towns and villages in the different zones;
2. The rates of bacteriologically positive cases for 1,000 population in these areas varied from 2 to 8;
3. The prevalence rates in the cities, towns and villages were generally of the same order;
4. The prevalence rates were lower for females than for males, especially in age groups above 35 years;
5. In general the prevalence rate showed a continuous increase with age ;
6. In cities the higher prevalence among persons living in "kutchha" houses as compared with those in "pucca" houses indicated the possible effect of economic conditions;
7. A large majority of "active" and "probably active" cases had moderately advance diseases; and
8. Definite cavitation was observed in 4 to 33 per cent of the "active" and "probably active" cases, this percentage being generally smaller in the cities.

(d) *Tuberculosis in Chemotherapy Project, Madras*—This is intended to determine the effect of modern anti-bacterial drugs in home treatment of tuberculosis. This scheme continued during the year 1958-59. The work of the project was progressing satisfactorily and the progress was reviewed from time to time by the Project Committee set up for the purpose.

Tuberculosis Clinics

Proposals from the State Governments for the supply of X-ray and laboratory equipment to 35 more T.B. Clinics during 1958-59 were approved by the Central Government. However, in the light of the past experience (States were lagging behind in the proper installation and utilisation of equipment supplied during 1957-58), it was decided not to supply the equipment until the States were ready with adequate buildings and had appointed trained staff and made adequate budget provision for recurring expenditure.

Negotiations with International Agencies like the UNICEF and WHO had been going on for sometimes about their collaboration in the National Tuberculosis Control Programme. During 1958-59 UNICEF/WHO agreed to provide equipment for a National Tuberculosis Training Centre and 20 district T.B. Clinics and 3 Tuberculosis Control & Training Centres. The X-ray and laboratory equipments given by the UNICEF would be supplied to those T.B. Clinics, which were ready in every respect to install the equipment and start working on the lines expected of modern T.B. Clinics.

Tuberculosis Control and Training Centres

These centres in addition to working as district T.B. Clinics provide the necessary training to doctors, X-ray and laboratory technicians and home visitors required to man tuberculosis institutions. 6 T.B. Training Centres were established at New Delhi, Patna, Trivandrum, Madras, Hyderabad and Nagpur with WHO/UNICEF assistance. Of these, the last three had been established during the Second Five Year Plan period. A seventh training centre was under establishment at Patiala. Six more such centres were envisaged by the end of the Second Five Year Plan period. Of these six, one was established at Bangalore in association with the National Tuberculosis Institute. The States, which do not yet have such training centres had formulated the necessary proposals but generally they seem to be lukewarm in the implementation of their proposals. General financial stringency may be one of the reasons for this. The proposals under consideration were the establishment of Training Centres at Calcutta, Agra, Ahmedabad, Darbhanga and Jaipur.

National Tuberculosis Institute

The Government of India consider that the success of T.B. Clinics and of the whole National Tuberculosis Control Programme would lie in the training of adequate number of T.B. Workers, Doctors, Health Visitors, X-ray and Laboratory Technicians and Public Health Nurses. With that aim in view emphasis had always been placed on the establishment of T.B. Control and Training Centres to give this training. Also the community approach in tuberculosis control had to be inculcated in the training. During the year 1957, arrangements were made for imparting orientation training for a few T.B. workers in the community approach to T.B. control at 3 centres viz., New Delhi T.B. Centre, the All India Institute of Hygiene and Public Health, Calcutta and U.M.T. Sanatorium, Madanapalle. During the period under report it was decided to give this special training at the National Tuberculosis Training Institute, Bangalore. This intensive training would be given only to key personnel from each T.B. Clinic in the country, who were expected to run the clinics and those Senior Officers, who were incharge of T.B. Control Programme in the States. The ancilliary T.B. workers would continue to be trained in T.B. Control and Training Centres in the States.

The establishment of the National Tuberculosis Institute was sanctioned in September, 1958. The preliminary work had already started in Bangalore and details of the training programmes were drawn up during the end of the year under report.

Establishment of isolation beds

Under this scheme Rs. 50 lakhs were provided for the establishment of 4,000 isolation beds during the Second Five Year Plan for the isolation of

advance T.B. cases and those who are living under unhygienic conditions in over-crowded areas. The scheme provides for the payment of a subsidy to the State Governments at Rs. 1,250 per bed during 1958-59. So far 1,300 beds were established

1,055 beds were approved in different States during 1958-59 but information about the establishment of 205 beds was received towards the end of the year. Besides, a 52 bedded isolation ward was completed by the Central Government at the T.B. Hospital, Mehrauli at a cost of Rs. 2,16,468 of which the recurring expenditure at Rs. 75,000 yearly was to be met by the Central Government.

Establishment of After Care and Rehabilitation Centres for Ex-T.B. Patients

The target for the Second Five Year Plan period was to establish eight such centres. Here training was given to T.B. patients and their families in suitable handicrafts viz., basket making, printing and book binding to enable them to earn a livelihood. A provision of Rs. 30 lakhs was made for Central subsidy to States for the establishment of 8 such centres. During 1958-59 work was started in 4 rehabilitation work centres, one each at New Delhi, Lucknow, Madras and Dhubulia (West Bengal). The Central Government gave grants amounting to Rs. 3.63 lakhs towards the cost of construction on a sliding scale. Subsidy towards recurring expenses was also given by the Central Government.

Assistance to displaced patients from West Pakistan

During 1958-59 the Government of India reserved 518 beds for displaced persons from West Pakistan in Sanatoria in different States. The reservation cost amounted to Rs. 6,70,540. A sum of Rs. 54,848 was sanctioned for the purpose of costly drugs to indigent displaced T.B. patients. Another sum of Rs. 11,962 was distributed among certain States for cash grants to such patients. 298 patients availed of cash benefits from the Directorate General of Health Services, New Delhi and 240 patients were provided with free hospitalisation.

The activities of the States in respect of Tuberculosis Control Programme are briefly given below:—

Andhra Pradesh—20,72,813 persons were tested and 6,71,436 persons were vaccinated against a total number of negatives 6,96,972.

Bihar—During 1958, ten bedded T.B. wards were opened at Seraikella, Simdega, Kaderma, Madhubani, Araria and Dhanbad. 18 teams were performing the work of tuberculin test and BCG vaccination throughout the State.

Bombay—The Government of Bombay paid a grant in aid of Rs. 1,000 to the Bombay State T.B. and after-Care Committee, T.B. Clinic. J.J. Group of Hospitals, Bombay during 1958-59. There were 1,218 T.B. beds at Government Hospitals and 446 at Government Sanatorium. There were also 25 T.B. clinics wherein out-door treatment was available for T.B. patients. Chest clinics were started at Nanded and Aurangabad and the T.B. clinics at Limbdi, Bhavangar and Junagadh were upgraded during the year under report. Also, T.B. Demonstration Centre was established at the Medical College and Hospital, Nagpur with assistance of the W.H.O.

As a preventive measure BCG vaccination was carried out vigorously by the BCG Teams controlled by the Public Health Department of the State.

Jammu and Kashmir—At present there are two communicable diseases Hospitals one at Srinagar and the other at Jammu with a bed strength of 190 and 80 respectively. In the sanatorium at Batote the bed strength was 50 and in the Sanatorium Tangmarg the bed strength was 100.

Kerala—There were 3 hospitals and 3 clinics for the treatment of T.B. patients. Improvements were made in the District Hospitals for providing facilities to T.B. patients. The BCG Vaccination Campaign was on its second round in the Travancore-Cochin area. The total number of tuberculin tested was 5,39,321 and the number of BCG vaccinated was 189,823. New scheme for opening new T.B. Clinics during the Second Five Year Plan was under consideration.

Madras—The Mass BCG Vaccination Campaign, which functioned in rural areas and municipal towns (other than District Headquarters towns) of Salem district was completed by the first week of March, 1958. The work in the North Arcot district having been completed during the second half of December, 1958, the field teams moved to Ramanathanpuram district during the last week of December, 1958.

With a view to intensify the mass BCG Vaccination Campaign and to cover the entire susceptible population within the Second Five Year Plan period, a second BCG unit consisting of 4 teams also started functioning in the district of South Arcot with headquarters at Cuddalore from June, 1958. 8,56,292 persons were tuberculin tested and 2,82,139 persons were BCG vaccinated.

Madhya Pradesh—64 T.B. beds were increased during the year under report. The mass chest survey unit functioned at Gwalior upto September, 1958 and then at Bhopal. 5,557 X-rays were taken out of which only 116 were positive cases with a percentage of 2. A new T.B. Hospital was established at Khargone (West Nimar District) under the Tribal Welfare Department Scheme of the State.

Mysore—9,78,769 persons were tuberculin tested and 3,75,304 persons were vaccinated with BCG vaccine. Two new T.B. clinics were opened at Mangalore and Chitradurga. The T.B. Clinic Gulberga, P.C.T. Dispensary, Mysore and Lady Willingdon T.B. Clinic, Bangalore were up-graded with Central subsidy by way of X-ray and laboratory equipments worth about Rs. 50,000 for each clinic.

The bed strength of S.D.S. Sanatorium, Bangalore was increased by 100 beds bringing the total to 282. Wards to accommodate 50 patients for isolation of T.B. cases in Government T.B. Sanatorium, Bangalore were about to be completed. Domiciliary T.B. Treatment Centres started at P.C.T. Dispensary, Mysore and Lady Willingdon T.B. Clinic, Bangalore during the year under report. The total number of T.B. Hospitals, Dispensaries and Clinics in Mysore State was 27 with a bed strength of 1,329.

Orissa—Eight BCG teams continued to operate the BCG Vaccination Campaign. 6,78,837 persons were tuberculin tested and 2,65,480 persons were BCG vaccinated. All these BCG teams received W.H.O./UNICEF aid in the shape of vehicles, vaccines and equipments. One T.B. Hospital with a provision of 150 beds at Chandpur in the Puri District and one T.B. Clinic with a provision of 6 observation beds at Baripada were opened during the year under report. 262 beds were provided by the State for treatment of T.B. patients.

Punjab—Ten T.B. Hospitals/Sanatoria continued to function in the State with a total bed strength of 817. There were 21 T.B. Clinics of which 8 were maintained by the State Government and the remaining by the local bodies, Trust or T.B. Association or Red Cross or Municipalities. In order to up-grade the clinics, the Central Government gave equipments for X-ray and Laboratories to some of these clinics.

In the T.B. Sanatorium, Tanda, the bed strength was 200 catering treatment to 423 patients. Besides, the out-patient department continued to function, where 4,481 patients received treatment. The Tuberculosis Hospital, Hermitage, Sangrur, accommodated 100 patients in General Ward and 237 new in-door patients were treated in 1958. The Tuberculosis Centre, Patiala had become a full fledged Anti-T.B. Demonstration and Training Centre. Domiciliary treatment, which is an important function of modern Tuberculosis Centre, started on a well organised scale during the year under report. Clinical Section of the institution provided service to 2,563 T.B. patients.

BCG Vaccination work was intensified and upto the end of the year under report, 129 lakhs person were tuberculin tested and 40 lakhs persons were BCG vaccinated.

Rajasthan—There were 19 medical institutions specifically dealing with tuberculosis in the State of which 5 Hospitals and Sanatoria with 296 beds, 8 clinics with 12 beds and 6 T.B. wards in General Hospitals with 191 beds. Besides, there was a Sanatorium at Ajmer with 250 beds for treatment of in-door T.B. patients. During the year under report a ward with 20 beds at Jhalawar was also established.

BCG Vaccination work continued in 22 districts in full swing. The total number of vaccinations performed upto the end of 1958 was 11,91,656. Educative drive against Tuberculosis was carried out as usual by audio-visual means and by exhibitions.

Uttar Pradesh—During the year under report, one more team for BCG Vaccination was added bringing the total to 16 Teams in the State. The teams carried out tuberculin tests of 18,55,730 persons of whom 5,21,369 were BCG vaccinated.

The number of beds for T.B. patients rose from 1,094 to 1,203 during 1958 by opening a 25 bedded T.B. Hospital at Hathras, a 64 bedded section at S.N. Memorial Hospital, Firozabad and a 20 bedded T.B. Ward at P.L. Sharma. Hospital, Meerut, 4 Tuberculosis Clinics of the type mentioned in Government of India. Scheme started functioning during 1958. There were 10 hospitals and 37 Clinics and dispensaries for treatment of T.B. patients in this State.

West Bengal—Of the preventive measures undertaken to check the spread of the disease, one that needs particular mention is BCG Vaccination. During

the year 1958, there were 15 mass campaign teams and one non-mass campaign team for BCG vaccination work. No fewer than 1,368,442 persons were tuberculin tested of whom 5,11,581 were vaccinated. In 1958, five new chest clinics were opened by the State Government at different districts and sub-divisional towns. The total number of clinics thus rose to 42. The number of beds available for the treatment of T.B. patients were 3,113. The Government sanction was obtained for 250 beds at Dhubulia T.B. Hospital. There were 9 domiciliary treatment units rendering services to patients in urban and rural areas of the State.

Delhi—Three municipal and 3 private hospitals for Tuberculosis were functioning. The bed strength of S.J. T.B. Hospital was 863 in 1958 and the number of out-door and in-door patients treated were 31,066 and 1,695 respectively. 4,732 cases were examined by tuberculin test, of which 2,760 cases were positive and 537 did not report after tuberculin test. 96 cases were given BCG vaccination in the Municipal T.B. Clinics, Queen Road, Delhi. The T.B. Hospital, Mehrauli, serves mainly the rural areas of the Delhi administration and the neighbouring Punjab and U.P. States. During 1958, the construction of an additional block of 52 beds was completed. In Rama Krishna Free T.B. Clinic and New Delhi T.B. Centre, 108,644 and 5,390 tuberculosis cases were treated. The BCG Team, of the Municipal Corporation of Delhi carried out 1,01,987 tuberculin tests of which 21,589 persons were given BCG vaccination during the year under review.

Himachal Pradesh—The BCG Campaign continued in Himachal Pradesh during 1958 and 1,72,610 persons were tuberculin tested of which 30,191 persons were BCG vaccinated. There were 5 T.B. Clinics situated at the district headquarters except Mahasu district where a 50 bedded T.B. Sanatorium at Mandodhar, including one T.B. clinic at Himachal Pradesh Hospital, Simla were functioning. For isolation of T.B. patients from Bilaspur district, 5 beds were reserved at T.B. Ward, Mandi. During the year under review, 140 beds were available for T.B. patients in this Administration. At all the district headquarters, T.B. Survey and Domiciliary services in the urban areas were started under the Welfare of Scheduled Castes and Scheduled Tribes Scheme. Three more T.B. units (2 in Mahasu district and one in Chamba district) were opened during 1958.

Manipur—There was one T.B. hospital, where the number of beds for T.B. patients increased from 30 to 70 during the year 1958. BCG vaccination was in progress covering nearly the whole of population of this Territory.

Tripura—There was no T.B. Hospital, Ward or Clinic in this Territory. The BCG team, which consisted of one team leader and 8 technicians, tested 58,631 persons and vaccinated 20,929 in 1958.

Andaman and Nicobar Islands—Though there was no special hospital or clinic for T.B. patients, a T.B. Ward was functioning, which was attached to the Bambooflat Hospital, situated on the other side of the harbour about 28 miles from the main town of Port Blair. Although the Ward was a 18 bedded one, yet more than 50 patients were accommodated and treated during 1958. It was agreed to start BCG Campaign and to establish a 20 bedded T.B. Hospital in this Union Territory but it did not materialise during the year under report.

CHAPTER III

PROGRESSIVE HEALTH ACTIVITIES IN THE STATES

HEALTH EVENTS

The following paragraphs give a brief description of the health events in different States of the country:—

Andhra Pradesh—The number of Maternity and Child Health Centres functioning in the State during the year under report was 834 as against 816 during the previous year. 216 health centres were provided with a total number of 520 maternity beds. The scheme for the training of Indigenous Dais, introduced in the Andhra Region of the State during 1955-56, was extended to Telengana areas during the year 1958-59. The training of 104 dais were conducted at 10 primary health centres, located in Stage I Blocks and at one centre outside the Blocks. 522 dais were under training during the year under report. The training of Health Visitors in integrated mid-wifery and health visitors course was continued with the Government of India's assistance at the Neloufer Health School, Hyderabad and Health Visitors' School at Visakhapatnam during the year under report. 28 candidates were admitted to the course to the former while 30 candidates to the latter. In addition to training programme detailed above, the training of Health Visitors at Hyderabad drawn from different parts of the country was also conducted during the year under review. The WHO/M.C.H./Nursing Training Project was carried on successfully at Hyderabad with national counter part personnel of the project and similar training programme at Visakhapatnam was also implemented successfully.

It may be mentioned that Rural Sanitation Unit, working as an Advisory Consultative Committee under the charge of Engineer in the Public Health Directorate of the State was proposed to be expanded with an annual expenditure of Rs. 17,500 but the scheme could not be implemented during the year covered by this report.

The unit evolved new type designs for latrines suitable for villages where supply of water was not available. Those designs were approved by the Government of Andhra Pradesh in consultation with the Chief Engineer. It was also proposed to distribute the blue prints of the designs to all the Health Officers, Local bodies in due course. Besides, type designs for slaughter houses, maternity centres, isolation hospitals and markets were also evolved and furnished to Health Officers and other Municipal Authorities in the State wherever required.

Regarding the new legislative measures, it was proposed to extend the Madras Public Health Act, 1939 and the integration of the registration of Births and Deaths Act to the Telengana of the Andhra Pradesh. The Madras Factory Rules, 1950 were proposed to be intergrated with the Hyderabad Factory Rules, 1552. The State Government was considering to extend the Hyderabad Leprosy Act to the Andhra Region of the State. The Madras Public Reports Act, 1888 were also proposed to be extended to Telengana area by legislation.

The most important event during the year under review was an appointment of the Expert Committee to go into the various aspects of the epidemics of cholera and smallpox in the State as advised by the Government of India in the Ministry of Health, New Delhi. The Committee made appropriate recommendations for the control of these epidemics in the State.

Provision was made to supply medicine bores during 1958-59 to the villages situated in remote areas of the Telengana area and refills were provided for the 54 villages for which medical bores were already provided. With a view to combat epidemics and prompt mobilization of the staff in the affected areas, 2 epidemics control vans and 11 jeeps, sanctioned during the First Five Year Plan period, continued to work during the year under report. 6 more epidemics vans were allotted to the 6 districts of the Telengana area to control epidemics and to carry out necessary health propaganda. In Telengana area of the State four mobile medical units and two flying squads continued to work constantly for prompt anti-epidemic measures.

Assam—During the year under review a public Health Engineer was appointed with suitable staff. The Assam Prevention of Food Adulteration Rules, 1958 were finalised and awaited enforcement. The Medical and Public Health Departments were amalgamated to some extent.

Bombay—During 1958, one Public Health Laboratory at Bombay and one Regional Food Laboratory at Amraoti were established and the State Government was considering comprehensive legislation in respect of Public Health.

Kerala—During the year under report, the administrative set up at the headquarters was slightly modified. Two Deputy Directors in-charge of Public Health and Medical Services were earlier exercising jurisdiction throughout the State, but the State was at present, divided into two zones with headquarters at Trivandrum and Trichur. These zones were in the charge of Deputy Directors of Health Services exercising control over medical and public health activities in their respective areas.

In the State, 108 deaths due to food poisoning occurred at Trivandrum, Quilon and in the suburbs of Ernakulam. These cases were due to the consumption of bread of maida, imported through the ship 'Jai-Hind'. Necessary steps were taken by the State Government and the Government of India to avoid such poisoning in future.

Madhya Pradesh—The most important event in the State during the year under review was that Medical Institutes rose from 1,009 to 1,101. The institutions opened were composed of T.B. Centres, Child Guidance Clinics and a number of Family Planning Clinics, Primary Health Centres and rural dispensaries. A Model Bill to be called "Madhya Pradesh Medical Practitioners Act" was drafted on the Model Bill of the Government of India and was under consideration of the State Government. The object of the bill was to prohibit practice by unauthorised persons. In order to exercise uniformity in the existing Registration Act for Medical Practitioners amendments were proposed to the Government. The question of revision of Medical and Public Health Manuals of the departments was also on the anvil.

Madras—During the year under report an additional post of the Assistant Director of Public Health for T. B. control and one post of Publicity Officer for BCG Vaccination Campaign at Cuddalore were sanctioned.

The department experienced dearth of Health Officers and, therefore, re-employment of certain retired Officers was permitted upto June, 1959.

During 1958, the Public Health Board met twice and made recommendations on different subjects referred to it by the State Government. The subjects had a wide range from the amendment for the public health act to eradication of guineaworm disease. A State delegation was also led by the Health Minister to study public health problems in the other countries both in the East and West.

Rajasthan—The work on the establishment of an organisation of the ten Public Health Laboratories, sanctioned during the Second Five Year Plan, continued during the year under report. The construction of the Laboratory buildings at Udaipur, Kotah, Bikaner and other places was completed in the Public Health Department. A Medical College at Bikaner was started to provide more facilities for training medical personnel in the State. The prevention of the Adulteration of Food Act, 1954 was enforced by the State Government during the year under review.

Pondicherry—Many activities were undertaken during the year in order to develop the medical facilities. The improvement of the general hospital in Pondicherry was in progress. The construction work of a T.B. Sanatorium, Pondicherry at the cost of Rs. 25 lakhs nearly was also in progress. The Government of India sanctioned the establishment of one Venereal Diseases Dispensary at Karikal and the work thereof was in progress. Sanction was also available for the construction of an Isolation Ward at Karikal with a provision of 33 beds. The Leprologist delegated by the Government of India submitted a report for the establishment of Leprosy Control Centre at Pondicherry.

Manipur—The extension of the Epidemic Diseases Act to more areas is under consideration of the Manipur Administration. Proposal was also on the anvil for re-organisation and expansion of health services in the Territory.

Himachal Pradesh—A number of Maternity and Child Welfare Centres and Primary Health Centres were started in the Territory. Also 7 Tehsil Laboratories were opened during the year under review.

SANITATION, WATER SUPPLY AND CONSERVANCY

The National Water Supply and Sanitation Programme started during the first Five Year Plan period in August/September 1954 with a view to assisting the State Governments to provide better water supply and drainage in urban and rural areas. The assistance was given by the Central Government in the form of loan for approved Urban Schemes and Corporation Schemes to the extent of 100 per cent of the estimated cost and as grant-in-aid in the case of rural schemes to the extent of 50 per cent. The Central assistance included the cost of equipment and material obtained through U.S. Technical Co-operation Mission and allotted to the States.

The Central Public Health Engineering Organisation was set up in the Directorate General of Health Services, New Delhi for helping the State Governments in the preparation and execution of their schemes of water supply drainage and sanitation and for giving technical advice and guidance to the States wherever necessary. Some T.C.M. experts also helped this Organisation in the matter.

Centrally Sponsored Schemes:

National Water Supply and Sanitation Programme (Urban).

The following urban water supply and sewage schemes were approved under the National Water Supply and Sanitation Programme:—

States	Name of Scheme	Estimated cost (Rs. in lakhs)
1. Jammu and Kashmir	Jammu City Water Supply Scheme Part II	18·030
2. Kerala	Palghat Water Supply Scheme	37·660
3. Madras	Tirunelveli Water Supply Scheme	37·080
	Tirupur Water Supply Scheme	95·100
4. Punjab	Palwal Water Supply Scheme	6·276
5. West Bengal	Bally Water Supply Scheme	20·998
	Champdany Water Supply Scheme	9·660
	Bhadreswar Water Supply Scheme	10·491
	Garulia Water Supply Scheme	5·621
	Ranaghat Water Supply Scheme	6·572
	Asansol Water Supply Scheme	21·652

This brings the total number of water supply and drainage schemes, so far included under the scope of this programme to 218 and 58 respectively. These schemes were estimated at cost of Rs. 55·81 lakhs.

The undermentioned Water Supply and Drainage Schemes of Corporation were also approved during the year under review:—

States	Name of Scheme	Estimated cost (Rs. in lakhs)
1. Andhra Pradesh	Hyderabad Water Supply Scheme (3 estimates of the Hyderabad Water Supply Scheme)	12·77
2. Bihar	Patha Water Supply Scheme	37·41
3. Bombay	Kanhan St. II Water Supply Scheme	72·57
4. Madhya Pradesh	Jabalpur Water Supply Scheme	42·50
5. Madras	Water Supply and Drainage Schemes of Madras City	125·023
6. West Bengal	Calcutta Water Supply and Drainage Scheme	156·76
7. Mysore	Bangalore Water Supply Scheme	9·9656

13 Water Supply and Drainage Schemes costing Rs. 599.82 lakhs were under execution of this programme.

Under the National Water Supply and Sanitation Programme for urban schemes (other than corporations) a sum of Rs. 2108.156 lakhs was sanctioned up to March, 1958. A further sum of Rs. 8 crores was provided for the year 1958-59 for the approved urban schemes.

A sum of Rs. 57.5 lakhs was also sanctioned for the approved Corporation schemes up to March, 1958. For the current year 1958-59, a further sum of Rs. 50 lakhs was provided for giving loans towards these schemes.

Centrally Aided Schemes

National Water Supply & Sanitation Programme (Rural)

72 new rural water supply schemes in the under mentioned States, costing Rs. 233.35486 lakhs were sanctioned during the year 1958:—

States	No. of schemes sanctioned	Cost of schemes (Rs. in lakhs)
1. Andhra Pradesh	2	19.00000
2. Assam	7	28.85000
3. Bombay	47	37.33000
4. Himachal Pradesh	1	9.01200
5. Madhya Pradesh	3	78.71000
6. Mysore	7	46.51660
7. Orissa	1	11.54000
8. Punjab	2	2.25956
9. Pondicherry	1	0.02670
10. West Bengal	1	0.11000
Total	72	233.35486

So far 211 rural water supply and sanitation schemes costing Rs. 1783.2 lakhs were approved under this Programme. Up to March, 1958, a sum of Rs. 539.51225 lakhs was sanctioned as grant-in-aid for the approved schemes. For the year 1958-59, a further sum of Rs. 200 lakhs was provided for giving grant-in-aid to the States for their approved Rural Water Supply and Sanitation Schemes.

Training in Public Health Engineering

This Programme for which a provision of Rs. 30 lakhs existed in the Second Five Year Plan envisages the training of Engineers, Overseers, Water Works and Sewage Treatment Works Operators and Sanitary Inspectors in different

courses of varying duration especially designed to meet the requirements of National Water Supply and Sanitation Programme. During the year under review training of the following personnel in the categories mentioned below were undertaken.

Type and Duration of Courses	Number Trained	Name of Institutions where Courses were held
1. M.E. (P.H.) 10 month course .. 38 (Courses will be completed during 1959).		(1) All India Institute of Hygiene and Public Health, Calcutta. (2) Engineering College, Guindy, Madras.
2. Engineers—Short term course .. 36		(1) Engineering College, Guindy, Madras. (2) Roorkee College of Engineering, Roorkee.
3. Engineering Subordinates—Short term courses .. 45		(1) Engineering College, Guindy, Madras. (2) Roorkee College of Engineering, Roorkee. (3) All India Institute of Hygiene and Public Health, Calcutta.
4. Water Works Operators .. 21		Chamaraja Sagar, T.G. Halli, Bangalore.
5. Sanitary Inspectors (December, 1958 to February, 1959) .. 27		Najafgarh Orientation Training Centre, Delhi.

Stipends at the rate of Rs. 150 per month to Engineers, Rs. 100 per month to Engineering Subordinates, Water Works Operators and Rs. 75 per month to Sanitary Inspectors were given by the Government of India in the Ministry of Health. In addition to the stipends, tuition fee, examination fee, migration fee and cost of educational tours, if any, were borne by the Central Government on behalf of the trainees.

The first issue of Public Health Engineering News Bulletin was brought out by the Central Public Health Engineering Organisation in October, 1958.

The preliminary work on the preparation of the code of practice and a draft manual for the guidance of Public Health Engineers in India was under way during the year under review.

Under operational agreement, 25 materials and equipment, such as C.I. pipes and fittings, engineering and drafting kits, engineering books and scientific instruments were received during the year under report.

HEALTH UNITS

In the country there were several Health Units functioning in the rural areas. Broadly the objectives of these units are (i) to act as demonstration centres and to propagate, among the population at large, the information on public health, in so far as the preventive aspect is concerned, (ii) to provide

the necessary medical facilities in the areas under their jurisdiction and (iii) to ultimately tone up the health conditions in the areas concerned.

The activities of the units, along with the details of the health personnel and relevant vital statistics, are summarised below:—

1. Health Training Centre, Ramanagaram (Mysore State)

The centre has been functioning for the last 22 years. The area covered by the centre is at present 113 sq. miles with 134 villages. The mid-year estimated population for the year 1958 was 86,874 as against 84,637 during 1957. The density of population of the area during the year under report was 769.

During the year under review, the staff consisted of one Medical Officer of Health, one Assistant Lady Surgeon, three Assistant Medical Officers of Health and one Nursing Supervisor, six Senior Health Inspectors, three Junior Health Inspectors, two Vaccinators, five Public Health Nurses and 4 Compounders.

The vital statistics for the year 1958 as well as for the previous year is presented in Table No. 7. The birth rate, death rate and infant mortality rate for the unit area were respectively 37.5, 12.9, and 120.9 as against 38.5, 13.3 and 114.1 respectively during the year 1957. The vital statistics for the Centre during the last six years is given below:—

Years		Birth rate per mille of population	Death rate per mille of population	Infant mortality rate per 1,000 of live- births	Maternal mortality rate per 1,000 of live and still births	Percentage of still births to total births
1952	..	43.1	13.9	123.4	3.9	3.0
1953	..	41.8	12.6	111.6	5.4	3.0
1954	..	41.9	14.3	115.4	4.4	3.0
1955	..	43.3	14.1	123.3	3.7	3.0
1956	..	41.1	14.6	119.7	5.1	3.0
1957	..	38.5	13.3	114.1	6.6	3.2
1958	..	37.5	12.9	120.9	5.4	3.4

These vital statistical rates do not perhaps warrant any inference regarding the improvement in the health conditions of the area. The Comparison of these data with the corresponding ones for the rural areas of the entire State is not feasible for the reason that the standards of

registration of vital statistics are not strictly comparable. However, the figures for the two areas are given below:—

Description	Health Unit Area for the year 1958	For the rural population of the State as a whole
(i) Birth-rate	37.5	23.1
(ii) Death-rate	12.9	10.8
(iii) Infant mortality rate	120.9	75.1
(iv) Percentage of still births among total births ..	3.4	2.3

The higher values of the rates do not justify any conclusion that the health conditions in the unit area are worse off than those prevailing in the rural areas of State, for the reason that in the unit area better registration exists and consequently vital statistics are more complete in coverage.

The cause specific deaths and death rates recorded in the Health Training Centre, Ramanagaram (Mysore State) during the year under report are presented in Table No. 8.

Preventive measures against the spread of the infectious diseases can be seen in Table No. 9. In regard to health education 2,000 group talks were held and 5,000 leaflets were distributed. A total number of 177,321 patients were treated during the year under review as against 159,082 during 1957.

During the year under report, 50 sanitary inspectors and 37 auxiliary midwives were trained.

There was one Maternity and Child Health Centre with 10 beds functioning during the year under review. The deliveries conducted by the staff were 1,753 as against 1,870 during 1957. The home visits by maternity staff increased substantially. It should also be pointed out that the maternity clinics conducted were 336 during 1958, thus showing an increase of 14 clinics in comparison with 1957.

A sum of Rs. 1,62,000 was expended during 1958 as against Rs. 1,42,000 during the previous year.

2. Health Unit, Poonamallee (Madras State)

The Unit has been working since 1935 with a population of 62,833 according to 1951 census. The area covered was 39 villages. There was no change in the staffing pattern during 1958. The vital statistics for the unit area is presented in Table No. 7. The death rate, infant mortality rate and the maternal mortality rate were respectively 20.6, 135.0 and 0.6. It is to be noted that the maternal mortality rate was only 0.6, which is indeed low in comparison with not only the rural areas of the State (4.1) but also with the rates obtaining

in other States. The following table gives the vital statistical rates during the last six years :—

Years	Birth Rates per mille of population	Death Rates per mille of population	Infant Mortality Rates per mille of live- births	Maternal Mortality Rates per mille of live and still births	Percentage of still births among-total live-births
1952	33.7	22.2	+	+	+
1953	25.7	21.2	154.2	+	+
1954	38.9	17.9	126.6	1.6	2.4
1955	46.4	20.1	141.8	0.7	3.0
1956	44.8	18.1	120.0	1.7	2.7
1957	46.9	22.5	147.0	0.9	3.6
1958	44.2	20.6	135.0	0.6	3.8

NOTE:— + Information not available.

During the year under report 1,375 deaths occurred as against 1,425 deaths during 1957. No infection due to Cholera was reported, although 27 imported cases of Smallpox with nil death were reported. The incidence of other communicable diseases such as Enteric Fever, Malaria, Influenza were either negligible or not at all reported. 135 primary vaccinations and 2,280 re-vaccinations were performed during the year under report.

Food Adulteration Act was enforced in the Unit area and a total number of 87 samples were sent to King's Institute for examination and 27 prosecutions were launched in the cases of adulteration. For the improvement of the general environmental conditions in the Unit area, 230 bore-hole latrines were either constructed or repaired and all the villages were cleared and the chlorination of the wells was also intensified.

During the year under report the Madras Government sanctioned scheme for the maintenance of the Rural Health Centre, Poonamallee in order to afford training facilities to the pre-registration medical graduates of the Madras Medical College in rural health work. The programme of internship which started in the month of July, 1958 was continued during the year under report, and 7 to 14 students stayed every month at Poonamallee for internship.

As in the previous year there were 7 Maternal Child Welfare Centres with a total bed strength of 32 and with the help of Ambulance Van in the Unit area, 116 maternity cases, 5 cases of Cholera and 22 cases of Smallpox were removed to the Government Hospital, Madras City. The attendance at the clinics was fairly satisfactory.

Out of 12,947 births recorded, the number of deliveries for which skilled assistance was available was as much as 88 per cent. The maternal mortality rate was very small. The training programme of dais was continued during the year under report and 10 dais were under training. All dais already trained were supplied with dai kits. The other activities for the welfare of expectant mothers and children included the distribution of milk powder, soap and vitamin tablets.

3. Health Unit, Sirur, Poona District (Bombay State)

The Unit was established in 1939 covering an area of 256 square miles till 1956. Since then, the area so far covered comes out to be 492 square miles with 64 villages. The medical and public health personnel employed in the Unit area were as follows:—

1. Medical Officer of Health	..	..	..	..	..	..	1
2. Asstt. Medical Officer (Lady Doctor)	..	..	..	..	..	..	2
3. Public Health Nurses	..	..	..	..	..	..	2
4. Health Educator	..	..	..	..	..	..	1
5. Sanitary Inspectors	..	..	..	..	..	..	3
6. Sanitary Sub-Inspectors	..	..	..	..	..	..	2
7. Nurse-cum-Midwives	..	..	..	..	..	..	11
8. Health Visitor	..	..	..	..	..	..	1
9. Dais	..	..	..	..	..	..	2
10. Medical Officer I/c P. H. Unit	..	..	..	..	..	..	2

The vital statistics rates presented in Table No. 7 show a slight increase in all the rates in comparison with those of 1957 and the highest increase was noticed in the infant mortality rate which was 114 as against 98 during 1957. The following table furnishes the vital statistical rates for the Unit area since 1954:—

Years	Birth Rates per mille of population	Death Rates per mille of population	Infant Mortality Rates per mille of live-births	Maternal Mortality Rates per mille of live and still-births	Percentage of still-births among total births
1954	34.8	23.8	173.4	5.5	2.5
1955	46.9	21.9	156.6	4.6	2.1
1956	+	+	+	+	+
1957	42.5	14.8	98.0	2.2	1.5
1958	43.1	18.3	114.2	3.8	1.6

NOTE— +Information not available.

There were in all 1,115 deaths and the leading causes were T.B. (61), Fevers (114), Dysentery and Diarrhoea (130) and Anaemia and Debility (33). It is gratifying to note that no death due to Cholera, Plague and Malaria occurred during the year under report. Only 4 deaths due to smallpox were reported.

The usual preventive measures were undertaken. The number of primary vaccinations performed were of the order of 3,500, re-vaccinations of 3,500 and 675 anti-Diphtheria inoculations were performed. Substantial quinine tablets were also distributed.

The health education and propaganda were vigorously taken up. Lectures and cinema shows on subjects like epidemic diseases, domestic hygiene, nutrition, T.B. control and other subjects were arranged, along with a good number of group talks. Exhibition on health was also held and the health dramas were enacted.

There were in all 8 Maternity and Child Welfare Centres functioning at the beginning of the year. One Lady Medical Officer, 11 Nurses and Midwives, 2 Dais, 2 Public Health Nurses and one Health Visitor were employed for maternity and child welfare works at these centres. The home visits paid by the maternity staff were of the order of 21,500 and the deliveries conducted by the unit staff were 691. Dry milk powder and reconstituted milk were distributed at some of the centres and vitamin capsules were also distributed among the school students. The total number of vitamin tablets distributed during the year under report was 441,600 and the milk distributed amounted to 100,845 lbs.

The sources of water supply were tanks, stepdraw wells. Only the town of Ghodnadi was having protected water supply. Draw wells were disinfected regularly. Water for drinking purposes was also protected. For the improvement of sanitation, 108 manure pits were dug and 23 soakpits were constructed. Three bore-hole latrines were constructed in addition to repairing of one such latrine during the year under review.

A total number of 26 Health Visitors, 52 Medical Officers in public health and 254 Sanitary Inspectors were trained during the year under report. The Health Visitors trained in Family Planning were 7 and 4 persons were trained in first-aid. The World Health Day was celebrated on 7th April, 1958. The total estimated annual expenditure during 1958 was Rs. 1,77,020.

4. Rural Health Centre, Pattancheru, Medak District (Andhra Pradesh)

The Centre was started in 1951 as a model Medical Health Unit but was converted into Rural Health Centre from September, 1957. The area covered by the Centre was 30 square miles with 28 villages and a population of 22,840. The objectives of the Unit were broadly as follows:—

1. To demonstrate methods and functions of integrated health services in a rural environment ;
2. To make the trainees aware of medico-social problems as they present themselves in rural practice ;
3. To give the trainees an opportunity to apply their previously acquired knowledge in rural practice ;
4. To create an interest and understanding of rural health work;
5. To establish
 - (i) Orientation and refresher courses in all aspects of health for various categories of medical and health service personnel;
 - (ii) Supervise field training for under-graduate medical students, nurse students, auxiliary nurse midwife students, health visitor students and sanitary (health) inspector students ;
 - (iii) Apprenticeship training of pre-registration medical graduates till the apprenticeships can be gradually introduced in primary health centres selected for practical training of the above mentioned graduates ; and

- (iv) Orientation courses for other groups associated with health (community development personnel, teachers, agriculturists, multi-purpose workers, social workers etc.)

The Medical and Public Health staff employed in the Unit area is given in Table No. 10. There were two Medical Officers of Health and one Public Health Engineer. Among the junior staff 3 midwives, 2 health inspectors, 2 compounders, one health visitor, one laboratory teacher and 2 dais were employed. Provision was also available for paediatrics staff of one health visitor and one midwife.

The vital statistics rates for the Unit area are presented in Table No. 7. The birth rate and the death rate were 39.6 and 14.2 respectively. Infant mortality rate was only 40.0, which is indeed very low. The corresponding figure for the State as a whole was 85.9. The difference between these two figures is indeed quite significant. It may also be mentioned that the maternal mortality rate (3.5) was less than the rate (4.7) for the State as a whole.

There was an outbreak of epidemic of Cholera and Smallpox. 57 cases and 27 deaths due to Cholera and 13 cases and 3 deaths due to Smallpox were reported. The group of Dysentery and Diarrhoea and maternal causes accounted for substantial portion of the total morbidity in the unit area. The group of fevers topped the list of specific causes with 6,742 cases out of a total number of 10,359. The number of deaths reported were only 36 of which 30 were due to Cholera and Smallpox, 4 due to maternal causes and 2 due to Enteric Fever.

The preventive measures undertaken consisted mainly of the distribution of quinine tablets and powder and of vaccinations and anti-cholera inoculations. A total number of 11,349 anti-cholera inoculations were performed along with 5,864 vaccinations.

Notable work was also done in the field of health education. Two exhibitions and 28 dramas and 6 childrens' weeks were held with the largest stress on cholera, smallpox and maternity and child health.

There was one maternity child welfare centre with 3 sub-centres functioning at the beginning of the year under review. There were in all 18 beds for maternity services. The staff employed for this work was one Medical Officer, one Health Visitor, three Nurses and Midwife and two Dais and 30 other staff. Out of the total 900 deliveries, 770 were attended to by the staff. 12,167 home visits were paid by the maternity staff of which 7,200 were for pre-natal and post-natal care and 3,760 were for the pre-school. It is to be noted that vocational training classes for mothers were held in co-operation with Community Development Authorities. A Family Planning Clinic was also established to propagate the cause of family planning in the unit area.

Regarding environmental sanitation, the work done during the year consisted of constructing or repairing 10 bore-hole latrines and filling 61 latrines with W. S. slab and constructing 110 new soak-pits. All the villages were cleaned during the year under report by rotation and the health inspectors visited each village twice a month to survey or to rectify sanitation defects. Family health centres were also maintained for each village.

The school health programme was conducted through drama, radio-talks, 685 students were examined and out of them 165 were found to be defective, mainly due to mal-nutrition and bad teeth and 25 cases were referred to the hospitals.

The other important features of the unit area worth mentioning are that a well-equipped library existed for the use of public and trainees and a small laboratory for routine examination was also available. The Village Health Committees were organised in all the villages. Facilities for hospitalisation were available with 32 beds. During the year under review, a budget of Rs. 43,393 was provided.

5. Health Unit, Saoner, District Nagpur (Bombay State)

The Unit has been in existence since December, 1954 with an area of 75 square miles covering 39 villages and one town. The population covered by the unit was 38,075. The unit had one Health Officer and two Medical Officers and one Assistant Public Health Engineer. There were in all 14 para-medical personnel, 2 clerks and 19 class IV staff during the year under report.

The vital statistics of the Unit area is presented in Table No. 7. It may be noted that the death rate during the year under report was as much as 32.8 while during 1957 it was 45.9. The infant mortality rate reported was as much as 260. The health conditions were far from satisfactory.

Regarding the incidence of the diseases a total number of 1,048 deaths were reported, the majority of which was accounted by the specific group of Dysentery and Diarrhoea and the group of Fevers. No serious outbreak of any epidemics was reported. However, it may be stated that Infectious Hepatitis which started in 1957 continued to be reported to the middle of June, 1958, but the cases were stray and of mild nature.

The following table gives deaths due to various diseases during 1958:—

Cause of deaths	No. of deaths	Death Rates per mille of population	
		1957	1958
1. Cholera	6	4.95	0.16
2. Small-pox	5	—	0.13
3. Malaria	33	2.2	0.87
4. T.B.	22	0.59	0.58
5. Enteric Fever	40	1.52	1.05
6. Leprosy	6	+	0.16
7. Other fevers	102	0.74	2.68
8. Anaemia and debility	50	1.38	1.32
9. Dysentery and Diarrhoea	215	7.75	5.65
10. Maternal causes	—	3.54	—
11. Other causes	569	22.1	14.90

NOTE:— + Information not available.

— Nil information.

During the year under review, a family planning clinic was started covering a population of 10,000 and 272 persons attended the clinic for advice of which 58 were motivated for family planning. Two sterilization operations were also conducted. There was one Maternity and Child Welfare Centre with 3 sub-centres functioning at the beginning of the year. The staffing pattern employed for the Maternity and Child Welfare Centre consisted of 1 Medical Officer, 5 Midwives, 3 Health Visitors and 1 Ayah. The details of the work done by the maternity staff are shown in Table No. 11. It may in this connection be mentioned that the total number of deliveries conducted by the staff was 657 out of 1,620 births thus constituting a percentage of 41.

One Health Educator was attached to the Unit area and the work done during the year 1958 comprised of holding an exhibition and of enacting a drama and giving lectures on various subjects and magic lantern shows were also arranged. Leaflets and pamphlets with posters were distributed. The other preventive measures such as anti-cholera inoculations and vaccinations were performed and details thereof are presented in Table No. 9. It is worth mentioning that the National Malaria Control Unit, Nagpur undertook regular spraying of dieldrin three times in a year and mass prophylactic measure was also undertaken. Larvicidal operations were also carried out in some of the villages of the Unit area. There was an out-door dispensary with 4 beds providing treatment for general cases. A clinical laboratory was also attached to the dispensary to carry out pathological work. A total number of 117 in-patients were admitted and treated in the dispensary. The pathological work showed an increase during the year under report.

Regarding sanitation, the work done showed increase in comparison with 1957. The number of houses visited for sanitation survey was 320 as against nil during the year 1957 and the number of soak-pits prepared was nearly double than during the last year. Two villages were also cleaned.

The training programme had to its credit, the training of 103 sanitary inspectors, 15 non-programme dais, 26 health visitors, 12 junior family planning workers and 41 interneers. The Health Unit gave encouragement for the formation of health committees in the villages and actively participated in the health talks arranged by block authorities. A small museum was also arranged at the unit to be visited in rotation by school children. A sum of Rs. 81258 was expended and the per capita expenditure was of about Rs. 2 during the year under report.

6. *Health Unit Padra (Bombay State)*

The Unit was established in 1956 and covers an area of 89 sq. miles with 38 villages under its jurisdiction and a population of 64,980. The staff of the Unit consisted of one Medical Officer, one Lady Doctor, one Public Health Nurse, two Health Visitors, three Midwives, one Health Educator, three Sanitary Inspectors and other staff.

As in the case of the Health Unit, Saoner the birth rate and death rate were found to be fairly high with 42 and 24 respectively. The infant mortality rate was 127 and the maternal mortality rate was 2.3. 57 attacks with 6 deaths due to small-pox were reported and there was no incidence of Cholera

during the year under report. 3,053 primary vaccinations and 18,125 re-vaccinations were performed. No other preventive measures except the spraying of DDT were reported.

There was no protected water supply and supply was mainly drawn from wells. Only 80 soak-pits and 49 dug-well latrines were constructed to improve the general sanitation of the area.

Regarding health education, four exhibitions and three baby health days were arranged along with many lectures and group talks on subjects like latrines, smokeless chullah and school health etc. A number of demonstrations with posters were also held on family planning.

Five Maternity and Child Welfare Centres were functioning at the end of the year. Four maternity homes with two beds each also existed. The details of the home visits paid and the mother classes held are presented in Table No. 11.

For the improvement of general health of pre-school children and infants milk and vitamins were freely distributed among them. The Unit had a school health programme. The number of students found defective due to different diseases are as follows :—

Diseases								Defective Students
1. Malnutrition	..	..	..	..	..	..	..	416
2. Bad teeth	..	..	..	..	..	..	..	123
3. Ear, Nose, and Throat Trouble	..	..	..	..	..	..	..	142
4. Eye defects	..	..	..	..	..	..	..	168
5. Others	..	..	..	..	..	..	..	—
Total								849

The training programme at the centre provided for rural orientation training to mid-wives, pre-registration training to medical graduates and for family planning training. The Medical Officers for National Extension Services and Community Development Programme were also trained for about 10 days in the various activities of the unit. During 1958 only 7 dais were trained at the centre. The expenditure of Rs. 45,216 was incurred during the year under report.

7. Health Unit, Palghar (Bombay State)

The Unit was started in 1956 with 26 villages covering an area of 86 sq. miles and with a population of 44,770. The staff of the Unit consisted of one Medical Officer, one Health Educator, one Public Health Nurse, three Sanitary Inspectors, four Health Visitors and eight Midwives and one field worker.

The birth rate, death rate, infant mortality rate and maternal mortality rate of the Unit area were respectively 24.8, 10.7, 66.2 and 5.6. The possibility of under-registration cannot be ruled out in interpreting these rates, but it may also be mentioned that Sanitary Inspectors were directed to find out the omissions in births, deaths and the causes of deaths.

21 cases of smallpox and 18 cases of enteric fever were reported during the year under report. There was only one death among the 18 cases due to enteric fever. Cholera was not at all reported. 14,823 vaccinations, 6,019 anti-cholera inoculations and 1,214 anti-typhoid inoculations were performed. A special branch worked for carrying BCG vaccinations in Thana district. A separate scheme was working at Palghar for spraying of DDT. Free distribution of medicines to the needy villages was done.

Extensive work was reported in regard to sanitation. The number of latrines constructed was 43 and the houses surveyed for rectification of sanitary defects were 6,500. A number of wells were disinfected. The water supply, although drawn from wells, was reported to be partly protected.

8 maternity and child health centres with 10 beds were functioning in addition to 2 maternity homes. From the details of the home visits paid by the staff given in Table No. 11, it can be seen that emphasis was laid on pre-natal and post-natal care and less on conducting the deliveries as such. Only 54 deliveries were conducted by the Unit staff.

Regarding health education, 3 exhibitions and one childrens' week were arranged and 21 magic lantern shows were also held. A permanent health museum was established for demonstration. About 100 distinguished visitors visited the museum. A survey to assess the incidence of worm disease was conducted with the help of interneers. Microscopic examination of stools of 274 persons revealed 89 per cent total protozoal and helminthic infestation, of which round worm was 76.4 per cent, whip worm 59.7 per cent, histolytical 18.7 per cent, entecoly 28.8 per cent, hookworm 3.3 per cent and Giardia intestinal 0.4 per cent.

The grants sanctioned for expenditure for the year 1958-59 was Rs. 74,78,000 giving per capita expenditure of one rupee nearly.

8. *Health Unit, Bavala (Bombay State)*

The Unit has been functioning since November, 1956 covering 123.8 sq. miles and 32 villages and a population of 45,232. The particulars of the staff employed are given in Table No. 10. The birth rate of the unit area was reported to be 44.1 while the death rate was only 18.0. The infant mortality rate was 97.1. For the improvement of these vital statistics by way of coverage etc., measures were taken to detect omissions of births and deaths.

During the year under report, 13 cases with 3 deaths due to Cholera and 111 attacks with 32 deaths due to Smallpox were reported. 25,854 vaccinations and 18,572 anti-cholera inoculations were performed. Cholera patients were treated in the Isolation Hospitals and other precautionary measures were taken like disinfection of wells, patients clothes etc. Besides, DDT sprays were also conducted in two rounds.

Regarding health education, four exhibitions were held and one children's week was also arranged. Substantial number of leaflets were distributed to educate the public in regard to the control of epidemic diseases. 2,632 group talks and 8 magic lantern shows were also held.

There were in all 7 maternity and child welfare centres, four of which were added during the year under report. The Unit had one medical officer, 5 nurses, 3 health visitors and 1 family planning social worker for maternity and child welfare work. A good number of home visits of the order of 14,200 were paid by the staff. The number of deliveries conducted by the staff was 107, which did not constitute a high percentage of the total births. Emphasis was also laid on the programme of distribution of vitamins and milk. 1,000 vitamin tablets were distributed and milk powder was distributed among 1,720 children and 1,546 expectant mothers.

There were 103 draw wells of which 2 were constructed during the year under report. 16 urinals and 16 latrines were also constructed. All the villages were cleaned and 345 manure pits were made to improve general sanitation of the unit area.

In the School Health Programme of the unit area, 570 students were examined of which 82 were referred to the hospitals for treatment. The number found to be defective due to various diseases are as follows:—

Diseases							Defective Students
1. Mal-nutrition	..	..	..	..	..	..	135
2. Badteeth	..	..	..	..	..	..	55
3. Ear, Nose, Throat trouble	..	..	..	..	..	..	63
4. Eye defects	..	..	..	..	..	..	19
5. Others	..	..	..	..	..	..	53
Total							325

The training programme of the unit was quite expanded in as much as it served as a training centre for family planning workers and post M.B.B.S. interneers and other para-medical personnel. The post M.B.B.S. interneers were trained for a period of 6 weeks giving practical training in rural health and aspects of preventive and social medicine. 70 Sanitary Inspectors and 3 Dais were trained while 16 Health Visitors and Nurses were given 10 days training in family planning work.

A permanent museum was also established in the unit area displaying models and exhibits for maternity and child health, family planning, nutrition, environmental sanitation and out-door exhibition of actually constructed latrines and soak-pits was also arranged in the premises of the unit area.

The total expenditure of the unit area was Rs. 56,414 during the year under report.

PRIMARY HEALTH CENTRES

For providing preventive and curative health services in an integrated form to the rural population, primary health centres were conceived as the focal points in the rural areas. The Government of India formulated a scheme for the establishment of primary health centres in National Extension Service Blocks. A sum of Rs. 50 lakhs was provided in the revised budget estimates of the First Five Year Plan period from 1951—56⁷ of the Ministry of Health for the grant of subsidy to States for establishing primary health centres. 74 such centres were established during the First Five Year Plan period by

various States (including Union Territories) and a sum of Rs. 7.7 lakhs was given as central assistance. During the First Five Year Plan period the Government of India accorded sanction to meet the entire non-recurring expenditure *viz*, equipment, furniture, bedding, clothing and jeep.

In the Second Five Year Plan a sum of Rs. 19 crores was provided for the establishment of 2,000 primary health centres in National Extension Service Blocks in the various States. These centres were to be in addition to about 1,000 such centres which were to be opened during the Second Five Year Plan period in Community Development Blocks by the Ministry of Community Development. Each health centre is to have its headquarters in the block area with an attached dispensary and the minimum of six beds to attend to maternity and other emergency cases and three sub-centres suitably located within the block area to cater to an average population of 66,000. A team of health workers covered the surrounding area in the block, looking after the needs of the area in both curative and preventive aspects. The main services provided to the community by the health teams of these centres are as follows:—

1. Medical care ;
2. Maternity and child health services including school health ;
3. Health education ;
4. Control of communicable diseases ;
5. Environmental sanitation with priority of provision of protected water supply and hygienic disposal of wastes ;
6. Collection of vital statistics ; and
7. Family Planning.

During the Second Five Year Plan period 1956—61, primary health centres opened up to the end of March, 1958 in National Extension Service Blocks, the Central Government was to give the States 75 per cent of the initial non-recurring expenditure up to a total of Rs. 37,200 per centre, of which Rs. 30,000 was towards buildings and the balance towards equipment, furniture, bedding and clothing etc. In respect of recurring expenditure the Central Government agreed to pay up to 50 per cent of such expenditure on a tapering basis which was estimated at Rs. 32,130 per centre per year. 261 primary health centres were established in National Extension Service Blocks during 1958-59, the States-wise break-up of which during the First Five Year Plan period (1951—1956) and for the subsequent years up to (1958-59) is shown in Table No. 12.

The Government of India have revised the pattern of central assistance from 1st April, 1958 for the establishment of primary health centres in the States by pooling the resources of the Ministry of Health and of the Ministry of Community Development on this account. Under the revised arrangement each primary health centre got central subsidy towards the non-recurring expenditure up to a ceiling of Rs. 67,500 made up of Rs. 60,000 or 75 per cent of the actual expenditure, whichever is less, on buildings (both for the centre and residential quarters for the staff including suitable accommodation for Family Planning Clinics) and up to Rs. 7,500 for equipment, furniture, bedding and clothing. Towards the recurring expenditure, the Ministry of Community Development were paying Rs. 2,000 per annum for each centre towards the drugs and up to Rs. 6,500 per annum towards expenditure of staff, the balance being payable by the State Governments concerned. The

increased subsidy towards buildings for primary health centres was admissible to States retrospectively from 1st April, 1958 for those centres which were opened in National Extension Service Blocks during the first two years of the Second Five Year Plan.

A provision of Rs. 300 lakhs was made in the budget estimates of the Ministry of Health for grant-in-aid to the State Governments during 1958-59. The total amount of central assistance released during the year 1958-59 towards the share of Central Government in respect of primary health centres was Rs. 2,53,16,355. Three primary health centres in stage I block were opened during 1958-59. The UNICEF had to provide equipment transport etc., for 1,084 primary health centres, 2,806 sub-centres for the three years period ending with the 31st March, 1959. By the end of December, 1958, equipment had been released for 383 primary health centres and 669 sub-centres. Besides, 347 primary health centre kits and 1,450 midwifery kits were also issued. Out of 1,165 vehicles to be provided for the programme, 325 had already been released by December, 1958.

MEDICAL INSPECTION OF SCHOOL CHILDREN

The system of medical inspection of school children is one of the important functions of the health authorities in the country and its importance can hardly be exaggerated. Not only it will be beneficial for the schools, but also it would go a long way in toning up the general health of the populace at large. The activities regarding the medical inspection of the students carried out in different States are given below:—

Table No. 13 shows the States in which the school medical inspection exists and the number of students examined and found defective due to certain diseases.

Andhra Pradesh—The school medical inspection was inaugurated in the erstwhile Hyderabad State in 1934 and the work continued during the year under review in the cities as well as in the districts. Although the scheme generally covered Government Institutions, it was later extended to all schools in the cities of Hyderabad and Secunderabad.

In these cities 221 institutions were covered during 1958 and the number of students examined was 43,198. The organisation consisted of 6 medical officers, who were the incharge of Medical Inspection of Schools, Hyderabad. 6,245 students were found to be defective. The major causes were mal-nutrition, bad teeth and gum and tonsil. The percentage of defective due to these diseases was 73 nearly. It may also be mentioned that 788 students were found to be not protected against smallpox. Apart from the examination, minor ailments were also treated in school clinics and in the major cases, they were referred to the specialists. Skimmed milk powder was supplied to 59 schools and about 16,232 scholars were fed during the year under report.

In Karimnagar district, 25 schools were covered by the system and 3,456 scholars were examined. Skimmed milk powder was supplied to 9 schools and nearly 600 students were fed. In the district of Nalgonda the two Medical Officers were in-charge of the School Health Clinic during the year under report. These Medical Officers, while on tour, distributed medicines to those

who were found to be defective. Milk powder was supplied to 3 schools in this district. During 1958-59, four school health clinics were opened at Warangal, Nizamabad, Guntur and Kurnool.

Madhya Pradesh—Information, as far as available, shows that 126 schools were covered and 7,493 students were examined. The major number of defects among the students were mal-nutrition, bad teeth, tonsil and respiratory diseases constituting a percentage of 58.

Rajasthan—The medical inspection of school children was carried out in the former States of Jodhpur and Jaipur. It was in existence in the Jodhpur city, but at no other place was it in existence during the year under report. It may, however, be mentioned that a scheme was under the consideration of the State Government to carry out the medical inspection of school children in schools.

Uttar Pradesh—In only 14 larger towns of the State, whole-time school medical officers were appointed and in the rest of the State, the District Medical Officers of Health and the Municipal Medical Officers of Health were expected to take up this work in addition to their own duties. In each of the 14 towns a central school dispensary was established to treat minor ailments and defects, detected during the course of detailed medical examination by whole-time School Medical Officers. The jurisdiction of the whole-time School Health Officer was confined only to the institutions situated within the town. The Dentists and Ophthalmologists were attached to attend the dispensaries twice a week. Information for these 14 towns showed that 39,221 scholars were examined thoroughly and 25,764 in the ordinary way. The defects found were, for the most part, due to mal-nutrition, bad teeth and tonsil. These three diseases together constituted a percentage of 65.

Further, 12,500 ill-nourished boys were fed on UNICEF milk on the recommendations of the School Health Officers. Free supply of 383 pairs of spectacles were made to poor boys found with defective vision.

Himachal Pradesh—The system in this Territory was that Medical Officers within their 5 miles radius from their dispensaries and hospitals, periodically examined the school children and gave necessary medical aid and advice. A school health scheme under the Second Five Year Plan period was under way, but could not be implemented due to the non-availability of doctors. Out of 1,036 institutions, medical examination was done in 22 only. 13,550 scholars were examined. It can be seen from Table No. 13 that mal-nutrition, bad teeth and skin diseases were found to account for the major portion of the defects. Out of UNICEF supplies, skimmed milk was distributed among the physically weak students and the 9,600 scholars were benefited.

Manipur—Two Medical Officers with a suitable number of assistants conducted the examination of schools twice a year. 33 institutions were covered and as many as 11,352 students were examined. Mal-nutrition, bad teeth and gum accounted for 250 and 100 defectives respectively. It may also be mentioned here that scholars with skin diseases were the highest.

Milk powder was received from the UNICEF and distributed among the schools.

Tripura—The system in Tripura Administration consisted of 3 School Health Officers working in three zones into which the territory was divided. The total number of institutions was 944 with 66,103 scholars. The number of students examined was 6,760 of whom bad teeth and gum, tonsil and eye-diseases accounted for 5,260.

Pondicherry—In this territory part-time doctors inspected the schools in the towns while the doctor in-charge of the village dispensary inspected the school under his jurisdiction. 14 institutions out of 291 were covered for medical examination. The defectives among 4,100 scholars examined were found to be 10 per cent only in the group of bad teeth and gum and 7 to 8 per cent due to skin diseases. It was also reported that there were no persons protected against smallpox.

Deserving poor students were given mid-day meals in 85 primary schools covering a strength of 15,560 students. The milk powder supplied by UNICEF was also distributed at the rate of 1.5 ounce per student among 5,557 scholars.

INDUSTRIAL HEALTH

In the days of rapid industrialisation in India the industrial workers awakened noticeably and reasonable care and comforts were usually given to the workers in all the industrial undertakings. The living conditions and the health requirements of the industrial workers are being looked after by their employers in most of the concerns and, where it is not so, it was under the force of law. The revised Factory Act, 1948 marks a milestone in factory legislation and lays down the minimum requirements regarding the health safety and general welfare of workers. The Employees' State Insurance Scheme made a rapid progress. This scheme aims at providing medical care under a Scheme of Health Insurance Act for the workers in perennial factories where power is used and 20 or more persons are working. In this Act provisions have been made for the extension of its scope to any establishment whether industrial, commercial, agricultural or otherwise to include cash benefits to employees in case of sickness, maternity and employment injury. In addition there is a provision for extension of medical benefits to the family of insured workers, thus the need for preserving health and efficiency of the workers 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 industrial population in India is generally a migrant from rural areas and continues to keep contact with his home. In industrial areas he lives and works in a more congested environment than that to which he had been accustomed. In several States the Health Officers of the Health Department are appointed as additional Inspectors of Factories, who after inspection of factories of their respective jurisdictions communicate observations with reference to ventilation, lighting, overcrowding, water supply and sanitation, to the Chief Inspector of Factories for further action under the Factory Act, 1948.

Summary of the reports from the States on the implementation of the Scheme is as follows :—

Andhra Pradesh—Under the Factories Act, 1948 the District Health Officers and Municipal Health Officers were appointed as Additional Inspectors

of Factories and they inspected the factories in their respective jurisdictions in regard to the up-keep of sanitation and drinking water facilities and forward their reports to the concerned Factory Inspectors for notifying the defects pointed out. The defects were rectified, in the 537 seasonal factories and 2,188 non-seasonal factories. The general health of the workers was satisfactory and no epidemic was reported. There were 229 mines in the districts of Srikakulam, Nellore, Chittoor, Kurnool, Cuddapah and Anantapur, where appropriate improvement in the health conditions of the workers in the mines was done on recommendations of the Inspecting Health Officers concerned during the year under review.

Assam—The main industries in the State were tea, coal mining and petroleum. The health of the workers was looked after satisfactorily by their own medical staff and dispensaries.

Bombay—The standard of sanitation varied from place to place depending on local condition, type of industry and availability of sufficient water supply in the areas. In bigger factories the number of latrines and urinals were generally adequate. Provision of drinking water was properly attended to by the factories of the State. The new factories, which were being installed, were advised and provided with washing facilities as well.

Rs. 18 lakhs were spent by about 34 factories and mills for ventilating plants to improve the working conditions and health of the workers.

Madhya Pradesh—87,800 industrial workers of 156 factories were under the scheme of the Employees' State Insurance. Medical care at Indore, Gwalior, Jabalpur and Burhanpur was provided through service system while at Ujjain and Ratlam the medical care was provided through panel system. The State Government decided to extend the scheme to the families of insured persons in the areas in which the Employees' State Insurance Scheme was implemented.

Madras—All Health Officers as Additional Inspectors of Factories in their areas inspected the factories twice during the year 1958. Their observations with reference to ventilation, lighting, over crowding, water supply etc., in factories were reported to the respective Inspectors of Factories for further action under the Factories Act. With a view to encourage the growth of cottage industries, the Government have suitably amended Section 92 of the Madras Public Health Act so as to permit the installation of small horse power motors upto 3 horse power in notified residential areas for running cottage industries.

Rajasthan—In factories, where during the process of manufacture, dust or fumes or other impurities were given off to such an extent as they could be injurious to the workers employed therein, effective measures were taken to prevent its accumulation in the working room. In order to secure reasonable condition of comforts of the workers sufficient ventilation was enforced in the factories. Every part of the factories was provided and maintained sufficient and suitable lighting, natural or artificial or both. Sufficient latrines and urinals were also provided.

Uttar Pradesh—It was estimated that there were more than 2,200 registered factories in this State. To act as a pointer to short coming, 94 factories were visited during the year 1958. Special investigations with regard to byssionosis as affecting the lungs condition amongst the labourers of Cotton, Jute and Woollen mills were carried out during the year under report.

Himachal Pradesh—The health of the workers of the factories and mines was not exposed to the hazards except small accidents for which the provisions were made by the factory managements.

HEALTH IN JAILS

The health of prisoners is important in so far as it enables to have the picture of medical facilities and other ancillary aspects of jails life available in different States. Besides, the health statistics of prisoners is of special interest for the reason that it is based on suitable diagnosis of morbid conditions and cause of sickness is authentically known, unlike that in the case of general population.

Table No. 14 gives the average daily population, authorised accommodation and number of prisoners per 100 units of authorised accommodation in jails. These give an idea of the facility of accommodation in relation to the number of prisoners to be accommodated. Information was received from 18 States and Union territories only at the time of reporting *viz.*, Andhra Pradesh, Assam, Bihar, Bombay, Kerala, Madras, Mysore, Orissa, Punjab, Rajasthan, Uttar Pradesh, West Bengal, Andaman and Nicobar Islands, Delhi, Himachal Pradesh, Manipur, Tripura and Pondicherry. It can be seen from the table that average daily population in comparison with 1957 increased substantially in the States of Bihar, Madras and West Bengal. Slight decreases were, however, registered in Punjab, Himachal Pradesh and Tripura.

The figures for Andhra Pradesh for the two years 1957 and 1958 cannot be compared for the reason that they do not relate to same area. Regarding authorised accommodation most of the States did not report much change. However, the State of Punjab reported 8,927 cases against 8,137 during 1957, while Kerala reported slightly less than for 1957.

The number of prisoners per 100 units of authorised accommodation is an index of overcrowding in the jails. Among the States that reported there was no overcrowding except in Andhra Pradesh, Assam, Bihar, Delhi, West Bengal, Tripura and Pondicherry. In comparison with 1957 the index increased in the States of Bihar, Kerala, Orissa, Rajasthan, West Bengal, Uttar Pradesh, Tripura and Bombay. It decreased, however, in the States of Madras, Punjab and Himachal Pradesh.

The next important fact of health among the prisoners is indicated by the number of prisoners admitted in the hospitals and constantly sick, both expressed as per mille of the daily average population. The admission rate and constantly sick rate are presented in Table No. 15. The constantly sick rate registered an increase in the States of Andhra Pradesh, Kerala, Orissa and Madras while in the States of Assam, Bihar, Punjab, Rajasthan, Uttar Pradesh and West Bengal, the rates were less than those for 1957. It may also

be noted that Andaman and Nicobar Islands and Himachal Pradesh reported relatively higher figures than for other States. A comparison among the State values reveals that Madras reported the least figure (11.09) while Andaman and Nicobar Islands reported the highest (280.2). The hospital admission rates in most of the States decreased. Only in the States of Kerala, Andhra Pradesh, Orissa and West Bengal, the rates recorded showed an increase. The highest admission rate was in Himachal Pradesh followed by West Bengal, Orissa, Tripura and Punjab. The death rates per 1,000 of average daily population are presented in Table No. 15. In most of the States for which the information is available, the death rate was of the same order as during the year 1957. The highest death rate was reported by Andhra Pradesh followed by Himachal Pradesh, Assam, Bihar, Pondicherry and Orissa. Rajasthan reported the least value.

Table No. 16 presents the percentages of prisoners, who gained weight, lost or remained stationary. From the table it can broadly be inferred that percentages of prisoners who gained weight was of the order of 60 and above in the States of Kerala, Madras, Orissa, Rajasthan and Himachal Pradesh. However, the States of Punjab, West Bengal, Manipur, Tripura and Bombay reported respectively 31, 18, 15, 30 and 25. The States of Bihar, Pondicherry and Assam reported a percentage of nearly 50. It may also be noted that percentages of prisoners who lost weight were less than 10 per cent in most of the cases except Assam, Himachal Pradesh and Pondicherry. Yet another striking feature of the table is that the States of Bombay, Punjab, West Bengal, Himachal Pradesh, Manipur and Tripura reported higher percentages of prisoners who remained stationary than for the other two categories of 'gained weight' or 'weight lost'.

The above statistical information do indicate a satisfactory state of health among the prisoners during the year under review. Detailed study of the death rates due to different diseases is important and throws a good deal of light on the information of the diseases which take a higher toll of deaths. Except in the States of Bihar and Uttar Pradesh, mortality due to Cholera was nil. Due to Smallpox, Bihar and Bombay reported respectively death rates of 0.13 and 0.10. Of all the specific causes it is noticed that in most of the States higher mortality was reported due to T. B., Dysentery and Diarrhoea, Anaemia and deficiency diseases. As regards the enteric fever most of the States reported *nil* while the States of Assam, Bihar, Bombay and Madras reported relatively smaller death rates.

Table No. 17 shows the case fatality rates for different diseases during the year under review. The most striking feature of the table is that the case fatality rates were invariably higher for T. B. and Pneumonia in most of the States. It should also be mentioned that in the States of Bihar and Uttar Pradesh 20 per cent and 50 per cent were respectively reported due to Cholera. The State of Assam reported 18 per cent fatality rate for Enteric Fever followed by Pneumonia (11.8) and during the year under report these were the highest values among all the States.

Table No. 18 gives the admission rates for 1,000 of average daily population. As judged by the admission rates, the importance of the diseases among the prisoners can be seen from the statement given on the next page.

States	Name of the diseases
1. Andhra Pradesh	.. Malaria, Pyrexia of uncertain origin, Dysentery and Diarrhoea, Anaemia and Debility, Influenza, Other respiratory diseases, Smallpox, T. B. of Lungs, Cholera, Enteric Fever and Pneumonia.
2. Assam	.. Influenza, Dysentery, Malaria, Pyrexia of uncertain origin, Diarrhoea, Anaemia and Debility, Other respiratory diseases, Other deficiency diseases, Pneumonia, Enteric Fever, Smallpox and T. B. of Lungs.
3. Bihar	.. Dysentery, Malaria, Other respiratory diseases, Influenza, Diarrhoea, Anaemia and Debility, Enteric Fever, Pyrexia of uncertain origin, T. B. of Lungs, Pneumonia, Smallpox and Cholera.
4. Bombay	.. Malaria, Dysentery and Diarrhoea, Other deficiency diseases, T. B. of Lungs, Anaemia and Debility, Influenza, Pyrexia of uncertain origin, Other respiratory diseases, Enteric Fever, Smallpox and Cholera.
5. Kerala	.. Influenza, Dysentery, Other respiratory diseases, Pyrexia of uncertain origin, Pneumonia, Diarrhoea, Anaemia and Debility, Other deficiency diseases, Enteric Fever, T. B. of Lungs, Malaria and Smallpox.
6. Jammu and Kashmir	.. Information is not available.
7. Madhya Pradesh	.. Information is not available.
8. Madras	.. Dysentery, Other respiratory diseases, Other deficiency diseases, Malaria, Anaemia and Debility, Diarrhoea, T. B. of Lungs, Pneumonia, Influenza, Smallpox and Enteric Fever.
9. Mysore	.. Information is not available.
10. Orissa	.. Malaria, Diarrhoea and Dysentery, Other respiratory diseases, Influenza, Pyrexia of uncertain origin, Anaemia and Debility, Other deficiency diseases, T. B. of Lungs, Pneumonia, Enteric Fever and Smallpox.
11. Punjab	.. Malaria, Pyrexia of uncertain origin, Anaemia and Debility, Dysentery & Diarrhoea, Other respiratory diseases, T. B. of Lungs, Enteric Fever, Other deficiency diseases, Influenza and Smallpox.
12. Rajasthan	.. Malaria, Dysentery, Pyrexia of uncertain origin, Other respiratory diseases, Diarrhoea, T. B. of Lungs, Pneumonia, Influenza and Other deficiency diseases.
13. Uttar Pradesh	.. Malaria, Pyrexia of uncertain origin, Other respiratory diseases, Dysentery, Influenza, Anaemia and Debility, T. B. of Lungs, Diarrhoea, Pneumonia, Enteric Fever, Other deficiency diseases, Smallpox and Cholera.
14. West Bengal	.. Pyrexia of uncertain origin, Dysentery & Diarrhoea, Other respiratory diseases, Anaemia and Debility, Malaria, Other deficiency diseases, T. B. of Lungs, Enteric Fever, Pneumonia, Smallpox and Cholera.
<i>Union Territories</i>	
1. Andaman and Nicobar Islands	Other respiratory diseases, Malaria, Dysentery and Diarrhoea.
2. Delhi	.. Pyrexia of uncertain origin, Other respiratory diseases, Dysentery, Anaemia and Debility, T. B. of Lungs, Malaria, Diarrhoea, Pneumonia, Enteric Fever.
4. Himachal Pradesh	.. Other respiratory diseases, Influenza, Anaemia and Debility, Dysentery, Malaria, Diarrhoea and Other deficiency diseases.
5. Tripura	.. Other respiratory diseases, Influenza, Pyrexia of uncertain origin, Diarrhoea, Dysentery, Anaemia and Debility, T. B. of Lungs, Pneumonia and Enteric Fever.
5. Manipur	.. Pyrexia of uncertain origin, Anaemia and Debility, Malaria, Diarrhoea, T. B. of Lungs, Dysentery and Influenza.
6. Pondicherry	.. Dysentery, Diarrhoea, Smallpox, T. B. of Lungs, Anaemia and Debility.

The importance of the diseases varies from State to State but the States can be broadly grouped into different categories. Malaria caused highest admission rate in the State of Andhra Pradesh, Bombay, Orissa, Uttar Pradesh, Rajasthan, Andaman and Nicobar Islands. In the States of Bihar, Madras and Pondicherry the rates were highest due to Dysentery.

Reforms do, of late, constitute the main plank of jail administration. Facilities for recreation, and library were available in the jails of almost all the States. Many other facilities such as newspapers and library, and out-door and indoor games were available in all the jails. These were meant to keep the prisoners fully occupied in jails and provide conducive atmosphere for correctional treatment. During the year under report important reforms were undertaken in some States.

Andhra Pradesh—Parole system was introduced in the jails of the State to enable the prisoners to attend to serious illness, death or marriage of any member of the family. The Government of Andhra Pradesh approved to extend the system of release of prisoners on furlough for a period not exceeding 14 days. It was also under consideration to introduce uniform procedure based on the system of Andhra area for premature releases and the draft rules of jail manual were to be issued to introduce the uniform procedure throughout the State of Andhra Pradesh. It can be said that the stay of prisoners in jails was planned on reformatory and correctional basis rather than on the basis of mere detention and exacting work.

Assam—No special reforms were reported by the State except the usual recreation facilities regarding supply of books and news papers in the jail's libraries. Prisoners were also allowed to play indoor and outdoor games.

Bombay—During the year under report, it was decided by the Government of Bombay to finance the jail canteens. The canteens in the Saurashtra areas were re-organised on the lines of those of the former State of Bombay. The prisoners affected by Psychiatric diseases were concentrated at Yeravada Central Jail, where adequate facilities of treating such diseases were provided.

Madras—The usual facilities for the prisoners continued to be extended during the year under report. Each jail was provided with a radio set. Higher class prisoners were allowed to purchase newspapers at their own cost from among the approved newspapers vendors.

Orissa—The recreational facilities were provided in jails and they continued to be beneficial in providing physical relaxation of prisoners. Rs. 8,500 were nearly spent for giving extra special diet to the prisoners and 10,234 prisoners were benefited by this. It may also be mentioned that the proposal for appointment of whole-time Psychiatrist for the study of criminals in jails was under consideration.

Kerala—The supply of newspapers was available in all the jails while the recreation facilities were provided in the major jails. The prisoners were given work on daily wages which ranged from 6 N.P. to 25 N.P. There was a canteen attached to the Central Prison, Trivandrum, where prisoners could buy articles of stationery, coffee etc.

Punjab—The main aim of keeping prisoners behind the bars was changed from the detention aspect to that of rehabilitation. Elementary education was made compulsory in all the jails and lectures from the Jail Officers on social and rural topics were delivered to the prisoners. They were allowed even to use light for their own reading. Particular attention should be drawn to the fact that the prisoners' panchayat was found to be useful during the year under report as in the previous year. Preventive measures were also undertaken to protect the prisoners' health and, in fact, they were permitted to use soap, hair oil etc.

Uttar Pradesh—The experiment of making the convicts self-supporting by working under conditions obtaining in the out-side work and the scheme of employment of undertrial prisoners after useful labour continued in the Lucknow District Jail. The experiment was extended to 6 more jails. Long term star class convicts who were employed on Tarai State continued working on different jobs and earned wages applicable to free labourers. The release of the prisoners was made absolute on satisfactory conduct during the period of parole. Suitable approach to reform the convicts was made at the juvenile Jail at Bareilly and Reformatory School, Lucknow. The prisoners were given work as petition writers at the institutions, enabling them to achieve their economic rehabilitation on their release. The last but not the least, it should be mentioned that the psychological and psychiatric research were undertaken to determine the differential patterns in the personalities of the convicts.

West Bengal—Apart from the usual recreation facilities, which continued during the year, the Government of West Bengal permitted prisoners earning wages in jails to remit half of their earnings to their families, the balance being made over to them at the time of release. In addition to the two Welfare Officers, who were already appointed, the Government appointed two additional Officers for the central jails of the State. These Welfare Officers were expected to establish close contact with prisoners under their care and to keep in touch with the families of the prisoners. Special attention was given to prisoners who were either suffering from deficiency diseases and for the isolation of prisoners found to be attacked with infectious diseases. Special diet was allowed to prisoners, who observed fast on religious grounds on different occasions.

Andaman and Nicobar Islands—The usual recreation facilities were provided to the inmates of the jails. Cases suffering from deficiency diseases were given special treatment. The cost of diet was Rs. 1.50 N.P. per day. 40 prisoners were benefited.

Himachal Pradesh—Prisoners were provided with daily newspapers, books and radio sets. Special nourishing diet was given on the prescription of the Medical Officers.

Pondicherry—Mention may be made that special arrangements were made for sick prisoners suffering from deficiency diseases. Depending on the sickness, they were offered additional food. For instance, in case of T. B. patients, bread and eggs were given every day. The cost of additional food supply was between 0.50 N.P. and Re. 1 per day. During the year 25 prisoners were benefited by the additional food.

Tripura—Apart from the usual facilities extended to the prisoners during the year, under report admission orientation was practised in jails and this constituted a good deal to the removal of much of their apprehension about their strange life in the jails. Certain schemes to provide better environmental conditions were submitted to the Government. These schemes envisaged control measures and provision of electric fans.

FAIRS AND FESTIVALS

The following table shows the number of fairs and festivals held during the year under report in different States. It is a common knowledge that these fairs and festivals usually serve as media for the spread of different diseases especially cholera. It would, therefore, be necessary for the health authorities to take adequate measures for the control and prevention of diseases. The strength of congregations also varies from State to State and from festival to festival. The exact strength of the congregations is not available, nor can exactly be obtained, but it usually varies from a few hundreds to a few lakhs.

States	Number of fairs and festivals
1. Andhra Pradesh	115
2. Assam	5
3. Bihar	†
4. Bombay	248
5. Jammu and Kashmir	†
6. Kerala	125
7. Madhya Pradesh	507
8. Mysore	†
9. Madras	600
10. Orissa	†
11. Punjab	†
12. Rajasthan	144
13. Uttar Pradesh	4
14. West Bengal	†
<i>Union Territories</i>	
1. Andaman and Nicobar Islands	†
2. Delhi	†
3. Himachal Pradesh	17
4. Manipur	2
5. Tripura	6
6. Pondicherry	14

NOTE—† Information not available.

The Public Health Departments of the States make usually extensive arrangements on such occasions as a matter of routine. The usual steps taken include mass inoculations, protection of water supply and disinfection of the sources of water and protection of cooked food from contamination. At large fairs, temporary infectious diseases hospitals were set up for isolation. The position in the individual States is as follows—

Andhra Pradesh—115 fairs and festivals were held during the year under report with an estimated congregational strength varying from ten thousands to 2 lakhs. There was no outbreak of epidemic at the festivals. Sanitary arrangements and prompt isolation treatment of epidemic diseases were provided. Safe drinking water was provided for by chlorinating sources of water supply by adequate doses of bleaching powder.

Assam—Five fairs and festivals each with approvable gathering of 8,000 were held. No outbreak of any of the epidemic diseases was reported on account of proper steps taken to prevent the outbreak of such diseases.

Bombay—The fairs in Bombay were divided in two groups with congregations of 10,000 and more and less than 10,000. The former were referred to as major fairs and the latter as minor. A suitable pilgrims' fees was levied in case of major fairs when local bodies and municipalities and panchayats managed them. Suitable arrangements were made by them under the guidance of public health department. No separate arrangements were made at the minor fairs. All the fairs passed off with a clean bill of health.

Kerala—There were 125 fairs and festivals held during the year under report with an estimated congregation of 24 lakhs. No epidemic was reported nor fairs and festivals were banned for reasons of public health. In all 155 persons were deputed to work at the fairs and ad-hoc infectious diseases hospitals were opened.

Madhya Pradesh—507 fairs were held at various places in about 34 districts of the State. The visitors at these places totalled 70 lakhs approximately. No fair was banned on the grounds of public health. Extensive arrangements were made at the fairs with the result that no epidemic was reported.

Madras—600 fairs and festivals were held of which about 188 were notified festivals. Adequate sanitary arrangements were made and the arrangements were supervised by the health staff. There was no outbreak of epidemic diseases.

Rajasthan—144 fairs with an estimated strength of nearly 20 lakhs were held. No fairs were banned. The health staff assisted the mela authorities in making arrangements, where there were big congregations. Inoculations and vaccinations were also performed. There was no outbreak of disease except in the district of Alwar where 46 cases and 32 deaths were reported due to Cholera.

Uttar Pradesh—The most important fairs held during the year were 4 in number. Compulsory inoculations were performed at all the fairs as well as on the pilgrims' route to Badrinath and Kedarnath. No fairs were banned nor any outbreak of epidemic was reported.

Himachal Pradesh—17 fairs and festivals were held with a total congregation of 3.6 lakhs. No epidemic was reported during the year under report. All the public health staff including Medical Officers of Health attended these fairs and made necessary arrangements. Special staff was also deputed to cope up with the work.

Manipur—Only 2 festivals were held with a congregations of 500 each. No outbreak was reported.

Tripura—6 fairs were held with nearly 6,000 congregations each and there was no incidence of the disease.

Pondicherry—14 fairs and festivals were held with a congregation of 40,000 people approximately. No outbreak was reported during the year under review.

NUTRITION

The assessment of the nutritional status of the people and measures taken for its improvement formed the basis of public health nutrition work both at the Centre and in the States.

The nutrition work carried out in the States of Andhra Pradesh, Bihar, Bombay, Punjab, Uttar Pradesh and West Bengal during the year 1958 is described, under the following heads:—

- (1) Diet Surveys ;
- (2) Nutrition Surveys ;
- (3) Laboratory and Field Investigations ;
- (4) Ameliorative measures; and
- (5) Nutrition education and publicity.

1. DIET SURVEYS

Diet surveys by both the food weighment method and oral questionnaire method were carried out among a large number of rural and urban people of different economic status. A brief summary of the findings is presented in Table No. 19. It was observed that the consumption of various foodstuffs did not differ appreciably from those recorded in earlier surveys. The low intake of protective foods like milk, flesh, fruit and leafy vegetables continue to be a feature of poor and middle class population. In rural areas of Andhra Pradesh millets replaced rice to a greater extent in the diet of the population than in the urban areas. The results of diet surveys carried out in parts of Uttar Pradesh endemic for lathyrism showed a seasonal variation in the intake of cereal; rice formed the staple food for about five months of the year and for the rest of the period *Khesari* (*Lathyrus Sativus*) was the staple food. There was no difference in the general pattern of the diet between families affected with lathyrism and those without. The diet of families affected with lathyrism and in those unaffected was nearly the same.

2. NUTRITION SURVEYS

Nutrition Surveys by the routine and the rapid methods were carried out in all the States. The relevant information is presented in Table No. 20. The nutritional status of adults and children surveyed in different parts of the country was generally unsatisfactory. The most prevalent deficiency diseases were due to insufficient intake of Vitamin A, Vitamin C, Vitamin B complex, animal protein and iron. A nutrition survey was conducted in a few areas in Andhra Pradesh to determine the incidence of Beri Beri. Deficiency disease pertaining to Vitamin B complex was found to be common. In Bombay State no definite conclusion could be arrived at from the results of the clinical study on the supplementary effect of chikki (toffee) on the nutritional status of the under-nourished children. A high incidence of pellagra was observed in Kangra district of Punjab State. The third phase of the nutritional assessment survey in Punjab among primary school children to study the effect of skimmed milk powder was completed. It was found that the weight and height of children in the skimmed milk supplemented group showed a greater increase than

those of children of the control except among boys in the age group of 13 years. A high incidence of caries and fluorosis was noted among the children. In Uttar Pradesh, signs of hypo-vitaminosis, A such as xerosis-conjunctiva, xeriscornea and night blindness were frequently encountered during nutrition surveys and the incidence was equally common among people suffering from lathyrism and those unaffected by the disease.

3. LABORATORY AND FIELD INVESTIGATIONS

Bihar—In connection with the Goitre Pilot Project 46,541 persons were examined for thyroid enlargement of which 2,852 persons were found to be suffering giving an incidence of 6 per cent. A survey of incidence of lathyrism was carried out in an endemic area of Gaya District of Bihar State.

Experiments were conducted to determine the toxicity, if any, of mercurial fungicide (Argosan G.N.) which is used to store wheat in this part of the country. Samples of tubers generally used by adivasis were analysed for their proximate principles and minerals. Estimation of iodine was done in some of the foodstuffs and soil samples. Vitamin C was estimated in some locally grown vegetables and tubers.

Bombay—46 patients showing clinical evidence of mal-nutrition were admitted in the nutrition ward for investigation and treatment. It was observed that the plasma protein levels were 6.0 gm. and above with albumin-globulin ratio unchanged even in patients with a clinical protein deficiency. The lowered haemoglobin and microcytosis recorded in most of the patients except the few with evidence of ankylostomiasis were attributed to chronic dietary deficiency of protein and iron. Foodstuffs commonly consumed in the State were analysed for their nutritive value. The proximate principles, minerals and vitamin in the two leafy vegetables *ambadi* (*Hibiscus Cannabinus*) and *methi* (*Trigonella Yoenum*) and the seasonal variation in their nutritive value is being studied. The amount of protein and non-protein nitrogen was estimated in four fractions of *ambadi* representing extracts with water, 2 per cent Saline, 0.1 per cent Sodium Hydro Oxide and 70 per cent Alcohol. Vitamin C was estimated in *Velayati amili* (*Pithicobium Dulce*), a seasonal fruit consumed by a Scheduled Tribe of Varad. The experimental studies on the influence of fermented foods of fatty infiltration of liver showed that *idli* helps in delaying the fat deposition in the liver of rats fed with high fat low protein diet. The biological value of *idli* and the corresponding unfermented preparation were found to be 63 and 71 respectively. The growth promoting value as judged from the protein efficiency ratio was greater in *Idli* (2.55) than in the unfermented preparation (2.27). *Idli* protein was also more effective than the two experimental diets containing casein protein and the protein of the unfermented preparation in so far as the regeneration of RBC in rats made anaemic by a single intraperitoneal injection of 2 mg. phenyl hydrazine.

Incorporation of *khesari* (*Lathyrus Sativus*) in the diets of albino rats for a period of 8 months produced no symptoms of lathyrism in the animals. It was suggested that the toxic factor might be water soluble and hence attempts are being made to produce lathyrism in animals by feeding diets containing water extracts of *khesari*.

The growth promoting property of vitamin B₁₂ and effect of B₁₂ on the growth inhibitors present in soya bean were studied. It was observed that though vitamin B₁₂ had no effect on growth, it counteracts the effect of growth inhibitor present in raw soya bean meal.

The birth weight of 411 full term infants belonging to lower and middle class families of six communities was recorded. The average birth weight of the boys and girls was 5.9 lbs. and 5.6 lbs. respectively. From enquiries it was found that the diet of the mothers was both inadequate and imbalanced. The weaning habits of 162 children were also studied. Majority of the children were weaned between the age of one to two years. The nature of the first supplement depended on the age of weaning. However, in most cases the first supplement was milk.

Punjab—Seven cases of goitre were encountered in the Pathankot area. Information on the incidence of signs and symptoms of nutritional deficiency was collected from the district hospitals. The records showed a high incidence of nutritional anaemia, nutritional diarrhoea, angular blepharitis and stomatitis. Food samples were analysed for detection of food adulteration.

Rajasthan—Blood haemoglobin estimations were carried out on 25 persons who were suspected to be highly anaemic. The clinical examination of children from a middle school did not reveal evidence of gross under nourishment of hypo-vitaminosis.

Uttar Pradesh—A survey to find out the incidence of goitre and to assess the various local factors responsible for its causation was carried out in Deoria district. Twenty villages covering both high and low endemicity for goitre were selected. A high incidence of the disease was found in areas where subsoil water level was high and where open shallow wells were the main sources of water supply. Goitre surveys were also carried out on the student community. The percentage incidence was greater in females (37.1 per cent, 40.1 per cent) than in males (31.6 per cent, 33.4 per cent) in both the village population and student community studied.

A rapid survey was undertaken in the lathyrism affected areas. The cultivation of *Khesari* has been slightly reduced in one district as a result of intensive health education. Two detailed investigations on lathyrism were undertaken at Buduan and Basti Districts of the State. The topographical conditions of both villages were similar. The soil was sandy but fertile due to the deposits of alluvial soil. The drinking water, till recently, was from open shallow wells and *kacha* wells. The incidence of lathyrism was seen mainly among people with very low economic conditions.

Clinical work on Lathyrism—108 established cases of lathyrism were examined for clinical and epidemiological studies. The incidence was nine times more frequent in males than in females. The age incidence was found to be between 11—40 years. The majority of the cases occurred during the months of August and September. The mode of onset was gradual and exposure to rains and floods water was suggested as the precipitating factor. Blood haemoglobin was within normal limits in patients suffering from lathyrism in the Budaun district while low values were observed in the district of Basti.

The serological test in the population of the former district showed that the incidence of syphilis was more common among persons affected with lathyrism. However, the same trend was not seen in the Basti district.

Stools of lathyrism affected and unaffected persons in both the villages were examined for the presence of protozoal and helminthic infestation. A very high incidence of hookworm infestation was seen in both the villages while the incidence of intestinal protozoal infections was high in the population of Buduan district only.

Bio-chemical investigations such as calcium, iron, phosphate and alk-phosphate in serum were carried out among both the lathyrism affected and unaffected population. No definite conclusions can be drawn from the results.

Chemical composition of dried *Mahua* flowers was determined and total protein of mango kernel and tapioca starch were estimated. Samples of water from different sources were examined for Sulphur. Vitamin C content of locally grown fruits and vegetables was analysed by both photometric and titrimetric methods.

West Bengal—The statistical report on the investigations on the incidence of goitre showed that the incidence of goitre was more common in females than in males.

The water from the rivers Balda and Barsi which form the main sources of drinking water for the majority of the people was chemically analysed. It was found that the water was hard containing chlorides, iodides and traces of iron. Some of the foodstuffs like biscuit, milk etc., were analysed in connection with the adulteration of foodstuffs.

4. AMELIORATIVE MEASURES

The distribution of UNICEF skim med milk powder, vitamin tablets and minerals through hospitals, schools and maternity and child welfare centres to the vulnerable groups of population had been the main item of ameliorative measures in all the States.

Andhra Pradesh—Food supplements were distributed to persons suffering from deficiency diseases. A nutrition clinic was set up at Warangal.

Bihar—The children of this state received, in addition to tomato juice and milk, somelina or rice porridge.

Bombay—The Government sponsored schemes to provide wholesome fresh milk and toned milk, were continued. About 2,300 maunds of wholesome milk and 1,725 maunds of toned milk were pasteurised and supplied daily through various centres. Nearly 3 lakhs card holders took advantage of the scheme daily in Greater Bombay.

Bombay Municipal Corporation—Many thousands of under-nourished children attending primary schools continued to receive daily 6 ozs. of pasteurised 'toned' milk along with 1 oz. of nutritious snacks—toffee or fruit.

Poona Municipal Corporation—About 500 selected under-nourished children attending the primary schools, continued to get 2 ozs. of toffee yielding 200 calories.

Fish Liver Oil and Vitamin tablets were given to selected groups of primary schools students as well as children in the child welfare centres.

Madras—A scheme of feeding experiment to demonstrate the nutrition value of low fat milks was organised with the assistance of the F.A.O. of the United Nations. Under the scheme, 2,500 children in 5 schools in Madras City were selected for the feeding experiments with reconstituted skimmed milk, 'toned milk' and 'buffalo' milk. A parallel scheme of feeding with skimmed milk alone, among about 1,000 children in 10 elementary schools was also organised. The results were under assessment.

A quantity of 1,35,000 lbs. of skimmed milk powder was received as gift from CARE during August, 1958 and was used for feeding about 11,250 children.

Supplementary feeding of about 300 families, including over 200 mothers and 700 children was carried out with the surplus gift skimmed milk powder made available by the National Christian Council of India.

The Government scheme of free supply of mid-day meals to the children of eligible communities attending the labour schools, and the Madras Corporation scheme of free supply of mid-day meals to poor and ill-nourished children attending the Corporation Elementary Schools, were continued. About 28,500 children received mid-day meals under the latter scheme.

Uttar Pradesh—The heads of the Higher Secondary Schools were authorised to realise 50 NP. per head per month as a mid-day meal fee and sprouted, boiled, or roasted gram and seasonal fruits etc., were distributed in most of the educational institutions.

A scheme for free distribution of fresh wholesome milk to expectant and nursing mothers was in operation in the Cities of Kanpur, Allahabad, Varanasi, Agra, Lucknow, Basti, Muzaffarnagar and also in the districts of Saharanpur, Gorakhpur, Bulandshahr and Ghazipur.

Ninety six industrial canteens continued to serve refreshments and tea etc. to the employees in the State.

In certain areas 2 grams of potassium iodide were given consecutively for 10 days twice a year to school children between the age group of 5—12 years as prophylactic against goitre. Multi-purpose food, vitaminised milk and other food supplies were distributed to the flood affected areas. Lathrism affected patients were given injections of vitamin B₁₂ and Vitamin B complex on alternative days for a period of 2 months.

West Bengal—A compulsory tiffin scheme was in operation in three Government Secondary Schools in Calcutta. Compulsory tiffin scheme is also in operation in some High Schools. 1,500 students received tiffin under "Sarla Memorial School Meal Service".

53,500 pupils participated in the compulsory tiffin scheme under the Managing Committees of the Schools.

Vitaminised milk at the rate of $\frac{1}{2}$ lb. and a local fruit per day were supplied to 1,000 students of three schools in Calcutta. The cost was entirely borne by the Government.

Multi-vitamin tablets and capsules were also given to the deserving cases in some of the schools.

5. NUTRITION EDUCATION AND PUBLICITY

The States continued to disseminate knowledge of nutrition through visual aids, nutrition education stalls in exhibitions, distribution of literature, lectures and practical demonstration on the preparation of nutritious recipes. The Health Visitors, Health Inspectors and others were given full courses of lectures, demonstrations and practical work.

FOOD ADULTERATION

Food adulteration is one of the important concerns which has got great bearing on public health and consequently, due importance was given by the State Governments in tackling the problem of the prevention of food adulteration. The situation in different States and the measures taken by them to counteract it are briefly given below:—

Andhra Pradesh—The Prevention of Food Adulteration Act, 1954 passed by the Central Government was in force in Andhra area of the State since June, 1955. The Act was not implemented in the Telengana component of the State due to inadequate laboratory facilities. Implementation of the extension would be done shortly. 5,723 samples drawn during the year under report were sent for analysis, of which 50 per cent were found to be adulterated and the number of prosecutions launched was nearly 2,800.

It may also be mentioned in this connection that in Andhra Pradesh, no laboratory facilities were available for analysing food samples, but facility available at the Government Analyst Laboratory located in the Kings' Institute, Guindy, (Madras) was extended to the Andhra area of the State as in the previous year.

Assam—The Prevention of Food Adulteration Act, 1951; Assam Pure Food Rules, 1949 and the prevention of Food Adulteration Rules, 1955 were enforced in the State to prevent the adulteration of food-stuffs.

The number of food samples analysed was 679 and the number found defective were of the order of 60 per cent nearly. It should be mentioned that all the samples examined relating to milk products and butter were found to be defective. Milk was also found to be widely adulterated. It is also of interest to note that spices and turmeric powder were adulterated with silicon matter and the sweet with prohibited coal tar colours.

Bombay—The Prevention of Food Adulteration Act, 1954 and the rules 1955 were enforced in the State, but the Act was implemented in certain local areas. In the areas where the Act was not enforced, action was taken under the provision of Indian Penal Code. Usually Sanitary Inspectors of the local bodies were declared as Food Inspectors of the local bodies. Out of a total number of 7,624 samples tested 3,264 were found to be adulterated. The products which reported higher percentages of adulteration were milk, ghee and milk products. The number of prosecutions launched was 7,714 and the number of cases punished was 6,758.

Kerala—The Prevention of Food Adulteration Act, 1954 was enforced in the State. The Municipal Health Officers or Municipal Sanitary Inspectors and Health Inspectors of the Department of Health Survey were working as Food Inspectors. 5,177 samples were examined, of which 26 per cent was

found to be adulterated. The most common samples adulterated were milk products, cream and flour. Tea was found to be heavily adulterated with tea waste and gram husk. Coffee was also found to be adulterated with date seed powder and roasted gram powder. It was also found that flours were usually adulterated with cheaper flours. As a measure to prevent adulteration, licensing of manufacture and sale of food inspection of premises and sampling of suspected food were undertaken in the State.

Madhya Pradesh—The Prevention of Food Adulteration Act, 1954 was enforced throughout the State. At present, the rules framed by the Government of India are being followed. The work of analysing of the food samples was undertaken by the various laboratories of the State and as well as the Corporation of Indore and Jubbulpore. 420 samples were examined of which 234 were found defective constituting a percentage of 56. 348 prosecutions were launched and 146 corrections were made. The amount of fines imposed was Rs. 20,977.

Madras—The number of food samples sent by the local bodies, Government hospitals and departments and other official sources were 17,240 of which 4,724 were found to be adulterated. The products which were found to be more adulterated than others were milk, sweets, sweet drinks, ghee and butter. Of the adulterants used special mention will be made of lead chromite in turmeric and the indiscriminate use of coaltar colour in butter, ghee, honey, sweet drinks and confectionery etc.

Heavy fines were imposed and in some cases imprisonment was also awarded for offences under the Prevention of Food Adulteration Act, 1954, which was enforced in the State. It may also be noted that the local bodies sending samples for analysis increased during the year under report.

Rajasthan—The Prevention of Food Adulteration Act, 1955 and rules made thereunder were enforced in the State. All Sanitary Inspectors, Health Officers and District Medical Health Officers and Assistant Director of Health Services were delegated the powers of the food inspectors. During the year under report, out of 10,606 samples examined 46 per cent were found to be defective. Milk and flour were found to be more adulterated than others and examination of the samples was done at the laboratories located at Jaipur, Jodhpur and Udaipur.

Uttar Pradesh—The provisions of Prevention of Food Adulteration Act, 1954 and the Uttar Pradesh Pure Food Rules, 1952 were enforced in Uttar Pradesh. Besides, the hygiene laws for food stuffs in the municipalities and district boards were also in operation in the State. 25,457 samples were analysed and the percentage of 22.6 was found to be defective. Along with fines imposed by the courts on convicted persons, sentences of imprisonment of various terms were also passed by the courts. Adequate facilities existed in the laboratory of the Public Analysts to the Government of Uttar Pradesh and provision was made to increase the facilities.

Himachal Pradesh—The Prevention of Food Adulteration Act, 1954 was applicable to the territory. Regular prosecutions could not be launched, because necessary rules under this Act were still under preparation. It may also be mentioned that there was no laboratory for examination of food samples and those to be examined were sent to Public Analyst, Punjab.

Manipur—The Prevention of Food Adulteration Act, 1954 and the Rules, 1955 were enforced in the Territory. One Medical Officer was delegated with powers of food inspector working under the Director of Medical and Health Services. No analysis of the samples was reported during the year under report.

Tripura—10 Sanitary Inspectors were appointed as Food Inspectors and no other staff was appointed under the Prevention of Food Adulteration Act, 1954. It was reported that 109 samples were analysed of which 34 were found to be defective. No prosecutions were launched.

Pondicherry—The following Acts were enforced for the prevention of food adulteration:—

Act of 1st August, 1905;

Act of 5th August, 1908;

Act of 25th July, 1912; and

Act of 20th March, 1919.

Under the Acts, Officials of the Revenue Department and the Commissioners of Police, Inspectors of Markets, Fairs and Slaughter Houses were authorised to make search and take samples and seize the articles put on sale. 75 samples were examined and 44 of them were found to be defective. Of all the samples examined, the edible oils were found to be more adulterated than others.

RAILWAYS HEALTH SERVICES

There were eight different Railways i.e., Central, Northern, Southern, Eastern, Western, North-Eastern, South-Eastern and North-East Frontier. Besides, there were Chittaranjan Loco motive Works and Ganga Bridge Project under the Railway Health Administration. The North East Frontier Railway was inaugurated in 1958 as a result of bifurcation of the parent North-Eastern Railway.

Each Railway had its own Medical and Public Health Organisation, which catered to the needs of railway staff and sanitation at railway stations and railway colonies. The number of hospitals, dispensaries, maternity and child welfare centres and beds are shown in Table No. 21. The medical facilities offered by Railways in general was satisfactory. Cash grants were given from the Staff Benefit Fund for treatment to low paid staff suffering from T.B.

Dental X-ray Unit was supplied at Bhusawal, Jhansi, Jabbalpur, Nagpur, Lallaguda and Sholapur Hospitals and an anaesthetic apparatus was also provided at Byculla Hospital of the Central Railway. A new Health Unit was opened at Sultanpur and a 25 bedded hospital was declared open at Jodhpur on Northern Railway. Dental Clinics were established at all the eight Divisional Headquarters Hospitals of Southern Railway and 20 m.a. X-ray plant with topographic attachment and a 70 mm camera unit for mass miniature radiography was installed at Perambur Railway Hospital. A building was set up for providing beds for isolating T.B. patients at Kanchrapara.

Three camera Units one each at Asansol, Dinapore and Jamalpur and 200 mm X-ray plant was provided at Dinapore of the Eastern Railway. One properly equipped medical van was started functioning on the Bandel-Sahibganj Section via Azimganj-Barharwa and back to Bandel via Naihati and Azimganj covering 81 wayside stations for the railway employees and their families. One chest clinic for out-patients and domiciliary services and a ten bedded isolation ward was started at Gauhati of the North-Eastern Frontier Railway.

The Number of cases treated due to various diseases in the hospitals and dispensaries in 1958 were more than those in 1957 and is presented in Table No. 22.

Mass immunization against Smallpox, Cholera, Plague and Enteric group of Fevers and the extensive use of D.D.T. and other insecticides as protection against flies and mosquitoes were carried out and are shown in Table No. 23. Apart from providing the staff with treatment facilities, the railway authorities in cooperation with local health authorities, took preventive measures as a matter of routine. On special occasions such as fairs and festivals, extra precautions were taken as large number of people came to the fairs which tend to upset all normal public health arrangements on railways.

On the whole, the sanitation of railway stations and railway colonies was satisfactory. It was effected through Sanitary Boards and Sanitation Committees by employing considerable staff. A Sanitation Week was observed at some stations and intensive propaganda was done through the medium of posters, talks, etc. In order to ensure wholesomeness of food, both for passengers and staff, food stuffs were regularly inspected by the railway medical and health staff and the persons handling food stuffs were subjected to periodical medical examination to ensure that they were neither carriers nor infected by communicable diseases.

Health propaganda, training in first aid to certain categories of staff and maintaining the St. John Ambulance Brigade were some more activities carried out by the Railways.

Family Planning instructions were regularly given at the Family Planning Centres and necessary education regarding family planning was also being imparted at these Centres.

The source of water supply, protected or otherwise, were other problems undertaken by the Railways. Bacteriological and chemical examinations of water were conducted as pure water had to be ensured to the travelling public and the families in railway colonies.

The general health of staff and their families were reported to be satisfactory.

HEALTH EDUCATION

The primary object of health education is to help the people to achieve health by their own action and effort. The interest needs an aspiration of the people themselves to provide the starting point and main motive force for enlisting their good will and participation in local planning as well as in action.

The guidance and help of experts is of course necessary. The Central Health Education Bureau started functioning in the Director General of Health Services, New Delhi from 1955. During the year under report Bureau participated in various conferences, training programmes, Contributory Health Service Scheme Seminar, National Malaria Eradication Week, India 1958 Exhibition and Children's Day. The period also saw the initiation of two new schemes for health education viz., public film shows and radio talks. Ten scripts for broadcasting were prepared by the Bureau.

A sum of Rs. 2.57 lakhs was provided in the Budget Grant of this Bureau for the year 1958-59. Of these Rs. 1,08,924 was spent till the end of October, 1958. The expenditure of Rs. 2,00,000 in connection with the India 1958 Exhibition was met from the budget grant of the Bureau.

T.C.M. provided technical assistance in the form of two foreign experts, one for training (health education) and the other for research and evaluation.

The Central Health Education Bureau has a Media Division which consists of four units, viz., Editorial, Films and Photography, Museum and Exhibitions. The aim and objective of the Division among others include to pretest and evaluate health education material, to experiment and produce effective type media for use of medical and other health personnel and to interpret the policies of the Ministry of Health. The Methods Division, the other part of the Bureau comprises Research and Evaluation, Training, Field Services and Demonstration Sections. The Method Division started by the last quarter of the year under report.

MEDIA DIVISION

Editorial Section—

Swasth Hind—It is a monthly publication started in January 1957 continued to be published for the second year in succession. The publication which started with six pages now carried 16 pages. A number of special issues were published during the year under review. The February, March, May, June and November issues were devoted to Family Planning, World Health Day, Contributory Health Service Scheme, Malaria Eradication and Children's Day respectively. Children's Day number contained articles from experts with an accent on the theme of the year 'Sick children must be nursed and physically or mentally handicapped children must be helped'. The September issue carried articles on environmental sanitation.

Pamphlets, folders etc.—The Bureau published ten pamphlets and folders in English and Hindi. During the Cholera epidemic in the Capital, the Bureau pressed into services all its resources to produce educational material within a very short period. 50,000 folders in English and 100,000 in Hindi on Cholera were produced and distributed in the affected areas to help the anti-cholera campaign. During the year under review, 1,46,053 copies of the brochures and pamphlets were distributed free to 2,042 organisations and 17,804 posters to 580 organisations. During July, 2,105 posters were given to two organisations on payment.

Posters—Six posters were pretested, published and distributed. Two new posters were designed and exhibited on the Children's Day. Art work and lay out of the pamphlets, brochures and posters were done in the Bureau.

Film Library—The Bureau maintains a film library. Besides, it pre-views films, examines technical aspects of film scripts, conducts investigations and evaluates the results of film exhibition among the different sections of the population. 301 films and 107 film strips were available with the film library of the Bureau. During the year the Bureau added 36 films and 54 film strips.

Films pre-viewed—The Bureau pre-viewed 64 films and five film strips from various agencies to assess their suitability for purchase. The film "Hyderabad Story" on the training of mid-wives produced by the Information and Broadcasting Ministry in collaboration with the W.H.O. was pre-viewed and found suitable for exhibition at the World Health Assembly in Minneapolis, U.S.A.

Films loaned—During the year the Library loaned 435 films and 56 film strips to 131 organisations reaching an estimated audience of 2,85,000.

Films production—A film strip on Filariasis was produced by the Bureau in collaboration with the T.C.M. (U.S.A.I.D.). Copies were distributed to States for health education purposes. Six films, viz., Health Education, National Malaria Control Programme, Protection of Children from communicable diseases, Family Planning, Filariasis and Leprosy were under production with the collaboration of the Ministry of Information and Broadcasting.

Photographic Library—Photographs of various health subjects were being collected and catalogued during the year under report.

Library—The Health Education Library which made a start in 1957, made a good progress during the year under report. 438 books, pamphlets and reports were added to the Library from National and International sources.

India 1958 Exhibition—The Bureau organised the Health Pavilion of the India 1958 Exhibition. The panels depicted the health problems facing the country and the programmes carried out to meet these problems. The panels also depicted the progress made in the field of health.

The Bureau participated in a small panel exhibition in the Contributory Health Service Scheme Seminar held in May, 1958. The panels showed the progress made by the Contributory Health Service Scheme and the types of services rendered.

Training—

The Bureau planned a four week training programme for workers in the field of health education, which proceeded on a visit to the Bureau and subsequent field training in the Najafgarh Health Centres and the All-India Institute of Hygiene and Public Health, Calcutta. Two W.H.O. Fellows, one from New Guinea and the other from Indonesia underwent this training during the year 1958.

Graduates of the Lady Hardinge Medical College and Hospital, New Delhi, undergoing internship in public health, were given talks on the use of posters as tools of education and the methods of using and evaluating them.

The fourth year students of the College of Nursing, New Delhi were introduced to the subject of health education by lectures.

Malaria Eradication Week—

The Bureau participated in the Malaria Eradication Week by producing a special number of Swasth Hind on Malaria Eradication, a brochure in Hindi

and multi-coloured cinema slides for distribution to cinema houses in the country. Three posters were designed and 30,000 copies of one poster entitled "Eradicate Malaria" were printed and supplied to Malaria Institute of India, Delhi-6.

Contributory Health Services Schemes Seminar—

The Bureau also participated in the Contributory Health Services Scheme Seminar in May 1958, arranged a small exhibition and published a brochure on Contributory Health Services Scheme.

Miscellaneous—

The Bureau took part in the Indian Conference of Social Workers organised by the Youth Welfare Sub-Committee and the seminar held during the 11th Session of W.H.O. Regional Committee for South-East Asia in New Delhi.

The activities of the State Health Directorates in respect to health, education and health propaganda are as follows :—

Andhra Pradesh—Health Museum in Public Gardens at Hyderabad, maintained under the Health Education Bureau of the Directorate of Public Health, was a source of attraction for a large number of visitors from within and outside the country. The Bureau opened a stall in the All India Industrial Exhibition held in Hyderabad during 1958 and made extensive propaganda on the aspect of health. Cinema car covered a total mileage of 4,000 miles and arranged 170 cinema shows on health in city as well as in rural areas.

8,000 posters in English and Telegu on Small-pox and Filariasis were printed and distributed.

Bombay—A Bureau of Health Education and Public Health Museum was established at Nagpur. The Bureau conducted 401 pre-service training and 354 in-service training to medical graduates and under-graduates and para-medical personnel. 45 film shows were pre-viewed at different places. Health education was also carried out through (1) The Directorate of Publicity, (2) The Bombay Mothers and Children Welfare Society, (3) The Sanitary Association of Bombay, Ahmedabad and Broach, (4) The Visual Education Section of Education Department.

Madhya Pradesh—210 health films were shown to the public of the State including tribal areas. Besides a systematic campaign for health education of the people was under-taken through the press, pamphlets, posters and cinema slides. Establishment of a State Bureau of Health Education on the line of the Central Bureau of Health Education and a provincial Health Education Museum were under consideration.

Madras—5 health films were purchased and added to the film library. Health Education material like posters, charts, models, exhibits, show case models etc., were on display in the exhibitions organised by medical councils during fairs and festivals. Leaflets on Tuberculosis and Malaria Eradication in Tamil were distributed free of cost. The health education and publicity van of this department was deputed to Kumbakonam, Nagapattinam, Tiruvarur, Kancheepuram, Walajapet, Ranipet and Arcot for propaganda in connection with National Filaria Control Programme. A health education expert assigned to this state by T.C.M. continued to guide, assist and render expert advice in formulating and setting up a Health Education Bureau in the State during 1958.

Rajasthan—Health Exhibition film shows, popular talks, lectures and baby shows were arranged in almost all National Extension Service Blocks and District Headquarters. In important fairs and festivals, health education and propaganda to the general public were common features.

Uttar Pradesh—Health Education work was carried out throughout the State, with the aid of Lectures, discussions, cinema and magic lantern shows and distribution of posters, pamphlets, and other literatures on various health subjects. The main efforts were directed towards improvement of environmental sanitation. Public Health Exhibitions were organised by the State Health Education Bureau. 7 film shows on different health subjects were also given by this Bureau to the people during 1958. Cholera folders received from the Directorate General of Health Services, New Delhi were distributed during the year under report.

CHAPTER IV

MEDICAL RELIEF

HOSPITALS AND DISPENSARIES

Since the dawn of independence, India made considerable progress in the field of Medical and Health services both in rural and urban areas. Medical relief and services are primarily the responsibility of the State Governments. Certain charitable institutions also participate in giving medical relief to the people. Before independence, the medical facilities available were grossly inadequate. Attention was turned towards increasing number of in-patient beds in hospitals in urban areas and more and more specialised institutions as those for Tuberculosis, Cancer, Leprosy, Venereal Diseases, etc. Facilities for treatment of out-patients were also improved in the hospitals and dispensaries with modern equipment and qualified and experienced staff.

With an aim to have a national health services which would provide free treatment and advice to all who require it, the Government of India embarks upon the scheme of Contributory Health Services for the benefit of the Government servants and their families in Delhi. The facilities available under the scheme are improving day-by-day, and this might well form, in due course, a nucleus for the national health services in India.

3,825 hospitals and dispensaries were functioning in 1947, and the number of patients treated were 4,30,19,772 with an expenditure involved in their maintenance being about Rs. 4,63,84,083. The First Five Year Plan projected an increase of 16 per cent in institutions, bringing an increase of 10 per cent in beds, making a total of 1,25,000 beds available to the people at the end of the plan period. The target was achieved. In the Second Five Year Plan, however, the target fixed was 12,600 institutions with 1,55,000 beds an increase of 25 per cent and 24 per cent respectively. An allocation of Rs. 3,926.56 lakhs was made for this purpose of which 95 per cent was for the expenditure to be borne by the States. By the end of 1958 the number of hospitals and dispensaries were to 12,530 where as the total number of patients who availed facilities for treatment was four times the number of patients who could avail in 1947. The number of beds available in these hospitals and dispensaries during the year under report was 1,61,258, which surpassed the target figures before the end of the plan period. The salient feature of the working of the hospitals and dispensaries during the year continued to be parallel to those of the preceding years. However, the forces were harnessed towards providing integrated form of medical care in both curative and preventive measures, simultaneously in increased number of hospitals and dispensaries by the gradual conversion into Primary Health Centres/Units. A brief account of medical relief facilities in different States during 1958 is detailed in Table No. 24.

CONTRIBUTORY HEALTH SERVICE SCHEME

The Contributory Health Service Scheme for Central Government servants in Delhi/New Delhi, moved a step further during the year 1958 towards the achievement of one of its objectives, viz., the improvement of the medical

facilities for the Government servants and members of their families. The success and popularity of the Scheme is amply borne out by the fact that more and more entitled persons are making use of the services provided under it and there have been pressing demands from a number of semi-Government institutions and Statutory Bodies for their inclusion in the Scheme. It was agreed during the year under report that the Scheme would be extended to the Members of Parliament and steps were taken in this behalf.

During the year under report a sum of Rs. 46,19,960/- was incurred, the details of which are given in Table No. 25, was spent on the medical care of the beneficiaries. The expenditure had increased to Rs. 46,19,960 in 1958 from Rs. 22,12,334 in 1955, whereas the contributions from the beneficiaries increased to Rs. 25,93,000 in 1958 from Rs. 16,55,601 in 1955. The increase in cost was due to (i) employment of proportionately larger number of doctors (ii) opening of additional dispensaries and (iii) increase in the price of medicines.

The re-organisation programme of the Scheme for the year 1958-59 envisaged the addition to the number of dispensaries to take them as close as possible to the beneficiaries in the various areas, to increase the number of dispensary staff so as to reduce to the minimum the period of waiting, to provide reasonably satisfactory facilities at the dispensaries for reception and waiting, to make the referral services more easily and speedily available. With this end in view it was proposed to raise the overall number of static and mobile dispensaries under the Scheme to 30 and 4 respectively as against 21 and 3 already functioning at the beginning of the year. New dispensaries were opened in Pul Bangash, Netaji Nagar, Chanakya Puri, Kasturba Nagar and Tilak Nagar and four dispensaries *viz.*, Nauroji Nagar (South Vinay Nagar) Darya Ganj, Andrews Ganj, and Telegraph Lane (Ferozeshah Road) were being set up. A Contributory Health Services wing in the President's Estate dispensary also started functioning during the year under report. The following additional staff was sanctioned by the Government of India for strengthening the services provided under the Scheme.

1. Staff Surgeons—2
2. Junior Staff Surgeons—3
3. Assistant Surgeons Grade I—55
4. Other ancillary staff—180

Leaving out the staff for the dispensaries which were yet to be opened most of the other staff was in position or steps were taken to fill the posts. Arrangements were also in hand for the opening of the proposed dispensaries. As a part of the re-organisation programme steps were taken to provide better accommodation facilities in some of the dispensaries where considerable difficulty was being experienced by the patients for want of sufficient space. Facilities of covered space, seating accommodation, cycle stands, additional dispensing windows, etc., were also extended to remove some of the inconveniences caused to the patients. With the placing of the Scheme on a permanent footing, the construction of buildings, specifically designed for the needs of the dispensaries was also taken in hand.

During the year under report there had been a considerable increase in the monthly and daily average attendances at the dispensaries. 12,08,571 new and 25,06,410 old cases were treated at various dispensaries as against 10,37,180 and 22,13,750 treated during 1957.

The daily average attendance recorded an increase of about 2,000 between 1955 and 1956, remained steady during 1956 and 1957 and has again shown an increase of nearly 2,000 between 1957 and 1958 and is shown in Table No. 26.

11,735 cases were hospitalised in the Willingdon, Safdarjang and other recognised hospitals. These admissions comprised of 5,179 maternity cases, 295 T. B. cases, 4 cancer cases, 8 for E.E.G. examination and 6,249 others. The average expenditure per maternity case varies from hospital to hospital depending upon their rates of confinement fees, rent for rooms etc. The average monthly expenditure per T. B. patient worked out to be Rs. 154·89nP.

Apart from the dispensary services, there were arrangements for the doctors to be on duty/or on call throughout the twenty four hours, including Sundays and holidays. 47,733 visits were made by the Medical Officers at the Residences of the patients.

Specialist staff consisting of Surgical and Medical Consultants, Obstetricians and Gynaecologists, Specialists in eye, ear, nose and throat diseases and Dentists were provided for the benefit of the members of the Scheme. On an average 3,415 patients were seen by the specialists every week during the year under report. The highest average weekly attendance of cases seen by the specialists was on the Medical and Ophthalmologist side.

The fact, that although the number of medical officers in attendance, (Specialists and Assistant Surgeons) increased from 89 in 1955 to 152 in 1958 the work load had not shown corresponding downward tendency, which was due partly to a concomitant increase in the number of entitled beneficiaries and partly to progressively increasing use of the services by the beneficiaries. This is borne out by the experience that with the opening of two dispensaries in an area previously served by one, the total attendance had invariably increased by nearly hundred per cent in the course of a year from the same area.

Table No. 27 shows the incidence of the various common but important diseases during the year 1958. A upper respiratory diseases along with acute and chronic bronchitis were responsible for more than half of the total attendance. Dysentery including other gastro intestinal infections with an incidence rate of 109·36 (per thousand beneficiaries) forms the next largest group. A vitaminosis and anaemia respectively recorded a rate of incidence of 100·50 and 57·15. The incidence rates for asthma and trachoma were 11·54 and 23·60 respectively.

The Scheme having established itself, more attention was paid to remove the grounds for common inconvenience to the patients, the major one amongst them was the long period of waiting in the dispensaries. To speed up the process of registration of patients, where a bottle-neck was created leading to delay, the system of separate registration for new and old patients was introduced in all the dispensaries.

Work done by the Dispensaries during Cholera Outbreak—

During the outbreak of cholera in the city, the C. H. S. Dispensaries also contributed their mite in stemming the spread of the disease among the population. With the help of the staff of the Lady Hardinge Medical College, special arrangements were made in all the dispensaries to give anti-cholera inoculations. Upto the end of September, 1958, the number of inoculation performed at the C. H. S. Dispensaries was 56,194. The Medical Officers also exhorted the local residents to adopt preventive measures to keep away the disease.

Physical Check-up Clinic—

The morbidity statistics of the last 4 years under the Scheme showed that a great deal of illness treated at the C. H. S. Dispensaries was preventable and could be substantially reduced if facilities for a physical check-up were provided with a view to detecting any abnormalities at an early stage. The low paid Government servants are not in a position to get any such check-up done at present. A Health Clinic was, therefore, started under the Scheme at the Central Secretariat Dispensary where all Government servants can get their physical check-up done without any fee.

C. H. S. Seminar—

One of the important features of the Scheme during 1958 was the holding of a Seminar of C. H. S. Medical Officers in May, 1958. The Seminar was inaugurated by the Prime Minister and was presided over by the Health Minister. Under the guidance of Senior Specialists, papers on important cases were read at the Seminar which proved to be of a great success.

C.H.S. Advisory Committee

As in previous years the views and recommendations of the C. H. S. Advisory Committee comprising of the representatives of the various grades of services were taken into account in formulating the policy and dealing with problems arising out of the day to day working of the Scheme. On the recommendations of this Committee the views of the Staff Councils of the various Ministries were invited to the suggestion for the levy of a nominal fee for the visits of the Medical Officers at the residence of the patients. A proposal for the mass X-ray of Government servants as suggested by this Committee was also considered. A slight modification in the working hours of the dispensaries during winter months was recommended by the Advisory Committee.

As during previous years, assistance was given to the Ministry of Education in making medical arrangements in connection with the Inter-University Youth Festival. The required co-operation was also extended in providing medical facilities to the delegates to the International Monetary Fund Conference during 1958.

Recognition of more Hospitals and Maternity Centres—

For the convenience of the beneficiaries covered under the Scheme, some more Hospitals and Maternity Centres were recognised in 1958, where patients could receive treatment on the advice of their authorised medical attendant.

Family Planning Centres—

Since early 1955, the family planning had been integral programme of the activities of the C.H.S. Scheme. There had been notable increase in the activities of the Centres during the year under review. Besides giving advice and guidance to the beneficiaries in planning their families, a number of other community and social activities like the formation of Mother's Clubs, free distribution of milk etc. were also undertaken in these Centres. For the education and recreation of children, a Children's Library was started in the Family Planning Centre, Laxmibai Nagar, where a number of books donated by the local residents and other organisations were stocked. Like previous years, the Children's day was observed on 14th November, 1958 in five of the Centres, where children's games, variety entertainment programmes, health exhibitions etc., were organised and prizes were distributed. For the convenience of the beneficiaries, contraceptives were also supplied free or at subsidized rates, according to the income of the Government servants. A statement showing the progress and nature of work done at Family Planning Centres is given in Table No. 28.

BLOOD TRANSFUSION SERVICES

Blood transfusion services continued to make steady progress during the year under report. In many States all modern methods of propaganda were used to enlist voluntary donors to enhance the cult of blood donation to meet the ever increasing demand of blood. Many Government hospitals were provided with blood transfusion facilities although no Blood Bank existed in that particular State. New centres were set up and activities in existing centres intensified during the year under report.

Table No. 29 shows the State-wise distribution of Blood Banks in India during the year under report. The activities of these Banks in different States are summarised below :—

Andhra Pradesh—In King Edward Medical College Hospital, one Blood Bank was functioning where 645 blood transfusions were performed. 193,500 c.c. blood was collected from 743 donors. The Blood Bank at Niloufer Hospital for Women and Children was established in 1958 and performed 24 transfusions of 300 c.c. each. 57,900 c.c. of blood was collected from 22 voluntary and 171 paid donors. In the Kurnoor Government General Hospital, 67,080 c.c. of blood was collected and 217 transfusions were done during 1958. In Kakinada Government Headquarters Hospital, 81 donors gave 24,300 c.c. of blood and 81 transfusions were done. 17 bottles of 350 c.c. each of blood were collected from 350 donors in Government Hospital, Nellore, where 77 transfusions were performed.

Assam—One Blood Bank was functioning and 161,700 c.c. blood was collected for transfusion during 1958.

Bihar—In Laheriasarai, Ranchi and Patna 16,70,135 c.c. blood was collected from 5,892 donors and 7,683 blood transfusions were performed.

Bombay—The progress of blood transfusion service was steady. The present staff and equipment were found to be inadequate. A new scheme was drawn up for expansion of blood transfusion services throughout the Bombay State

and to make it available at all the hospitals. There were 13 blood banks collecting 38,35,825 c.c. of blood from 14,704 donors. The number of transfusions made during the year was 13,190.

Jammu and Kashmir—Two Blood Banks collected 106,150 c.c. of blood from 153 donors and 227 transfusions were done.

Kerala—Five Blood Banks were functioning where 537,600 c.c. of blood was collected. The number of donors of blood was 1,904 during the year under review.

Madhya Pradesh—Six Blood Banks at M.Y. Hospital, Indore Victoria Hospital, Jabalpur, G.M. Hospital, Rewa, J.A. Hospital, Gwalior, Hammidia Hospital, Bhopal and S.Z. Hospital, Bhopal collected a total amount of 902,225 c.c. of blood from 4,526 donors, and performed 3,192 blood transfusions. Quantity of plasma/serum prepared was 2,000 c.c.

Madras—The progress of the Blood Bank Department of the hospitals in the State as compared to the previous year was on the increase. An interesting feature of the year 1958 was that in Erythroblastosis foetalis cases (haemolytic disease of the new born children) replacement from poison with Rg. Negative blood saved the lives of four children who would have died otherwise. Special types of transfusions as packed cell transfusions for every anaemic patient, ex-sanguine transfusions for cases of congested heart failure associated with severe degree of anaemia and in conditions of toximia and poisons, deserve special mention. After the increase of the remuneration from Rs. 5 to Rs. 7, the number of blood donors were on the increase during 1958.

Mysore—There were three Blood Banks at Victoria Hospital Bangalore, Bowring and Lady Curzon Hospital, Bangalore and Government Wenlock Hospital, Mangalore. The number of donors were 2,230 and 825,860 c.c. of blood was collected. 2,209 transfusions were performed. Beside the blood transfusion work was taken in some Medical Institutions though there were no scientific blood banks.

Orissa—One Blood Bank in S.C.B. Medical College Hospital, Cuttack functioned. 140,925 c.c. blood was collected from donors and 597 blood transfusions were performed.

Rajasthan—There were five Blood Banks in the State of Rajasthan. Hospitals of first and second grades were transfusing blood to the patients. The number of donors from whom blood was collected was 2,617 collecting 8,14,220 c.c. blood. 2,895 blood transfusions were performed.

Punjab—Blood transfusion centres working at V.J. Hospital, Amritsar, Civil Hospital, Jullundur, Karnal, Ambala, Rajindra Hospital, Patiala and the Red Cross Blood Bank at Ludhiana continued to make appreciable progress during the year under report. 7,517 persons donated 1,929,035 c.c. of blood and 7,244 blood transfusions were performed.

Uttar Pradesh—Three Blood Banks collected 11,99,350 c.c. of blood from 5,173 donors and 3,800 blood transfusions were performed during

the year under report. There was an increasing demand for blood as the benefit of blood transfusions was being realised in numerous medical and surgical conditions and as hospital services in the State were expanding. An officer was also appointed to organize blood banks at some divisional headquarters hospitals.

West Bengal—Six Blood Banks functioned in the State, of which 3 in Calcutta and the remaining 3 in 3 districts, where 80,68,740 c.c. of blood was collected from 28,925 donors. 29,575 transfusions were performed. Besides, the Calcutta Blood Bank also supplied plasma and packed cubes. During the year under review 368 bottles of plasma were supplied from the Bank. Exchange transfusion taking out blood from the new born and replacing it with fresh blood in cases of erythroblastosis foetalis was also done. Research work was being carried out on two lines viz., (1) Determination of Rb phenotypes among the population of West Bengal and (2) Results of ABO incompatibility among husband and wife and its effect on the new born babies. The Calcutta Blood Bank had a six week training scheme for imparting lessons to private practitioners in blood transfusions and its therapeutic aspects. 63 doctors availed themselves of facilities of this training during the year under report.

Andaman and Nicobar Islands—There was no blood bank functioning in this territory. However, blood transfusions were carried out with arrangement in the Pathological Laboratory attached to the Civil Hospital, Port Blair. 300 c.c. blood was collected from two voluntary donors and two blood transfusions were performed.

Tripura—Although there were no such cases in the hospitals that required blood transfusion, an Officer for blood collection and transfusion for purposes was appointed in the V.M. Hospital Agartala, during the year under report.

Delhi—12,815 donors gave approximately 844,500 c.c. of blood in the Blood Bank, at Irwin Hospital New Delhi, where 2,727 transfusions were done during 1958. One blood bank functioning under the Municipal Corporation of Delhi performed 2,074 transfusions and collected 639,600 c.c. of blood from 2,139 donors during the year under review.

Himachal Pradesh—There was only one Blood Bank functioning at Civil Hospital, Simla.

X-RAY, RADIUM THERAPY ISOTOPES TREATMENT

Facilities for X-ray for diagnostic and therapeutic purposes are still far from being adequate. Facilities for radium treatment also remained inadequate during the period under review. Table No. 30 shows the number of institutions having X-ray facilities, number of cases examined, and the number of cases treated in various States during the year under report. Table No. 31 shows the number of hospitals having radium facilities and the quantity of radium available etc., in various States during the year under review.

The State-wise Summary on the available facilities for X-ray, radium treatment etc. during the year under report is given below:—

Assam—24 institutions were provided with X-ray plants for diagnostic and therapeutic purposes. In Assam Medical College Hospital,

two major and four minor X-ray plants for diagnostic purpose and one superficial and one deep for therapeutic purposes were functioning during the year under report. Facilities for radium therapy was available in Assam Medical College Hospital, Dibrugarh.

Bihar—26 institutions were having X-ray plants. 36,511 cases were examined and 6,903 cases were treated.

Bombay—The number of institutions having superficial and deep X-ray facilities were 81. During the year under report 377,799 cases were examined and 110,524 cases were treated.

Jammu and Kashmir—Two Central Hospitals and two Community Development Hospitals had the X-ray facilities. There were 7 major and 5 minor X-ray plants for diagnostic purposes and one superficial and one deep plant for therapeutic purposes. 39,406 cases were examined and 1,988 cases were treated during 1958.

Kerala—In the State of Kerala there were 18 institutions having facilities for X-ray. 130,128 cases were examined and 82,157 cases were treated.

Madras—X-ray departments were functioning in almost all headquarters hospitals and in some of the taluk headquarters hospitals. 26 institutions had X-ray facilities. There were 50 major and 23 minor plants for diagnostic purposes. Seven superficial and 5 deep X-ray plants were functioning for therapeutic purposes. 139,676 cases were examined and 21,377 cases were treated. Radium treatment was given mostly for oral cancer. Steps were initiated to get radium tubes for treating carcinoma cervix.

Madhya Pradesh—52 institutions were having X-ray facilities. There were some more institutions where X-ray facilities were available but plants were not in working order during the year under review. The X-rays were used for diagnostic purposes as well as for therapeutic purposes. The total number of cases examined was 137,649 and the number of cases treated was 29,742 during the year under report.

Mysore—There were about 27 medical institutions in the State where X-ray facilities were available for treatment of both out-patients and in-patients. There were about 16 major and 39 minor and 7 superficial and 9 deep X-ray plants in medical institutions. The total number of cases examined and treated were 152,837 and 82,958 respectively. One new X-ray plant was installed in a medical institution during the year under report. There were 4 medical institutions in the State where facilities for radium treatment were existing. 1,013mg. of radium was available and 706 patients were treated.

Orissa—X-ray facilities were available in 18 hospitals in the State including two new sets provided in the newly established T.B. Hospitals at Chandpur and the M.M. Hospital, Udaiyagiri. 20,612 cases were examined and 8,156 cases received treatment. Facilities for radium treatment were available only in S.C.B. Medical College Hospital, Cuttack. 48 patients were under radium therapy. No institution in the State was provided with Isotopes.

Punjab—Vigorous efforts continued to be made to provide X-ray facilities in the various hospitals and dispensaries in the Punjab State. There were 84

diagnostic and therapeutic X-ray sets (Major—22, Minor—52, Superficial—6 and Deep—4) functioning in 54 institutions. In all 124,387 cases were X-rayed and 4,112 cases were screened. Radium treatment facilities were also available at V.J. Hospital, Amritsar and Brown Memorial Hospital, Ludhiana. 287 cases were given radium treatment during the year under review.

Rajasthan—X-ray facilities were available in all the bigger Government hospitals in the State of Rajasthan. The total number of institutions having X-ray facilities was 46, the number of cases X-rayed was 143,090 for diagnostic purposes and 7,420 for treatment. In the therapeutic section transvaginal irritation in Cancer cervix, Uterine Haemorrhage and many skin conditions were successful. Major illness under radiographic investigations were Pulmonary Tuberculosis, Tuberculosis of Bones and Kidney, Gastric and Duodenal Ulcers and Stones in the urinary tract etc. 23 major and 52 minor X-ray sets were in operation for diagnostic purposes while 13 (both superficial and deep) plants were functioning for therapeutic purposes.

Uttar Pradesh—Routine X-ray diagnostic facilities were available in all districts and large mofussil hospitals and in the Tuberculosis Sanatoria. Facilities for deep X-ray therapy were available at hospitals attached to the Lucknow and Agra Medical Colleges, Kamla Nehru Hospital, Allahabad and the Lovett Hospital, Ramanagar (Varanasi). 84 institutions were having the X-ray facilities. 126 sets were functioning for diagnostic purposes and 10 plants for treatment during the year 1958. Three institutions were having radium facilities wherein 3,174 patients were treated.

West Bengal—There were 36 medical institutions providing X-ray facilities in the State. Altogether 29 major and 63 minor sets were available for diagnostic and 4 (superficial and deep) X-ray sets for therapeutic purposes. 156,219 cases were treated excepting the cases that were treated in the Medical College Hospital, Calcutta. Three institutions were having radium facilities, wherein 312 patients were treated.

Andaman and Nicobar Islands—There was one X-ray Section functioning attached to the Civil Hospital, Port Blair during the year under report. Two minor X-ray sets were available. Although there was no recognised Radiologist the work in the X-ray Section was carried out satisfactorily by the Medical Officer Incharge. 329 patients were X-rayed and facilities for radium treatment and isotopes were not available in this territory.

Himachal Pradesh—X-ray facilities were provided in all the district hospitals and some of the Civil Hospitals and institutions for diagnostic and treatment purposes. There was only one deep X-ray therapy plant at Himachal Pradesh Hospital, Simla. In all 7 institutions had X-ray facilities wherein 5 major and 3 minor plants were functioning for diagnostic purposes during 1958. Facility for radium treatment was available in Himachal Pradesh Hospital, Simla, but there was no provision for isotopes in any of the institutions of Himachal Pradesh.

Tripura—In the V.M. Hospital, Agartala, X-ray Department continued to function during the year under review.

PSYCHIATRIC PROBLEM AND MENTAL HOSPITALS

The Bhore Committee appointed by the Government of India in 1945 estimated that there were at least 8,00,000 mental patients in India requiring treatment in mental hospitals and that the number of beds available in the country was only 10,000. The Five Year Plan Programme, envisaged by the Government of India, has provided much better facilities for mental patients. The hospital for Mental Diseases, Ranchi was taken over by the Government of India from Board of Trustees with a view to re-organise the hospital on a sound line and also to make it a Model Centre for the treatment of psychiatric diseases. The existing bed-strength of the hospital was 420 of which 390 beds allotted to different States or Administrations as follows :—

States	Beds
1. West Bengal	225
2. Bihar	60
3. Uttar Pradesh	35
4. Madhya Pradesh	10
5. Delhi	10
6. Assam	6
7. Orissa	6
8. Punjab	1
9. Tripura	4
10. Other areas	33
Total	390

Besides, thirty beds were independent. Preference is given to the admission and treatment of early cases of mental disorders at this hospital, with all modern methods of treatment, with a view to prevent their becoming chronic thereby obviating the necessity of their continued residence in a mental hospital. The institution was well equipped and staffed by competent medical personnel to undertake diagnosis and treatment of all kinds of neurological, psychiatric and psychosomatic ailments. The establishment of an out-patient department was sanctioned as a pilot scheme for a period of one year from 1st April, 1958 and 78 patients attended the clinic during the year under report.

The Government of India, in 1954, sanctioned the establishment of an All India Institute of Mental Health in association with the Mental Hospital, Bangalore. It was proposed to develop the Institute as the first Centre of progress in Psychological Medicines and Mental Hygiene in India. With this aim in view, a sum of Rs. 26 lakhs was sanctioned in the Second Five Year Plan period (1956—61) for expansion of the Institute. There was a provision of Rs. 8.25 lakhs for the development of the Hospital for Mental Diseases, Ranchi in the Second Five Year Plan period. The entire provision was for construction of buildings and purchase of modern equipments. A provision of Rs. 20 lakhs was made in the Second Five Year Plan period for the establishment of Child Guidance and Psychiatric Clinics in different States. The Government of India sanctioned the establishment of such six units viz., one each in Andhra Pradesh, Madras, Punjab, Uttar Pradesh, Bombay and Madhya Pradesh and would give 75 per cent of non-recurring and 50 per cent of recurring expenditure as financial assistance to these States.

The hospitalisation facilities and other activities carried out for the progress in mental health in the various States of India are briefly given below:—

Andhra Pradesh—All the modern methods of treatment were given in Government Mental Hospital, Waltair, such as hypoglycaline coma treatment, insulin shock therapy, electric convulsive therapy, use of tranquilizing drugs, special methods of psychotherapy and modified macro analysis with encouraging results. There was an occupational and rehabilitation department wherein various trades like carpentry, weaving, tailoring etc., were taught. The Superintendent of the King's George Hospital, Visakhapatnam, being a Psychiatrist, an out-patient department was opened. 45 patients were admitted in the Psychiatric Unit of the King's George Hospital, Visakhapatnam for treatment. Advanced and violent patients were screened in the out-patient department and only mild psychiatric and neurotic patients were treated in the Unit. The unmanageable violent cases were sent for admission in Mental Hospital, Waltair.

Assam—One Mental Hospital, Tezpur with 740 beds caters to the needs of mental patients in the State, 6 beds in respect of this State were also reserved in the Hospital for Mental Diseases, Ranchi.

Bihar—There were two Mental Hospitals in this State. The Hospital for Mental Diseases, Ranchi is under the administrative control of the Government of India in the Ministry of Health. In the Hospital for Mental Diseases, Ranchi, 390 beds were allotted to different States and Administrations. An out-patient department was opened during 1958. 1,380 beds were available in the Ranchi Manasik Arogyashala, Ranchi for mental patients where 1,706 male and 641 female indoor patients were treated and the number of out-patients treated was 785 during the year under report.

Bombay—There were 7 Mental Hospitals in the State and a psychiatric ward was attached to the J.J. Group of Hospitals, Bombay. The total bed strength was 3,053 and the number of mental patients treated was 9,641.

Jammu and Kashmir—There was one Government Mental Hospital at Srinagar and two psychiatric dispensaries for out-door treatment of mental patients. The hospital had a bed strength of 50.

Kerala—3 Mental Hospitals were functioning in the State of Kerala. The total bed strength was 754. The number of in-door and out-door mental patients treated during the year under review were 2,966, and 29,486 respectively.

Madras—888 beds catered to the needs of mental patients in Government Mental Hospital, Madras. Predominant types of psychiatric illnesses met with in the State were schizophrenia, manic depressive, psychosis, involutional melancholia, puerperal psychosis, epilepsy, and toxic psychosis associated with fever and syphilis. The broad out lines of treatment given in these cases were electro-convulsive therapy, insulin coma therapy, occupational therapy, use of tranquillisers and sedatives, anti-convulsants, recreational facilities, psychotherapy. There was a section for treating mental defective children in the Government Mental Hospital, Madras. In Government Stanley Hospital, an upgraded Psychiatric Clinic was opened during the year under report.

Madhya Pradesh—The facilities available in the State of Madhya Pradesh to study and treat the psychiatric conditions were neither upto the standard nor sufficient. During the year under report, there were two Mental Hospitals at Gwalior and Indore with 120 and 75 beds respectively. For the promotion of mental health Child Guidance Clinics, Marriage Guidance Clinics, mental health services in Maternity & Child Welfare Centres etc., were in vogue during the year under report.

Mysore—There were two major Mental Institutions in the State, at Bangalore and Dharwar. The total number of beds provided was 749 as compared to 549 beds during 1957. 3,823 patients received treatment in these institutions, of which 2,480 in the in-patient and 1,343 in the out-patient departments. Apart from these two hospitals, facilities were also available for investigation and treatment of mental patients on an out-patient basis in other hospitals. The number of patients treated in all these institutions during 1958 was 9,429.

Orissa—No separate institution existed in the State for treatment of psychiatric patients. A few beds were reserved in the following Mental Hospitals out side the jurisdiction of the State :—

Mental Hospitals	Beds
Hospital for Mental Diseases, Ranchi (Bihar State)	6
Ranchi Manasik Arogyasala, Ranchi (Bihar State)	83

Punjab—The Punjab Mental Hospital, Amritsar continued to be the chief centre of psychiatric services in the State. Two Psychiatric Out-patient Clinics were opened at two other hospitals in Punjab during the year under report. In the Mental Hospital, Amritsar, some patients were accommodated in tents along with their families, who provided them with food and nursing care. In this way, over 2,500 patients were treated during 1958 at a very small expense to the State. The regular bed strength in the Mental Institution of Punjab State was 500.

Rajasthan—Facilities for treatment of mental patients existed in Rajasthan State at Jaipur, Jodhpur and Udaipur. All the three mental hospitals continued to function during 1958. Indoor accommodation for 264 patients existed in all the three hospitals. There was no institution for training of the mentally defective children in this State.

Uttar Pradesh—There were three Mental Hospitals in Uttar Pradesh, at Agra, Bareilly, and Varanasi. The latter was reserved for criminal lunatics only. Owing to the shortage of accommodation at the first two hospitals, admission of new cases continued to be restricted. Hence the number of patients treated in out-door department were greatly increased during the year under report. There were 1,397 beds providing treatment for 1,881 in-door patients. 3,557 out-door cases were treated during the year 1958.

West Bengal—Facilities for treatment of mentally defective patients were available in 3 special hospitals with 270 beds. Besides, there was an observation ward with 30 beds in Calcutta. The State Government also maintained 862 beds in the Hospital for Mental Diseases Ranchi and Ranchi

Manasik Arogyashala, Ranchi in the State of Bihar. The Bodhi Peet Mental Hospital, in Calcutta gave training to mentally defective children. Accommodation for 75 children was available in the institution. There were also 12 beds for mental cases in Jail Hospital and in other General Hospitals in Calcutta.

Andaman and Nicobar Islands—No mental hospital was in existence in this territory. Persons suffering from mental derangements were detained in the mental observation ward inside the District Jail. 8 mental defective persons were admitted in this ward and were released as they showed improvement in their mental conditions.

Himachal Pradesh—There were no special or separate arrangements for the treatment of mental cases in this Pradesh. However, the cases, which were referred by the Medical Officers of various hospitals and dispensaries requiring special treatment, were sent to Mental Hospitals at Amritsar, Bareilly and Varanasi etc., where certain number of seats were reserved for mental patients of this Pradesh.

CHAPTER V

FAMILY PLANNING

The problem of bridging the gap between the population and resources and to improve the socio-economic standard continued to engage the attention of the Government of India. The Family Planning practices had begun to take root. The Family Planning was not conceived in the narrow sphere of conception control. It was rapidly emphasized that the term "Family Planning" was broadbased and covered the major problems that were conducive to health and happiness of the family and the community, and the family limitation being a major problem at present, emphasis was being laid on family size and family limitation. Development of family welfare services around family planning clinics was also encouraged. During the first Five Year Plan period, attempts were made to build up an active public opinion in favour of family planning and the promotion of family planning advice and service on the basis of existing knowledge. At the same time demographic as well as medical and biological studies were undertaken.

In order to give impetus to family planning programme a Central Family Planning Board was constituted and the first meeting was held in October, 1956 with the Union Minister of Health as Chairman. The Fourth meeting of the Family Planning Board was held in March, 1958 in Bombay and the subsequent meeting was held in Delhi in November, 1958. Representatives from the States were also invited to attend the meeting. A Standing Committee of the Family Planning Board was formed in 1957 with Secretary, Ministry of Health as its Chairman to scrutinise various proposals relating to family planning and to deal with other cognate matters. The Fourth meeting of the Standing Committee was held on 10th May, 1958. The Family Planning Board and the Standing Committee of the Family Planning Board made some important recommendations during the year under report, which are as follows :—

- (i) Appointment of Hon. Family Planning Education Leaders.
- (ii) Holding of Family Planning Orientation Camps.
- (iii) Employment of part-time doctors on payment of additional allowances in consultation with the Indian Medical Association.
- (iv) Appointment of Regional Family Planning Officers.
- (v) Award of prizes for the best clinics and Family Welfare Workers.
- (vi) Award of prizes for best posters, photos, cartoons etc.
- (vii) Expansion of Training Programme by starting three training centres for Family Welfare Workers, 36 Regional Training Centres and 10 additional touring training teams.

The Family Planning Programme, which has become the accredited policy of the Government of India, made substantial progress during the year under review. Family Planning Boards were formed in the States of Andhra Pradesh, Assam, Bihar, Bombay, Kerala, Madhya Pradesh, Madras, Mysore, Orissa, Punjab, Rajasthan, Uttar Pradesh, West Bengal and Himachal Pradesh. Full time Family Planning Officers were appointed in the States of Andhra Pradesh, Bihar, Bombay, Kerala, Madras, Mysore, Punjab, Rajasthan, Uttar Pradesh and West Bengal. A part-time Officer was appointed by the Delhi

Administration but after the re-organisation of medical services in Delhi, the Assistant Deputy Health Officer, Delhi Municipal Corporation was looking after the work of family planning. The Family Planning work was being supervised by the Maternity and Child Health Officers in the States of Assam, Jammu and Kashmir and Himachal Pradesh; by the Officer on special duty in Madhya Pradesh and by the Superintendent of Medical Aid for Women and Children in Orissa. In order to find out defects and difficulties in the implementation of the Family Planning Programme, the representatives from the States were invited to participate in the meetings of the Family Planning Board held in March and in November, 1958. A mutual coordination and collaboration between the States was effectively done and the Officers of the Government of India went round the States for assisting them in the implementation of the programme.

Budget Provision and Expenditure—

A provision of Rs. 497 lakhs (including 97 lakhs in the States) was made for the Family Planning in the Second Five Year Plan period. A tentative provision was made with a sum of Rs. 373.25 lakhs allotted for Family Planning services, Rs. 15.75 lakhs for training, Rs. 50.00 lakhs for education, Rs. 50.00 lakhs for research and Rs. 8.00 lakhs for the organisation. A provision of Rs. 56 lakhs was made by the Government of India for Family Planning during the year 1958-59. Besides, an amount of Rs. 2.68 lakhs was provided for Family Planning Education in the budget for 1958-59 of the Directorate of Advertising and Visual Publicity, Ministry of Information and Broadcasting. Details of amounts sanctioned during 1957 and 1958 are given below—

Description	1957		1958	
	(Rs. in lakhs)		(Rs. in lakhs)	
1. Grants sanctioned for opening and maintenance of Clinics ..	14.81		4.02	
2. Training and Education	1.87		3.22	
3. Research	6.25		3.29	
4. Organisation	0.98		0.45	
Total ..	23.91		10.98	

During the year under report, a grant of Rs. 90,000 was sanctioned to the State Governments, Rs. 61,000 to the Local Bodies and Rs. 9.08 lakhs to the Voluntary Organisations. The amounts sanctioned in various States during 1957 and 1958 are presented in Table No. 32.

Services—

The plan provided for opening of 500 clinics in the urban and 2,000 in rural areas and each clinic normally was required to serve population of 50,000 in urban and 66,000 in rural areas. As against this target 476 rural and 203 urban clinics were opened during the Second Five Year Plan period upto the end of the year 1958. The clinics opened by different organisations are shown below—

Sponsored Authorities	Clinics opened		
	Rural	Urban	Total
1. State Government	452	134	586
2. Local Bodies	—	20	20
3. Voluntary Organisations	24	49	73
Total	476	203	679

The State-wise urban and rural clinics opened during the first Five Year Plan period and during the years 1957 and 1958 are shown in Table No. 33. More family planning clinics were opened mostly as integral part of maternity and child welfare services. The main problem was the extension of family planning programme to the villages, where 82 per cent of the people live. The National Extension and Community Development Organisations were gradually covering the whole country. In rural areas the clinics were, therefore, being mainly associated with primary health centres.

As the methods of family planning in our country required to be simple, cheap, effective, harmless and acceptable, all available methods were offered explaining the limitations of each. The socio-economic pressure seemed to have asserted itself and the number of persons seeking a permanent method of control of conception was increasing. The Family Planning Board at its meeting held in March, 1958 recommended that sterilisation operation should be voluntary and should be done at the well-equipped hospitals and not at family planning clinics. The Board also recommended that the State Governments should provide all facilities for sterilization operation and it should be done after getting the written consent of both the husband and wife and should be done by well trained surgeons. The number of cases sterilised in different States during 1957 and 1958 are shown in Table No. 34.

Training—

Four courses of training each of 8 weeks' duration were conducted at the Family Planning Training and Research Centre, Bombay in 1958, in addition to two courses conducted during the year 1957. 130 persons were trained at this centre during the year 1958. Four courses each of 4 weeks' duration were conducted at Family Planning Training, Demonstration and Experimental Centres, Ramanagram and 69 persons mainly from Mysore State were trained. Short term training courses were conducted at the two Regional Training Centres at Madras and West Bengal and 529 persons were trained at these two centres. In order to augment the training facilities the State Governments were requested to start 36 Regional Training Centres in addition to six centres which were sanctioned during 1957-58. The distribution of 36 centres is presented below:—

States		Centres
1.	Andhra Pradesh	3
2.	Assam	1
3.	Bihar	4
4.	Bombay	4
5.	Kerala	3
6.	Madhya Pradesh	3
7.	Madras	3
8.	Mysore	2
9.	Orissa	1
10.	Punjab	2
11.	Rajasthan	1
12.	Uttar Pradesh	4
13.	West Bengal	3
14.	Jammu and Kashmir	1
15.	Himachal Pradesh	1
Total		36

Besides the training programme, short term training courses were also conducted in the States and 487 persons were trained. 347 persons were trained during 1958 by a touring training team consisting of a doctor and a social worker as against 128 persons in 1957. A grant of Rs. 90,000 was sanctioned in 1958 to Andhra Mahila Sabha Nursing Home and Free Dispensary, Madras for starting a training centre for family welfare workers.

Under the recommendations of the Indian Nursing Council, all the State Nurses Registration Councils and most of the schools for nurses, midwives and health visitors started giving instructions in Family Planning during the year under review.

The Medical Council of India in their meeting held on 31st October, 1958 recommended that medical students should undergo a short course of training in Family Planning during the period of their internship.

Education—

Education work is conducted mostly by personal contact, individually or in group of social workers. One lakh posters and 1.1 lakh pamphlets in English, Hindi and Gurumukhi were printed and made available to the organisation doing family planning work. Grant was sanctioned to the Government of Madras for purchase of projector. 377 slides of Family Planning were prepared and distributed to districts for screening at the cinema halls. A family planning stall was organised in the "Health Pavillion of India 1958 Exhibition". One lakh copies of folders in English and Hindi were printed for the distribution in the exhibition. Family Planning exhibitions were also organised in Mysore and Baroda during the year under report. In order to emphasize that family planning promotes community welfare and happiness in the family, community and family welfare services were developed around the clinics and all clinics in the country received central assistance to celebrate children's day on 14th November, 1958. On the recommendations of the Standing Committee, Honorary Family Planning Education Officers were appointed in the States of Bombay, Mysore, West Bengal, Uttar Pradesh and Delhi.

Research—

Research on contraceptives was carried out at the Contraceptives Testing Unit, Indian Cancer Research Centre, Bombay, All-India Institute of Hygiene and Public Health, Calcutta, Bacteriological Institute, Calcutta, Institute of Postgraduate Medical Education and Research, Calcutta and Pharmacological Department, Lucknow. Research on Meta-xylo-hydroquinone an oral contraceptive, was being carried out at the All-India Institute of Hygiene and Public Health, Calcutta.

Contraceptives were being tested at Contraceptive Testing Unit and were recommended for use in the clinics. The medical and biological research was being carried out by the Indian Council of Medical Research, New Delhi.

The second course of training was started at the Demographic and Research Centre, Bombay during 1958 and four Indians and 8 foreigners were admitted. Two Demographic Research Centres, one at the Indian Statistical Institute, Calcutta and the other at Statistical Department, Trivandrum were started during the year 1958.

CHAPTER VI

MATERNITY AND CHILD WELFARE SERVICES

The Health Survey and Development Committee, in its recommendations for the health services in the country, had given special importance to maternity and child welfare services and mentioned that priority should be given to these services to develop them as an integral part of health services of the rural areas. Administratively the services were a part of the health programme of the States. In 1948, the Union Government impressed on the States the need for strengthening the services for mothers and children. The Government of India, in the Ministry of Health, established the post of the Adviser, Maternity and Child Welfare in the Directorate General of Health Services, New Delhi in order to assist the States in establishing health services for mothers and children. The W. H. O. and UNICEF provided assistance for these services. The comprehensive maternity and child welfare projects were undertaken which aimed at—

- (i) improved and increased training of the health personnel; and
- (ii) strengthening of administration of maternity and child welfare services at State and local levels.

Table No. 35 shows maternity and child welfare centres in different States during 1958. The number of maternity centres shows a gradual increase. As a result of improved facilities for mid-wifery services, the percentage of births receiving skilled care was on the increase in the States as shown in the following table :—

States	Percentage of births received skilled care during 1958	Percentage of births received skilled care during 1957
1. Uttar Pradesh	23·29	15·09
2. Kerala	59·00	56·00
3. Punjab	32·53	†
4. Orissa	40·00	40·00
5. Rajasthan	13·90	†
6. Madras	50·00	42·00
7. Himachal Pradesh	9·00	7·00

Note :—† Information not available.

Under the Second Five Year Plan period the Maternity and Child Welfare Services became an integral part of overall health services in the rural areas. It was expected that by the end of the second plan, 2,692 primary health centres would be established and the population served by each centre would be between 60,000 to 80,000. Each primary health centre has 3 or 4 sub-centres. In each of the sub-centres there is one midwife/auxiliary nurse-midwife. At the main centre there is a medical officer and a health visitor/public health nurse, who along with their other duties would also assist the midwives in developing their work at the sub-centres.

The health visitor/public health nurse and the midwife organise and conduct ante-natal clinics, follow up women in homes in collaboration with the mid-wife or dai wherever possible. They also conduct post-natal clinics and visit the mothers in the home during the lying in period and advise them on health and hygiene and on the care of the new-born.

The indigenous dais working in the area served by the Primary Health Centres are being trained in simple techniques of asepsis and delivery by the health visitors and midwives.

Besides the services provided under the primary health centres, there are maternity and child welfare centres in urban and rural areas. The institutional services are largely concentrated in urban areas. The number of maternity beds in large maternity hospitals, hospitals associated with teaching of obstetrics in district hospitals and maternity homes and at primary health centres in the rural areas during the year 1958 was 20,314, being far too small for the country. During 1958, the number of beds per 100 births was 1.2 in urban areas and 0.06 in rural areas. The average for urban and rural areas was 0.34. However, on the basis of 1 bed per 100 births, the existing beds in the country are inadequate. The ratio of maternity beds was more than 1 bed for every 100 births during 1958 in Kerala State and in the Union Territories of Manipur, Tripura and Andaman & Nicobar Islands. Even in the States like Bombay, Delhi, West Bengal and Madras where, there is a large number of beds in urban areas, the provision was below the desirable number of beds to birth ratio. The number of live-births, maternity beds, paediatric beds and percentage of maternity and paediatric beds to live-births during the years 1957 and 1958 in different States is given in Table 36.

As a result of improved provisions for maternal care, there has been a reduction in maternal mortality and morbidity. There has also been a steady decline in infant mortality. In 1938, infant deaths were almost a quarter of total deaths of the country, whereas in 1958 they formed 18.8 per cent of total deaths indicating that in 1958 one out of every six deaths was that of an infant.

During the year under review, the maternity and child welfare services in all the States improved. The improvement was further augmented by the assistance from UNICEF providing equipment, drugs and diet supplements, and from WHO assigning technical experts for the programme.

During the Second Five Year Plan period, central assistance continued for training of 6,000 auxiliary nurse-midwives by expanding training facilities in existing schools or by establishing new schools. Upto the end of 1958, there were 146 institutions for training auxiliary nurse-midwives under the scheme and 793 students qualified and 3,675 were under training.

A centrally aided scheme for the training of health visitors to staff maternity and child welfare programme was started at health schools at Lucknow, Nagpur, Visakhapatnam, Madras, Amritsar, Hyderabad, Sirur and Calcutta and at the Lady Reading Health School, Delhi. The training courses are of $1\frac{1}{2}$ years duration for candidates, who have education of Matriculation standard and possess the Senior Certificate in Midwifery. Another integrated midwifery-cum-health visitors course of $2\frac{1}{2}$ years duration for candidates recruited directly for the training after passing the Matriculation examination. During the second Five Year Plan period it is proposed to train over 1,260 health visitors. For this purpose, the existing nine schools have been expanded and 8 new schools were established at Bareilly, Allahabad, Rajkot, Ranchi, Indore, Trivandrum, Srinagar and Bangalore. Up to the end of December, 1958, out of 1, 176 and 2,636 candidates admitted respectively to the old health visitors

and the integrated mid-wifery-cum-health visitors courses, 261 and 2,594 candidates completed their training respectively. During 1958-59, a sum of Rs. 645 lakhs was allocated to the State Governments as Centre's share of expenditure on this training programme. The number of maternity and child welfare personnel trained during 1958 in different States is shown in Table No. 37.

In 13 States, the Maternity and Child Welfare Bureaux were established, which are under the charge of qualified Officers designated as Assistant Directors of Health Services (MCH). Much progress has been made by establishing Maternity and Child Welfare Bureaux in the States, providing thereby administration and technical advice for health programmes for mothers and children at State level.

The Government of India expanded the Department of Maternity and Child Welfare at the All-India Institute of Hygiene and Public Health, Calcutta to train Medical Officers and Nurses in public health with special emphasis on maternity and child welfare. The annual admission to the course for Diploma in Maternity and Child Welfare and Diploma in Public Health Nursing was 26 (16 Indians and 10 foreigners) and 29 (19 Indians and 10 foreigners) respectively at the Institute.

It was considered that paediatric training should be provided to the Officers-in-charge of Maternity and Child Welfare Centres in the paediatric departments of medical colleges. These doctors should then, in addition to the ante-natal and obstetric services, take up combined preventive and curative paediatric care of children and attend to school health in the primary schools of the areas.

The number of maternity and child welfare personnel employed in different States during 1958 is presented in Table No. 38.

The activities of the States in respect of services and training of the maternity and child welfare programme are briefly given below—

Andhra Pradesh—The number of Maternity and Child Health Centres functioning in the State during the year 1958 was 834 (including Primary Health Centres and their Sub-centres) showing an increase in number as compared with the previous year and were provided with a total number of 520 maternity beds. The training of indigenous Dais was introduced for providing safe and clean midwifery in rural areas since 80 per cent of the rural births were used to be conducted by unskilled Dais. A total number of 1,720 Dais have so far been trained in Telangana area. The Centrally assisted programme of training of indigenous Dais under the All-India Scheme was introduced in Andhra Region during 1955-56 and extended to Telangana Region during the year 1958. In the State of Andhra Pradesh, 634 Dais were trained during the year 1958 making a total of 2,755 by the end of the year. 58 candidates were under training of Health Visitors in the Integrated Midwifery-cum-Health Visitor Course with the Government of India's assistance during the year under report. 16 Health Visitors underwent for the refresher course with UNICEF assistance in the Method of Training Dais.

Bihar—There were 2 schools to train Lady Health Visitors at Patna and Ranchi and 4 Schools to train Auxiliary-Nurse-Midwives at Gaya, Bettiah, Ranchi and Darbhanga. There were also 28 Dai Training Centres to train 375 Dais in one month's course. 108 Dais were working during the year 1958.

Bombay—There were three Maternity & Child Health Projects with an Assistant Director of Public Health in-charge of each Maternity and Child Health Project. 28 Primary Health Centres of the Government of India pattern, each serving about 60,000 population were opened in Community Development Blocks, bringing the total to 296 including Maternity and Child Health Centres. The Maternity and Child Health Centres continued to function satisfactorily. The UNICEF continued to supply free of charge drugs and diet supplements to the existing Maternity and Child Health Centres. The Nurse-Midwives and Health Visitors supervised the work of midwives, besides training Dais and conducting domiciliary and institutional midwifery.

Jammu and Kashmir—There were 2 training centres attached to the Central Hospital, where Nurses, Midwives etc., were being trained. For staffing of Maternity and Child Health and Maternity Clinics, the services of Lady Health Visitors were in great demand and a Lady Health Visitors Training School was established in Srinagar during 1958.

Kerala—76 Maternity and Child Welfare Centres were functioning in the State and 9 Centres were opened. The total number of Midwifery Centres was 642 of which 120 were receiving UNICEF aid in the form of equipment and drugs during the year 1958. Domiciliary work formed an important part of the activities of these Centres. Milk and rice distribution to deserving children, expectant and nursing mothers were also continued.

Madras—The Maternity and Child Welfare work was being done through institutional treatment in Government Hospitals and in Primary Health Centres. Several Maternity and Child Welfare Centres were run either by Social Welfare Organisations or District Boards or Panchayats or by the Extension Services. Domiciliary Midwifery Services in villages were augmented during the year under report. Dais were being trained at the Primary Health Centres in the Districts by the Health Visitors. The UNICEF supplied necessary teaching equipment for the various training schools in the State. Necessary teaching staff etc., were provided by the W.H.O. both in the field of pædiatric and integration of Public Health Nursing during the year 1958.

Madhya Pradesh—The total number of urban and rural maternity and child welfare centres in the State was 97 with the establishment of Primary Health Centres in National Extension Services and Community Development Blocks. Every attempt had been made to convert Maternity and Child Welfare Centres into Primary Health Centres by providing suitable staff. During 1958, a scheme for establishment of 1,000 Matri Grihas in Block areas was sanctioned by the State Government. During the year under review, 65 such Matri Grihas were opened in the State.

Orissa—There were 3 Maternity Homes, 34 Maternity and Child Welfare Centres and 30 Maternity Centres functioning during the year under report. 24 in Maternity and Child Welfare Centres received milk powder, drugs and diet supplements from the UNICEF. 19 candidates were deputed for training in Health Visitor's Course at the Lady Reading Health School, Delhi. 13 candidates deputed in the previous year, completed the course successfully and were employed. Three Auxiliary-Nurse-Midwives training classes functioned during

the year 1958. The training of Midwives was discontinued. There were 23 Dais Training Centres, including 2 newly opened, with a provision for training of 136 candidates. By the end of 1958, the number of Health Visitors, Nurses, Midwives and Dais registered by the Orissa Nurses and Midwives Council were 21, 358, 272 and 352 respectively.

Punjab—There were 317 Maternity and Child Welfare Centres in the State of which 217 in rural and 100 in urban areas were functioning. The Maternity and Child Health Services were considerably augmented both in quality and quantity during the year under report. 1,021 maternity beds and 123 pædiatric beds were catering the services in Government and Private Maternity and Child Health Institutions. Training of Indigenous Dais, Midwives, Auxiliary Nurse-Midwives and Health Visitors continued. Family Planning work was also conducted at the Maternity and Child Health Centres and Primary Health Units as an integral part of Maternity and Child Health Services. The Lady Health Visitors also performed primary and re-vaccinations to infants and mothers, who attended the Centres. To all these Maternity and Child Health Centres, UNICEF medicines and equipment were regularly provided.

Rajasthan—There were 65 Maternity and Child Welfare Centres in Rajasthan State in 1958. In order to give integrated services to mothers and children, Maternity and Child Welfare wing had been added to Primary Health Centres situated in rural areas. Steps were, however, being taken to staff these centres with midwives who were trained in the State at 6 training centres. Confinements were conducted both at the centres and at patients' Home by trained staff. As about 85 per cent of the total birth of the State take place in rural areas, efforts were made to train the indigenous Dais who conduct these cases in patients homes.

Uttar Pradesh—The services for mothers and children were stepped up by the establishment of Primary Health Centres in which the Maternity and Child Health staff consisted of 4 Midwives and one Health Visitor in each. The number of new rural Maternity and Child Health Centres were increased by 150 bringing the total to 900 by the end of the year. 2 posts of Regional Officers were created for supervision of expanding services. The old established scheme for training domiciliary workers for midwifery alone was replaced by training Auxiliary-Nurse-Midwives who would be able to advise people in the field of general health as well as midwifery. A scheme for distributing milk for three weeks before and three weeks after confinement to expectant nursing mother was in operation in Maternity and Child Welfare Centres in villages of 11 districts. Skimmed milk powder donated by UNICEF was distributed additionally to some 20,700 beneficiaries each month all over the State. 72 candidates qualified in Health Visitors' Course during the year and 70 out of 97 qualified in Midwifery/Auxiliary-Nurse Midwives category. Three Health Visitors Training School and 12 Auxiliary-Nurse-Midwives Schools were functioning during the year under report.

West Bengal—The Maternity and Child Health Services were made available to mothers and children all over the State through various institutions run by Government, Government aided and Non-Government Organisations. 4,116 maternal health services, beds were available in these institutions. During the Second Five Year Plan, an integrated scheme to open

102 Maternity and Child Health Centres was taken up. 23 Maternity and Child Health Centres were opened during the year 1958. Under UNICEF assistance almost all Maternity and Child Welfare Centres were supplied with equipment, drugs and diet supplements. Various facilities for training personnel, including 2 centres, viz. one in Calcutta and the other in Singur, for Lady Health Visitors training were available. Arrangements for Midwifery Training to Sevikas under the Centrally sponsored scheme were in progress.

Delhi—There were 53 Maternity and Child Welfare Centres and 17 Sub-Centres under Municipal Corporation of Delhi. Each Centre was looked after by a Lady Health Visitor under the supervision of qualified Doctors. Anti-natal mothers were examined here and they were followed up in home by Health Visitors. Confinements were conducted in homes and were supervised by the Health Visitors. During 1958, a Sub-Centre with a Dai was started at Azadpur. Dais were trained in various Centres by Health Visitors.

Tripura—A Maternity and Child Welfare Centre, which was opened during the First Five Year Plan period in the V.M. Hospital, Agartala, continued to function during the period under report. Arrangements of maternity beds in Sub-Divisional Hospital and Primary Health Centres were continued. Domiciliary visits were paid to patients from the Sub-Centres attached to the Primary Health Centres.

Pondicherry—The existing three Maternity and Child Welfare Centres in rural areas were functioning well. The number of patients attending the clinics were on the increase. The home visits, pre-natal and post-natal cases continued regularly all over the territory.

CHAPTER VII

NURSING GENERAL

Towards the development of nursing services in the country, provision for increasing the facilities for training and the standard of nursing education was felt to be of paramount importance, the norms aimed at, for the present being one nurse and one midwife for every 5,000 population. After independence the nursing services made a good progress. Although there is still shortage of trained personnel, a general improvement in Nursing in India took place during the year under report. There were 28,049 registered general nurses, 33,208 midwives, 1,056 auxiliary nurse midwives and 1,131 health visitors during the year under report as compared to 26,470, 31,412, 939 and 587 respectively during 1957. 659 schools for training of the nursing personnel were functioning of which 8 new schools for midwives, 43 for auxiliary nurse midwives and 3 for health visitors started functioning during the year under report. A large number of better educated students were available and the number of applicants for training was larger than the actual number of seats available in the schools. There was some increase in the number of nursing staff for administrative and teaching purposes and also for bed side care of patients. The W.H.O. and T.C.M. continued to provide nursing experts for development of nursing services and education in the various States viz., Delhi, Madras, Uttar Pradesh, West Bengal, Punjab, Rajasthan, Andhra Pradesh, Bihar, Mysore and Bombay. A programme for increase of public health in basic course in nursing was started at 19 of the selected nursing schools of the country with financial assistance from Central Government. It may be mentioned here that during the Second Five Year Plan period a provision of Rs. 6 crores was made for training of para-medical personnel. Four short term refresher courses were also held for trained nurses. An International Seminar of auxiliary nursing services organised by W.H.O. was held in Delhi. 12 nurses were deputed abroad on scholarships for higher nursing education during the period covered by this report. 2,142 students qualified in general nursing and 2,594 in midwifery, 793 in auxiliary nurse midwifery, 261 in health visitors during 1958, whereas 9,807 students in general nursing, 2,636 students in midwives and midwifery course for trained nurses, 3,675 students in auxiliary nurse midwifery and 1,106 students in health visitors were under training during the year under report. Two new councils Mahakoshal and Bombay were re-constituted in Madhya Pradesh and Bombay States respectively, during the year covered by this report.

COLLEGE OF NURSING, NEW DELHI

The B.Sc. degree in nursing course and post-certificate course for Ward Sisters, Midwife Tutors and in Nursing Administration continued to be held at the College of Nursing, New Delhi. 35 nurses and other teachers worked on college staff. 25 students passed B. Sc. (Hons.) in Nursing Final Examination and 30 students were admitted to B. Sc. (Hons.) Course. In Post-Certificate Course 35 students qualified and 57 were admitted. In all 98 students for B.Sc. (Hons.) in Nursing and 57 for Post-Certificate Course were studying in the college during the year under report. These students came from all over India.

The college was accommodated in temporary hutments. The hospitals in Delhi and New Delhi were used as practical fields for students of the college. The services of the Child Guidance Clinic were available to the public and a large number of cases were referred to the clinic.

INDIAN NURSING COUNCIL

The newly amended Indian Nursing Council Act was enforced in December, 1958 and the Council was reconstituted during the year under report. Preliminary work in connection with the temporary registration of non-Indian nurses and compilation of Indian Nurses Register was taken in hand during 1958. A Survey of a number of applicants for admission and the actual number of admissions to nursing courses in various parts of India was made by the Council so as to determine whether a sufficient number of candidates were available for training.

An agreement between Indian Nursing Council and the General Council of England and Wales for reciprocal recognition of nursing qualifications was finalised. The W.H.O. agreed to assign a nursing expert for formulating a curriculum guide for the syllabi prescribed by the Indian Nursing Council. Table No. 39 shows the number of training schools for different categories of nursing personnel, the students under training and the number qualified during the years 1957 and 1958. The registered nursing personnel are also indicated in the same table.

STATES' ACTIVITIES

Continued efforts were made to improve the working conditions of Nursing Services. The conditions of nursing in different States and Union Territories are highlighted below:—

Assam—Efforts were made to meet the shortage of trained nurses by opening new training schools in the State and offering attractive conditions of service, etc. More hostel accommodation was available for nursing staff. There was no shortage of candidates for admission to nursing courses. Some nurses were deputed for higher nursing education. The nurse bed ratio was 1:7 during 1958.

Bihar—There was a shortage of nurses and many posts could not be filled despite efforts to recruit from all over India. The proposal to form a nursing service was pursued progressively during the year under report. Accommodation for students and staff in schools for Auxiliary-Nurse-Midwives and Lady Health Visitors was not adequate. There was no dearth of applicants for training. One nurse was sent to Australia for training in Operation Theatre Technique under Colombo Plan fellowship. Expenditure on nursing services in the State amounted to Rs. 4,27,852/- as against a budget provision of Rs. 4,58,127/- during the year under report. The nurse population ratio was 1 : 48,500 and nurse bed ratio was 1 : 9. It may be mentioned here that as norms to aim at there should be one nurse and one midwife for every 5,000 population.

Jammu and Kashmir—The shortage of nurses persisted during the year under report. Some posts of staff nurses and midwives remained vacant.

Kerala—The number of staff nurses was 1,368 in 1958 as against 986 in 1957. There was, however, shortage of staff nurses as nearly 188 posts were vacant at the end of the year.

Madhya Pradesh—There was a great shortage of qualified nurses, especially of sisters, staff nurses, midwives, public health nurses and health visitors. Twelve new Auxiliary Nurse-Midwives Schools with 260 seats were started during the year under report and courses for Class II health visitors and working nurses and midwives were altogether abolished. The number of admissions to the existing schools was also increased. New hostels for nurses were completed at Ratlam and Ujjain and extensions to the hostels at Indore, Gwalior, Jabalpur and Raipur were under construction. Efforts were made to have improved standard of nursing training and better nursing services. With the appointment of a W.H.O. Nursing Adviser in the State, in addition to two nursing officers, a survey for improving nursing education and services started. Four nurses were deputed for Post Certificate Courses at the College of Nursing, New Delhi, and 3 for Public Health Nursing Course at the All India Institute of Hygiene and Public Health, Calcutta. Two nurses were sent abroad under T.C.M. Fellowships—one for M.Sc. (Nursing) and the other for B.Sc. (Nursing) during the year under report. The nurse population ratio was 1 : 19,532 and nurse bed ratio was 1:10 during 1958.

Madras—A shortage of nurses persisted. The creation of a post of Superintendent of Nursing Services was under consideration. Sufficient number of applicants for nursing training was available. Four nurses were sent to the All India Institute of Mental Health, Bangalore for the Post-Certificate Course in Psychiatric Nursing. Three existing Nursing Schools started training in Auxiliary Nurse-Midwives. The nurse bed ratio was 1 : 6 during the year under report.

Mysore—Shortage of trained nurses persisted, though better and improved scales of pay were offered. Two new schools of nursing were sanctioned but could not be started during the year under report for want of staff. Hostel accommodation for nursing staff was not quite adequate and proposals for having new quarters were under consideration. A post of Superintendent of Nursing Services was created during the year 1958. There was one nurse to every 29,620 of population and the ratio between nurses and hospital beds was 1 : 18.

Orissa—The training programme was stepped up to meet the shortage of nurses in the State. Three new training schools for Auxiliary Nurse Midwifery started functioning during 1958. The construction of nurses hostels for the S.C.B. Medical College Hospital and the District Headquarters Hospital, Bari-pada at a cost of Rs. 3,27,900/- and Rs. 68,500/- respectively was in progress. The pay scales of nurses was enhanced. The number of seats in nursing schools increased during 1958. The ratio between nurses and population was 1 : 43,000 and between nurses and beds was 1 : 15.

Punjab—The position of nursing was substantially the same as in 1957 except that some improvement was noticeable in the provision of nursing care to patients. The ratio between nurses and hospital beds was 1 : 6 as against 1 : 8 in 1957. The ratio between nurses and population was 1 : 7,553 as against 1 : 8,166 in 1957.

Rajasthan—No fresh measures were adopted for the development of nursing services. The shortage of nurses persisted. Considerable budget provision was made for construction of hostels for nurses and student nurses. There was one nurse for 31,000 of population and the ratio between the nurses and hospital beds was 1 : 14.

Uttar Pradesh—Regular Government Nursing Scheme was functioning in 33 hospitals and institutions and was extended to 2 hospitals during the year under report. Partial nursing scheme was in operation in 59 hospitals in the State. 13 Police Hospitals had Government Nurses. There was some shortage of nurses but on the whole the nursing services were satisfactory. Every effort was made to attract suitable candidates to the nursing profession to mitigate the shortage. Hostel accommodation was not sufficient due to all round expansion in medical activities. Nurses were not provided with free accommodation but they were given house rent allowances. Five nurses were deputed for post-certificate courses at the College of Nursing, New Delhi. One Nurse was sent on a Colombo Plan Fellowship to Australia and returned after completing a course in Nursing Administration. The expenditure on nursing services amounted to Rs. 25,49,300/-, excluding a sum of Rs. 4,63,900/- which was spent during the year on extension of nursing to District and Women's Hospitals and on training of nurses. The nurse population ratio was 1 : 52,909 and nurse bed ratio was 1 : 12 during 1958.

West Bengal—The scheme sanctioned by the West Bengal Government for setting up of a Nursing Service was implemented during the year under report. A total of about 3,000 nursing posts were created giving a ratio of one nurse to five beds. Although recruitment was intensified, all the posts were not filled by the end of the year under report for want of qualified candidates. The service contains a pool of specialists. All nurses in the pool are given a qualification pay of Rs. 15/- p.m. All posts have been made pensionable and the training period is counted towards service for pension. Consequently, the service has become very attractive and the Assistant Director of Health Services (Nursing) received more applications for admission to nursing schools than she could cope with. Two Deputy Assistant Directors of Health Services (Nursing) were appointed to assist the Assistant Director of Health Services (Nursing) in her training and administrative work. New hostels were built at Hooghly and Burdwan. 9 Auxiliary Nurse Midwifery training centres were opened during the year under report. Construction of nurses hostels was sanctioned and started for 9 hospitals in the various districts of the State. A short course for orientating trained nurses in rural public health was organised with the help of the W.H.O. Nurse and continued to meet the needs of Public Health Nurses for the Primary Health Centres.

During 1958, ten students were deputed for B.Sc. (Hons.) in Nursing Course and 5 for post-certificate courses at the College of Nursing, New Delhi. Six returned after acquiring B.Sc. (Hons.) in nursing degree of the Delhi University. Eight nurses attended a refresher course on "Integration of Public Health with the basic course in Nursing" and one nurse was sent for public health course at the All India Institute of Hygiene and Public Health, Calcutta, returned after passing the course. Three nurses were deputed for the same course during the year under report. Three nurses went to England at their own expense for training in plastic surgery. One nurse returned to the service during the year under report after doing that course in England. A post of Assistant Registrar was created during the year 1958 for the West Bengal Nursing Council.

The expenditure incurred on the nursing services amounted to Rs. 6,13,170/- during the year 1958. A further sum of Rs. 2,80,719/- was spent for improvement

of nursing services in the State. The ratio between the nurses and population was 1 : 6,816 and between nurses and hospital beds 1 : 12·14.

Delhi—There was a less shortage of trained nurses during 1958. Sufficient accommodation was available. Married Nurses were given house rent allowance for staying outside. No shortage of suitable candidates for nursing training was noticed. The nurse population ratio was 1 : 6,000 and nurse bed ratio was 1 : 4.

Himachal Pradesh—The shortage of nurses persisted due to very hard living conditions and lack of civil amenities in rural areas. Efforts were made to overcome the shortage by increasing the number of seats in schools and by offering better conditions of service to trained nurses. Free furnished accommodation or house rent allowance was granted. Nursing profession is becoming more popular and more candidates were available for training. One health school was opened. One student was sent for the B.Sc. (Nursing) Course to the College of Nursing, New Delhi. Two nurses were sent for Refresher Courses. The nurse population ratio was 1 : 25,802 and nurse bed ratio was 1 : 7.

Manipur—There was no improvement in the nursing services. The proposal to train nurses in the territory did not materialise owing to lack of accommodation. Of the 22 sanctioned posts of staff nurse, 16 were filled and of 74 midwives posts, 36 were filled at the end of the year. The nurse population ratio was 1 : 6,500 and nurse bed ratio was 1 : 2.

Tripura—There was a shortage of trained nursing staff as there was no training centre for nurses in this Union territory. Sufficient number of Auxiliary Nurse-Midwives were not available to fill all the sanctioned posts. 19 of the 33 sanctioned posts were vacant.

Andaman and Nicobar Islands—Hospitals were understaffed in so far as nurses were concerned. There was, however, improvement in the nursing services as more nurses were in service during the year 1958 than in the previous year. Free unfurnished accommodation was adequately available. Girls are sent to West Bengal and Madras for Nurses and Health Visitors training. There are no training facilities in the Islands. Nurses, include Junior Nurse, who were given preliminary training locally and employed as nurses. The ratio between nurses and population was 1 : 2,353 and nurses and hospital beds was 1 : 7.

Laccadive, Amindivi and Minicoy Islands—There was no change in the nursing services during the year 1958. The Islands had only 8 midwives as in 1957.

CHAPTER VIII

MEDICAL EDUCATION AND REGISTRATION

In the field of medical education and its contribution towards the rapid rise in the standard of health of the nation, the problems envisaged such as the medical man power requirement for the country, and the optimum number of medical colleges, the training of various types of medical personnel for needs of the country, the medium of instruction and post-graduate training and research on an all India basis, the year 1958 was notable to have given a march forward to give a lead to the country. The number of Teaching and Research Institutions at the end of 1958 was 113 of which 20 research institutions, 33 post-graduate institutions, 7 dental and 2 nursing colleges were functioning.

The number of medical colleges increased from 30 in 1951 to 51 in 1958. This compared favourably with the Second Five Year Plan period (1956—61) target. A list of Medical Colleges with relevant particulars is given in Table No. 40 and the number of registered Medical Practitioners in the State together with the mid-year estimated population is given in Table No. 41. During the early period of the Second Five Year Plan there were about 70,000 qualified doctors in India. It was envisaged that the number of doctors needed during the Plan period would be about 90,000. In order to fill up the gap, a rapid expansion of medical education was considered essential. Priority was given by the Union Government for the expansion of the existing colleges and for up-grading certain departments of medical institutions as the new medical colleges would take sometime to function fully. The Second Five Year Plan provided about Rs. 20 crores for the expansion of the medical colleges and the attached hospitals, establishment of preventive medicine and psychiatric departments in medical colleges, completion of the All-India Institute of Medical Sciences, New Delhi and the scheme for up-grading certain departments of existing medical colleges for post-graduate training and research. Although the scheme for up-grading certain departments of medical colleges and research institutions was started in 1948, only 12 departments in various institutions have so far been up-graded and facilities were provided for training in the courses like D.G.O., M.D. (Midwifery), M.S. (Gynaecology), D.V., M.Sc. and Physical Anatomy, B.R., C.R.A. & D.R.A. etc. A total number of candidates to whom all the facilities offered in these up-graded departments during 1958-59 was 89 as against 78 during 1957-58. During the year under review the number of candidates who availed of the facilities offered in these up-graded departments for training in different courses were 23 in D.G.O., 12 in D.C.H., 6 in M.D. (Midwifery), 2 in M.S. (Gynaecology) and 10 in D.M.P., 3 in D.V., 6 in D.R., 2 in Anatomy, 12 in D.P.M., 4 in M.D. (Pathology and Bacteriology), 2 in Cancer, 2 in D.T.D., 2 in Research in T.B. and 3 in Thoracic Surgery.

A provision of Rs. 6 lakhs was available for 1958-59 out of a total provision of Rs. 25 lakhs earmarked in the Second Five Year Plan for the scheme. In order to fit the doctors for teaching and research work, selected doctors were awarded stipends from this fund by the Government of India at the rate of Rs. 150 to Rs. 250 per month depending on the qualifications of the scholar

and the subjects selected. During the year 1958-59 about Rs. 2.18 lakhs were sanctioned for payment of stipend to students admitted to such up-graded institutions. Social and preventive medicine has lately been introduced in the medical college curriculum. During the First Five Year Plan period the departments of social and preventive medicine were established in 8 medical colleges, viz., Nagpur, Dibrugarh, Visakhapatnam, Trivandrum, Gwalior and Laherisarai with central assistance. In the Second Five Year Plan, Rs. 25 lakhs were provided for the scheme. 50 per cent of the total expenditure subject to certain ceilings, incurred on the department of social and preventive medicine was paid by the Government of India to the State Governments as grant-in-aid and in 1958-59, a provision of Rs. 7.5 lakhs was earmarked for payment of grants to the State Governments for the scheme. Six medical colleges at Calcutta, Cuttack, Lucknow, Guntur, Amritsar and Patiala were approved for establishment of such departments with central assistance during the end of 1958 of the Second Five Year Plan period. For implementation of the scheme W.H.O. assisted by providing their Professors of Social and Preventive Medicine to be assigned to the Medical Colleges approved by the Government of India. During the year 1958 the W.H.O. Experts were engaged in Medical Colleges of Dibrugarh and Nagpur.

Towards the creation of better preventive and curative services in the country provision of necessary medical education to increase output of doctors and para-medical personnel was of great importance. 51 medical colleges were functioning all over India during 1958. The total number of students admitted in the under-graduate course in different States were 4,554. Three medical colleges, viz., Maulana Azad Medical College at Delhi, Medical College, Kakinada (Andhra Pradesh) and Tanjore Medical College, Tanjore (Madras) were opened during 1958. The Maulana Azad Medical College, Delhi started functioning from the academic year 1958-59 with 60 students. A certain number of seats were reserved for persons belonging to Union Territories. The Government Headquarters Hospital, Kakinada was up-graded by the Government of Andhra Pradesh to serve the hospital for teaching purposes with 400 beds. The college began functioning during the year with 110 students. The Medical Education Society re-named this college as Sri Rangaraya Memorial Medical College, Kakinada. Out of 51 medical colleges in India, 17 were originally founded as medical schools, which were later on up-graded, as the standard of instructions for the medical schools was far below that of colleges. The schools trained L.M.P., while colleges trained M.B.B.S. It had long been agreed that medical schools should be abolished or up-graded and there should be only one qualification of University standard. The number of annual admissions reached the target of 4,500.

A Planning Committee was established to plan the medical man-power requirement of the country and to regulate the establishment of new medical colleges and expansion of the existing ones. The number of doctors at the end of the year under review was nearly 77,000 for a population of 369 millions. 99 candidates proceeded to Canada, U.K., Australia, U.S.A., Egypt and U.S.S.R. on fellowships offered by the International agencies on various specialised medical and allied subjects for studies, which were either not easily available in India or in which standard of training was better in those countries than in India.

MEDICAL COUNCIL OF INDIA, NEW DELHI

The Medical Council of India New Delhi is responsible with (i) the establishment of a uniform minimum standard of higher education in medicine for all the provinces and (ii) recognition of medical qualifications in States and countries outside India.

With the enactment of amendment to the Indian Medical Council Act, 1956, which came into force from 1st November, 1958, the Indian Medical Council Act, 1933 was repealed with a saving clause that the Medical Council of India as constituted immediately before the commencement of the (Amendment) Act shall continue to function as before. In view of the fact that the age of admission varied from University to University and some candidates were put to a disadvantage and further in order to maintain uniformity, the council proposed an amendment to the recommendations on professional education in regard to the age of admission to a medical college. It suggested that the candidate should have completed 17 years of age on the 1st October of the year of admission and the Universities were requested to adopt this practice. During the year 1958 no change was made in regard to the preliminary educational qualifications required for admission to the medical degree course. The following qualifications were included in the Schedule I and II during the year 1958.

Schedule I

M.B.B.S. (Karnatak)	..	..	Karnatak University.
M.Sc. (Medical Pharmacology)	..	..	Rajputana University.
D.L.O. (Diploma in Laryngology and Otology).	..	..	Andhra University.
D.V.D. (Diploma in Venereal Diseases)	..	..	Do.
M.S. (Master of Surgery, General Surgery)	..	..	Do.
M.B.B.S. (Medicine & Surgery)	..	..	University of Rajasthan.
M.D. (Medicine & Therapeutics)	..	..	Do.
M.S. (General Surgery)	..	..	Do.
M.Sc. (Physiology)	..	..	Do.
M.B.B.S. (Osmania)	..	..	University of Osmania.
M.B.B.S. (Mysore)	..	..	University of Mysore.

Schedule II

"Medicine de Ecole De Pondicherry (Diploma)"

The following qualifications were deleted from the schedule during the year 1958 and instead of included in the 1st Schedule in view of the enforcement of I.M.C. Act, 1956.

Rajasthan

(1) Rajputana University	..	..	M.B.B.S. Medicine and Surgery.
			M.D. (Medicine & Therapeutics).
			M.D. (Pathology & Bacteriology).
			M.S. (General Surgery).
			M.Sc. (Physiology).
			M.Sc. (Pharmacology).

(2) University of Rajasthan	M.B.B.S. Medicine & Surgery M.D. (Medicine & Therapeutics). M.D. (Pathology & Bacteriology). M.S. (General Surgery). M.Sc. (Physiology).
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Kerala

(1) Travancore University	M.B.B.S. (Bachelor of Medicine and Bachelor of Surgery).
(2) University of Kerala	M.B.B.S. (Bachelor of Medicine and Bachelor of Surgery).
University of Osmania	M.B.B.S. (Osmania).
University of Mysore	M.B.B.S. (Mysore).

The Council appointed a sub-committee for the preparation of a draft syllabus in social and preventive medicine. There being no curriculum for study of occupational health in M.B.B.S. course, the council decided that the subject of occupational health should be taken under the syllabus of social and preventive medicine. The Council also recommended that medical students should undergo a short course of training in family planning during the period of internship which they were required to spend in health unit for participation in practical public health administration.

Inspections and Visitations

The Council carried out the periodical inspections in respect of the undergraduate courses in Rajputana University, Vikram University, Punjab University, Bihar University, M.M.F. (West Bengal), Osmania University and Guntur Medical College affiliated to Andhra University. During the year, the Council Visitors carried out inspections at Medical College, Trivandrum and Medical College, Kurnool (S.V. University of Tirupathi). Inspection of examination and facilities for teaching in certain branches of post-graduate qualifications granted by the University of Lucknow, Punjab, Bihar, Gujarat, Bombay, Poona, Agra, Baroda, Andhra and Vikram had been carried out during the year under review as follows:—

1. Agra University	(i) D.C.H. (ii) D.O.M.S.
2. Andhra University	(i) M.S. (E.N.T.). (ii) M.D. (Pharmacology and Therapeutics). (iii) M.D. (Pathology and Bacteriology).
3. Baroda University	(i) M.Sc. (Physiology). (ii) M.D. (Pathology). (iii) M.D. (Medicine). (iv) M.S. (Surgery). (v) D.L.O.

4. Bihar University	(i) M.D. (Medicine). (ii) M.D. (Pædiatrics). (iii) M.D. (Midwifery). (iv) M.S. (Midwifery). (v) M.S. (E.N.T.). (vi) M.S. (Ophthalmology). (vii) M.S. (Surgery). (viii) M.S. (Anæsthesia).
5. Bombay University	(i) M.Sc. (Medical Physiology). (ii) M.S. (Orthopædics).
6. Lucknow University	(i) Diploma in Orthopædics. (ii) D.T.D.
7. Gujarat University	(i) M.D. (Pædiatrics). (ii) M.D. (Pathology).
8. Punjab University	(i) M.D. (Pharmacology). (ii) M.S. (Obstetrics and Gynaecology).
9. Poona University	(i) M.S. (General Surgery). (ii) M.D. (Medicine). (iii) M.D. (Pharmacology). (iv) M.D. (Pathology).
10. Vikram University	(i) M.S. (Anatomy). (ii) M.S. (Surgery). (iii) M.S. (Midwifery). (iv) M.S. (Ophthalmology). (v) M.D. (Physiology). (vi) M.D. (Medicine). (vii) M.D. (Pharmacology). (viii) M.D. (Pathology). (ix) D.C.H. (x) D.M.R.E. (xi) T.D.D.

Post-graduate Re-inspections

In 1958, re-inspections were carried out of the following Universities for the qualifications noted against each—

1. Calcutta University	D.M.C.W.
2. Poona University	(i) M.D. (Pathology). (ii) M.D. (Medicine). (iii) M.S. (Surgery).
3. Rajasthan University	M.S. (Ophthalmology).
4. Andhra University	M.S. (Ophthalmology).
5. Gujarat University	(i) M.S. (General Surgery). (ii) M.S. (Ophthalmology).
6. Lucknow University	M.S. (E.N.T.).

Reciprocity

The question of recognition of the qualifications of the Speciality Boards in U.S.A. and Canada continued to receive the attention of the Council. During the year under review, the Council accepted the recommendations of the Executive Committee to recognise the American Medical qualifications on individual merits until 1960 under the Council's special resolutions. It reiterated that the certificates awarded by the Speciality Boards in U.S.A. and Canada could not be considered as equivalent to M.D. or M.S. degree of Indian Universities.

On the recommendations of the Council, the Government of India agreed to include M.D. or B.S. & M.S. qualifications granted by the University of Melbourne (Victoria) in Schedule II to the Act, in view of the fact that the Medical Board of Victoria had agreed to a mutual recognition of medical qualifications on direct basis between the two countries Victoria and India. Also on the recommendations of the Council, the General Medical Council accorded recognition to the M.C. P.S., Bombay after 30th April, 1944 in respect of persons who had under-gone a course of study at the Grant Medical College, Seth G.S. Medical College and T.N. Medical College, Bombay.

Regarding exemption of foreign experts from the provision of Section 32(i) of the Bombay Medical Practitioners Act, 1938, the Council during the year under review opined that the experts holding non-schedule medical qualifications could not be allowed registration for personal gains.

During the year 1958, the Council renewed the term of (i) under-graduate medical education committee, (ii) Post-graduate Medical Education Committee, (iii) Post-graduate Specialists Sub-Committee, and (iv) Penal and Ethical Committee for another five years.

In addition to the activities of the Central Government and of the Medical Council of India towards expansion of the medical education in the country, the activities of the State Governments in this behalf deserved no less consideration. The activities of the State Governments during the year under review are detailed below—

Andhra Pradesh—Six medical colleges were functioning during the year under report. This included the Kakinda Medical College, which was opened during 1958 and was affiliated to the University of Andhra having an admission capacity of 99 male students and 11 female students. At the Andhra Medical College, Visakhapatnam, 31 students qualified in various post-graduate courses. Out of 83 students admitted to the Sanitary Inspectors course, 68 came out successful during the year 1958.

Assam—One medical college at Dibrugarh was imparting medical education in the State. 100 students were admitted of which 87 were male and 13 female students during 1958.

Bihar—There were three medical colleges functioning in Bihar during the year under report. 100 students took admission in the Prince of Wales Medical College Patna, 72 in Darbhanga Medical College and 50 in Medical College, Ranchi. 83 male students and 17 female students were admitted to the Prince of Wales Medical College, Patna, 56 male students and 16 female students to the Darbhanga Medical College and 42 male students and 8 female

students to the Ranchi Medical College. The hospitals attached to Medical Colleges of Patna and Darbhanga provided training facilities for nurses also. There were two centres one each at Ranchi and Patna for training of lady health visitors, auxiliary nurses, midwives and dais.

Bombay—During 1958 according to available information the State of Bombay had nine medical colleges. The Topiwala Medical College and Seth Gordhan Dass Sundar Dass Medical College were under the control of the Municipal Corporation. 758 students got admission to different medical colleges and 550 students finally qualified for M.B.B.S. degree during 1958.

As regards the post-graduate training, four Medical Officers were deputed for D.T.D. and T.D.D. courses at Delhi and Madras Universities. One Medical Officer was deputed for D.T.M. and H course at Calcutta. Two Medical Officers were sent abroad on fellowship programmes for training in different fields.

Kerala—Two medical colleges were functioning during 1958. The number of students admitted and qualified was 179 and 81 respectively. The ratio of students to bed strength in the State was 1:1.8 and that of teachers to students 1:5.

Madhya Pradesh—There were four medical colleges in the State which provided M.B.B.S. degree courses. The total number of admissions during 1958 was 375 as against 350 in 1957. The Medical Colleges at Jubbalpur and at Bhopal had not reached the final M.B.B.S. stage whereas the Indore and Gwalior Medical Colleges produced 121 medical graduates during the year under report. Facilities for post-graduate courses existed for M.D., M.S., D.C.H. and D.O.M.S., D.M.R.E. at Indore and Gwalior Medical Colleges. During 1958 the University of Vikram approved for starting diploma course in Gynaecology in the Medical College, Gwalior. Regarding the training of para-medical personnel, Sanitary Inspectors training was conducted at G.R. Medical College, Gwalior and Gandhi Memorial Hospital Rewa with 40 and 25 seats respectively. Besides, the Government of Bombay also reserved 10 seats for Sanitary Inspectors training at Public Health Institute, Nagpur for nominees of this State. Four teaching institutions with 95 teaching staff and with 951 teaching beds for 530 students on the rolls were available. Efforts were made to equip the medical colleges with highly qualified teachers and for this purpose four doctors for different subjects were on deputation abroad under different fellowships.

Madras—The availability of the trained personnel being the key to the efficient operation and extension of health services it was considered necessary to open during the Second Five Year Plan period more medical colleges in the State with attached teaching hospitals. Accordingly the opening of a medical college at Tanjore with 75 admissions annually at an estimated cost of Rs. 125/- lakhs was approved in 1958. There were already 4 medical colleges functioning and 398 students were admitted in the M.B.B.S. course during 1958 and 320 students came out to be qualified. During the year post-graduate courses of Diploma in Anaesthesia, Diploma in Orthopaedics and Diploma in Clinical Pathology were introduced in the Madras Medical College. Also the Departments

of Pædiatrics and Radiology of the Madras Medical College were upgraded with the assistance of the Government of India and are now called the Institute of Pædiatrics and Barnard Institute of Radiology.

Mysore—At the beginning of the year, four medical colleges were functioning of which two were controlled by the State Government. The Medical College, Mysore was taken over from the University in September, 1958. The Kasturba Medical College, Manipal was controlled by the Academy of General Education. The departments of Pathology and Pharmacology of Bangalore Medical College were upgraded. No post-graduate training facilities existed in all the medical colleges.

Orissa—The annual admission of students to the S.C.B. Medical College, Cuttack was raised from 75 to 100 during 1958. The total number of students on roll was 346. By the end of the year, the college had the strength of 70 full time and one part time teaching staff. 67 students came out successful in the final M.B.B.S. examination. The bed strength of teaching hospitals was 593. Facilities for training apprentice compounders continued in 12 district headquarters hospitals. Training class for pharmacy was started in S.C.B. Medical College, Cuttack during the year under report. There were no facilities for post-graduate or dental education. The student and teaching bed ratio in the State was 1:1.7 and teacher/student ratio was 1:4.9 during the year 1958.

Punjab—During the year 1958, three medical colleges were functioning viz, Medical College, Amritsar, Medical College, Patiala and the Christian Medical College, Ludhiana. In addition there was a medical school in Ludhiana. In Amritsar Medical College, the admission capacity in M.B.B.S. course was 100 of which 79 male and 20 female candidates took admission. The post-graduate training facilities were available for M.D., M.S., D.A., D.T.D. and D.O.M.S. in the College. The Department of Psychiatry started functioning from February, 1958 under the ten year Mental Health Services Scheme. 144 medical students qualified for M.B.B.S. degree from the above medical colleges.

Rajasthan—The S.M.S. Medical College, Jaipur with 530 students on the roll and 951 teaching beds and 95 teaching staff was the only institution, which imparted training to candidates for degree and post-graduate courses in medicine. The admission capacity of the college was 100 which was considered inadequate and, therefore, Government decided to open another medical college at Bikaner by the next session. 100 students were admitted of which 68 qualified in M.B.B.S. course. 19 students qualified in post-graduate courses of M.D., and M.S. during the year 1958.

Uttar Pradesh—There were 1,888 students on the roll of the three medical colleges at Lucknow, Agra and Kanpur with an admission capacity of 150, 75, and 100 students respectively. All these colleges conducted post-graduate doctorate and diploma courses. The Departments of Pharmacology and of Pathology and Bacteriology of Lucknow Medical College were up-graded and a Department of Social and Preventive Medicine was created during the year under review. In the State three medical colleges had 241 teaching staff and 2,127 teaching beds during the year covered by the report.

There were 12 centres for training of Compounders, 10 for Nurses, 3 for Health Visitors and 10 for Auxiliary Nurse Midwives, 2 for Laboratory Assistants, one for Sanitary Inspectors and two for Malaria Inspectors. The question of establishing of a family planning training centre at Lucknow was finalised. Facilities for higher training abroad under W.H.O. fellowship was secured for one Officer each in subjects of Maternity and Child Health (Paediatrics and Public Health Aspect) and Tuberculosis Control during 1958. A lecturer of the Agra Medical College went to Canada for higher studies in Physiology and one of the senior teacher of Lucknow Medical College went for study of recent advances in Dentistry.

West Bengal—Five medical colleges were functioning in the State for imparting teaching in M.B.B.S. course of Calcutta University. Three Colleges were under direct management of the State Government and the remaining two were being run by the private organisations. Facilities for post-graduate training existed in 3 State medical colleges. Arrangement for training of students in the post-graduate courses, viz., T.D.D., D.O.M.S. and D.G.O., were available in Medical College, Calcutta and the R. G. Kar Medical College, Calcutta. The total number of students on the roll was 3,331 of which 2,936 were males and 395 females. The numbers of teaching beds and teaching staff was 2,611 and 361 respectively. Facilities for training of students in post-graduate courses such as M.D., M.S., M.O., D. Phil and D.H. were also available in the Institution of Post-graduate Medical Education and Research, Calcutta which was also under the direct management of the State Government. Out of 177 students appearing in various post-graduate courses only 84 students qualified during the year under review.

Adequate number of hospital beds were allotted to the clinical teachers attached to the State Medical Colleges and to the Institute of Post-graduate Medical Education and Research, Calcutta.

A training centre for imparting training to Sanitary Inspectors and Health Assistants was established in Burdwan. Arrangements for training of nursing personnel in Senior and Junior Courses were available in all the State hospitals in Calcutta.

Delhi—Three Medical Colleges viz., the All India Institute of Medical Sciences, Lady Hardinge Medical College and the newly established Maulana Azad Medical College, were functioning during the year under report. The Lady Hardinge Medical College for Women and the All India Institute of Medical Sciences admitted 50 under-graduate medical students from all parts of the country. The Maulana Azad Medical College started functioning from 1st August, 1958 with 60 students in the 1st year class. The post-graduate training and research facilities were available in the All-India Institute of Medical Sciences and Lady Hardinge Medical College, Malaria Institute of India and Vallabhbhai Patel Chest Institute, Delhi. The College of Nursing was the training centre for training of nurses functioning under the Government of India. Victoria Zangana Hospital imparted training in general nursing and midwifery only.

Himachal Pradesh—There were no facilities for training in under-graduate or post-graduate medical courses in the territory. However, facilities for training in general nursing, health visitors, auxiliary nurses, midwifery, compounders

and dais existed in the State. The Himachal Pradesh Hospital, Simla was the only institution where training in general nursing and health visitors was available.

Pondicherry—The Pondicherry Medical College was opened by the Government of India in 1956 and the entire expenditure is borne by the Central Government. The medium of instructions in the College were French and English languages. Unlike other Medical Colleges, the students of this institution were required to attend hospital duty from the very beginning of their studies. The number admitted was 50 for the year under review.

CHAPTER IX

DENTAL EDUCATION AND REGISTRATION

In 1945, the Bhore Committee recorded "Dentistry has unfortunately been one of the neglected subjects of study in practically all Indian Universities". In fact, in 1945 there were only three dental institutions. With the advent of independence, the Government of India recognised the importance of dental education and services and at the request of the Government, the Executive Committee of the Dental Council of India undertook to advise the Government of India on future plans. In the Second Five Year Plan period it was suggested by the Dental Council to —

- (1) Expand the existing Dental Colleges and to open new Dental Colleges;
- (2) Inaugurate the post-graduate and teachers' training facilities at the All-India Institute of Medical Sciences, New Delhi;
- (3) Form All-India Dental Teachers training cadre;
- (4) Grant scholarships to dental teachers under the W.H.O., T.C.M. and Colombo Plan;
- (5) Inaugurate State Dental Services; and
- (6) Open dental clinics in all district hospitals, Community Development Projects, National Extension Service Blocks and Health Centre Units.

During the Second Five Year Plan period 3·1 crores were allocated for dental education and dental clinics in the country of which 1·51 crore was for opening of Dental Clinics at the District Hospitals and 1·5 crores for expansion of existing Dental Colleges and opening of new Dental Colleges. Out of the latter Rs. 1·5 crore, Rs. 75 lakhs was transferred to the Malaria Eradication Fund. Thus the remaining provision of Rs. 75 lakhs was meant for expansion of existing Dental Colleges and establishment of new Dental Colleges. The following eight Dental Colleges were functioning during the year 1958, which prepared students for B.D.S. degree:—

1. Punjab Government Dental College & Hospital, Amritsar.
2. Nair Hospital Dental College, Bombay.
3. Sir C.E.M. Dental College & Hospital, Bombay.
4. Calcutta Dental College & Hospital, Calcutta.
5. Dental Wing, K. G. Medical College, Lucknow.
6. Dental Wing, Madras Medical College, Madras.
7. Dental Wing, Government Medical College, Patiala.
8. Dental College, Bangalore.

The Dental College, Bangalore, started during the year 1958 with 10 admissions. Except Nair Hospital Dental College, Bombay, which was financed by the Bombay Municipal Corporation, all other dental institutions were supported by their respective State Governments. It was envisaged that under-graduate and post-graduate training should be a national project as the dental services in the country are very much needed to serve the growing population of India. It was also envisaged to provide facilities for dental practitioners for procuring transfer from Part B to Part A of the Dental Register by suitable training.

The total admission in the existing 8 recognised Dental Colleges, during the year under report, was 242 and the graduates passed out was 76. The college-wise information showing the number of admissions and the number of students graduated in dentistry during 1958 is presented in Table No. 42.

Plans for opening of new Dental Colleges at Hyderabad and Trivandrum were sanctioned and it was hoped that the Colleges would start functioning from 1959. Amongst the existing Dental Colleges, Sir C.E.M. Dental College, Bombay was expanded to accommodate 100 candidates in place of 40, and the admission capacity of Medical College, Madras Dental College, Amritsar Dental College Lucknow, and Dental College Calcutta was increased from 20 to 30; 14 to 30; 20 to 40 and 30 to 40 respectively. The two year's Dental Mechanics Certificate course was instituted by the Government of Bombay at the Sir C.E.M. Dental College and Hospitals Bombay in 1956. No other institution started training for dental mechanics up to the end of 1958.

Dental Services

In order to improve the dental services in the country it was proposed to establish 350 dental clinics in district hospitals during the Second Five Year Plan period with a provision of Rs. 151.00 lakhs. As against this target of 350 clinics, the Government of India sanctioned 107 clinics. Out of this the approval for the establishment of 78 dental clinics in the various States during the years 1956-57, 1957-58 and 1958-59 was accorded. But as far as the information was available only 37 Dental Clinics were functioning in Andhra Pradesh, Bihar, Jammu & Kashmir, Kerala, Madhya Pradesh, Madras, Punjab, Rajasthan and Uttar Pradesh during 1958. The difficulty in opening out Dental Clinics in the States was that the State Governments were not keen to give the matching grants.

Most of the dental practitioners were serving in urban areas. Very little of dental services was available in rural areas. By opening Dental Clinics in the States during the Second Five Year Plan period it was intended to satisfy the needs of rural population. It was also envisaged to open mobile dental vans so as to cater to the needs of people of the distant villages. There were 6,1881 dentists in the country upto the end of the year 1958.

DENTAL COUNCIL OF INDIA, NEW DELHI

The Council devoted its attention mainly to maintain the standard of existing courses and the standard of examination for dentistry and to find out the quality of standardisation of the dental goods during 1958. The training facilities for examination I started in March, 1958 at the Dental College & Hospital, Lucknow and in September, 1958 the Dental Council of India conducted the first examination. Out of 19 candidates 12 were successful. This training and examination enabled the dentists registered on Part B of the Dentists Register to transfer to Part A thereof.

During the year 1958, the Council considered and accepted the report of their Inspectors with regard to the adequacy of the courses and facilities for training for examination I of Dental College and Hospital, Lucknow. The Council also considered and accepted with certain modifications the report of their Inspectors on the adequacy of the courses and facilities existing for the teaching of the degree course in dentistry at the Dental Wing of the Government Medical College, Patiala, alongwith the observations of the Punjab University and the recommendations of the Executive Committee of the Council thereon. The adequacy of courses and facilities existing for the teaching of the B.D.S. courses at Nair Hospital Dental College and Sir C.E.M. Dental Collge, Bombay were considered and accepted under the report of their Inspectors. The Board of Examiners for the primary and final dental mechanics examination at Sir C.E.M. Dental College & Hospital, Bombay were approved by the Council. A Sub-Committee was appointed by the Council during 1958 to investigate and report about the suitability for recognition of the qualifications granted by the late Satya Pal's Dental College & Hospital, Lahore (now de funct).

A member of the Council was appointed by the Dental Council of India as a delegate to the fourth convention of the Indian Standard Institution, held in New Delhi in November, 1958. It was proposed and accepted by the Council that the Council should send such delegates to the convention for the betterment and achievement of standard dental goods in the country. A brief list of dental materials was also recommended to the Indian Standard Institution for standardisation.

During the year under report, the Council approved the following foreign qualifications under item 30 Part II of the Schedule to the Dentists Act, 1948:—

- (1) The Degree of Doctor of Philosophy by the School of Medicine and Dentistry, University of Rochester, U.S.A. and
- (2) The Post-graduate qualifications of M. S. as well as under graduate qualifications of doctor of dental surgery of the University of Detroit, U.S.A.

The Dental Council of India approached the General Dental Council in U. K. to accord recognition of qualifications of this country on the basis of the inspection report of Dental Institution submitted by the Inspectors of Dental Council of India. Although the General Dental Council of U.K. did not agree to the proposal, the matter was still under correspondence.

A sub-committee appointed in 1957 to investigate the scope and possibilities of manufacture of standardised dental equipment appliances, instruments, and materials in the country, issued a questionnaire to various manufacturers and the works of various concerns were also visited by the sub-committee during the year 1958.

The State-wise distribution of Dental Clinics, as established with the sanction of the Government of India, is given below :—

States	No. of Dental Clinics established during		
	1956-57	1957-58	1958-59
1 Andhra Pradesh	3	4	4
2 Assam	3	—	—
3 Bihar	2	2	4
4 Jammu and Kashmir	—	7	—
5 Kerala	3	3	—
6 Mysore	2	—	—
7 Madhya Pradesh	3	—	1
8 Madras	3	2	2
9 Orissa	—	—	4
10 Punjab	2	2	3
11 Rajasthan	—	4	4
12 Uttar Pradesh	2	2	2
13 West Bengal	4	2	2
Total ..	27	28	26

Note :— — Nil Information.

CHAPTER X

CENTRAL DRUGS STANDARD CONTROL ORGANISATION

DRUGS CONTROL

The Drugs Act vests with the Central Government with powers to control the quality of imported drugs while the responsibility for exercising control over the quality of the drugs manufactured or sold in the country rests with the State Governments. The Central Government, in the interest of uniformity of procedure throughout the country, coordinates the action taken by the State Governments and supplies expert advice and such other assistance as is necessary for the efficient enforcement of the Act. The authorities in the Rajasthan State, Jammu and Kashmir and in Telangana areas of Andhra Pradesh were not able to set up the requisite machinery for the enforcement of the Act. The Central Government advised the respective State Governments of the measure they should take in this regard. The ports of Bombay, Calcutta, Madras and Cochin continued to be the only points of entry of drugs and medicine imported into the country by sea. A control on the quality of drugs imported into the country was exercised by the Assistant Drugs Controllers and Technical Officers at the ports.

In the administrative set up of the Central Drugs Standard Control Organisation, additional posts of an Assistant Drugs Controller and two posts of Technical Assistants were filled during the year 1958.

Quality Control over imported Drugs—

10,701 samples were drawn for examination from imported consignments during the year under report. 1,063 samples were sent for test. Of these 991 samples constituting about 93 per cent of the samples sent for tests were found to be of standard quality. The following table gives the details of samples examined during the year 1958 :—

Name of the port of entry	No. of bills of entry examined	No. of items covered by the bills of entry	No. of samples drawn for examination	No. of samples sent for test		No. of samples declared to be not of standard quality	
				Under Rule 40	Under Rule 26	From these drawn under Rule 40	From these drawn under Rule 26
1. Bombay ..	13,710	26,056	6,899	460	95	31	8
2. Calcutta ..	2,926	5,213	1,752	305	21	19	2
3. Madras ..	1,894	3,062	1,956	125	44	11	—
4. Cochin ..	66	139	94	11	2	1	—
Total ..	18,598	34,470	10,701	901	162	62	10

Note :— — Nil information.

In Bombay, out of 460 samples, 31 samples were declared not of standard quality, consignments pertaining to 28 samples were recommended to be re-exported, one consignment was destroyed and two consignments were permitted to be imported after they were reconditioned and brought to the standard.

At Calcutta, 19 samples were reported to be not of standard quality of which 13 consignments were re-exported, four were destroyed and two were recommended for release for non-medicinal use.

At Madras, out of 11 samples which were declared to be as not of standard quality, consignments relating to 4 samples were recommended for destruction, 6 for re-test and one for re-export.

At the port of Cochin only one sample was found not to be of standard quality and the consignment relating to it was recommended to be re-exported.

The following table gives information regarding the number of samples drawn for examination and sent for test. A break-up of the samples classified according to categories such as Vitamins, Hormones, Antibiotics etc. has also been given :—

Category of Samples	No. of samples drawn for examination		No. of samples sent for test		No. of samples declared not of standard quality	
	Under Rule 40	Under Rule 26	Under Rule 40	Under Rule 26	Under Rule 40	Under Rule 26
1. Vitamins	1,039	68	61	38	10	5
2. Hormones	611	7	7	6	1	—
3. Antibiotics	729	38	104	30	2	1
4. Insulin	206	10	6	10	—	—
5. Biological Products	1,071	92	192	54	26	3
6. Chemotherapeutic Drugs	769	8	107	7	1	1
7. Galenicals	8	—	1	—	1	—
8. Others	6,258	25	423	17	21	—
Total	10,691	248	901	162	62	10

Note :— Nil information.

Vitamin preparations and biological products which are comparatively unstable, account for most of the sub-standard products. Under rule 26, five vitamin products, one anti-biotics, 3 biological products and chemotherapeutic drugs were found to be not of standard quality after repeated tests as they were likely to deteriorate in inadequate storage.

Details of the cases of contravention of the provisions of the Drugs Act and Drugs Rules relating to imported drugs during 1958 are given below:—

Bombay—Two cases of contravention of labelling provisions were observed during the year 1958-59 and penalties were recommended in these cases. 83 consignments were released against the letters of guarantee for rectification of labelling defects while 194 consignments were recommended for release after the necessary labelling corrections in the docks.

Calcutta—There were 155 cases of contravention of which, 111 related to consignments with labelling defects and 44 related to imports made without valid import licence under the Drugs Act. Of these, 4 consignments were recommended to be imported with a warning, 24 were recommended for release after covering licences were secured, 103 consignments were recommended to be imported without penalty after rectification of labelling deficiencies and 24 consignments were recommended for re-export.

Madras—48 cases of contravention were noticed of which 45 related to labelling defects. Two consignments were recommended for confiscation and destruction. In one case involving import of contraceptives, permission for import was refused.

Cochin—Out of 2 cases, one relating to defectively labelled consignment was allowed to be imported after rectification of the defect and the other case which was imported without a valid import licence, was made to secure the covering licence.

Values of the Drugs

The values of the drugs imported during the year 1958-59 was estimated at Rs. 12,93,77,990 as against Rs. 17,93,41,400 in 1957-58. The substantial fall in the import of drugs and medicines was perhaps due to the restrictive import policy, a great majority of drugs being imported in bulk in accordance with the import trade regulations of the Ministry of Commerce and Industry.

Inspection of Importer's Premises—

The premises of the Importers were inspected by the Assistant Drugs Controllers at the ports of Bombay, Calcutta and Madras and by the Technical Officer, Cochin, prior to the grant of import licences under the Drugs Act to ensure that they possess adequate storage facilities etc. Eight firms were visited at Bombay, 5 at Calcutta, 5 at Madras and one at Cochin during the year 1958.

The following table gives the information regarding the number of import licences issued under the Drugs Act during the year 1958:—

No. of import licences issued on Form 10			No. of import licences issued on Forms 11 and 12B	
Fresh	Renewal	Endorsement	Form 11	Form 12B
115	91	70	417	254

Import of New Drugs

63 applications for permission to import of 'new drugs' under rule 30-A were received during the year 1958-59. The anti-infectives comprised of the largest group of new drugs applications. The tranquillisers formed the second largest group. The rheumatoid arthritic drugs and the cytotoxic agents came next. Heptazine and oral diuretic for which a 'new drug' application was received during the year under review is a derivative of acetazolamide with a fewer side effects. Only those drugs about which the Directorate was fully satisfied about their efficacy and harmlessness and which were permitted to be sold in the country of origin were permitted to be imported. In case where report of the clinical trials submitted were not considered adequate by the Screening Committee, clinical trials were arranged in this country and permission to import granted on the basis of these clinical reports. 38 new drugs were permitted to be imported during the year 1958-59.

Drugs Technical Advisory Board

The Drugs Technical Advisory Board held one meeting during 1958 and made the following important recommendations to the Government:—

1. Homoeopathic injections, which were formerly exempted from the provisions of the Drugs Act, should be controlled. A Sub-committee was appointed to go into the question of controlling the entire range of homoeopathic drugs;
2. The pharmacopoeia of the U.S.S.R. was recommended to be included amongst the prescribed pharmacopoeias under the Drugs Rules;
3. Veterinary products were recommended to be controlled under the Drugs Act. A Sub-committee was constituted to examine the changes that will be necessary in the Drugs Rules for this purpose; and
4. The fee for a sale licence was recommended to be reduced from Rs. 20 to Rs. 5 in areas with a population of less than 5,000.

A consolidated list of draft amendments to the Drugs Rules was published in the Gazette of India for eliciting comments from the public. The major changes related to the following subjects:—

1. Definition of the term 'Registered Medical Practitioner' for the purpose of the Drugs Rules;
2. The Drugs Inspectors were vested with additional powers so as to enable them to make enquiries and inspections to detect the sale of drugs in contravention of the Act and to seize records, registers, cartoons, blocks and any other material object required to establish such contravention of the provisions of the Drugs Act;
3. A separate licence for repacking of drugs with a licence fee of Rs. 40;
4. Grant of warranty by the manufacturer or by his agent made a condition of the manufacturing licence; and
5. The sale of insecticides have been exempted from the requirement of a sale licence under the Drugs Rules.

The comments on draft amendments were then examined and the amendments finalised. Two Sub-committees constituted by the Drugs Technical Advisory Board, *viz.*, the Schedule F Sub-committee and the Poisons Sub-committee met and recommended certain changes to be made in the Schedule F relating to the standards for biological products and in Schedule E (List of Poisons), G, H and L to the Drugs Rules. The revision of these Schedules to the Drugs Rules was taken up during the year under review.

Drugs Conference—During the year 1958, two Drugs Conferences were held at Calcutta and Madras under the Chairmanship of the Health Secretary. Amongst other things, some of the important subjects discussed were:—

- (1) Maintenance of registers and records for sale of preparations containing alcohol under the Drugs Rules;
- (2) Formation of Advisory Committee on drugs in the States;
- (3) Warranties under the Drugs Rules;

- (4) Difficulties encountered by manufacturers in complying with the provisions of Schedules M etc. of the Drugs Rules; and
- (5) Proposals for having only two licences for sales, one for sale by retail and the other by wholesales.

Indian Pharmacopoeia Committee

The work on the compilation of a supplement (amendment) to the Indian Pharmacopoeia continued. The Indian Pharmacopoeia Committee and its Co-ordination Sub-committee met in 1958 and discussed the procedure to be followed for the revision of the Indian Pharmacopoeia 1935. As Indian crude drugs constitute an important part of Indian Pharmacopoeia, a separate Sub-committee, viz., 'The Indian Medicinal plants' Sub-committee was constituted with a view to exploring the possibility of including in the Indian Pharmacopoeia drugs of proved efficacy prescribed under the indigenous systems of medicine.

Analysts Conference—

Following the resolution passed at the Second Analysts Conference held at Bombay in April, 1957 a collaborative studies on crude drugs and on the stability vitamin and anti-biotic preparations were continued during 1958. In all 5 Government Laboratories and 3 private laboratories participated in the collaborative studies during 1958.

Administration of the Drugs Act in the States

For successful enforcement of the Drugs Act, three factors are essential viz. (1) adequate number of inspectors, (2) adequate provision for testing facilities (3) specially trained staff on adequate basis for the purpose of detection of spurious drugs, handling of prosecutions and examination of legal aspects concerning enforcement of the provision of the Act. Arrangements for testing drugs constitutes the pivot of Drugs Standard Control enforcement. A statement showing the Government Analysts appointed by various State Governments is at Table No. 43. Information regarding the number of samples tested and classified into vitamins etc., is at Table No. 44. These statements indicate that the States of Kerala, Mysore, etc. did not have any laboratory for testing drugs, with the result that the sampling of drugs was not under-taken by these States during the year under review. From Table No. 44 it will be observed that during the year under review no samples were sent for test from the State of Andhra Pradesh and Union Territories of Manipur and Tripura. The State of Rajasthan did not report any case as the Drugs Act was not enforced in that State.

A statement giving information regarding the number of prosecutions launched in the various States under Drugs Act during the year 1958 is shown in Table No. 45. The total number of prosecutions were 289 of which 24 cases were for sale and manufacture of spurious drugs. The majority of the prosecutions were launched by the Governments of Bombay, Madhya Pradesh, Madras and Punjab.

Table No. 46 gives information regarding the sale and manufacturing licences issued by the various States during the year 1958. The total number of manufacturing and sale licences granted under the Drugs Act throughout the country was 728 and 30,495 respectively. There were 2,618 drugs manufacturers and 69,866 dealers in drugs at the end of the year 1958.

Central Drugs Laboratory, Calcutta

The following are the functions of the Central Drug; Laboratory, Calcutta, under Drugs Act:—

- (1) to test the samples of imported drugs sent to it by the Customs authorities at the ports of entry;
- (2) To act as an appellate body for testing drugs; and
- (3) to carry out such other duties as may be entrusted to it by the Central Government or with the permission of the Central Government by a State Government after consultation with the Drug Technical Advisory Board.

Under the last item the Central Drugs Laboratory, Calcutta carried out the functions of Government Analyst under the Drugs Act for the States of Panjab, Bihar, Madhya Pradesh, Uttar Pradesh and Union Territories of Manipur, Tripura, Delhi and Laccadive, Minicoy and Amindive Islands. 2,975 samples were received for test from various sources, viz., Assistant Drugs Controller India and Customs Officers at ports, Drugs Controller India, State Drugs Inspectors and Courts of Law. The number of samples tested was 2,926 of which the number of samples found to be of standard quality was 2,586 during the year 1958.

Medical and Toilet Preparations (Excise Duties) Act and Rules 1955

During the year 1958, the Government of India in the Ministry of Finance referred, 43 samples of medicinal preparations with particulars regarding formulae, doses, indications, etc., to the Drugs Controller India.

Drugs and Magic Remedies (Objectionable Advertisements) Act

Both the Central and the State Governments are concerned with the enforcement aspect of the Act with a view to counteracting the increasing danger to public health consequent on people taking recourse to indiscriminate self-medication with drugs, appliances and magic remedies. The role played by the State Government in this respect is to confiscate the documents containing advertisements which contravene Sections 3, 4 and 5 of the Act and to the prosecution of the offending parties. 27 prosecutions were launched during the year 1958 for violations of the provisions of the Act of which 3 were from Bombay, 6 from Punjab, 1 from Uttar Pradesh and 17 from Delhi.

The role played by the Centre in regard to the enforcement aspect is to prohibit the import into and export from India of documents offending the provisions of Sections 3, 4 and 5 of the Act. The work is attended to by the Drugs Standard Control Officers, viz., the Assistant Drugs Controllers at Bombay, Madras, Calcutta and New Delhi and the Technical Officer at Cochin, who worked in close liaison with the customs authorities and postal department. The number of cases in respect of export and import during the year 1958 is given below—

Ports						Import	Export
1. Bombay	..	..	..	..	..	17	560
2. Madras	..	..	..	..	..	6	93
3. Calcutta	..	..	..	..	..	2,926	636
4. Cochin	..	..	..	..	..	Nil	Nil

Under Section 14 (1)(d) of the Act, permission to advertise is granted both by the Central Government as well as by the State Governments. The applications seeking sanction of the Government for advertisement of drugs are received by the Drugs Controller India appointed for the purpose by the Central Government.

Permission was given for advertisement of the following contraceptives approved by the Government in view of the importance of Family Planning Programme:—

1. Contab foam Tablets.
2. Cooper Cream.
3. Ortho Diaphragm Jelly.
4. Orthe Geynot Jelly.
5. Preception Jelly.
6. Plaintab Tablets.

Development of the Indigenous Pharmaceutical Industry

The Drugs Controller India also functions as the Industrial Adviser to the Ministry of Commerce and Industry in regard to the manufacture of Pharmaceuticals and drugs. During the year under review, a team of technical experts from Russia visited India to advise the Government of India on the expansion of the Indigenous Drugs and Pharmaceutical Industry. The Drugs Controller India was associated with the negotiations with the Russian Team.

QUININE

The Central Council of Health at its meeting held in January 1958 at Bangalore reviewed the over-all position in regard to the cinchona industry and the limited scope for alternative uses of quinine in conditions other than malarials and had recommended that as there was no remedy for the continuance of the industry, the State Governments of West Bengal and Madras should adopt measures to regulate the production of quinine and other cinchona products and also take steps to put the cinchona plantations to other fruitful uses.

The Government of Madras, Cinchona Department have started cultivation of different essential oil plants in their cinchona plantations and have made some good progress in their cultivation in an area of about 381 acres.

The question of utilizing cinchona alkaloids otherwise than as anti-malarials was referred by the Ministry of Health to the Indian Council of Medical Research, New Delhi with a view to suggesting ways and means by which surplus quinine could be utilised outside the sphere of malaria. The Council appointed a committee to examine the question and make recommendations and the committee has recommended several medical and non-medical uses of quinine.

MEDICAL STORES ORGANISATION

There are, at present, four Medical Stores Depots located at Madras, Bombay, Calcutta and Karnal, and two factories which are attached to the Depots at Madras and Bombay for manufacturing tinctures, tablets, bandages etc. There is also a Repair Work Shop at Medical Stores Depot, Madras, for repairing surgical instruments and appliances. The function of these Depots is to supply medical stores to the various Civil Medical Institutions under the Central and State Governments, Railways, Local Bodies etc., who have been duly enrolled as indentors. The number of indentors on roll as on 31st December 1958 was 10,868.

The number of annual indents received and complied with by the Medical Stores Depots at Bombay, Madras, Calcutta and Karnal were 2,621; 2,542, 1,006 and 1,206 respectively.

The number of supplementary indents received and complied with by the Medical Stores Depots at Bombay, Madras, Calcutta and Karnal were 2,384, 1,711, 650 and 1,385 respectively.

CHAPTER XI

MEDICO-LEGAL WORK AND THE SEROLOGIST DEPARTMENT

The Department of the Serologist and Chemical Examiner was shifted from the School of Tropical Medicine building to the newly constructed building at 2, Kyd Street, Calcutta from January, 1958. The antigen production unit was also shifted to this new building in July, 1958, a skeletal portion of it continued to remain in the building of the Central Drug Laboratory, Calcutta. The serologist department functioned with the permanent staff of a Serologist, four Assistant Serologists, two Chemists, six Laboratory Assistants besides the other administrative staff. A post of Deputy Serologist was sanctioned during the year under report. The staff of Antigen Production Unit consisted of one Bio-chemist, one Assistant Serologist, one Assistant Chemist and 3 Laboratory Technicians and 4 Laboratory Assistants and accessors staff.

The steady increase in the number of medico-legal cases for investigation referred to this department during the last few years continued during the year under report. The increase was considerable in the case of requests for the determination of blood groups in blood and semen stains. The summary of the work of medico-legal investigation done by the State Chemical Analyser, Chemical Examiner in the Serologist Department of the Government of India during the year 1958 is given in Table No. 47.

A total of 40,460 exhibits were analysed from 8,548 cases as against 39,914 exhibits from 7,610 cases in the previous year. It will be noticed that the cases increased by 12·3 per cent. Tests for blood and semen group were done on 25,644 articles from 4,706 cases compared with 21,329 articles from 4,298 cases in the previous year. Thus blood and semen cases were increased by 9·5 per cent and exhibits in these cases by more than 20 per cent. The demand for blood and semen group was made in more than 50 per cent of the total cases. The demands for information other than the origin of blood in stains were also received in a number of cases.

Besides medico-legal analysis, the department also carried out clinical tests for the medical institutions under the Government of West Bengal. During 1958 serological tests for syphilis were done on 12,865 serum samples. This included 6,463 wassermann tests, 6304 VDRL slide tests and 98 Kahn tests.

The department continued to function for the Union of Burma and 304 articles relating to 202 cases were examined during the year under report.

The medico-legal analysis of blood and other stains on exhibits, seized in connection with the prosecution of criminal cases for the detection of the origin of blood etc., form the principal activity of this department. This was a continuation of examination to which these were subject in the first instance by the Chemical Examiners in the State. The portion of exhibits which were found to be blood stained were forwarded by them to this department for confirmation and detection of the origin and grouping. The results of the examinations carried out by the department have high evidential value and are greatly valued by the

High Courts. The State Chemical Examiner in addition had to undertake a large number of examinations for the detection and identification of poisons in case of alleged poisoning and other miscellaneous examinations, in connection with certain State activities.

The Antigen Production Unit established for the manufacture of cardiolipin antigen for serodiagnosis of syphilis continued to be under the direction of the Serologist. The Unit continued with the regular production of VDRL antigen during the year under review. 18,803 ampoules of antigen were produced and issued to the Medical Stores Depot, Calcutta for distribution.

The usual courses of lectures and demonstrations on serology and immunology were given to the students preparing for D.T.M. and H. Diploma at the School of Tropical Medicine, Calcutta and the L. T. M. classes in the School. A course of instructions on serology to the students of D. C. P. classes of the Calcutta University was also given during 1958.

CHAPTER XII

PORT AND AIRPORT HEALTH ADMINISTRATION

The health administration of seaports and international airports is carried out under the Indian Port Health Rules, 1955 and the Indian Aircraft (Public Health) Rules, 1954 respectively. These rules are based on the International Sanitary Regulations and the Government of India's reservations thereto and provide for measures to prevent the import and export of quarantinable diseases through sea and air traffic viz., Plague, Smallpox, Cholera, Yellow Fever, Louse-Borne Typhus and Relapsing Fever in particular and other infectious and communicable diseases in general. The implementation of these rules is the responsibility of our health organisations at the major ports of Bombay, Calcutta, Madras, Cochin, Visakhapatnam and Kandla and at the international airport, of Bombay (Santa Cruz), Calcutta (Dum Dum), Delhi (Palam), Madras and Tiruchirappalli. The health administration of the minor ports is vested with the respective State Governments.

As the most important disease from the point of view of risk to India is Yellow Fever, special precautions are taken to prevent the entry of this disease into India through aerial and maritime traffic. All aircraft entering India from the West are disinfected as a routine measure if not already done so at Karachi airport (Pakistan). All persons arriving within 9 days of their departure from yellow fever infected areas without valid certificates of vaccination against yellow fever are detained in quarantine for appropriate periods. Monkeys being most prone to be reservoirs of yellow fever infection are not permitted to be brought to India unless covered by a certificate from the Government authorities of the country of shipment declaring that they have not been to any yellow fever infected area within 31 days of shipment. Those not covered by such a certificate are confiscated and destroyed.

During the year under report no ship or aircraft brought any case of quarantinable diseases. Infectious cases notified from ships were promptly attended and precautionary measures were taken by the health staff. Measures in connection with influenza were discontinued in July, 1958 as the epidemic had subsided.

The sanitary conditions of the ports and airports and the areas abutting them remained fairly satisfactory throughout the year under report. Water supply was subjected to periodical bacteriological tests and found to be satisfactory. Sale of food stuff and catering arrangements were inspected periodically and defects noted were corrected, wherever, possible by the authorities concerned. For the co-ordination and better supervision and control of sanitation, anti-mosquito work, anti-rodent work etc., in the airports and the surrounding areas and Airport Health Committees at international airports were established on the same lines as Port Health Committees at major seaports.

The pilgrim traffic for Hedjaz was smooth. The outward traffic started from the third week of April and continued till the second week of June while the inward traffic lasted from 13th July to 10th September, 1958. There was one

pre-Ramzan Ship sailing. Usual facilities were extended by our Health Officer to pilgrims leaving and arriving at Bombay seaport. No case of quarantinable diseases was reported among the pilgrims.

As usual during the Ganga Sagar Mela in the middle of January, 1958 sanitary arrangements at the embarkation ground near Outramghat were made by the Port Health Organisation, Calcutta on behalf of the Government of West Bengal. Sanitation on board, the vessels which carried pilgrims was checked by the Port Health Officer before embarkation was permitted.

The scheme of pre-entry medical examination of seamen by Government doctors continued to work smoothly during the period under port. The new Medical Examination Rules called 'The India Merchant Shipping (Medical Examination) Rules 1958' came into force. An amendment to the Rules permitted a seaman of 60 years of age to be signed on till he is 62, if acceptable to a shipowner and if certified fit by the prescribed medical authority. However, for every voyage after 60 the seamen shall have to obtain a fresh certificate of medical fitness.

The existing arrangements for hospitalisation of seamen at Bombay and Calcutta seaports were continued during the year under report without any modification. Outdoor medical treatment facilities were available to seamen in the Seamen's Clinics at Bombay and Calcutta. Both these clinics were expanded to provide specialised treatment for eye, ear, nose, throat and dental diseases. These clinics also carried out routine laboratory tests for those undergoing treatment thereat.

Table Nos. 48, 49 and 50 indicate the brief activities of the various port and airport health organisations during the year under report.

CHAPTER XIII

MEDICAL RESEARCH

1. INDIAN COUNCIL OF MEDICAL RESEARCH, NEW DELHI

During the year 1958 there was a marked growth of research in the ever-widening fields of medicine and public health. The Council was receiving a large number of research schemes from almost all the medical colleges in the country, which indicated the increasing interest shown by the teaching institutions in research. The subjects in which research was carried out under the auspices of the Council were Clinical Research, Hæmatology, Cardiovascular Diseases and Hypertension, Liver Diseases, Cholera, Leprosy, Malaria, Plague, Filariasis, Tuberculosis, Venereal Diseases, Dental health, Environmental hygiene and sanitation, Industrial Health, Nutrition, Pathology and Bacteriology, Physiology and Pharmacology, Physiology of Human reproduction and virus diseases. Increasing attention was paid by the Council to research of indigenous drugs.

The Governing Body at its meeting in March, 1958 appointed a Committee consisting of Dr. M.S. Thaker, Dr. Sushila Nayar and Dr. C.G. Pandit to examine in detail the researches, projected or in progress, recommend to what extent and in what direction the activities of the Council need re-orientation and expansion, and also consider the manner in which the limited funds available with the Council could be utilised to the best interest of the country.

The Planning Commission allocated a sum of Rs. 412 lakhs for medical research in the Second Five Year Plan period. During the fiscal year 1958-59 the Council sanctioned about 279 projects. The budget estimates of the Council for 1958-59 amounted to Rs. 77,90,865.

The research activities of the Council covered many fields during the year under review viz., clinical research, research into communicable diseases, dental health, environmental hygiene and sanitation, industrial health, maternity and child health, mental health, nutrition, pathology and bacteriology, physiology and pharmacology, physiology of human reproduction, virus diseases, trachoma and nutrition.

Clinical Research—Clinical research was a recognised activity of most of the medical colleges in the country and effective contributions were made. During the year 1958 researches were in progress in such diseases as atherosclerosis, anæmia and into the mechanism of formation of stones in kidney and gall bladder. Among liver diseases, particular attention was paid to the study of infantile cirrhosis and infective hepatitis. Subjects like induction of hypothermia for carrying out operations on the heart and treatment of intra articular fractures were being investigated. Works on anæmias in our people also received considerable attention.

Communicable diseases—Considerable progress was made in the control of malaria and attention was being focussed on doing research in the problem

of resistance on malaria carrying mosquitoes to the insecticides in common use. Deracientiasis (Guinea-worm) was considered a public health problem in certain areas. The Council sponsored research on this subject also.

In the project at Madras, dealing with chemotherapy of tuberculosis, some interesting observations were made. With the use of elaborate techniques for study of resistance of tubercle bacillus to different drugs, it was found, contrary to expectations, that the strains of bacillus prevalent in India behave in experimental animals in a manner different to that observed elsewhere and that they are of low grade virulence to them, inspite of the fact that they produce same clinical picture of the diseases as prevalent in other parts of the world.

In view of the increased incidence of smallpox and cholera in the country the question of control of these two diseases received urgent attention by the States concerned. The Central Government also constituted a Central Expert Committee under the chairmanship of the Director of Indian Council of Medical Research in order to arrive at a final recommendation to be made for the control of these two diseases.

Dental Health—Investigations were carried out to study periodontal conditions of persons. The study so far carried out relate to blood changes associated with periodontal diseases and growth and development of dentition of Indian children.

Environmental Hygiene and Sanitation—The proper treatment and disposal of sewages and industrial wastes was an important environmental sanitation problem which awaited solution. Investigations were carried out to indicate the need for good operational control of sewage treatment plants. Important findings, resulting from the work in connection with the lac wastes disposal, was that treatment of the wastes led to separation of useful byproducts which could be profitably utilised. In areas where there was water scarcity the effluent could be used for washing stick lac in its primary stages thereby reducing the demand of water. With a view to extend the work of the industrial wastes disposal and water pollution research unit, field units were established at Calcutta, Patna and Lucknow. Suitable methods for treatment of industrial wastes hereby the hazards of water pollution could be reduced to the maximum extent possible were being developed.

Mental Health—A survey was carried out in Nagpur in the urban population in association with the All-India Institute of Mental Health, Bangalore. The ultimate objectives of the study were twofold —

- (i) To discover the incidence and distribution of mental morbidity, and
- (ii) To determine the socio-economic and cultural factors associated with mental morbidity.

Physiology and Pharmacology—Realising the potentialities for the study of indigenous drugs, the Council provided due support to research in indigenous drugs. The objectives with which work on indigenous drugs under the Council started were—

- (1) To discover efficacious remedies from the *materia medica* of the indigenous systems of medicine;
- (2) To discover means of affecting economy so that these remedies may become available to the masses at a cost which they can afford; and
- (3) To make India self-supporting in drugs.

After making a survey, the Council established a number of drug research units in the Pharmacology Departments of the Medical Colleges in the country, where laboratory facilities were found to be available. The main functions of these units were to undertake research in indigenous drugs and helping the local drugs industry in developing and manufacturing drugs from indigenous sources on an industrial scale.

Scientific investigations on Yogies were carried out at the Physiology Department of the All-India Institute of Medical Sciences, New Delhi.

Physiology of Human Reproduction—Bridging the ever-widening gulf between food supplies and population growth which was a matter of survival for the Indian nation, the Council took over the responsibility of initiating the research programme in the Physiology of Human Reproduction. The programme was a comprehensive one and covered the study of all aspects of menstrual process in women and the role of endocrine glands and menstrual process in ovarian function etc. The study of spermicidal drugs and oral contraceptives was started and steps for testing in the field the efficacy of foam tablets and other appliances as contraceptives were also taken.

Virus Diseases—The Council sponsored a programme of research in many aspects of virus diseases at several centres in the country. Research was conducted in rabbies at the Central Research Institute, Kasauli and Pasteur Institute, Coonoor in poliomyelitis at the special research Unit at the Medical College, Bombay in intestinal and respiratory diseases at the Pasteur Institute, Coonoor and in arthropod-borne viruses at the Council's Virus Research Centre, Poona.

The Polio Research Unit of the Council in Bombay contributed materially to the advancement of our knowledge about the poliomyelitis in this country. Studies on influenza and other respiratory and intestinal viruses were also undertaken by the Council at the Pasteur Institute of India, Shillong. The Government of India established a centre for the study of influenza in Pasteur Institute, Coonoor for which the Council gave a grant for the study of techniques essential in the manufacture of influenza vaccine.

Early in the year 1958, there was an explosive outbreak of epidemic encephalitis in children in some cities. Some useful work was done by the Council by utilising modern techniques, such as use of tissue cultures as media in the cultivation of viruses. Many viruses were isolated from the samples of faeces on affected individuals. Epidemiological studies were also made.

Nutrition—The Council was deeply interested in the subject of nutrition. The problem of certain dietary diseases, such as Lathyrism and Fluorosis, were being investigated with a view to their ultimate control and eradication. The laboratories at Hyderabad, which were wholly devoted to nutrition research, were financed by the Council. Besides, the Council continued to sponsor a number of research schemes and was maintaining units in medical colleges and research institutes in the different parts of the country. Among the various subjects under investigations were, nutritive value of foodgrains, energy metabolism, goitre control, etc. Researches disclosed that phrynoderma was the result of dietary deficiency of essential fatty acids, burning feet syndrome was a manifestation of pantothenic acid deficiency and that non-specific diarrhoea encountered in the South were of nutritional origin, work at laboratories disclosed that the defect in the physique of rice eating population and the greater incidence of nutritional disorder in them had least to do with the rice itself. The general poverty of the masses in rice eating regions resulted in very low consumption of protective food stuff. The important findings of investigations were that—

- (1) The absorption of iron from purely vegetarian diets could be defective unless the intake was fairly high;
- (2) The intake of iron depended on total calorie taken;
- (3) Loss of iron through sweat could be considerable; and
- (4) A supplement of protein alone without an iron preparation could bring about an improvement in the anæmic conditions.

Trachoma Control—The Trachoma Control Pilot Project initiated at Aligarh two years ago, was nearing completion at the end of 1958. Trachoma is a very important public health problem and in certain regions, over 80 per cent of the population is affected. Steps were undertaken to assess the value of treatment in the amelioration of the disease and for formulation of our national campaign for the prevention of this disease.

2. INDIAN CANCER RESEARCH CENTRE, BOMBAY

The Indian Cancer Research Centre, Bombay was established in December, 1952 with a view to provide post-graduate teaching and research in Cancer and allied subjects. It has set up Laboratories for working out problems on Pathology, Experimental Biology, Bio-physics, Bio-chemistry, Human variation and Statistics.

The Government of India have taken over the Tata Memorial Hospital, Bombay from the Trustees of the Sir Dorabji Tata Trust with effect from 1st April 1957, with the object of providing clinical facilities available at the Hospital for carrying on research work at the Indian Cancer Research Centre, Bombay.

In the experimental biology department an entirely new line of work was started under "Spontaneous Mammary Carcinogenesis" during the year under review. The study of the role of mechanism of action of intrinsic factors viz., heredity, hormones, milk factor continued.

Testing of Careinogenic activity of

- (i) 1 : 2—diaz—3 : 4 : 10 dibenzpyrene,
- (ii) 3 : 4 : 9 : 10 dibenzpyrene and
- (iii) Pentaphene

was carried out during the year under report by two techniques viz., Cutaneous applications and Subcutaneous injection to inbred mice. Testing of tobacco extracts with relation to etiology of cancer was also in progress. *Tissue Culture* organised as a separate section of the department of applied Biology, continued to develop a two-fold programme of cultivation of manuanation cells, (i) Maintenance of stock cell and (ii) Investigation on experimental cultures. The following strains were stocked in 1958 He La (Gees)—Human careinoma of the cervix. Hell (Melnick)—Human Cancer of the Jaw. KB (Eagle)—Human Cancer of the Jaw. Intestine (Henle)—Human Embryonic Intestine. Conjunctive (Chang)—Human Embryonic Conjunctive. In October 1958, 3 more strains were brought from Moscow, U.S.S.R. and added to the Stock—

Detroil—6—Human Bone Marrow

ERK—Embryonic Rabbi Kidney

CY—Monkey Heart.

The work of the Department of Embryology, which pertains to the effect of Cancer inducing substances on genetics and embryonic tissues, was continued during 1958 in the Bio-chemistry Department. Work on the (i) investigation of Vadakkan tobacco with a view to study its carcinogenicity and (ii) experiments on the testing of the anti-fertility activity of 2:6 dibenzyloxy-Hydroquinone were carried out. In the Enzyme Chemistry Section, investigations were in progress on the lines of metabolism of folic acid and metabolic studies of human leprosy organism and the role of enzymes in the toxic action of cobra venom.

The programmes of the Department of Human variation were expanding in various directions. A genetical and anthropological survey for the detection of abnormal haemoglobines in Lohana continued during the year 1958. Works on Twins and Consanguineous marriages were in progress. A new project was planned to be undertaken regarding some hereditary effects of consanguineous marriage in the Parsi Community. 22 new cases of sex endocrine disorders were referred to for investigations and treatment during the year under review.

In the Bio-physics Department studies on X-ray irradiation on fluorescence, properties of acridine orange stained tissue, culture cells were completed. The changes in the fluorescence properties with different doses of X' ray were observed amongst four different types of tissue culture cells stained with acridine orange after fixing in 3 per cent formalin. The changes in the fluorescence of nucleic areas of the cell were found to occur at a narrow critical dose range of 2000 r to 3000 r. These observations of 1958 led to propose a different hypothesis than that suggested by previous workers regarding the nature of specificity in the fluorescence of acridine orange stained two types of nucleic acids within the cells viz., DNA and RNA.

On the recommendations of the Family Planning Programme and Research Committee of the Government of India, the Contraceptive Testing Unit (C.T.U.) was set up at the Indian Cancer Research Centre in 1954 as the Centre could provide all the necessary facilities for the work of such a Unit. The Unit comprises of 2 Sections viz., (1) The Laboratory Section and (2) The Clinical Section. In the Laboratory Section:

- (a) Research on development of local and oral contraceptives;
- (b) Laboratory testing of contraceptives;
- (c) Research on evolving better criteria for testing; and
- (d) Research on physiology of reproduction are carried out.

Any local chemical contraceptive, that passed the laboratory tests, had to pass a clinical test before it could be released for sale in the market. This is because, it is not enough, if a contraceptive has the necessary physical and spermicidal properties. It must also not exert any harmful effect on the delicate mucous membrane of the vagina and cervix.

During 1958, the *Optical and Electric Microscope studies* of mesenchymal tumours and distribution of succinic dehydrogenase in speron heads as revealed in the electron microscope were completed. The electron microscope studies on breast cancer and on tobacco smoke were in progress during the year under report.

3. THE CENTRAL RESEARCH INSTITUTE, KASALI

As in the past, the Central Research Institute, Kasali continued to manufacture and supply large quantities of vaccine and sera such as cholera, T.A.B., anti-rabic (human dog and other animals) vaccines, anti-venom, anti-diphtheretic and high titre sera, tetanus toxoid, anti-sheep haemolytic serum and influenza vaccine during the year 1958. Bacteriological examinations and sample test were also conducted in the institute. Besides, samples of Penicillin, Catgut, Sera and Vaccines received from the Drugs Controller (India), Assistant Drugs Controllers and Divisional Inspectors of States etc., were tested during the year 1958. The Institute is basically a research Institute.

Immuno-chemical studies on Cholera with reference to Polysaccharides—Attempts were made to prepare polysaccharides by different methods from dried bacteria. Ether treatment gave antigens of low activity, diethylene glycol treatment antigen of high activity from one strain as shown by precipitin tests against homologous serum. The antigen obtained by 50 per cent pyridine extraction was active but seemed to be of a greater mixture than others.

Polysaccharides were prepared by the method of coprecipitation with calcium phosphate from the different types of vibrios. Protection test with mice showed that these were immunologically type-specific. Chemical analyses showed varying amounts of nitrogen 1.9 to 3.9 per cent; of phosphorus 0.5 to 1.5 per cent; of reducing sugars 51.5 to 97.8 per cent and of pentoses 3.6 to 12.2 per cent. These were highly active, produced agglutinin in rabbits and protected mice against infection *V. Cholerae*. Chromato-graphic studies on these polysaccharides did not show any difference in the sugar composition of the different vibrios.

Toxicity tests with a polysaccharide from an Inaba strain of *V. Cholerae* by intravenous injections in mice had shown that a dose of 0.25 mg. was toxic. Doses lower than this were being tried. Further work along these lines was being carried out.

Rabies Street Virus Infection in Laboratory Anima-LS and its Treatment—Several experiments were carried out to find the optimal dosage of anti-rabic serum and vaccine required for treatment of animals infected with street virus. Though it was not possible to be precise about the various factors which come into play to produce a specific effect in a biological system, it was possible to say, on the basis of the results of the experiments that by administration of specific serum, effective active immunity could be induced in animals by giving them a repeated antigenic stimuli, namely anti-rabic vaccine for a period of treatment of at least 14 days.

2. Attempts were made to remove the paralytogenic factor from the anti-rabic vaccine by treatment of vaccine with calcium phosphate gel and bentonite solution. The results so far were not very encouraging.

3. Immunological tolerance of guinea pigs against brain tissue.

Paralytic accident following anti-rabic vaccination was believed to be due to an antigen anti-body reaction. To test whether immunological tolerance would present the onset of experimental encephalomyelitis, half of each litter of guinea-pigs were injected with brain emulsion without eight hours of birth, the other half served as control. Three months later both groups were injected with brain adjuvant emulsion. Practically all control animals died showing signs of typical encephalomyelitis while more than 50 per cent of animals which received brain injection survived. The effect of repeated brain injections in young animals to prevent encephalomyelitis was being pursued.

Modified Blood Level duration test for procaine Benzylpenicillin with Aluminium Mono-stearate—In view of the difficulties experienced by Lightbown and Sulitzeanu (Bull. W.H.O. Vol. 17, p. 561, 1957) using rabbits as the test animal for the above tests, viz., the formation of opaque ring round the beads in the agar plates resulting in irregular results, a preliminary survey was made with the idea of using sheep in place of rabbits. Blood from over 30 normal sheep was drawn and tested for any possible inhibitory action or interference with the test organism used in the assay (*Sarcina Lutea*). The results have shown that the sheep could be used to advantage for the purpose of the test.

A few of the sheep weighing 25-30 lbs. were injected i.m. with 75,000 units of procaine benzyl-penicillin with aluminium mono-stearate (PAM) and the blood tested for penicillin at the end of 72 hours. Out of 10 sheep, 9 showed penicillin blood levels of more than 0.03 units/cc.

The preliminary results would, therefore, indicate the feasibility of use of sheep for the blood level duration test.

Serum Concentration—With a view to achieving greater speed and efficiency in the production of concentrated of anti-toxic sera, improvements such as (1) a rocking dialyser (2) a new plasma separator (3) a simple

and cheap design of a freeze-drying apparatus for anti-venene (4) a stirrer for use in fractionation of plasma and (5) a method for removing iron from ammonium sulphate were tried.

In an I.C.M.R. enquiry on cholera endotoxin, alleged permeability enhancing property of the endotoxin has been disproved.

Training—A regular course of training in the diagnosis, prevention and treatment of rabies was held at the Institute from the 14th April to 2nd May, 1958 and 14 Medical and Veterinary Officers nominated by their respective heads from different States were trained.

New Developments

Bio-chemical Laboratory—To meet the increasing demand of bio-chemical investigations from the neighbouring hospitals and sanatoria and to undertake bio-chemical research on basic problems of microbiology and immunology, this Section has been reorganised to function as a separate laboratory.

Field Unit—This unit was established in July, 1958 to carry out epidemiological investigations of infectious diseases such as cholera, enteric fever typhus fever, etc., and to keep the Institute abreast of the biological behaviour of these diseases in the field with a view to modify the manufacturing procedures of the Institute, if indicated. The Unit is well staffed and equipped with portable laboratory equipment on a station wagon with a trailer.

National Salmonella and Escherichina Centre—The Centre has been established in association with the World Health Organisation to act as reference laboratory and to assist regional state laboratories in the typing and diagnosis of these organisms.

Miscellaneous

Institute Common Welfare Fund—For the welfare of the Institute employees, a Common Welfare Fund has been started. Financial help in the form of loans and grants is given to the needy employees of the Institute in cases of illness and for education of their children, etc. One of the major activities of the I.C.W.F. has been running the Nari and Shishu Kalyan Kendra.

C.R.I. Sports Club—For the first time in the history of the Institute the Central Research Institute, Sports Club organised "C.R.I. Fete", in the month of June, 1958. The net proceeds from the sale of tickets, including variety show staged in the Canteen Hall, Kasauli amounted to Rs. 1,485.05 np.

The C.R.I. Employees' Children Park has been established for the recreation of the children of the employees of the Institute. A sea-saw and a sliding chute have been installed in the park.

Besides recreation and welfare facilities provided by the Sports Club Features, documentary films of educational value were shown to the staff and their families at short intervals. The Institute has got a projector and the films are obtained from some foreign Embassies and the Ministry of Education for screening.

Nari and Shishu Kalyan Kendra—The Kendra was started on 1st October, 1958, as a part of the activities of the Institute Common Welfare Fund. This centre is, as its name implies, entirely devoted to the welfare of the wives and children of Class III and Class IV employees of the Institute providing for their additional nutrition and warm clothing during winter season.

4. ALL INDIA INSTITUTE OF HYGIENE AND PUBLIC HEALTH, CALCUTTA

As in the previous years, the activities of the All-India Institute of Hygiene and Public Health, Calcutta, relating to training of public health personnel of different categories and to carry out researches in various problems of public health importance, continued to function during the year under report. The Institute Silver Jubilee celebration took place in February, 1958. The WHO/International Labour Conference took place at this Institute in November, 1958. During the session; lectures, seminars and field demonstrations in public health administration and social medicine etc., were given to students of the following courses—

- (a) Diploma in Public Health.
- (b) Diploma in Maternity and Child Welfare.
- (c) Diploma in Industrial Health.
- (d) Diploma in Nutrition.
- (e) Diploma in Dietetics.
- (f) Licentiate in Public Health.
- (g) Diploma in Child Health.
- (h) Master of Engineering (Public Health).
- (i) Certificate Course in Health Education including Administration.
- (j) Certificate Course in Public Health Nursing.
- (k) Certificate Course in Maternity & Child Welfare.
- (l) Certificate Course in Public Health Engineering.
- (m) Certificate Course in Industrial Hygiene.
- (n) Certificate Course in Laboratory Technique.
- (o) Certificate Course in Nutrition.
- (p) Diploma in Tropical Medicine & Hygiene.
- (q) Diploma Course in Social Work.
- (r) Course in Family Planning Training.
- (s) Orientation Training Course for Community Projects Personnel.

A total of 377 students were trained in different courses of the Institute during the session. Among them 27 were non-Indians sponsored by the other countries for training in the courses mostly under WHO/UNICEF fellowship scheme. Special short term training programmes were also arranged for the WHO fellows.

A new ten months Certificate Course in Health Education has been sanctioned and only the Part II of the course is being offered from October, 1958. A new Post-graduate Course of 2 years' duration for training of Medical Statisticians and a Post-graduate Course for training of teachers in Preventive and Social Medicine of 18 months duration have also been sanctioned.

The Institute did not undertake the manufacture of sera, vaccine etc., but prophylactic inoculations against yellow fever was given to 1,851 persons and against typhus to 3 persons during the year under report. As routine, samples of water, blood and other specimen were examined in the Institute, the total number of which was 1,274.

The Institute conducted research on various subjects as detailed below:—

Cholera

280 samples of water from certain selected sources in the city of Calcutta were examined of which 17 showed the presence of Cholera vibrios. The study on cholera phage was carried out to find the possibility of typing strains of *V. Cholerae* with the aid of bacteriophage with particular reference to evolve a phage typing scheme. It was considered that it would prove to be a valuable tool in the epidemiological investigation of this disease for finding out the source of infection and the relationship between cases.

Influenza

Hæmagglutination inhibition tests with a paired samples of sera from a number of cases of influenza collected during the acute state of the disease as well as during convalescence definitely showed significant rise of titre against the Indian strain of influenza virus received through the courtesy of the Pasteur Institute, Coonoor. This study on influenza was carried out in conjunction with the Epidemiology Section of the Institute.

Tuberculosis

The work on the viability of tubercle bacilli in sanatoria sewage was carried out in close collaboration with the Sanitary Engineering Section of this Institute. The investigation indicated that viable tubercle bacilli could be isolated from treatment plants as well as from sludges. The object of this study is to see that the effluent and the sludge are free from such organism so that it may not constitute a public health hazards. The culture technique proved to be more useful than by animal experiments. A study to determine the minimum dose and the contact time with chlorine with a view to observing its killing effect on the organism is also being carried out.

Under the National Tuberculosis Survey, the Institution examined a large number of laryngeal swabs and sputa from suspected cases of tuberculosis detected by Mass Chest Radiography. The survey has been completed and the results analysed. A standard method was recommended by the Indian Council of Medical Research in order to obtain comparable results from all places of investigation. In addition, the other methods for homogenization and concentration of the samples of sputa were used for purposes of comparison.

Gastro-enteritis

During the year under review, acute gastro-enteritis was investigated in details in collaboration with the Epidemiology Section of this Institute. The investigation showed that the out break was due to *Salm newport*. Infection with this type of salmonella was not reported in this country before.

Diphtheria

A survey of diphtheria was conducted at the Rural Health Unit and Training Centre, Singur. A large number of strains of diphtheria have been isolated and their virulence tests were being carried out in this laboratory.

Studies in the mechanism of Plague infection during the inter-epidemic period

This work was started in the year 1955 under the auspices of the Indian Council of Medical Research, New Delhi and continued up to 31st March, 1958. 17 series of experiments were conducted with immunised and non-immunised commensal rats caught from the Calcutta area. These experiments provided evidence in support of the hypothesis that the infection is maintained as chronic foci in the partially immunised rats which may suffer relapse with or without fatal termination and the infection is transmissible under certain conditions to the susceptible rats. There is also a change of virulence of the organism from the virulent to the sub-virulent stage and vice-versa according to the epidemiological situation, particularly to host-parasite relationship. An important collateral development which has emerged out of this study is the greater response to specific plague protein as an immunising agent.

Studies in the immunity of Small-pox

This work was undertaken to evolve and standardise a technique to find out the level of immunity before and after vaccination and re-vaccination.

Some interesting observations so far made suggest that level of immunity does not increase with re-vaccination unless there is *primary type* or vaccinoid reaction. Level of immunity gradually falls even in persons who suffered from Small-pox.

Viral Encephalitis in Nagpur

In connection with the out-break of Viral Encephalitis in Nagpur, the Institute made quick survey of the situation with a view to suggest methods of control during 1958.

Industrial Wastes Disposal and Water Pollution Research Unit (I.C.M.R.)

The Institute continued with the research work on treatment of sugar and distillery wastes during the year 1958. It was found that some species of tropical algae especially chlorella and hydrodicty on are of value in purifying diluted distillery wastes. Quantitative experiments on the use of these two species have shown that these can bring about significant reduction in B.O.D. of waste diluted to about 1,000 p.p.m. The laboratory model biofilter which was constructed during the year 1957 was put into operation during this year and observations were being carried out on the efficiency of purification of distillery wastes by this method.

Study of the different types of latrines used in rural areas of India (I.C.M.R.)

The work on this enquiry was continued during the period under report. The third septic tank and the aqua privy were put into commission. Samples are being collected from all the experimental septic tanks and the performance of these tanks are under observation. The statistical analysis of the data indicated a direct correlation between the efficiency of the septic tank

and the initial B.D.O. of the raw sewage. Small quantities of water are used for flushing of the latrines connected to the septic tanks. Per capita sewage in these installations was estimated as 1.3 g.p.d.

Research on Oral Contraceptive

The results obtained so far lead to the following tentative conclusions—

- (1) Administration of about 300-400 mgs. of Metaxylohydroquinone on the 16th and 21st day after the onset of menstruation reduced pregnancy rate by about 50 per cent;
- (2) There was no evidence that continued use of the drug (in the present dose) for two years affected the general condition, the blood pressure, the hæmopoietic system, the liver or the kidney functions of the women taking the drug; and
- (3) The drug did not appear to suppress ovulation. It did not disturb the menstrual cycles nor was there evidence that it produced abortion after pregnancy had been well established. The progress of pregnancy, the nature of termination and the condition of the child born were, within limited experience, unaffected by the drug in the dose in which it is now being administered.

5. SCHOOL OF TROPICAL MEDICINE, CALCUTTA.

In the year 1958, the School of Tropical Medicine, Calcutta, continued with extensive activities on research, post-graduate teaching and medical relief. The brief outline of important research activities on different projects, carried out during the year under report, is stated below—

Tropical Eosinophilia—Experimental infections with *ascaris lumbricoides* in laboratory animals were able to produce marked eosinophilia with eosinophilic infiltration of the lungs. The histological examination of lungs of (these animals showed marked eosinophilic infiltrations) with fragments of *ascaris* larvæ surrounded by inflammatory cells, mostly eosinophils. More persistent eosinophilia was, however, obtained with *toxocara canis*. Ninety cases of tropical eosinophilia were treated with diethylcarbamazine with seven failures.

Nutritional diseases—Depending on the nature and degree of dietetic inadequacy, period and rate of deprivation, and presence of other concomitans factors, nutritional diseases in children could be classified into four groups viz, marasmus, classical kwashiorkor, marasmic kwashiorkor & kwashiorkor without skin changes. The socio-economic situation and the maternal health had obvious impression on the pattern and extent of deficiency diseases in children. Nitrogen balance was studied in patients with deficiency diseases.

alone and in combination with other common inter current infections. The degree of protein deficiency was more in kwashiorkor than in marasmus. A comparative evaluation of the merits of two varieties of protein-rich vegetable foods, Mysore A and B, was made in the treatment of patients with different grades of protein malnutrition. These were found to be inferior to skimmed milk in respect of serum albumin regeneration.

Diabetes—The onset of alloxan diabetes was earlier in rats with damaged liver than it was in normal ones. No hepatic charge functional or anatomica could be detected in juvenile diabetes cases.

Amoebiasis—The technique recently evolved for the study of experimental amoebiasis was perfected. Experimental amoebic infection, its course and response to amoebicidal drugs were studied in guineapigs with the help of a convenient apparatus (designed in the laboratory) fixed permanently to the caecum of the experimental animal without any need to sacrifice the animal. The new technique yielded fruitful results.

Malaria—Biochemical and histochemical studies indicated that there was a gross depletion of glycogen in the liver tissue of rats experimentally infected with *P. berghei*, whereas alkaline phosphatase activity was normal.

Kala-azar—Five cases of drug-resistant kala-azar were subjected to splenectomy and followed through 1–7 years. Splenectomy alone did not prove to be a cure in these cases. Intensive treatment with the most potent drugs was necessary to prevent relapse.

Helminthic diseases—The distribution of polysaccharides in hookworm larvæ at different stages of growth was determined and a close parallelism between the accumulation of carbohydrate and the rate of larval growth was noted. Intracytoplasmic inclusion-granules were detected in the intestinal cells of *ascaris lumbricoides* and their chemical composition determined. A polar body was demonstrated in the perxivitelline fluid of fertilised *ascaris* eggs. Therapeutic efficacy of a number of indigenous and other drugs against helminthic parasites was estimated.

Mycotic diseases—Prolonged administration of sulphadiazine in adequate dosage brought about a satisfactory therapeutic response in nocardiosis. Filipin, a new antifungal antibiotic, was used in ringworm infection. But the results were not impressive.

Leprosy—Attempts at transmission of human leprosy to experimental animals yielded encouraging results. A strain of black mice bred at the School appeared to have a greater susceptibility to human leprosy than syrian hamsters or any other experimental animals used so far (vide supra). With refined lepromin and with an antigen prepared from Kedrowsky's bacillus the histological response of tuberculoid cases was different from that of lepromatous ones. In a preliminary field study, BCG vaccination was found to have protective role against leprosy.

Cholera—The stability of the antigen of the cholera vibrio was tested against different physical and chemical agents. Formalin in a suitable concentration appeared to preserve the antigenicity while killing the organisms.

Viral Diseases—The virola virus was found to survive in the brain of infant mice for a prolonged period without producing any pathogenic effect. The vaccine virus was invariably found to be lethal to mice inoculated intracerebrally. The out-breaks of infective hepatitis occurring in Malda and Ranigunj were investigated during the year under review.

Disorders of blood—A preliminary comparative study on the absorption of radioactive B12 labelled with 60 cc indicated that in nutritional macrocytic anæmia (NMA) the absorption pattern was different from that in pernicious anæmia and in malabsorption. In a series of 32 patients with hæmophill syndrome, the deficiency of coagulation factor involved AHG in 21, PTC in 4. PTA in 3 and AHG plus PTC in 4.

Entomology—Busvine-Nash technique was employed to study the resistance of insects of medical importance viz., *Xenopsylla cheopis*, *Cimex hemipterus*, *Musca domestica vicina*, etc.

Pharmacology—Effects of *Rauwolfia serpentina* alkaloids and vehicles alone and in combination, on the blood sugar level of cats were studied. *Gymnema sylvestre* was found to have a marked antidiuretic effect on rats. The value of halothane as an anæsthetic was quantitated and compared with those of chloroform and ether. Potency of unknown samples of liver extract was determined by means of biological assay.

Chemistry—Diosgenin has been successfully isolated from *dioscorea prazeri* and a comparative study has been made of different methods used for the purpose. Preparation of progesterone from diosgenin is in active progress. *Agave sisalana* has been found to contain 0.1 per cent hecogenin, a starting material for the preparation of cortison. New compounds, menapthyl phenyl acetate, menapthyl succinate, menapthyl maleate and menapthyl propionate have been prepared for the study of their insecticide value. The assay of various plant specimen was carried out. This included roots of *cæphalis ipecacuanha*, leaves of *hyoseyamus niger*, rhizomes of *cana edulis*, ergot and lemon grass.

Bio-chemistry—Urease was prepared from *cajanus indicus* and jack bean and the activity of this enzyme was estimated under various experimental conditions. The methods of calorimetric estimation of uric acid were critically evaluated.

Radiology—Arteriography revealed "Proliferation" of vessels in the tumefied tissue of mycetoma, venography showed normal venous system in lymphoedematous limbs and lymphangiography demonstrated early dilatation and late atrophy of the lymphatic vessels of the lymphoedematous breasts. The X-ray therapy had little effect in leucoderma and none in leprosy.

6. MALARIA INSTITUTE OF INDIA, DELHI

The functions, in principal, of the Malaria Institute of India, Delhi are the training and research on different aspects of malaria and filaria. The training courses for different categories of personnel (Malaria Officers, Entomologists, Malaria Engineers, Public Health Engineers, Malaria Inspectors etc.) were held at the Malaria Institute of India, Delhi during the year under report.

The change in the objective of the National Malaria Control Programme to eradication implied a state of emergency in the training of about 250 Medical Officers required to man some of the units already formed and those which had yet to be formed within the next 15 months. As such the previous syllabus of training for the 12 weeks course, was condensed to six weeks. The new syllabus laid emphasis on eradication techniques, organisation, administration and assessment. Such a condensation enabled the training of 50 Medical Officers in five courses during the year under report.

The Institute has been recognised by the following Universities for purposes of research degree viz., Calcutta for D.Sc., (P.H.), Andhra for D.Sc., Punjab for Ph. D., and D.Sc., Madras for Ph. D., Agra and Patna Universities for Ph. D.

Insecticide Laboratory

In the Insecticide Laboratory during the year 1958, laboratory and field investigations were carried out. Studies to determine the mode of inheritance of D.D.T. resistance in *C. Fatigans* collected from village Khuraji in Delhi Administration were carried out. Observations on the source of blood meal and its effect on the number of eggs produced by a *C. Fatigans* were made. It was observed that when the mosquitoes were fed on human blood no eggs were produced but eggs were obtained though not the full compliment when fed subsequently on bird. The mosquitoes were initially fed on bird and full compliment of eggs, (average of 204 per raft) was obtained.

Separately hatched females and males confined in 3"×1" tubes mated without any difficulty. The eggs were further cultured to obtain a normal blood of adults.

It was determined that D.D.T. absorbed by the resistant *A. subpictus* was metabolised to D.D.E. and the amount of D.D.T. metabolised per mosquito during the hours was about 0.7 microgrammes.

Parasitology Laboratory

Studies were conducted in albinorats and mice to see whether the acquired immunity against *P. berghei* infection was passed on to the offspring.

Experiments were conducted in albino mice harbouring sulphadiazine resistant strain of *P. berghei* for the selection of strain of the parasite resistant to Choloroquine (Resochin) and Primaquine.

Under the Malaria Eradication Programme 4,687 blood smears were examined during the year under report and the results and remarks were sent to the States concerned.

Entomology Section

Studies on seasonal prevalence and incidence of anopheline mosquitoes in two villages near Delhi continued during 1958. Regular indoor adult collections revealed the presence of six species namely *A. annularis*, *A. culicifacies*, *A. pulcherrimus*, *A. Splendidus*, *A. Stephensi* and *A. subpictus* with a total Anopheline density of 79.1 per man hour. The increase of density in 1958 from that of previous year was mainly in the density of resistant species *A. subpictus*.

Nine hundred and sixteen wild anopheline mosquitoes comprising of 660 *A. Subpictus*, 186 *A. culicifacies*, 39 *A. stephensi* and 31 *A. annularis* were dissected during the year 1958.

Some modifications in mosquito dissections for malaria parasites were published during the year under report, which make economy in time and equipment needed for dissections.

Night observation on host preferences and feeding time of culicines in villages outside Delhi indicated that buffalo was the preferred host followed by cow, donkey and man. Observations revealed that 58.2 per cent of these 1,622 specimens caught, preferred to rest in cattle sheds whereas 41.8 per cent were found to rest in human dwellings.

Chemotherapy Laboratory

Sixty six drugs were screened during the year 1958. M.I.S. 304 (P.A.M.) was found effective; M.I.S. 316 was found effective only in 4 doses. P.A.M. was found effective in *P. Knowlesi* (Nuri Strain). M.E.D. is being worked out.

377-C-54 found effective against *P. knowlesi* (Nuri Strain). The M.E.D. being 1/5 that of quinine against the same plasmodia.

377-C-54 was tried against *P. Vivax* and *P. falsiparum* and was found effective in 600 mgm (single dose). Results are comparable to those of 4 aminoquinoline group.

600 mgm of 4-amino quinoline (single dose) followed by 15 mgm base of Primaquin (single dose) is being tried against human malaria with encouraging results.

Experiments to find out the effect of 377-C-54 on sporogony cycle of *P. gallinaceum* is under progress.

Anti-Malaria Operations

The anti-malaria organisation started in the year 1936 under the direction and supervision of the Director, Malaria Institute of India, Delhi. All the local bodies were directed by the Chief Commissioner to take anti-malaria measures under the direction of Director, Malaria Institute of India, Delhi. Upto the end of 1945 only anti-larval measures were carried out and pyrethrum space spraying used to be done in the localities heavily infested with mosquitoes. D.D.T. indoor residual spraying operations were started in the year 1946 to supplement anti-larval measures which were in vogue. These measures were further intensified to cover the whole urban and rural areas of Delhi Administration in 1953, under the National Malaria Control Programme when all the villages

in rural areas and out-skirts of Delhi urban areas including scattered rehabilitation colonies, were brought under D.D.T. indoor spraying programme. The Anti-malaria Operation Delhi has been transferred for one year in the first instance, to the Municipal Corporation of Delhi w.e.f. 31-12-1958.

A meeting to discuss the programme for malaria season was held on 4th June, 1958 under the chairmanship of the Director, Malaria Institute of India, Delhi in which representatives of local bodies and antimalaria organisations were present including those of Railways, Defence and Radio Colony. The percentage of malaria cases in relation to population of Delhi urban areas was the lowest, i.e. 0.05 per cent during 1958.

Chemistry Section

Chemotherapy

Both laboratory and field studies of chemotherapy continued during 1958. The work of synthesis of quinazolones as potential anti-malarials, quinazalone derivatives having sulpha chain at 3-position and variation of different groups in the quinazoline nucleus were synthesised.

Biochemistry

Studies on metabolic degradation of pamaquin revealed that it was only 24 hours after intravenous injection of pamaquin that the excretion of nicotinic acid (a possible metabolite) was greatly increased in the urine.

Insecticides

In absence of any specific and easy method of analysis, a semi-micro technique for the estimation of dieldrin based upon total chlorine method was developed.

Samples of 20 per cent gamma BHC emulsion concentrate were analysed for their emulsion stability according to the ISI specification method.

In an experiment on tropical storage of 50 per cent DDT w.d.p. in water-proof gunny bags, it was found that after keeping this material in these bags for 12 months under normal conditions of storage, it had deteriorated considerably as regards suspensibility and particle size. The increase in particle size and loss of suspensibility was due to agglomeration of the powder particles.

In previous studies on the sorption of DDT, dieldrin and dieldrin-resin on alluvial soil of Delhi, it was observed that there was considerable loss of these insecticides through sorption of this type of soil. In order to determine the sorption capacity of other Indian soils, four typical Indian soil samples were obtained from Poona (Black Soil), Delhi (Alluvial Soil), Cuttack (Lateritic Alluvial Soil) and Bangalore (Red Soil) and their physical and chemical properties determined.

For quality control work, 75 per cent D.D.T. water dispersible powder, 50 per cent D.D.T. water dispersible powder and technical D.D.T. from Hindustan Insecticide Ltd., Delhi and Udyoga Mandal were tested. Testing of bulk of 50 per cent BHC water dispersible according to specifications and on 75 per cent D.D.T. w.d.p. imported from U.S.A. continued during the year 1958.

National Malaria Eradication Programme

The Government of India decided to change over the National Malaria Control programme to National Malaria Eradication programme and they were later discussed by the State representatives with the Planning Commission. The Government of India informed the States of their final decision in regard to the change on the 25th February, 1958. All the State Governments sanctioned the implementation of the National Malaria Eradication programme with effect from April 1958.

Thirty additional endemic units were allotted to the various States, thereby raising the number of units allotted to 230 in order to afford protection to 230 million people estimated to be living in the malarious areas. During the year under review, USTCM and WHO supplied 10,679 tons and 2,433 tons of D.D.T. 75 per cent respectively. The USTCM also supplied 640 trucks and 175 jeeps. The two DDT factories at Delhi and Alwaye together supplied about 478 tons of DDT technical, 30 tons of DDT 75 per cent and 894 tons of DDT 50 per cent upto December, 1958. 10,890 hand compression sprayers and 19,580 stirrup pumps were placed for intensification of work in 230 endemic units and 160 hypoendemic units. 4,388 million tablets of avoloclor were also procured. 109 Malaria Officers and 118 Inspectors were trained for the purpose in the Institute during 1958.

With a view to enlist the cooperation of the public large amount of publicity material like brochures, pamphlets, posters and cinema slides etc., were supplied by the Centre to all the States. Publicity through the media of press, films, exhibitions, lectures, spraying demonstrations and group discussion etc., were also carried out. The Malaria Institute of India, in cooperation with the Ministry of Health, organised a unit at the "India—1958 Exhibition on Malaria Eradication".

As planned, 230 Malaria Control Units were to function during 1958-59, but according to the reports received at the Malaria Institute of India, Delhi, 225.25 units were functioning upto December, 1958 as against 230 units allotted. The remaining units were allotted to the States of Rajasthan (1), Madhya Pradesh (3.50) and NEFA (0.25) to be transferred to Naga Hills. During the year 1958-59 (upto December, 1958) about 42.8 million houses were sprayed with insecticides thereby affording protection to about 214 million population.

In order to protect about 1.5 million people living in the railway colonies all the Indian Railways expressed their desire to participate in the National Malaria Eradication Programme.

In order to co-ordinate anti-malaria activities at the Indo-Burma border, Second Indo-Burma Border Anti-malaria Co-ordination Conference was held at Myitkyina, Burma on 8th and 9th December, 1958 under the auspices of the World Health Organisation.

National Filaria Control Programme

The National Filaria Control Programme was included in the Second Five Year Plan period. The measures for the control of Filariasis under the National Filaria Control Programme consist of (a) Mass administration of drugs to

as far as possible all the individuals in a filarioid community and (b) anti-mosquito measures against adults and or larval dependent on the rural/urban nature of the living conditions.

No new control unit was allotted during the year 1958-59. 46 control units were to continue the programme in various participating States.

Surveys carried out upto 31-12-58 covered a population of about 21.22 million persons. These surveys revealed a number of *W. malavi* foci in Assam and Orissa. These also revealed new filarioid areas, where the infection in the people and mosquitoes was detected, though the disease was not noticeable in an appreciable form. With the discovery of such 'silent areas' and from other indications, it was estimated that the population requiring protection in the country was likely to far exceed the original estimate of 25 million. In addition, *W. bancrofti* infection which was previously considered to be mainly an urban problem has been recorded in a large number of rural areas also.

Mass therapy with diethylcarbamazine tablets was in progress in the States of Andhra Pradesh, Bombay, Kerala, Mysore, Orissa, Uttar Pradesh, Bihar, Madras, Madhya Pradesh and Andaman and Nicobar Islands. The therapy covered about 27.77 lakhs of persons upto 31-12-1958.

Anti-mosquito measures were in progress in the States of Andhra Pradesh, Bihar, Bombay, Kerala, Mysore, Orissa, Uttar Pradesh and Andaman and Nicobar Islands. So far, about 25.19 lakhs houses have been sprayed with dieldrin 50 per cent w.d.p.

7. CENTRAL DRUGS LABORATORY, CALCUTTA

During the year under report, 1,115 samples were received for testing in the Bacteriological Section. The number of samples received for microbiological assays of vitamins preparations was 144. 119 samples of anti-biotics preparation were assayed. They consisted of preparations for parenteral use as well as samples for oral and topical therapy.

The number of samples tested in the Pharmaceutical Chemistry Section, Pharmacology Section, Biochemistry Section and Pharmacognosy Section of the Central Drugs Laboratory, Calcutta, were 776, 388, 548 and 66 respectively.

No vaccines or sera etc. were manufactured or supplied during 1958.

Pharmaceutical Department—Regarding the research and other activities during 1958, it may be mentioned that collaborative work in connection with stability of Vitamin B12 injections was carried out. Injections of Vitamin B12 were prepared according to direction laid down by the British Pharmacopoeia. The ampoules were assayed spectrophotometrically to determine the initial potency and then left at room temperature. Periodical checks (every six months) will be carried out to see the extent of deterioration, if any. An attempt was made to determine the concentration of *Santonin* spectrophotometrically. Preliminary results were encouraging. A number of samples of *Indian aconite* were examined for their total alkaloidal content and other soluble alkaloidal content. *Aconitum chasmanthum* staff the usually obtainable variety was found to have a high alkaloidal content. Based on these

findings a minimum alkaloidal content of 2 per cent has been proposed for a standard preparation. The estimation of zinc oxide in zinc oxide adhesive plasters was done by precipitation as phosphate as recommended in the B.P.C. The method being rather time-consuming, an alternative method of assay, which is much quicker, has been developed. A turbidimetric method of assaying small quantities of piperazine with Nessler's Reagent has been developed. According to British Pharmaceutical Codex Supplement 1957 piperazine hydrate was to be estimated by titration with hydrochloric acid using methyl red as indicator. It was found that the end point with methyl red was not sharp, the colour changing long before the end point was reached. With methyl orange as indicator the end point was sharp and agrees well with the results obtained by nitrogen estimation.

Pharmacognostic Research including indigenous drugs—The work on the new standards for the tinctures and liquid extracts were in progress. Tincture Urgineæ I.P., Tinct. Quassia, I.P., Tinct. Gent. Co., Ext. Aswagandha and Tinct. Buchu were investigated.

The work on the identity of *Polygala chinensis* L. was completed.

In connection with proposed resolution for implementation of the recommendations of the Second Analysts' Conference, 25 I.P. crude drugs were collected by the Central Drugs Laboratory, Calcutta for collaborative studies. Of these 20 samples were supplied to 4 different Research institutes of the country for investigations.

Working out new standard for tinctures and extracts for which complete specification do not exist in the I.P., the following were Investigated:—

(a) Extract Ayapan Liq., and (b) Ext. Balæ Liq.

Results of investigation on (a) *Saraca indica*, (b) *Plantago ovata*, (c) *Ipomoea hederacea* and (d) *Ipomoea orizabensis* were also finalised.

Biochemical Research—Estimation of Ascorbic Acid in Adrenaline glands by the U.S.P. method was modified and the determination of Vitamin C was done by microtitration using 2:6 dichlorophenol indophenol dye. The method was simpler and the results obtained were found to be satisfactory.

Vitamin K was in the form of a salt of the hydroquinone form, for which U.S.P. test was not directly applicable. Hence the vitamin was converted into the quinonoid form by treatment with hydrogen peroxide and ceric sulphate and the resulting quinone was estimated colorimetrically using 2:4 dinitrophenyl hydrazine. The work on the assay of chymotrypsin in oily preparations undertaken during 1957 was completed during the year under review.

A new compound of Vitamin B₁, viz., 'Bivitas' which is the pyrophosphoric ester of thiamine was tested and assayed fluorimetrically after enzymatic hydrolysis as direct extraction procedure gave very low values for vitamin B₁ content.

Pharmacological Research—The work on the establishment of a method of bioassay of corticotrophin, which was in progress as reported earlier, has been completed during the period under review. A line of investigation was planned for evaluation of various anti-convulsant and sedative drugs in animals under effect of electric shocks.

A large number of samples of Penicillin indigenously manufactured were received through the Drugs Controller (India) for investigational purpose. The nature of toxic reactions encountered during testing by the official method was studied.

Collaborative work on establishment of life period of various drugs under storage conditions in India in connection with the resolution adopted at the Second Analysts' Conference was started during the period under review. Samples of injection of Posterior Pituitary (I.P., U.S.P.), Tincture of Digitalis (I.P.,) and Liver Injection Crude (I.P., U.S.P.) were obtained from reliable manufacturers. These were distributed to the collaborating laboratories as well as being investigated in this Laboratory. Preliminary determination of potency, toxicity pyrogen, etc. was done and the remaining samples are being stored at room temperature, incubator temperature and refrigerator temperature. The potency etc. will be determined periodically in order to find out the life of the preparations under such storage conditions. As a long term problem, the role played by adrenal cortical hormones in allergy was investigated.

Bacteriological Research—The Department carried out investigations on the following problems—

- (i) Studies on the stability of vitamin B₁₂ in combination with other vitamins. Vitamin B₁₂ was combined with ascorbic acid and pantothenic acid/salts, and the stability of vitamin B₁₂ in such combinations studied after different intervals;
- (ii) Anti-microbial properties of some of the Indian herbs are being studied. Turmeric extracts have been investigated and others are under study; and
- (iii) The development of resistance among vibrios due to action of tetracycline was studied.

8. HAFFKINE INSTITUTE, BOMBAY

The Government of Bombay during the year under report, appointed a high-power Scientific Advisory Committee to advise Government on research and development of the Haffkine Institute. The Government of Bombay appointed another Committee to look into the question of separation of large scale manufacture at the Chemotherapy Department from the activities of the Institute. The meetings of the Narcotic Committee and the Units of Indigenous Drugs Research were held at the Institute under the auspices of the Indian Council of Medical Research, New Delhi during the year under report.

The Institute supplied large amount of typhoid vaccine to Ceylon and cholera vaccine to Thailand during epidemics, through World Health Organisation. During the year, there was an epidemic of Encephalitis in various parts of the country. The Institute offered assistance and participated in deliberations held under the auspices of the I.C.M.R. Influenza vaccine prepared at the Institute was released for distribution. The demand for cholera vaccine was unusually high and the demand for plague vaccine continued to be low. It was not possible to fully comply with the indents of sera and antitoxins and dry plasma. Process for making triple vaccine in the Institute was finalised.

A training programme was undertaken for training of technicians in medical laboratory technology. Sixteen candidates were admitted and they were under training at the Institute.

The routine diagnostic tests were abolished from certain departments, with a view to release the Institute of routine elementary type of investigations and permit concentration on investigations in specialised fields. The Public Health Laboratory work of testing water-supply, milk, ghee and other food samples was also discontinued. As a result the activity, publicity and facility for research had shown steady progress during the year under report.

In the Antitoxins and Sera Departments the scientific and technical work for the production of Triple Vaccine were in final stage and as soon as new constructions by way of increased space and other facilities for large scale production are ready, Triple Vaccine for combined prophylaxis of Tetanus, Diphtheria and Whooping Cough will be possible to be released for public use. The anticoagulant action of cobra venom in human and horse blood was investigated. The work on purification of antitoxins by enzyme digestion methods was continued. The possibility of recovery of antitoxic globulin from the waste products by extraction and digestion with enzymes was investigated. Studies on the venom of King Cobra were carried out. The M. L. D. of the King Cobra venom as supplied by Entomology Department for mice of 20 gm weight was determined which was found to be only 0.05 mg of dried venom, by intravenous route, which is not more lethal than that of cobra.

During the study on oral antidiabetic sulphonylureas in the Department of Chemotherapy a new and economical process for the desulphurisation was developed. A comparative study of sulphamethoxypyridazine with sulphadiazine in experimental plague in mice was carried out. It was shown that sulphadiazine treated mice survived for a longer time than those treated with sulphamethoxypyridazine. The department continued to manufacture and supply Vitamin, Sulpha drugs and Quinine preparations to hospitals and dispensaries of the Government and Municipalities and to the Employees' State Insurance Scheme.

Study on various epidemiological features of Salmonellosis was under progress in the Clinical Pathology Department during the year 1958. An investigation was in progress to find out the antigenic pattern of the different components of Cholera Vaccine viz.,—the supernatant fluid, the deposit and ammonium sulphate precipitated extract in various solvents. Under the Indian Council of Medical Research, a Survey on industrial workers for the incidence of Venereal Infection was also started in the Section.

In the Department of Entomology, experiments were done and observations made to find out whether fleas have pool feeding or capillar feeding. A technique was developed to kill the fleas while they were feeding on mice. Body-louse experiments done on behalf of the WHO have shown that the lower concentration of DDT and BHC do not give 25 per cent mortality to these insects. Pyrethrum gives even in lower concentration more than 75 per cent knock-down.

The pharmacological actions of cholera endotoxin were studied with a view to finding out the pathogenicity of the disease in the Department of Pharmacology of the Institute. As the pharmacopoeial methods for differentiating between genuine and spurious tinctures were found to be inadequate,

a study for the development of additional tests for some of them had been undertaken. The estimation of Vitamin C in complex multivitamin preparations has been a problem for quite a long time. The blue colour obtained by the reaction of Ascorbic Acid with Silico molybdic acid affords a colorimetric determination of the vitamin in the presence of many substances commonly incorporated in complex multivitamin preparations.

Research activities of the Vaccine Department reveals the possibility of manufacture of cholera vaccine by the submerged culture method. A study of the susceptibility to plague infection of rats from the endemic zones carried out at the Institute showed that except in Assam, which has not suffered from serious plague epidemics *R. rattus* which was the principal reservoir of plague infection was found resistant to plague infection in all the endemic zones.

The Virus Department continued with the research inquiry of the I. C. M. R. on "Adaptation of street virus to developing chick embryos" and studies on salivary glands of rabid animals were continued. Preparation of influenza vaccine on an experimental scale was carried out by using different methods of preparation such as alcohol precipitation and cell absorption, and using various strains with a view to evolve a suitable polyvalent vaccine.

In the Blood Bank Section, the work of preparation, blood grouping (Anti-A and Anti-B) sera progressed well by immunizing human donors with group specific substances, however, it is becoming difficult to meet the demand which has doubled itself in the course of one year.

In the Department of Nutrition, studies of nutritive value of some leafy vegetables and their supplementary effects were carried out. The research activities of the department included the studies in fermented foods and studies on protein metabolism and vitamin B₁₂ during the year under review.

Twenty two papers by the Research Workers of this Institute were published in the year 1958 in different scientific and medical periodicals.

9. NUTRITION RESEARCH LABORATORIES, HYDERABAD

The work of the Nutrition Research Laboratories Hyderabad continued along with several fronts and has expanded during the period 1958. The major event during the period under review was the shifting of the Laboratories from Coonoor to Hyderabad in December, 1958. The Laboratories have been located in the campus of the University and have been provided with increased opportunities for the pursuit of clinical research in human nutritional deficiency diseases and malnutrition, which remained somewhat restricted during the years at Coonoor. It is gratifying to record that the Government of Andhra Pradesh have placed 32 beds, at the disposal of the Laboratories in two hospitals of Hyderabad city for clinical research in nutrition.

The work carried out on various problems in nutrition in the Laboratories during the year 1958 is summarised below.

Studies on Proteins—The essential amino acid content of four green leafy vegetables and the cystine content of a few important foodstuffs were determined in view of paucity of data on Indian foodstuffs. The favourable effect of supplementation of cereals with pulses and green leafy vegetable

on the growth promoting property of the resulting protein mixture was confirmed in investigations on two millets viz., tenai (*Setaria italica*) and samai (*Panicum milliare*). Dehusking affected adversely the nutritive value of protein in tenai, samai and jowar while there was no change in bajra. On a balanced vegetable protein diet, made up of a mixture of vegetable proteins, the intestinal synthesis of vitamin B₁₂ as also its utilization for growth and maintenance of tissue concentration was normal.

Investigations on pregnant women using the nitrogen balance technique showed that 0.9 g/Kg. of body weight per day was the minimum requirement between the 22nd and 28th weeks of pregnancy.

Studies on Iron Metabolism—Studies on the effect of phytate on iron absorption revealed that with intakes of about 20 mg. of iron per day, the body is in equilibrium with respect to iron. Investigations on iron lost through sweat gave the average values of 0.99 and 0.31 upper c.c. in 'cell rich' and 'cell free' sweat respectively.

Studies on Vitamins—The level of protein intake influences the rate of depletion of liver stores of vitamin A in experimental animals kept on vitamin A-free diets. Rates on high protein diet had a higher requirement for vitamin A than on low protein diet.

Clinical investigations—The changes observed in monkeys on prolonged feeding of diets containing different fats brought about the following changes in serum cholesterol. Hydrogenated fat caused a large rise but that on coconut oil was even greater. Replacement of a part of the hydrogenated fat by niger seed oil led to a much smaller increase. Corn oil and groundnut oil did not cause a significant rise. Phospholipid concentrations ran parallel to cholesterol concentrations.

Butter, hydrogenated vegetable fat and coconut oil could be placed in descending order with regard to their effect on whole blood clotting time. Only butter produced a significant reduction in stypven time.

Field investigation—The dietary habits, infant feeding and weaning practices amongst tribal people in the Nilgiris were studied.

Anaemia was a major problem in children and women among the families employed in a tea estate. Hookworm infestation was not a predominant factor in the case of anaemia in women. Diet surveys among this segment of population showed that the iron intake was 21.5 mg. per day with the range 14 to 34 mg. The anaemia, in children responded to treatment with iron, as well as with protein, through supplementation with both iron and protein effected rapid improvement.

Studies in human lactation—The chemical composition of human milk in poor Indian mothers (200 samples) was not significantly different from the values for proximate principles reported for human milk from Europe and U. S. A., where mothers may be assumed to be well nourished. However, the concentration of some vitamins was lower.

Notwithstanding a lower intake of dietary calcium, the calcium content of the milk of the mothers in South India was higher than the values reported from other parts of the world. No correlation existed between the iron content of milk and haemoglobin level in blood. Protein concentration rose and calcium content fell during pregnancy.

Protein Malnutrition—Surveys in Andhra Pradesh and West Bengal revealed a high incidence of protein malnutrition among young children. The incidence was at its lowest in infants under one year of age. The children showed marked improvement in the nutrition when various protein rich foods were tried. Vegetable protein mixtures were found to be nearly as good as skimmed milk.

Chemical composition of Indian Foods—A large number of samples of cereals, pulses, beans, fruits and vegetables were analysed for proximate principles, vitamins and minerals with a view to determining the extent of regional variations.

10. THE PASTEUR INSTITUTE OF SOUTHERN INDIA, COONOR

The Pasteur Institute at Coonoor, since its inception in 1907, was the only place where patients might receive anti-rabic treatment. In 1922, a few Subsidiary Treatment Centres were opened as an experiment on the decentralisation of anti-rabic treatment. A large number of hospitals, dispensaries and registered medical practitioners now receive their supplies of anti-rabic vaccine from this Institute. In addition to the routine and research activities, which had been carried out under the auspices of the Association, the Institute provided facilities for research financed from other sources. Some of these were temporary while others have become more or less permanent. An independent organisation financed by the Indian Council of Medical Research, New Delhi, now known as the Nutrition Research Laboratories, has had its headquarters at the Institute almost continuously since 1918. The Southern India Branch of the Research Section of the Malaria Institute of India Delhi continued to work at this Institute under the Director, Malaria Institute of India, Delhi.

The Government of India sanctioned an ad-hoc grant of Rs. 80,000 to the Pasteur Institute, Coonoor, through the Indian Council of Medical Research during the year 1958-59, for purchasing of equipments required for the expansion of tissue culture, production of anti-rabic hyperimmune serum and other virus research activities of the Institute.

Enquiries continued to work under the Director of the Institute on (1) Rabies (2) Studies on Cholera, and (3) Studies on Nichol's strain of *Treponema pallidum*. The first enquiry was supported by the Indian Council of Medical Research, New Delhi and the other two by the Madras State Research Committee. The Respiratory and Intestinal Viruses Unit of the I.C.M.R. continued to function during 1958. An enquiry on influenza supported by the I.C.M.R. started functioning in 1957 continued to function during the year under report.

38,50,572 cc. of anti-rabic vaccine was manufactured of which 30,41,421 cc. were supplied. The number of bacteriological and other samples tested was 7,311.

Rabies—The enquiry to determine (i) whether the 5 per cent sample vaccine manufactured by the Institute has any protective value under circumstances in which adequate untreated control groups have been observed and (ii) whether there is any variation in the mortality rate as a result of treatment with 5 per cent sample vaccine instead of the 1 per cent vaccine used during the years 1912-1924, continued during the year 1958.

In view of the general belief that post-infection treatment of dogs, cattle and other animals is of no value it was considered desirable to investigate the problem. A careful study to determine the efficiency of post-infection treatment of animals has been in progress since 1955.

It was found that a vaccine of reasonably uniform potency could be obtained when twelve batches of vaccine were pooled before ampouling. In the pools so far tested the antigenicity was always greater than that of the reference vaccine. The good results obtained in potency tests in mice as well as in the post-infection treatment of guinea-pigs challenged with virulent strains of street virus has led to the adoption of the method for the routine manufacture of anti-rabic vaccine at the Institute since March, 1958.

Influenza—The Asian strain of influenza virus was isolated from all the four localised out-breaks occurred in 1958. They showed among themselves the same degree of biological differences as in the 1957 strains, some behaving like the strain PAR—insensitive to normal fowl and rabbit serum inhibitors and reacting poorly with specific antibodies and others like the strain Kolar VI being highly sensitive to inhibitors as well as anti-bodies. They differed, however, from the 1957 strains in their comparative ease of growth and adaptation to allantonic passage, resulting in high HA titres with fowl cells after 2 or 3 passages. 22 strains were isolated during 1958.

Encephalitis—The research programme during the year under report had been the study of the aetiology of cases which occurred in Delhi in 1957 and those which occurred in an epidemic form in Nagpur in June and July, 1958. Over 460 specimens had been collected from cases of encephalitis which occurred in Delhi, Nagpur and Madras and these were studied. Studies in connection with the identification of the viruses was in progress.

Cholera—Studies on cholera indicated that it was possible to produce an enteric infection in guinea-pigs fed with *V. cholerae* with 0.001 ml. of a culture compared with the 15 ml. used by Freter. The cholera vibrios could be passaged serially from guinea-pig to guinea-pig. The freshly isolated epidemic strains of *V. cholerae* could produce enteric infection in guineapigs when fed after starvation alone without (a) rendering them streptomycin resistant, (b) alkalinization of the gastric contents and (c) inhibition of the intestinal flora with streptomycin.

11. REGIONAL RESEARCH LABORATORY, JAMMU AND KASHMIR

The Research Section of the Drugs Research Laboratory, Jammu was taken over by the Council of Scientific and Industrial Research with effect from 1st December, 1957 and renamed as Regional Research Laboratory, Jammu and Kashmir. The Regional Research Laboratory supplied genuine botanical samples to some Research Institutes and Workers engaged in phyto-chemical research. This was a very important function of this Institute as it was extremely difficult to get authentic herbs for research work. The Laboratory also supplied genuine seeds, rooted suckers and cuttings of medicinal plants to various State, Agricultural Departments, and other interested persons engaged on cultivation of drugs. The work of the Laboratory continued with special emphasis on the cultivation of medicinal plants and the introduction of exotic medicinal plants particularly those of the temperate zones. The entire requirement of menthol

was practically met by the State, which has 300 acres of land earmarked for the cultivation of *mentha arvensis*. Of other valuable plants being cultivated on a large scale in these drug farms were *Digitalis purpurea* and *D. lanata*. *Atropa acuminata* and *A. belladonna*, *Chrysanthemum Cinerariaefolium*, *Hyoscyamus niger*, *Doiscorea deltoidea*, *Chenopodium ambrosioides*, *Anethumgraveolens* and *Rauvolfia serpentina*.

Cultivation of Medicinal and Aromatic Plants

Ammi Visnaga Linn—Introduced from Egypt the plant has acclimatized well to the soil and climate of Jammu. The seeds yield khellin, a coumarin which has recently been introduced into modern medicine for the treatment of asthma and coronary heart disease.

Chenopodium Ambrosioides Linn—This is an exotic plant from U.S.A and has been successfully domesticated in Jammu. The seeds yield 1.2 per cent of oil, which contains 70 per cent ascaridole.

Mentha Arvensis Linn—This most important plant was introduced from Japan and grown here with great success as a source of menthol.

Anethum Graveolens Linn (Dill)—The fruit of this exptic European plant yields the British Pharmacopeal Dill oil containing 50-55 per cent Carvone, the oil was extensively used in modern medicine.

Rauvolfia Serpentine Benth—Experimental cultivation of *R. Serpentine* in nurseries, attached to this Laboratory, showed that an average yield of 2,000 lbs. of dried root per acre with a total alkaloid content of 1.7 per cent can easily be obtained from a three year old plantation.

Chemical and Biological Investigations of Indian Medicinal Plants—

In order to find out an alternative starting material for the preparation of cortisone and other steroid hormones a systematic study of six *Indian Solanum species* was initiated. The fruits and leaves were analysed and it was observed that the fruits of *S. xanthocarpum* Schrad. & Wendl. and *S. indicum* Linn contained 1.1 and 1.8 per cent alkaloids (Solasodine) respectively and could form a good starting material.

Reserpine—The presence of some of the *Rauvolfia* group of alkaloids such as serpentine and ajmalacine have been recorded in this plant.

Khellin—An economic process for the preparation of khellin from the locally raised fruit of *Ammi-visnaga* was worked out.

Essential-Oil-Bearing Plants of the N.W. Himalayas—

Pogostemon Pleactranthoides Desf—The leaves and flowering tops yielded 0.4 per cent of dark brown oil with characteristic smell. Palmitic acid, terpinene, menthol, a mixture of carophyllenes, aromadendrene, Se-guaiazuline and some unidentified hydrocarbons are some of the constituents.

Ferula Jaeschkeana Vahl—The roots yielded 0.1 per cent of greenish blue oil with pleasant odour. I-d pinene, I-cadinene, hydrocarbons, and azulene constitute 50 per cent of the oil.

Preparation of Ascaridole—Pure ascaridole is being extensively employed in the expulsion of round worms in place of oil of chenopodium. A process was developed for its isolation from the *Chenopodium ambrosioides* var. *anthelminticum* oil.

Insecticidal and Insect Repellant Plants—

Quite a large number of plants were tested for their insecticidal or insect repellent properties; out of these it was found that *Tephrosia toxicaria* Pers. *Artemisia vulgaris* Linn, *Angelica archangelica* Linn possessed marked insecticidal activity and may be of some practical utility.

Pharmacological and Microbiological Investigations—

Cyclea peltata Diels—The active principles viz., alkaloid burmanine and total alkaloids isolated from the tubers of *C. peltata* produced a fall of blood pressure in doses above 5 mgm/kg given intravenously in anaesthetised dogs.

Lochnera rosea Reich. b.—Total alkaloids, isolated from the root bark of the plant, showed significant and sustained hypotensive action. Antibacterial studies have revealed that the total alkaloids inhibit the growth of *micrococcus pyogenes* var. *Aureus*, *V. cholera* and *M. tuberculosis*.

Inula royleana DC—Pharmacodynamic studies of the three alkaloids isolated from the roots of the plant showed, that the amorphous alkaloid possessed a well marked curariform activity in dogs and rabbits.

Pristimera indica—Pristimerin isolated from *Pristimera indica* was found to inhibit *M. tuberculosis* in concentrations ranging from 5 to 8 ug/ml.

Punica granatum—Alcoholic extracts of various parts were investigated for their antibacterial activity. They inhibited the growth of *V. cholera*, *Sh. dysenteriae*, *B. typhosum* and *M. tuberculosis* in concentrations ranging from 70 to 100 meg/ml.

12. KINGS INSTITUTE OF PREVENTIVE MEDICINE, GUINDY, MADRAS

The King Institute, Guindy, Madras, was established in 1905 and originally it was serving as a Lymph Department to supply vaccine lymph to Madras Province. Its activities have extended enormously. The Institute served as a Public Health Laboratory for examination of water from protected water supplies throughout the province, and other samples for general diagnostic purpose, and analysis for examination of samples of food under the Prevention of Food Adulteration Act. It also served as a manufacturing centre of Vaccine lymph, Cholera and TAB Vaccine, Antitoxin Sera, Sterile Parenteral Solution, antovaccine, etc. The Institute also served as a training and research centre. The Blood Bank and Blood Grouping Sections were also functioning satisfactorily during the year 1958. Research works carried out in biological, antitoxin, blood grouping and water analysis departments, are worth mentioning.

A total quantity of 4,785,750 doses vaccine lymph were manufactured in the institute during 1958 and a quantity of 8,115,695 doses of glycerinated vaccine were issued to the field after the usual tests for purity, toxicity and potency. Out of this 4,888,695 doses were supplied to Madras State and 3,227,000 doses to Andhra Pradesh.

In the serology section, the reagents such as Kahn Antigen (7,180 cc), bullock heart extract 750 cc, 1 per cent cholesterol solution 300 cc, and

anti-sheep hæmolytic serum 50 cc were manufactured during 1958 and a part of it was supplied to different States in India and Ceylon. As the Institute serves as a general diagnostic laboratory for hospitals in Madras, 42,415 bacteriological examination of specimens were done during the year 1958.

A comparative research study was made on V.D.R.L. and Kahn tests on blood specimens. The preparation of anti-sheep hæmolytic serum (amboceptor) by a new method which minimises shock to animals was also performed, which was found to be satisfactory.

The Biological Control Department undertook the analysis of biological products manufactured in this Institute as well as those sent by different hospitals in the city and mufussil. The total number of tests done during 1958 was 11,620. This department also received samples from Drugs Inspectors under provision of Drugs Act.

An investigation into the value of male frog test in the diagnosis of early pregnancy continued in this Section.

In the Department of Anti-toxin, experiments on the production of high grade tetanus toxin by invagination technique using cellophane bags immersed in nutrient media were conducted. Table No. 51 indicates the quantity of sera manufactured and supplied during 1958 to various States.

In the Blood Bank Section, 413 bottles of wet plasma was processed and 403 supplied, where as 31,817 ampoules of group sera were prepared and 30,524 ampoules were supplied during the year under report.

The water analysis department of the Institute provide facilities for post-graduate students in the Public Health Engineering for carrying out their research project under the guidance of the Chief Water Analyst. The main line of researches carried out by this department were —

1. Removal of flourine from drinking water on a pilot plant scale;
2. Application of break point chlorination to the feed water to a slow sand filter and its effect on the production of hydrogen sulphide in the filters;
3. Treatment and disposal of tannery wastes;
4. Bacteriological standards for ice-cream; and
5. Estimation of flourine in food materials.

In the Government Analyst Department, 11,855 samples were examined under the Prevention of Food Adulteration Act. 235 drug samples were received for testing under Drugs Act during the year under review. Research activity on the variation in the analytical characteristics of the country butter, ghee and oils resulting from storage at room temperature were in progress.

Educational

A course of instruction in the theory and practical training in Microbiology Water and Sewage Bacteriology, Limnology and Stream Sanitation was given to the Post-Graduate Public Health Engineering (M.Sc.) students of Madras University. 15 students took the course. They were also afforded facilities for carrying out their research work as part of requirement for the degree. The certified Laboratory Attendants and Technicians' Training Courses were also continued during the year under report.

13. CENTRAL INSTITUTE OF RESEARCH IN INDIGENOUS SYSTEMS OF MEDICINE, JAMNAGAR

The Central Institute of Research in Indigenous Systems of Medicine, Jamnagar was established in association with the Gulab Kunwarha Ayurvedic Society in 1953 by the Government of India. The technical work, of the Institute continued on—

- (a) Study of Jalodara (Ascitis)
- (b) Study of Grahani Vikar (Disorder of digestive system)
- (c) Study of Amavata cases (Rheumatic conditions)
- (d) Continuation of the work on Panduroga to consolidate views from previous work on Panduroga.

Under research policies and programme of the Institute 257 cases were admitted during the year 1958 of which 185 cases were completely studied for research and 63 were partially studied.

Daily on an average over 436 patients attended the out-patient department. Among the above in-patient department cases, there were cases of Panduroga, Paratantra Pandu and non-Panduroga. Amongst others were cases of Grahani, Atisar, Amla Pitta, Jalodara, Agnimandya and of Dhatukshya and other miscellaneous diagnosis. While drawing up programme for research it was always kept in view that they should lead not only to the appraisal of the principles and techniques of diagnosis and treatment of the diseases and evaluation of the properties of the drugs used but also the understanding and interpretation of the fundamentals of Ayurveda and Sidha system, viz., the principles related to the Sidhantas of Doshash and Dushyas, etc. These programmes were duly submitted to the Scientific Advisory Council of the Institute for their approval.

Under the research programme of Ayurvedic team Panduroga and Dhatukshya cases were treated on the lines previously indicated and continued to show marked results with Punarnava Mandur, Suddh Mandur and Shuddh Kasis; Jalodar cases responded fairly well to either Jalodarari rasa or Arogya Vardhani with Punarnavasthak kwath; Grahani Vikara cases were treated with Katsakadikwath, Panchamrita Parpati and Suvarna Parpati, singly or in combination according to the condition of the patient. The results were watched with keen interest and the progress and results were recorded in detail. The cases of Gandupad Krimi (Ascariasis) responded fairly well to Palas beej kwath or churna or Ras Kriya.

The senior physician of the Ayurvedic team selected cases for admission from out-patient department to the wards of the hospital, as were considered suitable for investigation and study.

The Sidha physicians team was allotted eight indoor beds to work on the lines as Ayurvedic team. During the year 1958 they studied 34 cases. Principal diseases were Velluppoo Noi, Kudar Puchu Noi, Eraipoo Noi, Kazhichal, Kalanja Padai, Akatto Noi, Oothal Noi, Soolai, Kamalai, Meha Noi, Vathapadippavan.

The modern team consisted of one senior, one junior and two house physicians and pathology and biochemistry departments. They investigated and studied all the cases studied by the Ayurvedic and Sidha teams, from the point of view of modern medicine. Apart from this they have also separately studied 19 cases mostly of Diabetis Mellitus, Anaemia, Gandupad Krimi and others.

The function of Pharmacognosy Department is three fold, viz., (i) identification of herbs and plants used in the preparation of Ayurvedic and Sidha systems, (ii) collection of specimens of Ayurvedic herbs and plants from different parts of the country, and maintenance of a museum and herbarium for pharmacognostic study and (iii) plantation of Ayurvedic herbs and plants.

The Darshana Shastry collects and interprets all such texts from Vedas, Upnishadas and Darshana Shastras etc. are relevant to and useful for the study of basic principles of Ayurveda. The Darshana Shastry continued with his research into the exposition of Manas-Prakriti and Tridosha etc.

The modern pharmacist was making detailed study of Punarnava Mandur and other iron preparations as regards their inorganic contents and microscopic character.

The Director, of the Institute took classes in history of medicine and imparted bed side clinic to the students of Post-graduate Training Centre in Ayurveda, Jamnagar, and a batch of 8 students from the Post-Graduate Training Centre for a period of six weeks, each in rotation, were in the Institute to study the technique of research work.

14. CENTRAL LEPROSY TEACHING AND RESEARCH INSTITUTE, CHINGLEPUT, MADRAS

The Institute is comprised of the Lady Willingdon Leprosy Sanatorium at Tirumani in Chingleput District and the Silver Jubilee Children's Clinic at Saidapet in Madras, both are under the charge of the Director of the Institute. In pursuance of the recommendations of the Health Survey and Planning Committee in regard to the establishment of a Central Leprosy Teaching and Research Institute, the Government of India in consultation with the Government of Madras took over the above two Institutes and established the Central Leprosy Teaching and Research Institute at Chingleput. The activities of the two wings are described below separately:—

The Institute at Tirumani:

The activities at the Institute include treatment of in-patients and out-patients, research, teaching and welfare-cum-occupational activities for the in-patients. During the year under report, the total number of in-patients treated was 1,505 and the patients from Madras State only were admitted as in-patients. 765 patients, who were originally admitted into the wards from blocks and dormitories for treatment of severe lepra reaction, trophic ulcers and for intercurrent diseases were treated in the hospital. 239 operations, including 63 cases for constructive surgery were performed. The daily out-patient clinic was attended by 3,917 patients during the year under report. The bed strength of the Institute was 884.

The activities of the Mobile Unit were expanded during 1958. The total number of villages covered by the 13 clinics was 227 and the cases on roll at the end of the year was 2,165 of which 1,558 attended for treatment.

24 Medical Officers from Madras and 1 Medical Officer from Andhra Pradesh received training in Leprosy during the year under report. The Health and Sanitary Inspectors from Madras and Andhra Pradesh received two weeks training at Tirumani and another two weeks at Saidapet. Students of Public Health Nursing Course and Pre-Registration Graduate Internees of the Rural Health Centre, Poonamallee, also attended lectures and demonstrations.

Research—A trial of S.U. 1906 or Ciba 1906 (DPT) continued during the year 1958. Clinical and bacteriological improvement was noticed in both the cases of Ciba 1906 group and DDS group. It was concluded that Ciba 1906 is a very useful addition to the existing anti-leprosy drugs. This drug seemed to be specially indicated in cases, who became intolerant to DDS. An investigation was started to find out whether addition of INH and thiosemicarbazone (TBI) would accelerate the bacteriological clearance who, persisted bacteriological positivity after long treatment with sulphone.

Laboratory—9,220 routine examinations, including 6,454 skin smears for lepra bacilli, 987 specimens of blood, 1,252 specimens of urine, 338 specimens of stools and 189 specimens of sputum, were performed in the Laboratory.

In the Institute occupational therapy and training for rehabilitation of the patients continued during 1958.

Silver Jubilee Children's Clinic, Saidapet

The activities of the Clinic was mainly treatment of out-patients, research investigations and training of personnel. During 1958, the total out-patients treated was 3,012 of which 2,132 were adults and 880 children. The Saidapet was investigating into the use of DDS as prophylaxis against leprosy in healthy child contacts of leprosy patients. 194 healthy children under 14 years of age living in contact with cases of leprosy (both lepromatous and non-lepromatous) in the same house were enlisted for the investigation. 2,497 routine laboratory examinations, including 1,112 skin smears for lepra bacilli, 370 lepromin tests, 652 specimens of blood, 125 specimens of urine, 146 specimens of stools and 92 specimens of sputum, were done during 1958.

Teaching—The clinic was also taken its share in the teaching of the medical and para-medical personnel deputed for training at the Institute.

15. VIRUS RESEARCH CENTRE, POONA

The Virus Research Centre, Poona was established in 1952 and maintained jointly by the Indian Council of Medical Research, New Delhi and the Rockefeller Foundation. Since its inception, the Centre has been engaged in the study of virus problems in the country. It has also developed usefully as a keeper of viruses for reference purposes and of important serum collections required for investigation of virus problems in India. Another important scientific activity of the Centre has been to carry out a survey of human immunity to arthropod-borne virus diseases in various parts of the country. The Virus Research Centre, Poona, continued with its study of Virus problem of India emphasizing, as in the past, the two aspects of programme, viz., training of personnel and research during 1958.

Four trainees were mainly concerned with virus studies and one with training in entomology during 1958.

Early in 1957 the existence of the disease, caused by a virus, named as Kyasanur Forest Disease (KFD) related to the Russian Spring-Summer Encephalitis (RSSE) virus, was discovered in Shimoga District of Mysore State. As a result of the initial investigation, a programme was formulated for continuing the studies during 1958. The vaccination programme was started in January, 1958 and has progressed throughout the year under report. Blood samples have been obtained from a considerable number of the vaccinated individuals in order to try and determine the serological response to the vaccine. By the end of the year these studies had not been completed but the information available indicated that there was not a very significant production of complement fixing and hæmagglutination-inhibiting antibodies stimulated by the vaccine.

Studies of the disease in human beings continued with emphasis primarily on detecting human cases in order to follow the spread of the disease in the area.

Although the study of KFD was the principal activity of the Virus Research Centre, studies were continued in the Vellore area of Madras State on Japanese B encephalitis and related viruses known to be present there. During the later part of the year a number of clinical cases of encephalitis were seen and studied at the CMC Hospital at Vellore. The virus was isolated from brain material obtained post mortem in three cases and from a brain biopsy in a fourth case which recovered. Two of these virus strains have been sufficiently worked on to indicate that they were closely related to Japanese B encephalitis virus. The serology of three cases of encephalitis seen at Chintamani, Mysore State were also indicative of Japanese B encephalitis virus infection. There was sufficient evidence to suggest that JBE virus infections have again occurred in 1958 as they did during 1955 and 1956 in South India.

Field studies were continued during the year under report on the bionomics of the mosquitoes presumably involved in the spread of Japanese B encephalitis virus and West Nile virus in the Vellore area. A year-long study of the nocturnal activity cycle of man and domestic animal biting mosquitoes was completed.

Surveys to determine the distribution and incidence of arthropod-borne virus infections were carried on during 1958 in Saurashtra and in the vicinity of Indore and Nagpur. The Virus Research Centre collaborated in the study of an outbreak of encephalitis at Nagpur and was able to establish with reasonable certainty that an arthropod-borne virus was not involved. A number of enteric viruses obtained was under study in tissue culture systems.

16. VALLABHBHAI PATEL CHEST INSTITUTE, DELHI

The Vallabhbhai Patel Chest Institute was established with a grant from the Government of India in 1953. The Institute continued to be managed and administered by the Governing Body constituted by the Executive Council

of the University of Delhi and two meetings were held during 1958. The following research projects were under way in the Institute—

1. Studies on Protein precipitated by a mutant of Mycobacterium Tuberculosis H₃₇ RV.
2. Metabolic studies on the INH resistant and sensitive M. Tuberculosis H₃₇ RV.
3. Metabolism of Radio Active Acetate in experimental tuberculosis.
4. Biochemistry of T.B. with special reference to drug resistance.
5. Effect of Hyperventilation on the unsaturated iron binding capacity of serum.
6. Respiratory enzymes in human tuberculosis.
7. Pulmonary function tests in chronic bronchitis with or without emphysema.
8. Effect of Senescence on Pulmonary Functions.
9. Pulmonary eosinophilosis.
10. Clinical use of Lederkyn.
11. Histoplasmosis investigation.
12. Investigation on Candida species in sputum.
13. The place of specific desensitization in the treatment of Asthma.
14. Histopathologic study of resected tuberculous lungs.
15. Study of the pathogenicity of fungi isolated from soil and other plant sources.

Other than the above research projects, work on the following research schemes sanctioned by the Indian Council of Medical Research, were in progress—

1. Bagassosis.
2. Pollination Calendar for Greater Delhi.
3. Pharmacological studies of a new anti-tubercular antibiotic.
4. Experimental studies on the production of Hypersensitivity.
5. Study of the etiology and Pathways of Iodine metabolism in endemic Goitre (A joint project conducted at the Institute and the All India Institute of Medical Sciences, New Delhi).

Under the Council of Scientific and Industrial Research the following schemes were in progress at the Institute—

1. Biochemical changes produced in Hyper and Hypothermia.
2. Preparation and Biological testing of Usnic Acid and its derivatives for therapy in tuberculosis.

A research scheme to find out a cheaper and better medium for maximum antibiotic production was submitted to C.S.I.R. during the year under report.

The 12th D.T.D. (Diploma in Tuberculous Diseases) Course commenced on the 13th January 1958 with 14 students of which 2 were deputed by the Central Government and the others from the States of Assam, Uttar Pradesh, Bihar, Rajasthan, Punjab, Delhi and West Bengal.

The second Medical Laboratory Technology Course commenced on 1st July, 1958 with 8 students admitted from different parts of the country. All the 4 students belonging to the first batch, admitted in 1957 successfully completed the course.

Under the up-grading programme, two doctors were nominated by the Government of India as Research Fellows at this Institute during 1958. Other three research fellowships tenable at the Institute were offered by the Council of Scientific and Industrial Research, New Delhi UNICHEM Laboratories, Bombay and Messrs Sarabhai Chemicals for research studies on Bio-chemistry, Pulmonary Eosinophilosis and on Moniliasis respectively.

The Clinical Research Centre which was opened by the President in 1957, continued to work in different fields of enquiry viz., Respiratory Allergies Pulmonary Eosinophilosis, Role of Endocrines in hypersensitivity, Asthma and Lederkyn Therapeutic Trial etc.

The work on the preparation of a Pollination Calendar for Delhi, which commenced in June 1957, continued in 1958. A provisional list of plants which offer allergenic possibilities were prepared and their approximate pollination periods were noted with the help of available botanical literature combined with our own field observations. Certain plants such as Ricinus, Communis Dodonaea Viscosa and Putranjiva Roxburghii which find little mention in the allergy literature, produce and shed considerable amounts of dry and buoyant pollen which might be playing an important role in the production of allergic disorders in the area.

In addition to the valuable contributions of the Institute for teaching and research purposes, the Departments of Bacteriology and Pathology were providing consultative services for Bacteriological and Histo-Pathological examinations to the hospitals in Delhi and outside where facilities were not available.

15 papers on various subjects were prepared for publication, 5 of which were on (1) Studies on serum lipase, (2) Fatty acids from the lipids of streptomycin resistant tubercle bacilli, (3) A protein precipitated by a mutant of tuberculosis H₃₇ RV, (4) Experimental studies in Venous Embolism, (5) Effect of BCG (Bacillus Calmette Guerin) Vaccination on the occurrence of tuberculosis among student nurses were already published. The remaining papers were also ready for publication.

17. KING EDWARD VII MEMORIAL PASTEUR INSTITUTE AND MEDICAL RESEARCH INSTITUTE, SHILLONG

During 1958, there were 103 Anti-rabic Treatment Centres, both public and private, including one at Pasteur Institute, Shillong. 9,295 persons applied for treatment during the year under report an increase of 1,768 as compared with that of the previous year, which was 7,527, and about three times as compared with that of 1953. Though the number of cases who undertook

anti-rabic treatment had very much increased, yet there was not a single case of death during the year under report. Thus this Institute continued to create a record in the history of anti-rabic treatment in India.

The following prophylactic vaccines were supplied during 1958—

Description	Quantity (in cc)
1. Cholera Vaccine	9,50,620
2. T.A.B. Vaccine	28,615
3. Combined T.A.B. and Cholera Vaccine	1,50,260
4. Anti-rabic Vaccine	6,17,089

The above figures showed a big increase as compared with those of the previous year. This was due to a large demand from border areas.

During the year under review, 26,944 cc of bactrio phage were issued as per detailed below—

Description	(Quantity in cc)
1. Government Institutes in the State	23,936
2. Tea Gardens	512
3. Private persons and institutions	2,048
4. Other Governments	448

In the laboratories, 22,965 laboratory specimens were examined.

The Institute continued to supply agglutinable suspensions and sera and also laboratory requirements to both Government and private hospitals and laboratories in the States, so also the supply of glucose solutions, saline and other materials and the sterilization of surgical materials for Ganesh Das Hospital, Government Civil Hospitals and also for other Institutions.

CHAPTER XIV

INDIGENOUS SYSTEMS OF MEDICINE AND HOMOEOPATHY

In India due to the shortage of doctors, health services had not so far been taken to the remote rural areas, and a poor villager will have to go several miles to avail of the services of the medical institutions. Indigenous Systems of Medicine can provide a solution to the problem of medical relief in India, particularly in rural areas. With the advent of independence, the Government of India started exploring the possibilities for their development. Rs. 37.5 lakhs was provided in the First Five Year Plan period for the promotion of research in the Indigenous Systems of Medicine. Of this, over Rs. 12 lakhs was spent for promoting research in Ayurveda and up-grading of Ayurvedic Colleges. This includes the provision made for Central Institute of Research in Indigenous Systems of Medicine and the starting of the Post-graduate Training Centre in Ayurveda at Jamnagar. A sum of Rs. 75,000 was granted to the Tibbi College, Aligarh, and Rs. 100 lakhs was allocated in the Second Five Year Plan period for Central Schemes for development of Indigenous Systems of Medicine, including Homoeopathic System. A provision of Rs. 521.83 lakhs was made in the State plan for development of Indigenous Systems of Medicine, of which Rs. 221.49 lakhs was earmarked for the improvement and expansion of existing colleges and establishment of new Ayurvedic and Homoeopathic Colleges. The Central assistance would be given for the improvement of such teaching institutions which were included in State plans. The pattern of Central assistance for this purpose was 75 per cent of non-recurring expenditure (including the cost of expansion of the college buildings) subject to a ceiling to be fixed by the Government of India and 50 per cent of the recurring expenditure on the college (not the hospital) during the Second Five Year Plan period (1956—61).

Three Advisory Committees in Ayurveda, Unani and Homoeopathy were appointed to advise the Government of India on research schemes and other matters connected with the development of the Systems, which met in December, 1958 and recommended further grants of about Rs. 5 lakhs for payment to private organisations or institutions. A sum of Rs. 20.55 lakhs was allocated to various State Governments to meet expenditure in connection with the establishment/expansion of the teaching institutions and a sum of Rs. 6,16,300/ as grants-in-aid for research and development of Indigenous Systems of Medicine including Homoeopathy.

The Ayurvedic Research and Evaluation Committee with Dr. K. N. Udupa as Chairman was appointed in July, 1958 to —

- (1) Evaluate and assess the work done in the field of Ayurvedic research and the upgrading of Ayurvedic Institutions as a result of grants already given by the Central and State Governments;
- (2) Assess the existing facilities for training and research in Ayurveda; and
- (3) Assess the measures, volume and standards of Ayurvedic pharmaceutical products and to find out the factual position in regard to the practice and recognition of the Ayurvedic System of Medicine.

The Committee stated that for the time being training in both the integrated and Shudh Ayurvedic System have to continue. The Post-graduate Vedic Systems may have to continue. Post-graduate and research facilities in training centres have been suggested for the improvement of Ayurveda and for giving it greater emphasis during the training course. The Committee recommended the establishment of chairs of Indian medicine in Colleges of modern medicine. The report states that more than Rs. 6 crores worth of Ayurvedic medicine are being manufactured and consumed in the country.

Since independence, there has been an increase in the number of Ayurvedic Colleges and pharmaceutical concerns and greater control over the registration of Ayurvedic practitioners. It has been suggested that Government should make a clear declaration of policy in regard to the place of Ayurveda in the country providing medical relief.

There were about 5,472 Ayurvedic Hospitals and Dispensaries in the country excluding the Union Territory of Delhi, during the year under report. In the State of Kerala there was one Ayurvedic institution for every 100 sq. miles. These were the two States, where the number of Ayurvedic institutions was the maximum. On the other hand, the state of West Bengal had, in 1958, the least number of Government Ayurvedic Institutions with only one dispensary for 3,765 sq. miles. Similarly, the state of West Bengal had the minimum with one Ayurvedic institution per 2.912 million, whereas in the state of Rajasthan they had the maximum with one Ayurvedic dispensary for every 25,759 people. Among the States, the ratio of registered practitioner to population was the greatest for the state of Punjab with about one practitioner for 644 people. Next came to be Kerala with one Ayurvedic physician per 1,334 people. The state of Assam had the least number of registered Ayurvedic Practitioners with one per 10,911 people. However, it may be pointed out that these proportions do not afford a true comparison between States as registration was not compulsory in some States.

In the Post-graduate Training Centre in Ayurveda, Jamnagar, which was established by the Government of India in 1956, 25 students were selected on all India basis in 1958 in the 2 years' course of Post-graduate training in Ayurveda. Each student was given a stipend of Rs. 100/ per month. Out of 25 students, who appeared for final examination, 15 candidates were successful in 1958. The pharmacy department of the Centre was engaged in manufacturing and preparation of drugs for the use of attached hospital, apart from providing training facilities.

The activities of the States in respect of Ayurveda, Unani and Homoeopathic systems of medicine are detailed below :—

Andhra Pradesh—There is an Act in force known as the Hyderabad Medical Act No. 1 of 1312 Fasli and the Rules of the Board of Indian Medicine 1954 framed thereunder to regulate the registration of Medical Practitioners in Ayurveda, Unani and Homoeopathic Systems of Medicine. There are two Colleges of Ayurvedic and Unani Systems of Medicine functioning under the control of the Board of Indian Medicine. They award the diplomas of *Tabeeb-e Mustanad* (for Unani) and *Ayurveda Vishardā* (for Ayurvedic) after

completion of 4 years of study respectively. The Hakims and Vaidys obtaining their qualifications from these Colleges are entitled to be registered by the Board on the strength of their degrees and diplomas.

The registration of unqualified and hereditary medical practitioners was also under taken by the Board after taking a formal test of their medical skill in a meeting of the Sub-Committee for registration appointed by the Board. The registration is stopped in Telengana area for the time being as the question of applicability of Andhra Ayurvedic and Homoeopathic Medical Registration Act, 1956 for Telengana area is under consideration.

A Board of Homoeopathy was established under the Andhra Pradesh Ayurveda and Homoeopathy Registration Act, 1956 and the work of registration was not commenced during the year under review.

Bihar—The Government Ayurvedic College and Hospital, Patna was upgraded during 1958. A hospital with 100 beds was constructed and a considerable increase in the number of patients in Ayurvedic System of Medicine both in-door and out-door was noticeable. There were three other Ayurvedic Colleges in the State affiliated by the State Faculty of Ayurvedic and Unani Medicine and aided by the Government at Bhagalpur, Begusarai and Madhubani.

An Ayurvedic and Unani Research Unit was established in the month of May, 1958. The problem taken up for research was "Ambat". 465 Vaidyas 71 Hakeems and 10 Surgeons were registered in Ayurvedic and Unani Systems of Medicine Act, during 1958. The Faculty of Ayurvedic and Unani Medicine, Bihar conferred G.A.M.S. and G.U.M.S. degrees to the Ayurvedic and Unani Graduates respectively.

The Government enacted a legislation known as Bihar Government Homoeopathic System Act, 1953, to provide the development of Homoeopathic System of Medicine and to regulate its teaching and practice in the State of Bihar. The State Board of Homoeopathic Medicine prepared syllabus and courses of studies for degree and diploma, which was under consideration of the State Government. A draft scheme for research also was sent to Government for consideration. The Government was requested for the establishment of a College of Homoeopathy at Patna, which was also under consideration of the State Government.

Bombay—The Government formed Bombay Homoeopathic Act, 1951. It regulates qualifications and provides for registration of practitioners of Homoeopathic System of Medicine in the State of Bombay. The Government constituted a Board of Homoeopathic System of Medicine. The Board has to exercise such powers and perform such functions as may be prescribed by or under the provision of Bombay Homoeopathic Act, 1951.

Kerala—There were 23 hospitals and 125 dispensaries under the Indigenous Systems of Medicine during 1958. There were also 308 municipal Ayurvedic dispensaries catering to the needs of the people. The number of in-door patients treated was 4,290 and the out-patients treated was 35,74,739 during the year under report.

There was only one homoeopathic dispensary and the total number of patients treated there in during the year 1958 was 6,520. Steps were taken to start dispensaries at Alleppy, Trichur and Kozhikode.

Madras—There was only one institution of Ayurvedic Sidha and Unani System run by the State, viz., College of Integrated Medicine, Madras. The G. C. I. M. Course of 5½ years duration was available in this institution. The Government sanctioned a research scheme in Ayurvedic Sidha and Unani System of Medicine with assistance from Central Government. The Central Government sanctioned a sum of Rs. 2,000 per bed for 50 beds per year.

The Government have recently recognised the Homoeopathic System of Medicine and the question of framing the rules and regulations etc., was under consideration.

Madhya Pradesh—Indigenous medicine department was looked after by the Joint Director of Ayurveda. During 1958, there were 927 Ayurvedic or Unani dispensaries functioning in the State of which 514 dispensaries were run by Government, 154 were aided by the Government and the rest were being run by Municipal and Local Bodies.

Two Government Ayurvedic Colleges, one each at Gwalior and Raipur were conferring B. I. M. S. degree. One candidate from the State of Madhya Pradesh was sent for post-graduate training in Ayurveda at Jamnagar. Two Ayurvedic and Unani Boards continued to function, one each at Gwalior and Jabbalpur during 1958. Research works were conducted at the Government Ayurvedic College, Gwalior.

Two year course (D.H.P.) was imparted at the Homoeopathic College, Raipur which was a private institution recognised by the Homoeopathic Board. 25 students appeared at the examination in 1958. The question of giving grant to the Homoeopathic Board and the college was under consideration of the State Government.

Mysore—There were two Government hospitals, one at Bangalore and the other at Mysore giving treatment both in Ayurvedic and Unani Medicine to the in-patients and out-patients. There was a provision of 160 beds in Ayurvedic and Unani Hospital at Bangalore and 36 beds at Mysore Hospital. Diploma in Siddha Ayurvedic Course (D. S. A. C.) were given in some of the Colleges in the State to the candidates after regular course of training for four years and compulsory practical training of six months. L.A.M.S. and L.U.M.S. (Licentiate in Ayurvedic Medicine and Surgery and Licentiate in Unani Medicine and Surgery) were issued in Ayurvedic and Unani Colleges in the State to the candidates after completion of a regular course of four years training, and 9 months compulsory apprentice physician's training in the headquarters hospitals and bigger taluk hospitals in the State.

There was no registration act for the registration of practitioners and of homoeopathic medicine in Mysore. A Bill called Mysore Homoeopathic Practitioners Bill, 1958 was under consideration of the State Legislature. There was only one Homoeopathic College and two Homoeopathic dispensaries functioning during 1958.

Orissa—Two Ayurvedic Hospitals, 139 Ayurvedic dispensaries (including 8 dispensaries, newly established, and 23 allopathic hospitals and dispensaries converted into Ayurvedic ones) and one Unani subsidised dispensary were functioning during 1958. The Gopalbandhu Ayurveda Vidyapith, a Government Institute at Puri, was training students for D. A. M. S. diploma, awarded by Orissa Ayurvedic Board. 30 students were admitted to the Vidyapith during the year 1958. Research in Indigenous Systems of Medicine was carried out in the Gopalbandhu Ayurvedic Vidyapith, Puri during the year under review.

Five Homoeopathic dispensaries were functioning in the State including one newly established during 1958.

Punjab—The Ayurvedic System was popular in rural areas where medical facilities were not available sufficiently. 332 Ayurvedic and Unani dispensaries were functioning in rural areas during 1958, but these dispensaries could not attend to the serious and critical diseases which require the constant attention of specialists. In order to achieve this objective a 50 bedded Ayurvedic Hospital was established at Patiala in 1958. An amount of Rs. 21.50 lakhs was provided for the Indigenous Systems of Medicine.

Rajasthan—About 10,000 practitioners dealing in Indigenous system of Medicine were registered under the Indian Medicine Act, 1953 in Rajasthan State. There were two Government Ayurvedic Colleges running at Jaipur and Udaipur. These two colleges run five year course of Bhishagacharya and three year course of Bhishagwar. Besides, there were five private Ayurvedic Colleges functioning during the year 1958. Only three homoeopathic dispensaries were running in the State of Rajasthan and 88,959 patients were treated in these dispensaries during 1958.

Uttar Pradesh—The registration of homoeopathic practitioners started in 1954 and up to 31st December, 1958, 13,993 applications for registration were received. There were two Homoeopathic medical colleges, one in Lucknow and the other at Allahabad in which degree course of 4½ year duration with a period of six months internship was introduced.

West Bengal—Three Ayurvedic colleges, attached to hospitals, remained affiliated to the Council for both diploma courses of Ayurvedtirtha (A.S.F.) and (M.A.S.F.). Besides, three more teaching institutions, attached to dispensaries, remained affiliated for only Ayurvedtirtha (A.S.F.) course. There was a post-diploma training course of one year and the diploma awarded was Pranacharya (F.A.S.F.). The total number of indoor beds in the hospital of the three Ayurvedic colleges was 340. There were two more Ayurvedic hospitals (not affiliated to the Council) which also catered to the needs of the ailing patients. The number of Ayurvedic practitioners registered in 1958 was 88 and the total borne on the register up to 31st December, 1958 was 7,328.

As regards homoeopathic medical relief the out-door dispensaries, attached to the homoeopathic colleges, were running very satisfactorily and every year the number of attendance was increasing. 250 in-door beds were attached to such institutions. Some of the institutions received grant-in-aid from the Government of West Bengal during 1958. D.M.S. was a course in homoeopathy of four year study. The Government of India allotted fund to D.N.D.E. Homoeopathic Medical College and Hospital, Midnapur for carrying out research on "Drug Proving".

Delhi—There were 17 Ayurvedic and 4 Unani dispensaries, besides one Ayurvedic hospital with 24 beds, functioning during the year under report. The total number of patients treated in Ayurvedic dispensaries was 14,82,563 during the year 1958 and in Unani dispensaries was 4,72,317 and in Ayurvedic hospital 5,445 patients. The Corporation was also maintaining a pharmacy to prepare genuine Ayurvedic medicines. The Ayurvedic and Unani Tibbia College is a private institution imparting training in Ayurvedic and Unani Systems of Medicine on modern lines. The hospital, attached to this college, has 56 beds including a research department. A two year degree course was introduced conferring B.I.M.S. degree. During the year under report, 92 practitioners were registered (57 of Ayurvedic and 35 of Unani Systems of Medicine), thus making a total registration to 1,786 up-to the end of 1958. There were two affiliated colleges viz., one Ayurvedic and Unani Tibbia College, Karolbagh and the other Jamia Tibbia, Delhi. 223 students appeared in diploma course. 57 students qualified in final professional examination and diploma Bhishagacharya. Only one Ayurvedic dispensary was maintained by New Delhi Municipal Committee for medical relief. 17,309 new patients and 64,712 old patients were treated by these dispensaries during 1958.

The Delhi Homoeopathic Act was put in force with effect from 15th May, 1958. The Board constituted a Sub-committee to frame a syllabus for the diploma course to be conducted by the Board of Homoeopathic System of Medicine, Delhi.

Himachal Pradesh—There was no Unani institution functioning in this Pradesh during the year under report. 91 Ayurvedic dispensaries and two mobile Ayurvedic dispensaries were functioning at the beginning of the year. Eight more Ayurvedic dispensaries were opened during the year under report and thus raising the number to 101. During the year under report, 6,02,263 persons were treated in these institutions as compared with 4,58,836 in 1957. No homoeopathic institution was functioning nor any such institution started during the year under report.

Tripura—There was only one Ayurvedic dispensary in this Territory. The registration act was not in force. Only out-door treatment was given to the patients during the year 1958.

There were five homoeopathic dispensaries in this territory in which out-door free treatment was rendered to patients.

CHAPTER XV

VOLUNTARY ORGANISATIONS AND ASSOCIATIONS

The Voluntary Organisations play an important role towards the advancement of preventive and curative services in the country, apart from the Governmental activities.

The high lights of the services of the voluntary organisations during 1958 are summarised below :—

THE INDIAN RED CROSS SOCIETY NEW DELHI

At the end of the year 1958 the Society had on the roll 18 States and 411 district and Sub-district branches with a total adult membership of 1,22,949. Lt. Col. C. K. Lakshmanan, who retired as Director General of Health Services, Government of India, New Delhi joined the Indian Red Cross Society as its Secretary General on the 1st July, 1958 on the retirement of Sardar Balwant Singh Puri.

The Society in July, 1958 launched a programme to fight against poliomyelitis and immunised about 18,000 school children of this country during 1958.

The year under review was free from major calamities in India, although floods occurred in Delhi, as also in parts of Assam, Punjab, West Bengal and Uttar Pradesh. For relief work in the States, liberal supplies of milk, medicines, clothings etc., were sent from the headquarters.

For the benefit of undernourished children and nursing expectant mothers, multi-vitamin tablets were given to various States.

Over one thousand bottles of blood plasma together with transfusion apparatus were distributed for the use of patients in the States of Bombay, Punjab, Andhra Pradesh, Uttar Pradesh, Madras, West Bengal and Delhi. Over 360 hospitals, dispensaries, children welfare centres, school orphanages etc., received magnificent help consisting of milk, medicines, vitamins, clothings, blankets and other articles.

A large financial donations were sent for relief work in Poland, Japan, Ghana, Iran and Mexico through their respective Red Cross Societies. Medical supplies were rushed to Thailand, Nepal and Ceylon during the year under review.

As a peace time programme of the Red Cross Organisation, liberal grants were given to branches and institutions engaged in maternal and child health work for the training of health personnel viz., lady doctors, P. H. Nurses, health visitors, midwives and dais for the improvement of rural midwifery services.

The maternal and child welfare bureau continued to function with greater intensity for improving and expanding the welfare services in the district of Tehri Garhwal, including the attendance of maternity cases, minor ailments and accidents.

The hospital services section of the Society provided services including the running of the Red Cross Home at Bangalore for totally disabled ex-service men, supply of Red Cross amenity stores, library books etc. His Highness the Governor of Mysore visited the Home and presented Virchakra to invalid Guman Singh during 1958. Provision of artificial limbs to deserving civilians was started by the Indian Red Cross Society in 1955 and 19 persons were supplied with artificial limbs during 1958.

The Junior Red Cross, the Youth Section of the Red Cross made further progress and had a membership of over 24 lakhs of boys and girls during 1958 as compared to 20.32 lakhs in 1957. An inter-State Junior Red Cross Study Centre was organised by West Bengal in October, 1958 and 190 Juniors and Counsellors from 11 States attended. Two Juniors and 2 Counsellors from Japan also participated in it. The camp was a great success.

The India Red Cross Society, New Delhi set up a stall in the Health pavillion, at the "India 1958 Exhibition" held in New Delhi. The exhibits on display were of great interest for all sections of visitors.

The World Red Cross Day was celebrated all over the country with a radio message by its Chairman, Raj Kumari Amrit Kaur.

2. THE ST. JOHN AMBULANCE ASSOCIATION (INDIA)

AND

ST. JOHN AMBULANCE BRIGADE (INDIA).

The object of the Association is to aid the medical personnel and the subject matter of instructions given at the classes and to qualify the people to adopt such measures as may be advantageous pending the doctor's arrival or during the intervals between his visits.

In 1958, the President of India was the President of the Association. Its general business was conducted by an Executive Committee of which Raj Kumari Amrit Kaur was the Chairman and Lt. Col. C. K. Lakshmanan was the Secretary General.

1,12,300 persons attended the courses of instruction in First Aid, Home Nursing, Hygiene and Sanitation and Mother Craft and Child Welfare, 88,652 qualified for the association's certificates of which 80,910 were in First Aid, 6,828 were in Home Nursing, 605 were in Hygiene and Sanitation and 309 in Mother Craft and Child Welfare.

The brigade organisation was comprised of 19 districts covering a number of States and Railways in India.

At the end of 1958, there were 1,081 Brigade Divisions, 591 Ambulance, 129 Nursing, 271 Cadet Ambulance and 9 Cadet Nursing with a total personnel strength of over 25,000.

The Brigade in India was commanded by Raj Kumari Amrit Kaur as Chief Commissioner and Lt. Col. C.K. Lakshmanan was the Surgeon-in-Chief in 1958.

3. THE MISSION TO LEPERS, PURULIA, WEST BENGAL

During 1958, the Mission to Lepers continued to cater services to the sufferers from Leprosy in India.

Treatment was followed in accepted lines. Almost 20 per cent of the patients treated were declared cured without deformity during the year 1958. An extensive physiotherapy was engaged during the treatment with a view to avoid deformities. Work on the correction of deformities of the face and the reconstruction of the nose in leprosy cases occupied a greater attention. The investigation of the effect of vasodilator drug, hydergine in the treatment of ulceration in leprosy was in progress during the year under review.

The problem of tuberculosis associated with leprosy came to the forefront and demands for special wards for such patients had increased.

Rural extension work project was developed and new ones started. 35,800 patients were treated at the out-patient departments of the institutions with which the Mission was connected.

Education of the public and the patients towards the nature of the disease and its prevention and cure was in progress. Capitation grants were received by several homes from all States and also non-recurring grants from the Central Government.

During 1958, the capitation grants received from the State Governments amounted to 31 per cent, which the Mission felt were inadequate.

4. THE ALL INDIA DENTAL ASSOCIATION, BOMBAY

The Association had 34 branches all over India and one in U. K. and its membership increased during the year 1958. Its strength as on 31-12-58 was 814. Three members of the Association were sent on internships to U.S.A. for advanced training in dentistry. Research on dentistry was being carried out under the scholarship awarded by Messrs Hindusthan Lever Ltd.

The 13th Annual Conference of the All India Dental Association was held at Poona in B.J. Medical College in February, 1958. 250 dental surgeons from all over the country and abroad participated in the Conference. During the scientific session interesting dental films were shown, table demonstrations were arranged and instructive papers on different aspects of dentistry were read.

A dental health poster competition was organised on an all India basis. Besides the monthly journal, published by the Association, an Appointment Book, useful to dentists, was also published during the year under report.

5. THE ALL INDIA BLIND RELIEF SOCIETY, NEW DELHI

The Society continued with its service activities at the Model Eye Hospital rendering free treatment to the patients. The hospital located at Lajpat Nagar, New Delhi had 60 in-door beds. The total number of patients treated during 1958 was 40,568 of which 1,816 were in-door and 38,752 were out-door (old and new). The average daily attendance was 150 patients in the out-door department.

Mobile dispensary worked in about 13 different places. The Central Ideal Eye Hospital Camps conducted 706 major and 186 minor eye operations and treated about 29,672 eye patients.

For the prevention of blindness six public lectures were arranged in addition to the publication of posters, charts, pamphlets during the year under report.

6. THE ALL INDIA WOMEN'S CONFERENCE, NEW DELHI

The All India Women's Conference is the only womens' voluntary welfare organisation in the country. It has several branches having maternity and child welfare centres, medical centres, primary and adult education centres, free milk centres for children, pregnant and nursing mothers.

Mobile health vans were catering medical aid to the poor patients in remote rural areas. Mobile health vans were being run by Bombay, Delhi, Calcutta, Hyderabad, Kodai Kanal, Mangalore, Phaltan and Malabar branches.

During the year 1958, the Bombay branch ran its van to give services to the villagers 85 miles from Bombay in the hilly district in the Umbergaon Taluka. Milk powder and multipurpose food were also distributed.

The mobile medical units started work for rendering free medical aid to patients at a distance of 9 to 55 miles away from Calcutta during the year under report. At Delhi, the Rural Health Scheme Committee of the Delhi Women's League, A.I.W.C. continued with the voluntary services of private practitioners assisted by the social workers of the league. The Hyderabad Branch conducted village mobile health work about 24 miles away from the city. On an average, 127 patients were treated every week. Those who needed hospitalisation were brought in van to the city hospitals.

Family Planning Centre at Ottapalam and a rural Sub-Centre at Ambalappara were opened with full financial aid from the Union Health Ministry.

7. THE BHARAT SEVAK SAMAJ, NEW DELHI

The objectives of the Samaj are to render co-operation and aid to the local health authorities and establishment of self perpetuating rural sanitation units consisting of volunteers to assist Panchayats, Community Projects, etc., and to encourage and educate self help and make the people conscious of personal cleanliness and environmental sanitation. In order to achieve their goal, the Bharat Sevak Samaj organised many camps to carry out various activities mostly in rural areas throughout the country during 1958. Special lectures on health and sanitation were given to 2,420 workers through Camp Organizers' Training Camp and 79,205 college and school students and rural youths who attended 1,473 camps, were made to work with local youth for improvement of sanitary conditions in the villages.

About 11,400 girls attended 228 Girls' Camps and they carried out environmental sanitation services in the villages. 27 Yoga and Yogasan Centres were also opened by the Samaj during the year under report.

Besides, certain special health and sanitation activities were carried out by the Samaj in various States. During smallpox or other epidemics in different States Bharat Sevak Samaj took a leading part to collaborate with local bodies and health authorities to supplement their activities.

8. THE INDIAN MEDICAL ASSOCIATION, DELHI

The Indian Medical Association is a voluntary organisation of medical personnel qualified in modern scientific medicine and possess registrable qualification as defined in the Medical Degree Act, 1956.

During the year under report membership strength of the Association rose from 19,850 to 20,907. There were 21 State/Territorial Branches and 571 local branches throughout the country. 31 new branches were formed and 21 revived although 12 branches were either suspended or declared defunct during the year 1958.

The State/Territorial Branches had regular meetings of their Councils and dealt with the matters of interest to the medical profession. The local branches held scientific, clinical and business meetings, once or twice a month, during the year under report.

3 meetings of the working Committee and 2 of the Central Council were held during 1957-58. Four Standing Committees appointed in 1957 and 4 Sub-Committees appointed by the Central Council and Working Committee functioned during the year under report. The working Committee in its meetings dealt with various problems of interest to the medical profession.

At the annual meeting of the Central Council the following resolution was passed:—

“This meeting of the Central Council request the Employees’ State Insurance Corporation and the State Governments concerned, to pay to the Insurance Medical Practitioners for the insured persons for the period for which they have been disentitled from the medical benefits and removed from the doctor’s list but were eligible for medical benefits, if the proper procedures would have been followed by the parties concerned”.

During the year, the Association granted 2 Research Fellowships—one out of its own funds and the other on behalf of Messrs. Unichem Laboratories, Bombay.

9. THE ALL INDIA MEDICAL LICENTIATES’ ASSOCIATION, CALCUTTA

During 1958, the Association continued with its activities in the form of organising meetings in the branches and arranging scientific lectures, etc. The problems affecting the public and the medical profession were the subjects

of discussions both in the branch meetings and the Central Standing Committee meetings. Six new branches—one each in Assam and Madhya Pradesh and 4 in West Bengal were established and 300 new members were enrolled during the year under review.

Some branches of the Association initiated action to popularise the Family Planning Scheme and to check the misuse of antibiotics. The Association extended its cooperation through the members spread all over the country for successful implementation of the public health programme sponsored either by the Government or by public organisations and local bodies.

The Association publishes a monthly journal called "Indian Medical Journal", which carries articles of scientific interest. The chapters entitled "Current Therapy" were useful contributions from the members towards advancement of medical knowledge. The Association made a considerable contribution towards research. Research on evaluation of antibiotics and indigenous drugs in leucorrhoea were carried out by a member, who was awarded stipend by the Association for the purpose.

The Association continued with its endeavour to get the Medical Council Act, 1956 further amended and to reopen the condensed M.B.B.S. course or other courses of higher education to the Medical Licentiates.

10. THE TRAINED NURSES ASSOCIATION OF INDIA, NEW DELHI

The highlight of 1958 was the observation of 50th anniversary of the Association in the various States. The Golden Jubilee Celebration was observed at Hyderabad in October, 1958. To commemorate the Golden Jubilee year, three special editions of Nursing Journal of India were published.

One of the Associations' Secretaries was awarded a Rockefeller Foundation grant for an observation tour to U.S.A. The Association granted 3 Scholarships to nurses for post-basic courses at College of Nursing, New Delhi, the School of Nursing, Vellore and All India Institute of Hygiene and Public Health, Calcutta. The Association sponsored 12 nurses for work and study abroad under the "Exchange of Nurses Privileges Scheme" and 14 nurses were given financial assistance out of the Associations' Nurses Welfare Fund.

During 1958, the membership of the Association, including that of the Midwives Association and Health Visitors' League, reached to 5,254.

11. THE HIND KUSHT NIVARAN SANGH, NEW DELHI.

The Sangh had been concentrating attention on the neglected social aspects of the disease and were specially devoting itself to the task of interesting social workers and philanthropists in the plight of abandoned destitute leprosy patients.

During 1958, the Hind Kusht Nivaran Sangh functioned with its headquarters at New Delhi, and 11 State Branches covered treatment, surveys, propaganda and welfare work etc.

The Sangh conducted two Physiotherapy Technician Training Courses—one at the Orthopaedic Research Unit of the Christian Medical College and Hospital, Vellore and the other at the Gandhi Memorial Leprosy Foundations' Centre at Chilaklapalli. 10 candidates were trained at Vellore and 9 at Chilaklapalli during the year under report.

The advances in Orthopaedics and Physiotherapy made it possible for many patients hitherto regarded as chronic cripples to be trained for gainful work. The Sangh made a constructive contribution to the welfare of healed leprosy patients by buying a house at Vellore in the vicinity of the Christian Medical College Hospital. The Sangh was represented at the International Congress of Leprology held in Tokyo in 1958. The Sangh also prepared and published posters, pamphlets, films, slides and other material for publicity. Quarterly journal viz., "Leprosy in India" continued to be published and the Sangh also continued to assist the circulation in India of the quarterly "Leprosy Review" published by the British Leprosy Relief Association, London.

12. THE TUBERCULOSIS ASSOCIATION OF INDIA, NEW DELHI

The Tuberculosis Association of India entered the 20th year of its existence in 1958. Its activities included seal sale campaign, organisation of the training courses and in generally carrying out its usual activities.

The 9th seal campaign started as usual on Mahatma Gandhi's birthday. A total of 1,47,33,000 seals were distributed to the States, the largest quantity having been taken by the Uttar Pradesh Tuberculosis Association. In response to the appeal made by the Central Association for assistance in publicising the campaign generous donations were given by business community. The training programme of the Association consists of the training of health visitors, social workers, nurses and doctors. So far the Association has trained 152 health visitors, 15 social workers and the institutions under its management have been training doctors from various States, besides students for T.D.D. course of Delhi and Punjab Universities and nurses deputed by States and College of Nursing, New Delhi. Post-graduate refresher course in T.B. was organised by the T.B. Associations of Andhra Pradesh and Bombay in 1958. Fourteen doctors attended the course in Hyderabad and 15 attended in Bombay. Facilities available in the Lady Linlithgo Sanatorium, Kasauli, New Delhi T. B. Centre and Mehrauli T. B. Hospital were utilised by College of Nursing for giving practical training to their nurses. The T. B. Association of India has three institutions, viz., Lady Linlithgo Sanatorium, Kasauli, T. B. Hospital Mehrauli and the New Delhi T. B. Centre. During the year 714 patients were treated in the Lady Linlithgo Sanatorium, Kasauli of which 420 were discharged. New Delhi T.B. Centre clinical section registered 8,214 new cases of which nearly 50 per cent were suffering from T. B. Over 7,350 cases were followed up by the organised home treatment scheme. The Mehrauli T. B. hospital had 306 beds of which 54 were for the treatment of tuberculised children and 52 for the treatment of advance T.B. cases. The

number of patients treated in the hospital was 684. Of these 400 were discharged. Out of 15,479 new cases, who attended different departments of this hospital, 2,916 were found to be suffering from T.B.

For assisting qualified and trained personnel in securing suitable employments, the employment service of the Association continued to maintain a register of trained T.B. workers such as doctors, nurses, health visitors, technicians.

The Association continued with the publication of the "Indian Journal of Tuberculosis." Another important publication periodically brought out by the Association is the Directory of Tuberculosis Institutions in India. This serves as a handbook showing details of T.B. institutions in the country, how they are staffed and what facilities are available therein for treatment of patients.

The Association organised a T.B. Section of Health Pavilion in the "India 1958 Exhibition" held in Delhi in October, 1958.

13. THE ROCKEFELLER FOUNDATION IN INDIA, NEW DELHI

The Rockefeller Foundation maintained close co-operation with the Government of India and the various State Governments including medical colleges and research institutes during the year 1958. In August 1958; the office shifted from the Red Cross Buildings to Diplomatic Enclave, New Delhi. Its programme continued to be on improvement and expansion of medical education in India. A special fellowship was given to an Indian Surgeon, who received advanced training in the U.S. to participate in the internship residency programme. The travel grants were provided to the professors of medicines and orthopaedic surgery to observe working of the internship residency programme in the United States. Two other fellowships were also granted to faculty members, one in obstetrics and gynaecology and the other in paediatrics.

A grant of \$34,000 was also made to the Lucknow University for a further development of Medical College Library. Two fellowships to the Christian Medical College, Vellore and one travel grant to the Seth G. S. Medical College, Bombay were given in support of programmes in these institutions. For the further development of Vellore Medical Records Library Department a grant of \$21,000 was made. The Foundation's interest in the All India Institute of Medical Sciences was maintained by the award of a grant of \$100,000 for the purchase of equipments for pre-clinical and clinical departments. Dr. Lucien A. Gregg, an Associate Director for Medical Education and Public Health of the Rockefeller Foundation, was assigned as special advisor to the All India Institute of Medical Sciences in the beginning of September, 1958. Support to preventive medicine was given by the award of a fellowship to the Associate Professor at the Medical College, Ludhiana as part of Foundation's continued interest in paediatrics. The Institute of Child Health, Calcutta received a grant of \$45,000. One fellowship in Industrial Hygiene and two travel grants, one to observe post-graduate medical education and one in the field of radiobiology and cancer therapy were also approved and became effective during the year under report.

Interest in nursing education was maintained by awarding two fellowships one each to Vellore and Kerala. In the field of biological and medical research, four foreign fellowships and five travel grants were given. Also grant-in-aid totalling \$46,000 were made to (i) the Bombay Natural History Society for operating expenses (ii) The University of Madras for research in Biological Chemistry (iii) The Bose Institute, Calcutta for purchase of research equipments (iv) The G. R. Medical College, Gwalior for research in pharmacology (v) The Indian Council of Medical Research, New Delhi for the initiation of a programme of research fellowships in India for Indian scientists, now residing abroad, which would provide a living and something interesting and worthwhile to do while possibilities of permanent employment are being explored.

14. THE KASTURBA GANDHI NATIONAL MEMORIAL TRUST, INDORE, MADHYA PRADESH

The Kasturba Gandhi National Memorial Trust was founded in the year 1944. The object of the trust is to conduct and promote such activities as would be conducive to the general welfare of the poor and needy women and children in the rural areas of India. Besides its other activities in the field of education and training, it conducted 8 hospitals, 50 arogya centres and 91 composite centres (where medical activities formed the part of the centres) in various parts of India. The hospitals included one leprosy home also. The Trust had also started aiding Kasturba Memorial Maternity Hospital, Gurza, Krishna District in Andhra Pradesh.

Besides the curative work, which the hospitals and the centres rendered in their respective areas preventive aspects of the maternal and child health also were their activities. Throughout the year, home visiting was carried out by Arogya Sevikas of the centres and of the hospitals in their surrounding villages to acquaint the people with ideas in the field of health and public sanitation. Extra attention was paid to educate women about the hygienic way of living and ante and post-natal care, child care, balanced diet etc.

The Kasturba Kushta Nivaran Nilayam at Mazhavanthangal completed 12 years of out-patient work and 10 years of in-patient work during 1958. In the in-patient department, 161 patients were treated during the year under review. An important feature of the work of the Nilayam was that the patients were taught several crafts with a view to fit them for a livelihood later. Physiotherapy was conducted on approved lines. The out-patient work consisted of two categories. Some 21 villages were under intensive treatment. In these villages Kushta Nivaran Sevikas do survey, render treatment and follow up in the very villages. There were also out-patient clinics run in these villages which were reached by the doctors and staff in jeep.

The Trust is a recognised agency for imparting training in auxiliary nurses, midwives, which is of two years duration. 15 women candidates completed their auxiliary nurse and midwifery training course under the auspices of the Trust and 13 were under training during 1958.

15. THE GANDHI MEMORIAL LEPROSY FOUNDATION, WARDHA, MAHARASHTRA

The Gandhi Memorial Leprosy Foundation, at the completion of its eighth year, has now taken up its due place as an all India organisation stimulating, guiding and co-ordinating anti-leprosy work in the country. Its other activities, which include eleven control centres viz., one education and treatment centre, one training centre for medical and para-medical workers and two research projects, have now been well stabilised.

34 Lepromatous and 482 Non-lepromatous cases were detected during 1958. Thus, from the beginning of work, 694 Lepromatous and 5,144 Non-lepromatous cases were detected. The number of cases registered is 4,926 (658 Lepromatous and 4,268 Non-lepromatous). About 17,510 cases, from outside the control areas, are also receiving treatment.

To assess the work done so far, a special survey and follow-up study was conducted with a view to present some data at the International Leprosy Congress. The figures compiled from the data thus obtained have confirmed the views held by the Foundation as regards the value of annual surveys for early detection and the effect of the control work on the leprosy picture in an area. The salient features from the same are noted below—

- (a) Of all the new cases detected in this survey, as many as 84 per cent were even without any clinical thickening of the larger nerves. There is every reason to believe that under regular treatment these early cases will escape deformity. The percentage of new cases with deformity is significantly reduced from 24 per cent at the beginning of control work to only 6 per cent in 1958;
- (b) About 41 per cent of Non-lepromatous cases (excluding Polyneuritic) registered by the end of 1956 have shown complete disappearance of skin lesions, while in the rest the number of skin lesions is remarkably reduced; and
- (c) The infectivity of Lepromatous cases have shown a significant decrease within a few years. Taking all centres together it has fallen from 96 per cent to 50 per cent. In Sevagram Unit, the infectivity of Lepromatous cases registered in first batch (1952) has come down to 24 per cent.

A significant land-mark in the history of the Foundation was the initiative that it took in co-ordinating the anti-leprosy activities of the private institutions. A memorandum on co-ordination, giving the views of the Foundation as regards the leprosy work in the country, was circulated among all institutions. A minimum programme of work deserving priority was placed before all and affiliation to the Foundation was recommended only for those, who agree with its basic approach. In April, 1958 representatives of institutions, which desired affiliation, met at Sevagram in the Co-ordination Conference under the Chairmanship of Shri R. R. Diwakar. The Conference was inaugurated by the Union Health Minister, Shri D. P. Karmarkar. So far thirty non-official organisations have affiliated and it is hoped that many more will soon follow. A detailed questionnaire regarding the activities and the finances of the affiliated institutions was issued to have an idea of the ways their work can be improved and expanded in future.

While the Foundation's own Training Centre is being continued, it has also assured its technical help to some State Governments to start their own training classes. The Foundation has so far trained 82 para-medical workers and at present, a batch of 25 Leprosy Special Workers is undergoing training. The Foundation had also provided all facilities for training in physiotherapy to para-medical workers on a technical level under the Hind Kushta Nivaran Sangh. Seven candidates were trained in the first batch.

The two State Governments of Bombay and Kerala have already published State Leprosy plan as per the recommendations of the Foundation and some other States are soon likely to prepare their own plans on the lines suggested by the Foundation. The Andhra Pradesh Leprosy Workers' Conference, presided over by the Secretary of the Foundation in December, 1951 has also requested the Foundation to give them a plan for Andhra Pradesh.

The Secretary of the Foundation represented the Government of India as one of its delegates to the Eleventh World Health Assembly at Minneapolis (U.S.A.) in May, 1958. He was also a delegate to the VII International Leprosy Congress and the Regional W.H.O. Conference held at Tokyo. The International Congress has a special significance for the Foundation in that the control programme of the Foundation, initiated seven years ago, was fully endorsed in the resolutions of these international bodies.

CHAPTER XVI

WORLD HEALTH ORGANISATION AND UNICEF

1. World Health Organization

Since 1948, when India ratified her membership of W.H.O., she has been taking active interest in its various activities. Up to the end of 1958, W.H.O. gave assistance to 150 health projects in India. The Indian Public Health Workers were appointed as members of W.H.O. Expert Advisory Panels on Radiations Public Health Administration, Professional and Technical Education of Medical and Auxiliary personnel, Plague, Environmental Sanitation and Occupational Health.

During the year under report, W.H.O.'s total expenditure on different projects amounted to U.S. \$23,42,275 (Rs. 1,11,53,690); \$ 3,31,992 under W.H.O.'s regular budget; \$ 4,80,259 under funds provided by the U.N. Technical Board and \$ 15,30,024 under the Malaria Eradication Special account. India's contribution to W.H.O. amounted to U.S. \$ 4,02,860 (Rs. 19,01,499) during the year 1958.

Students from abroad who were granted W.H.O. fellowships for training in various medical and allied institutions in India, were provided necessary facilities by the Government of India.

The W.H.O. continued to provide assistance to several health projects in the country during 1958. The number of International Experts provided by W.H.O. during 1958 in different projects is shown in Table No. 52.

2. UNICEF

The UNICEF is a part of the United Nations with semi-autonomous status. It was established by the United Nations General Assembly in December, 1946, to give relief to children primarily in war devastated countries. With recovery in Europe the General Assembly in 1950 extended UNICEF's life for 3 years and directed a shift in emphasis from emergency aid to programme of long term benefits for children in economically under-developed countries. In 1953 the General Assembly decided to continue the fund indefinitely. The name was shortened to the United Nations Children Fund though the initials UNICEF were retained.

The thirty-nation UNICEF Executive Board meets twice a year (in March and September) to set policy, consider requests, allocate aid, evaluate results and establish the annual administrative budget of the fund. India has been a member of the UNICEF Executive Board from 1951 to 1957 and was again elected as a member for the period from 1-1-1958 to 31-12-1960. UNICEF aid is generally in the form of equipment and supplies not locally available, material help for the training of national personnel and engineering assistance for milk and other food conservation. UNICEF makes allocation of funds against specific projects as negotiated between the representatives of the Government of India, the State Governments concerned and UNICEF. The UNICEF is able to allocate at a single Executive Board meeting the total funds required as external aid for specific projects which may extend over a period up to three years.

The UNICEF allocated U.S. \$ 32,84,500 (Rs. 1,56,40,476) (at their Executive Board meetings held in March and September) during the year 1958. The detail of the amount allocated by the UNICEF Executive Board at its March and September sessions during the year 1958 for various health projects are given in Table No. 53.

UNICEF is financed by contribution from Governments, voluntary agencies, individuals and other sources. During the year 1958, the Government of India contributed Rs. 18,00,000 to the UNICEF.

International Fellowships

99 Indian candidates were awarded fellowships and sent to U.S.A., Egypt, U.K., U.S.S.R. under the technical aid scheme of certain International agencies like Colombo Plan, Point Four Programme for training in medical and allied subjects, the training facilities of which are not easily available in India.

3. International Conferences

A brief description of the International Conferences on the various health subjects held during the year 1958 is detailed below—

Lt. Col. C. K. Lakshmanan, Director General of Health Services attended the meeting of the Standing Committee on Administration and Finance of the World Health Organisation Executive Board commenced from 6th January, 1958. He also attended the 21st Session of W.H.O. Executive Board held at Geneva which commenced from 14th January, 1958.

The Government of India, in the Ministry of Health nominated Lt. Col. M. L. Ahuja, Medical Adviser to High Commissioner for India in London as their delegate to the Health Congress held at Eastbourne (England) from 28th April to 2nd May, 1958.

The XI Session of the World Health Assembly was held in Minneapolis, (U.S.A.) from 28th May to 14th June, 1958. A delegation of four members headed by Sir Arcot Lakshmanaswamy Mudaliar, Vice-Chancellor of the Madras University attended the session on behalf of the Government of India. Shri V. K. B. Pillai, Secretary, to the Government of India, Ministry of Health, Dr. T.R. Tewari, Assistant Director General of Health Services, and Dr. R. V. Wardekar, Secretary, Gandhi Memorial Leprosy Foundation, Wardha were other delegates.

On behalf of the Government of India, Dr. T. R. Tewari, Assistant Director General of Health Services attended the XXII Session of the W.H.O. Executive Board held in Minneapolis (U.S.A.) commenced from 16th June, 1958.

At the request of the Department of Atomic Energy, the Ministry of Health permitted Dr. V. R. Khanolkar, Director, Indian Cancer Research Centre, Bombay to attend the Scientific Committee meeting on the effects of Atomic Radiation in New York from 9th to 12th June, 1958.

The VII International Cancer Congress held in London in July, 1958 was attended by Dr. D. J. Jussawalla, Honorary Secretary, Indian Cancer Society, Bombay on behalf of Government of India.

At the invitation of the W.H.O., Miss T. K. Adranwala, Nursing Adviser, Directorate General of Health Services, New Delhi attended the session of the Expert Committee on Public Health Nursing of the W.H.O. held in Geneva from 6th to 11th October, 1958.

The Regional School Feeding Seminar for Asia and far East under the auspices of the Food and Agricultural Organisation of the U.N. and UNICEF held in Tokyo (Japan) from 10th to 19th November, 1958 was attended by Dr. Y. K. Subrahmanyam, Assistant Director General of Health Services, New Delhi.

The W.H.O. Inter-Regional Conference on Leprosy held at Tokyo from 20th to 24th November, 1958 was also attended by Dr. Y. K. Subrahmanyam, Assistant Director General of Health Services, New Delhi on behalf of the Government of India.

General D. N. Chakravarti, Secretary, Department of Health and Director of Health Services, West Bengal, Dr. N. Parthasarathy, Director of Public Health, Madras and Dr. N. Jungalwalla, Director, All India Institute of Hygiene and Public Health, Calcutta attended the 22nd Asian Conference of the Occupational Health, Calcutta held from 16th to 23rd November, 1958 and W.H.O./I.L.O. Conference on Industrial and Occupational Health held from the 26th November to 6th December, 1958.

APPENDICES

APPENDICES

STATISTICAL APPENDIX

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TABLE NO. 1
Smallpox in different States during 1958

States	Years	Total No. of districts	No. of districts infected	Total No. of villages	No. of villages infected	Cases notified	Deaths notified	Number of deaths per 100 cases	Peak months	Primary vaccinations	Re-vaccinations	Total
1	2	3	4	5	6	7	8	9	10	11	12	13
1. Andhra Pradesh	1958	20	20	26,730	3,580	25,884	16,180	62.5	February	1,347,371	5,803,053	7,150,424
	1957	20	20	26,730	2,840	20,588	4,573	22.21	March	1,397,684	4,732,855	6,130,539
2. Assam	1958	11	11	23,815	†	416	57	13.67	March	345,317	985,332	1,330,649
	1957	11	†	23,815	†	551	67	12.15	November	445,902	1,319,911	1,765,813
3. Bihar	1958	17	17	67,960	†	†	†	†	†	†	†	†
	1957	17	15	67,960	311	3,124	847	27.11	December	1,607,414	7,681,514	9,288,958
4. Bombay	1958	43	†	54,915	4,755	60,450	28,262	46.78	March	1,157,055	7,132,415	8,289,470
	1957	43	†	54,915	†	†	9,389	†	†	1,260,736	5,199,322	6,450,058
5. Jammu and Kashmir	1958	†	†	†	†	†	†	†	†	†	†	†
	1957	†	†	†	†	†	†	†	†	†	†	†
6. Kerala	1958	9	9	4,615	625	3,938	1,514	38.44	December	688,549	3,470,907	4,159,456
	1957	9	8	4,615	229	1,601	601	37.53	February	701,502	2,866,924	3,568,426
7. Madhya Pradesh	1958	38	34	39,562	1,037	13,275	2,416	18.20	May	779,264	1,202,677	1,981,941
	1957	38	32	39,562	†	5,266	4,766	90.50	December	701,343	664,475	1,365,818
8. Madras	1958	13	†	18,558	†	14,841	5,498	37.04	†	1,179,871	5,705,180	6,885,051
	1957	13	†	18,558	†	11,427	3,893	34.07	†	1,152,310	5,649,983	6,802,293
9. Mysore	1958	19	19	26,006	†	†	6,169	†	†	792,389	3,332,926	4,125,315
	1957	19	11	26,006	†	†	1,606	†	†	737,631	2,290,296	3,027,927
10. Orissa	1958	13	4	48,437	2,027	11,478	3,162	27.55	July	806,351	2,839,702	3,646,053
	1957	13	13	48,437	†	†	†	†	†	637,986	1,683,924	2,321,910
11. Punjab	1958	18	18	20,855	†	2,382	362	15.20	May	727,300	3,258,237	3,985,537
	1957	18	18	20,855	161	1,192	199	16.69	May	670,999	2,256,901	2,927,900
12. Rajasthan	1958	25	25	31,704	860	7,487	2,202	29.41	April	568,813	703,624	1,272,437
	1957	25	25	31,704	787*	4,801	1,471	30.63	March	526,843	590,067	1,116,910
13. Uttar Pradesh	1958	51	†	120,483	4,657	†	28,336	†	†	2,115,238	4,065,688	6,180,926
	1957	51	†	120,483	2,285	†	7,103	†	†	1,900,589	2,102,245	4,002,834
14. West Bengal	1958	16	†	38,821	†	†	15,091	†	†	1,566,784	11,530,843	13,097,627
	1957	16	†	38,821	†	†	9,377	†	†	1,609,930	11,094,204	12,704,134

15. Andaman and Nicobar Islands	1958	1	—	209	—	—	—	—	—	—	—	3,429	7,169	70,598
	1957	1	—	209	—	—	—	—	—	—	—	2,256	2,755	5,011
16. Delhi	..	1	1	303	†	†	†	†	†	†	†	95,898	1,000,383	1,096,281
	1957	1	1	303	†	†	†	†	†	†	†	†	†	†
17. Himachal Pradesh	..	5	4	8,384	25	116	21	18-10	June to Sept.	45,589	265,180	38,274	116,165	310,769
	1957	5	4	8,384	5	19	21	10-53	July	37,729	62,757	33,408	44,423	154,439
18. Manipur	..	1	1	2,078	2	37	15	40-54	†	75,253	379,332	77,831	454,585	100,486
	1957	1	1	2,078	2	44	9	20-45	December	†	†	†	†	†
19. Tripura	..	1	1	3,642	37	242	60	24-79	March	9,686	39,191	48,877	†	†
	1957	1	†	3,642	†	†	†	†	†	†	†	†	†	†
20. Pondicherry	..	4	3	396	†	415	176	42-40	March	†	†	†	†	†
	1957	4	†	396	†	†	†	†	†	†	†	†	†	†

NOTE:— * Including villages and towns.

† Information not available.

—Nil Information.

TABLE No. 2

Death rates and percentages of deaths due to Cholera amongst total deaths during 1958

States/Union Territories				Years	Percentages of deaths due to cholera among total deaths	Death rates per million of population
1. Andhra Pradesh	..	..	..	1958	2.37	250
				1957	1.08	170
2. Assam	..	..	..	1958	0.13	6
				1957	0.11	5
3. Bihar	..	..	..	1958	†	†
				1957	3.70	290
4. Bombay	..	..	..	1958	0.86	110
				1957	0.86	130
5. Jammu and Kashmir	..	..	..	1958	†	†
				1957	†	†
6. Kerala	..	..	..	1958	0.002	2
				1957	—	—
7. Madhya Pradesh	..	..	..	1958	1.21	140
				1957	1.86	130
8. Madras	..	..	..	1958	0.54	69
				1957	0.63	90
9. Mysore	..	..	..	1958	1.21	126
				1957	0.10	10
10. Orissa	..	..	..	1958	3.04	560
				1957	1.58	95
11. Punjab	..	..	..	1958	—	—
				1957	—	—
12. Rajasthan	..	..	..	1958	—	0.002
				1957	—	—
13. Uttar Pradesh	..	..	..	1958	1.02	198
				1957	2.40	200
14. West Bengal	..	..	..	1958	1.96	183
				1957	1.00	10
15. Andaman and Nicobar Islands	..	..	..	1958	0.24	—
				1957	—	—
16. Delhi	..	..	..	1958	0.12	9
				1957	†	†
17. Himachal Pradesh	..	..	..	1958	—	—
				1957	—	—
18. Manipur	..	..	..	1958	—	—
				1957	—	—
19. Tripura	..	..	..	1958	0.66	3
				1957	—	—
Total				1958	1.17	120
				1957	1.37	200

NOTE—† Information not available.

— Nil Information.

TABLE No. 3
Cholera in different States during 1958

States/Union Territories	Years	Total number of districts	Number of districts infected	Total number of villages	Number of villages infected	Cases notified	Deaths notified	Number of deaths per 100 cases	Peak months	Anti-cholera inoculations
1	2	3	4	5	6	7	8	9	10	11
1. Andhra Pradesh	..	20	20	26,730	2,027	15,633	8,101	†	August	4,527,304
	1957	20	†	26,730	1,202	11,146	4,557	40.88	August	2,390,272
2. Assam ..	..	11	†	23,815	82	240	52	45.83	November	805,602
	1957	11	†	23,815	130	252	39	15.48	October	762,311
3. Bihar ..	..	17	†	67,960	†	†	†	†	†	†
	1957	17	14	67,960	1,049	13,525	5,683	42.01	†	11,212,793
4. Bombay ..	..	43	†	54,915	1,982	20,170	7,374	36.56	September	7,324,844
	1957	43	†	54,915	1,656	†	7,086	†	July	6,964,339
5. Jammu and Kashmir ..	..	†	†	†	†	†	†	†	†	†
	1957	†	†	†	†	†	†	†	†	†
6. Kerala ..	..	9	3	4,615	17	103	27	26.21	†	170,279
	1957	9	†	4,615	—	—	—	—	—	38,847
7. Madhya Pradesh ..	..	38	17	39,562	3,135	8,088	3,896	48.17	May	4,077,497
	1957	38	20	39,562	2,961	4,631	2,235	48.26	June	2,589,153
8. Madras ..	..	13	†	18,558	1,195	6,786	2,312	34.07	January	2,453,260
	1957	13	†	18,558	1,959	8,648	2,930	33.88	†	2,356,667
9. Mysore ..	..	19	18	26,006	1,232	†	2,743	†	June	1,593,070
	1957	19	†	26,006	638*	†	125	†	†	†
10. Orissa ..	..	13	†	48,437	1,189	†	7,795	†	August	1,513,026
	1957	13	12	48,437	1,313	4,693	2,233	47.58	August	1,739,111

NOTE:— * Including 29 towns.

† Information not available.

— Nil information.

TABLE No. 3

Cholera in different States during 1958—(contd.).

1	2	3	4	5	6	7	8	9	10	11
11. Punjab ..	1958 1957	18 18	5 —	20,855 20,855	3 —	26 —	10 —	38.46 —	September —	381,208 226,655
12. Rajasthan ..	1958 1957	25 25	2 1	31,704 31,704	102 —	69 †	33 1	47.82 †	† —	75,634 68,140
13. Uttar Pradesh ..	1958 1957	51 51	† †	120,483 120,483	1,269 3,054	† †	6,751 16,648	† †	Sept.-Oct. August	5,812,748 7,485,923
14. West Bengal ..	1958 1957	16 16	† †	38,821 38,821	755 1,195	† †	5,295 4,313	† †	† May	7,035,587 4,883,265
15. Andaman and Nicobar Islands	1958 1957	1 1	— —	209 209	— —	— —	— —	— —	— —	2,292 2,292
16. Delhi ..	1958 1957	1 1	— —	303 303	9 —	† —	25 —	— —	† —	1,150,255 554,295
17. Himachal Pradesh ..	1958 1957	5 5	— —	8,384 8,384	— —	— —	— —	— —	— —	4,918 7,846
18. Manipur ..	1958 1957	1 1	— —	2,078 2,078	— —	— —	— —	— —	— —	47,571 29,116
19. Tripura ..	1958 1957	1 1	— —	3,642 3,642	10 37	10 —	3 —	20.0 —	May —	95,455 140,431
20. Pondicherry ..	1958 1957	4 4	2 †	396 396	21 27	96 †	34 †	35.42 †	January †	18,020 28,511

NOTE:— † Information not available.

— Nil Information.

TABLE No. 4

Epidemiological Indices of Malaria for 1953-54 and 1958-59

States/Union Territories	Child Spleen rates		Child parasite rates		Infant parasite rates		Proportional case rates of Malaria	
	1953-54	1958-59	1953-54	1958-59	1953-54	1958-59	1953-54	1958-59
1. Andhra Pradesh	18.3	8.2	6.6	7.9	3.6	1.6	8.7	7.1
2. Assam ..	†	24.2	†	4.3	†	4.2	—	23.2
3. Bihar ..	56.1	2.9	4.3	0.1	†	0.1	†	6.7
4. Bombay ..	5.4	1.4	2.7	0.5	2.1	0.4	14.1	4.4
5. Jammu and Kashmir	†	0.6	†	—	†	—	—	3.9
6. Kerala ..	†	0.9	3.2	—	†	—	0.8	0.3
7. Madhya Pradesh	38.7	5.5	1.7	1.4	7.0	0.4	18.2	5.5
8. Madras ..	†	1.9	†	0.4	†	—	†	2.4
9. Mysore ..	6.0	0.5	3.5	0.2	0.1	0.1	7.1	1.5
10. Orissa ..	34.1	13.1	2.0	1.3	4.1	0.6	14.4	8.3
11. Punjab ..	6.1	1.1	1.1	—	0.2	—	7.7	2.9
12. Rajasthan ..	4.8	5.6	1.3	2.7	—	2.2	†	9.5
13. Uttar Pradesh ..	13.6	4.4	5.4	0.4	0.4	0.3	14.9	5.5
14. West Bengal ..	20.3	1.2	1.1	—	†	—	27.1	2.5
15. Andaman and Nicobar Islands ..	†	—	†	—	†	—	†	—
16. Delhi ..	1.1	0.3	0.1	0.2	—	—	0.9	0.2
17. Himachal Pradesh	18.2	0.6	30.1	—	†	—	†	2.1
18. Manipur ..	43.1	4.8	0.0	—	†	—	12.6	†
19. N.E.F.A. ..	†	19.5	†	8.7	†	1.9	—	12.8
20. Naga Hills ..	†	—	†	—	†	—	†	—
21. Tripura ..	55.8	4.9	17.1	1.1	14.2	3.3	30.1	8.8
22. Coalfields ..	†	0.8	†	0.2	†	0.3	—	1.1
23. Sikkim ..	†	—	†	—	†	—	—	2.4
Total ..	15.7	3.2	3.9	0.5	1.6	0.2	10.8	4.0

NOTE:—† Information not available.

— Nil Information.

TABLE No. 5

Percentages of deaths, and death rates due to Dysentery and Diarrhoea during the years 1955—1958

States/Union Territories				Years	Percentages of deaths due to Dysentery and Diarrhoea to total deaths	Death rates per million of population
1				2	3	4
1. Andhra Pradesh	..	..	..	1955	†	†
				1956	5.30	0.73
				1957	4.70	0.49
				1958	5.20	0.54
2. Assam	..	..	..	1955	7.80	0.40
				1956	8.40	0.40
				1957	7.70	0.32
				1958	8.70	0.34
3. Bihar	..	..	..	1955	†	†
				1956	0.48	0.04
				1957	0.67	0.05
				1958	†	†
4. Bombay	..	..	..	1955	4.20	0.60
				1956	3.80	0.60
				1957	4.70	†
				1958	4.70	0.80
5. Delhi	..	..	..	1955	5.90	0.50
				1956	6.00	0.50
				1957	†	†
				1958	7.40	0.70
6. Kerala	..	..	..	1955	5.60	0.40
				1956	5.00	0.40
				1957	6.80	†
				1958	6.10	0.50
7. Madhya Pradesh	..	..	..	1955	†	†
				1956	2.50	0.35
				1957	2.70	†
				1958	4.60	0.54
8. Madras	..	..	..	1955	6.90	1.00
				1956	7.60	1.00
				1957	7.70	1.10
				1958	8.00	1.10
9. Mysore	..	..	..	1955	8.90	0.80
				1956	9.90	0.80
				1957	11.00	0.90
				1958	6.80	0.80
10. Orissa	..	..	..	1955	†	†
				1956	†	†
				1957	6.60	1.38
				1958	†	†

NOTE :—† Information not available.

TABLE No. 5

Percentages of deaths, death rates due to Dysentery and Diarrhoea during the years 1955-1958—contd.

1				2	3	4
11. Punjab	..	..	..	1955	2.50	0.30
				1956	3.10	0.40
				1957	2.80	0.40
				1958	3.00	0.50
12. Uttar Pradesh	..	..	..	1955	4.00	0.30
				1956	4.30	0.40
				1957	4.70	0.40
				1958	4.40	0.40
13. West Bengal	..	..	..	1955	6.80	0.60
				1956	6.80	0.60
				1957	4.70	†
				1958	†	†
14. Manipur	..	..	..	1955	†	†
				1956	6.80	0.20
				1957	†	†
				1958	7.70	0.30
15. Rajasthan	..	..	..	1955	†	†
				1956	6.50	†
				1957	†	†
				1958	†	†
16. Tripura	..	..	..	1955	4.90	0.20
				1956	4.30	0.20
				1957	†	†
				1958	10.9	†
17. Andaman and Nicobar Islands	..	..	..	1958	†	†
18. Himachal Pradesh	..	..	..	1958	†	0.84
19. Pondicherry	..	..	..	1958	13.30	†
Total				1955	†	0.40
				1956	5.50	0.41
				1957	4.20	0.52
				1958	5.50	0.45

NOTE:—† Information not available.

TABLE No. 6

Progress of BCG Campaign in India upto 31st December, 1958

States, Union Territories		No. of teams	Population (in lakhs)	Tuberculin tested (in lakhs)	BCG Vaccinations (in lakhs)	Percentage of population tested
1		2	3	4	5	6
1. Andhra Pradesh	..	12	322.00	112.00	36.00	35
2. Assam	..	5	97.00	46.00	20.00	48
3. Bihar	..	18	385.00	156.00	70.00	40
4. Bombay	..	22	478.00	189.00	56.00	39
5. Jammu and Kashmir	..	3	44.00	26.00	11.00	60
6. Kerala	..	5	136.00	47.00	20.00	34
7. Madhya Pradesh	..	10	261.00	59.00	20.00	23
8. Madras	..	10	300.00	29.00	10.00	10
9. Mysore	..	7	190.00	67.00	26.00	35
10. Orissa	..	8	146.00	44.00	17.00	30
11. Punjab	..	13	172.00	129.00	40.00	75
12. Rajasthan	..	11	160.00	47.00	12.00	29
13. Uttar Pradesh	..	16	632.00	117.00	33.00	18
14. West Bengal	..	16	265.00	103.00	42.00	39
15. Delhi	..	1	21.10	19.00	4.00	88
16. Himachal Pradesh	..	1	11.00	5.00	2.00	47
17. Manipur	..	1	6.00	5.00	2.00	82
18. N.E.F.A.	..	1	6.50	0.20	0.10	3
19. Tripura	..	1	6.00	4.00	2.00	36
Total	..	161	3,638.60	1,205.20	423.10	34

TABLE No. 7

Vital Statistics in respect of the Demonstration Health Units functioning in the various States during 1958

Description	Poonamallee Health Unit, Madras		Health Training Centre, Ramanagaram		Sirur Health Unit, Poona, Bombay		Rural Health Centre, Pattancheru, Andhra Pradesh		Health Unit, District Nagpur, Bombay		Health Unit, Padra, Bombay		Health Unit, Palghar, Bombay		Health Unit, Bavala, Bombay	
	For Unit area	For Rural area	For Unit area	For Rural area	For Unit area	For Rural area	For Unit area	For Rural area	For Unit area	For Rural area	For Unit area	For Rural area	For Unit area	For Rural area	For Unit area	For Rural area
Year of establishment	..	1935	1937	1937	1939	1939	1957	1957	1954	1956	1956	1956	1956	1956	1956	1956
Area covered (in sq. miles)	..	36	113	492	492	492	30	75	89	89	86	86	86	86	1,238	1,238
Population (1951 census)	..	62,833	86,874	86,874	95,408	95,408	22,840	38,075	64,080	64,080	44,770	44,770	44,770	44,770	45,232	45,232
Birth Rates	..	44.20	24.4	37.50	23.1	43.12	29.50	39.60	17.90	42.5	29.50	41.6	29.5	24.8	29.50	44.1
Death Rates	..	20.60	12.6	12.90	10.8	18.25	17.30	14.20	10.50	32.8	17.30	24.0	17.30	10.7	17.30	18.0
Infant Mortality Rates	..	135.00	105.4	120.90	75.1	114.23	115.20	40.80	88.70	26.00	115.20	127.2	115.20	66.2	115.20	97.10
Maternal Mortality Rates	..	0.60	4.1	6.60	†	3.83	†	3.50	†	11.5	†	2.3	†	5.6	†	3.0
Percentage of still births to total live births	..	3.80	0.4	3.40	2.3	1.62	†	3.60	†	2.23	†	†	†	1.7	†	†

NOTE:—† Information not available.

TABLE No. 8
Cause specific deaths and death rates in different Demonstration Health Units in the various States during 1958

Health Units	Cholera		Smallpox		Plague		Dysentery & Diarrhoea		Respiratory Diseases		Malaria		Other Fevers		Enteric Fever		All Other Causes	
	Deaths	Rates	Deaths	Rates	Deaths	Rates	Deaths	Rates	Deaths	Rates	Deaths	Rates	Deaths	Rates	Deaths	Rates	Deaths	Rates
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1. Poonamallee Health Unit, (Madras) ..	—	—	—	—	—	—	336	5.34	91	1.44	—	—	402	6.4	3	0.05	543	8.6
2. Ramanagaram Health Unit, (Mysore) ..	—	—	6	0.08	—	—	121	1.4	23*	0.2	—	—	90	1.0	—	—	44	0.5
3. Sirur Health Unit, (Bombay) ..	—	—	4	0.05	—	—	130	1.36	131	1.37	—	—	89	1.02	25	0.26	†	†
4. Rural Health Centre Patancheru, (Andhra Pradesh) ..	27	1.2	3	0.13	—	—	—	—	—	—	—	—	—	—	2	0.8	4	0.17
5. Health Unit, Sioner Distt. Nagpur, (Bombay) ..	6	0.16	5	0.31	—	—	215	5.65	22*	0.58	33	0.87	102	2.63	40	1.05	569	14.90
6. Health Unit, Padra, (Bombay) ..	—	—	6	0.09	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7. Health Unit, Palghar, (Bombay) ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	0.02	—	—
8. Health Unit, Bavala, (Bombay) ..	3	0.07	32	0.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—

NOTE:—* Relates to T. B. only.

— Nil information.

† Information not available.

TABLE No. 9

Preventive measures taken in different Demonstration Health Units in the various States during 1958

Health Units	1	2	3	4	5	6	7	8	9
		Primary vaccination	Re-vaccination	Total	Anti-cholera inoculations	Anti-plague inoculations	Anti-typhoid inoculations	BCG vaccination	Others
1. Poonamallee Health Unit, (Madras)	..	2,909	14,862	17,771	1,317	—	20	—	—
2. Health Training Centre, Ramanagaram (Mysore)	..	4,598	33,566	38,164	454	—	—	—	—
3. Sirur Health Unit, Poona (Bombay)	..	3,441	35,152	38,593	5,660	—	—	—	675
4. Rural Health Unit, Pattancheru (Andhra Pradesh)	..	1,284	4,580	5,864	11,349	—	—	—	—
5. Health Unit, Saoner, District Nagpur (Bombay).	..	1,424	13,549	14,973	24,068	—	—	—	—
6. Health Unit, Padra (Bombay)	..	3,053	18,125	21,178	—	—	—	—	—
7. Palghar Health Unit (Bombay)	..	2,111	12,712	14,823	6,019	—	1,214	—	—
8. Health Unit, Bavala (Bombay)	..	2,337	23,517	25,854	18,572	—	—	—	—

NOTE:— Nil information.

TABLE No. 10

Health and para-medical personnel employed in various Demonstration Health Units in the various States during 1958

Health Units	Medical Officers of Health	Asst. Medical Officers	Lady Asstt. Surgeons	Health Inspectors	Public Health Nurses	Public Health Midwives	Health Visitors	Nursing Supervisors	Health Assistants	Public Health Engineers	Other Staff	Total
I	2	3	4	5	6	7	8	9	10	11	12	13
1. Poonamallee Health Unit (Madras) ..	2	—	1	5	—	—	5	—	4	1	37	55
2. Health Training Centre Ramana-garam (Mysore) ..	1	3	1	9	5	20	—	1	—	—	6	46
3. Sirur Health Unit, (Bombay) ..	1	2	1	5	2	11	1	—	—	—	2	25
4. Rural Health Unit, Pattancheru, (Andhra Pradesh) ..	2	—	—	2	—	4	2	—	—	1	28	39
5. Health Unit, Saver, Distt. Nagpur (Bombay) ..	3	—	—	—	—	5	3	—	—	1	27	39
6. Health Unit, Padra (Bombay) ..	1	—	1	—	1	3	2	—	—	—	8	16
7. Palghat Health Unit (Bombay) ..	1	1	—	—	1	8	—	—	—	—	5	20
8. Health Unit, Bavala (Bombay) ..	1	1	—	—	—	3	3	—	—	—	6	14

NOTE :— Nil information.

TABLE No. 11

Statistics of the work done on Maternity and Child Welfare Service in different Demonstration Health Units in the various States during 1958.

Health Units	M.C.W. Centres	Maternity Homes	Beds	No. of maternity clinics conducted	Attendance at the clinics	No. of mother classes held	Number of home visits paid by the staff of the unit					
							Pre-natal	Post-natal	Pre-school	Nursing mothers	Others	
1	2	3	4	5	6	7	8	9	10	11	12	
1. Poonamallee Health Unit (Madras)	7	6	32	568	37,239	†	37,239	16,393	†	†	†	†
2. Health Training Centre Ramanagaram (Mysore)	1	1	10	336	†	1,253	36,116	8,108	—	†	15,995	
3. Sirur Health Unit, Poona (Bombay)	8	3	10	171	†	18	2,486	5,992	—	5,945	6,959	
4. Rural Health Unit, Pattancheru (Andhra Pradesh)	4	—	18	192	1,580	192	7,200	†	3,760	920	287	
5. Health Unit, Saoner, Distt. Nagpur (Bombay)	4	1	6	211	7,505	150	2,637	4,088	6,032	†	†	†
6. Health Unit, Padra (Bombay)	5	4	8	†	†	852	3,685	1,089	5,623	†	5,476	
7. Palghar Health Unit (Bombay)	8	2	10	†	†	192	1,826	1,982	6,394	†	5,202	
8. Health Unit, Bavala (Bombay)	7	—	—	256	†	76	3,229	†	†	2,360	8,591	

NOTE:— † Information not available.

— Nil information.

TABLE No. 12

Number of Primary Health Centres opened in the various States of India during the First Five Year Plan period and upto the end of the fiscal year 1958-59

States				During the First Five Year Plan period (1951-56)	During 1956-57	During 1957-58	During 1958-59
1. Andhra Pradesh	..	..	..	6	..	21	29
2. Assam	..	..	..	3	..	44	5
3. Bihar ..	..	..	..	7	69	45	42
4. Bombay	..	..	..	16	29	21	21
5. Jammu and Kashmir	..	..	..	2	—	10	—
6. Kerala	..	..	..	—	—	4	—
7. Madhya Pradesh	..	..	..	14	—	—	3
8. Madras	..	..	..	10	21	16	14
9. Mysore	..	..	..	—	2	20	50
10. Orissa	..	..	..	2	—	6	2
11. Punjab	..	..	..	5	11	20	12
12. Rajasthan	..	..	..	1	—	29	16
13. Uttar Pradesh ..	..	..	..	—	—	25	50
14. West Bengal ..	..	..	..	2	24	23	17
Total				68	156	284	261

NOTE :— —Nil information.

TABLE No. 13
Number of students examined and the break-up of causes of sickness in different States of India during the year 1958.

States/Union Territories	Whether the system of medical examination exists or not	Number of students	Number examined	Students found defective due to						
				Malnutrition	Bad teeth	Tonsils	Eye defects	Skin diseases	Respiratory diseases	Enlarged spleen
1. Andhra Pradesh	†	43,198	1,503	1,881	1,175	678	836	159	16
2. Assam	†	†	†	†	†	†	†	†	†
3. Bihar	†	†	†	†	†	†	†	†	†
4. Bombay	†	†	†	†	†	†	†	†	†
5. Jammu and Kashmir	†	†	†	†	†	†	†	†	†
6. Kerala	†	†	†	†	†	†	†	†	†
7. Madhya Pradesh	†	7,493	107	97	93	62	49	419	16
8. Madras	†	†	†	†	†	†	†	†	†
9. Mysore	†	†	†	†	†	†	†	†	†
10. Orissa	†	†	†	†	†	†	†	†	†
11. Punjab	†	†	†	†	†	†	†	†	†
12. Rajasthan	†	†	†	†	†	†	†	†	†
13. Uttar Pradesh	†	64,935	4,165	3,241	3,340	2,236	793	†	59
14. West Bengal	†	†	†	†	†	†	†	†	†
15. Andaman and Nicobar Islands	†	†	†	†	†	†	†	†	†
16. Delhi	†	†	†	†	†	†	†	†	†
17. Himachal Pradesh	84,584	13,550	1,757	287	86	26	210	73	3
18. Manipur	†	11,352	250	100	80	55	500	†	26
19. Tripura	66,103	6,760	19	52	60	53	23	†	6
20. Pondicherry	36,140	4,100	†	†	†	†	†	†	†

NOTE:— † Information not available.

TABLE No. 14

Average daily population, authorised accommodation and number of prisoners per 100 units of authorised accommodation in Jails in the various States of India during the year 1958.

States/Union Territories	Average daily population		Authorised accommodation		Number of prisoners per 100 units of authorised accommodation	
	1958	1957	1958	1957	1958	1957
1. Andhra Pradesh ..	4,354	2,715*	4,751	2,181	122.82	124.40
2. Assam ..	4,432	4,473	4,155	4,155	106.68	114.70
3. Bihar ..	22,573	17,450	16,176	16,176	139.00	107.90
4. Bombay ..	20,565	20,323	21,392	21,392	96.13	95.02
5. Jammu and Kashmir	†	†	†	†	†	†
6. Kerala ..	2,357	2,131	3,057	3,943	77.10	54.00
7. Madhya Pradesh ..	†	†	†	†	†	†
8. Madras ..	17,934	13,395	14,453	14,453	71.04	92.70
9. Mysore ..	†	3,430	†	5,568	†	61.61
10. Orissa ..	4,235	3,985	5,508	5,504	76.89	72.40
11. Punjab ..	8,311	8,431	8,927	8,137	93.10	104.00
12. Rajasthan ..	3,394	3,115	5,815	5,815	56.80	53.50
13. Uttar Pradesh ..	35,517	35,151	36,001	35,987	98.65	97.67
14. West Bengal ..	14,350	11,953	12,589	12,541	114.00	59.30
15. Andaman and Nicobar Islands	39	†	100	†	39.25	†
16. Delhi ..	1,541	1,527	1,273	1,273	121.00	120.00
17. Himachal Pradesh ..	139	164	278	278	50.00	58.90
18. Manipur ..	176	†	†	†	†	†
19. Tripura ..	231	361	163	283	141.70	127.56
20. Pondicherry ..	416	†	61	†	681.56	†

NOTE:— *Relates to Andhra Region only.

† Information not available.

TABLE No. 15

Hospital admission rates etc., in Jails of the various States of India during the year 1958.

States/Union Territories	Hospital admission rates per mille of average daily population		Death rates per mille of average daily population		Constantly sick rates per mille of average daily population	
	1958	1957	1958	1957	1958	1957
1. Andhra Pradesh ..	600.12	435.26	15.38	16.83	16.99	10.79
2. Assam ..	462.30	470.92	10.38	10.43	20.04	21.90
3. Bihar ..	1076.02	1111.13	8.46	†	34.17	38.86
4. Bombay ..	450.09	450.10	2.20	2.75	13.30	14.20
5. Jammu and Kashmir	†	†	†	†	†	†
6. Kerala ..	399.24	12.67	†	†	49.33	6.29
7. Madhya Pradesh ..	†	†	†	†	†	†
8. Madras ..	43.25	343.97	4.79	3.36	11.09	9.37
9. Mysore ..	†	287.40	†	2.68	†	39.78
10. Orissa ..	1363.38	1263.87	6.38	6.02	59.79	59.55
11. Punjab ..	1021.18	1311.94	2.41	†	21.30	32.74
12. Rajasthan ..	804.17	1604.50	1.80	†	23.30	34.70
13. Uttar Pradesh ..	657.68	728.10	3.90	3.40	17.40	18.40
14. West Bengal ..	1545.02	1358.00	2.58	2.30	31.84	36.27
15. Andaman and Nicobar Islands ..	484.00	†	†	†	280.20	†
16. Delhi ..	574.00	566.30	3.89	0.39	11.33	†
17. Himachal Pradesh ..	4424.70	5741.00	14.40	†	140.00	†
18. Manipur ..	562.50	630.70	5.70	17.05	85.00	34.00
19. Tripura ..	1332.41	1903.20	†	†	19.94	†
20. Pondicherry ..	351.00	†	7.20	†	64.90	†

NOTE:— † Information not available.

TABLE No. 16

Statistics of prisoners who gained weight etc., in Jails of the various States of India during the year 1958.

States/Union Territories	Percentage of prisoners who					
	Gained weight		Remained stationary		Lost weight	
	1958	1957	1958	1957	1958	1957
1. Andhra Pradesh ..	†	42.00	†	55.00	†	3.00
2. Assam ..	56.28	48.80	33.25	45.70	10.47	5.00
3. Bihar ..	49.00	51.00	47.00	43.00	4.00	6.00
4. Bombay ..	25.00	24.30	67.00	66.70	8.00	9.00
5. Jammu and Kashmir	†	†	†	†	†	†
6. Kerala ..	61.00	79.90	32.00	18.20	7.00	1.90
7. Madhya Pradesh ..	†	†	†	†	†	†
8. Madras ..	63.23	60.60	32.65	37.90	1.12	1.50
9. Mysore ..	†	60.60	†	15.80	†	7.60
10. Orissa ..	65.00	63.80	29.00	25.00	6.00	6.30
11. Punjab ..	30.70	37.30	63.00	55.00	3.30	7.70
12. Rajasthan ..	65.50	55.50	31.50	41.30	7.00	3.20
13. Uttar Pradesh ..	42.50	46.90	54.20	49.10	3.30	4.00
14. West Bengal ..	17.70	17.60	79.20	79.70	3.10	2.70
15. Andaman and Nicobar Islands ..	23.00	†	75.00	†	2.00	†
16. Delhi ..	†	20.40	†	78.80	†	0.80
17. Himachal Pradesh ..	60.00	65.00	25.00	30.00	15.00	5.00
18. Manipur ..	15.00	†	80.00	†	5.00	†
19. Tripura ..	30.00	20.00	70.00	80.00	—	—
20. Pondicherry ..	50.00	†	30.00	†	20.00	†

NOTE:— † Information not available.

— Nil information.

TABLE No. 17
Case fatality rates in different Jails of the various States of India during the year 1958

States/Union Territories	Years	Cholera	Smallpox	Plague	Etiotic fever	Influenza	Malaria	Pr-u-monia	T.B. of lung	Dysentery	Diarrhoea	Other respiratory diseases	Anaemia	Pyrexia of unknown origin	Other deficiency diseases	All other causes
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. Andhra Pradesh	.. 1958 1957	—	—	—	—	—	0.22	50.00	11.54	1.79	2.49	—	2.78	—	—	4.76 11.00
2. Assam	.. 1958 1957	—	—	—	18.18	—	3.37	11.76	50.00	0.98	1.10	4.95	5.66	1.54	5.26	3.29 4.19
3. Bihar	.. 1958 1957	20.00	7.31	—	6.26	—	0.31	6.67	18.31	0.92	0.36	0.48	1.75	0.34	—	0.65
4. Bombay	.. 1958 1957	—	—	—	3.23	—	—	2.50	2.55	0.15	0.11	0.14	1.70	—	0.45	0.67
5. Jammu and Kashmir	.. 1958 1957	—	40.00	—	1.90	—	0.09	1.10	2.00	0.10	0.40	0.50	0.74	—	1.03	1.03
6. Kerala	.. 1958 1957	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7. Madhya Pradesh	.. 1958 1957	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8. Madras	.. 1958 1957	—	—	—	0.09	0.09	—	2.77	3.33	0.08	—	1.48	1.08	—	1.43	1.77
9. Mysore	.. 1958 1957	—	—	—	—	—	0.42	—	—	—	—	0.45	0.09	—	—	2.13
10. Orissa	.. 1958 1957	—	—	—	4.35	—	0.34	—	2.53	0.55	1.02	—	0.88	0.36	—	0.29
11. Punjab	.. 1958 1957	—	—	—	33.33	—	0.11	4.00	4.84	0.32	0.40	0.37	3.25	—	—	—
12. Rajasthan	.. 1958 1957	—	—	—	—	—	0.15	—	1.17	0.17	0.38	0.22	0.14	—	—	0.31
13. Uttar Pradesh	.. 1958 1957	50.00	—	—	1.98	0.12	0.02	4.57	3.03	—	0.43	0.41	1.47	0.39	2.30	0.79
		24.10	—	—	—	0.04	0.10	7.00	4.06	—	0.40	5.30	0.20	—	—	0.70

TABLE No. 17

Case fatality rates in different Jails of the various States of India during the year 1958

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
14. West Bengal ..	1958 1957	—	—	—	1.34	—	—	12.30 4.70	2.98 1.84	0.04 0.05	0.12 0.10	0.12 0.24	0.96 0.18	— 0.05	0.18 —	0.09 0.29
15. Andaman and Nicobar Islands	1958 1957	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
16. Delhi ..	1958 1957	—	—	—	—	—	—	—	8.69	—	10.00 10.00	—	3.44	—	—	0.45
17. Himachal Pradesh ..	1958 1957	—	—	—	—	—	—	—	—	—	3.60	—	2.00	—	—	—
18. Manipur ..	1958 1957	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.10
19. Pondicherry ..	1958 1957	—	—	—	—	—	—	—	—	1.90	20.00	—	—	—	—	25.00
20. Tripura ..	1958 1957	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

NOTE: — † Information not available.

— Nil information.

TABLE No. 18
Admission rate, per mille of average daily population in Jails of the various States of India during the year 1958

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
14. West Bengal ..	1958	0.07	3.48	—	4.53	—	47.56	3.97	18.68	163.48	110.10	107.94	50.45	254.56	38.32	599.30	1545.02
	1957	—	0.75	—	27.60	354.2	77.30	7.11	18.15	160.87	79.64	139.79	45.51	150.66	41.41	27.98	1358.03
15. Andaman and Nicobar Islands ..	1958	—	—	—	—	—	76.40	—	—	50.90	25.50	178.30	—	—	—	152.90	484.00
	1957	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
16. Delhi ..	1958	—	—	—	1.29	—	14.27	4.54	14.92	19.46	6.46	43.78	18.81	162.23	—	288.12	573.65
	1957	—	—	—	1.30	—	14.40	4.60	15.00	19.60	6.59	43.30	18.90	163.00	—	279.70	566.30
17. Himachal Pradesh ..	1958	—	—	—	—	683.50	295.00	—	—	316.60	201.40	1913.89	352.50	—	50.40	611.60	4424.70
	1957	—	—	—	6.1	487.80	439.00	24.00	6.10	298.80	201.20	4341.50	640.20	12.20	10.40	2262.20	5740.87
18. Manipur ..	1958	—	—	—	—	22.70	28.40	—	22.70	22.70	28.40	—	62.50	130.70	—	244.30	562.50
	1957	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
19. Tripura ..	1958	—	—	—	8.65	259.56	21.63	34.61	—	164.39	173.04	311.47	34.61	224.95	—	99.50	1332.41
	1957	—	—	—	—	253.58	18.83	23.05	—	193.65	207.46	391.03	9.22	235.14	—	576.24	1903.20
20. Pondicherry ..	1958	—	48.00	—	—	—	—	—	16.80	125.00	52.90	—	12.00	—	—	96.10	351.00
	1957	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

NOTE: — † Information not available,
— Nil information.

TABLE No. 19

Summary of the diet surveys undertaken during the year 1958

States	Method of survey	Number of		Type of population surveyed	Principal crops	Findings	
		Villages or towns	Families			Class of foods poorly consumed	Nutrients in short supply
1. Andhra Pradesh	7-day weighing of foods.	Four regions	696	Agriculturist, Tradesmen, Government employees, daily labourers.	Rice, Jowar Bajra, Ragi Varugu.	Fats and oils, flesh foods, milk and its products.	Fats, Animal proteins, vitamins
2. Bihar	10-day weighing of foods	Two districts	625	Labourers and Cultivators.	Paddy, Rabi Sawan millet Wheat, Peas Lathyrus sativus.	Leafy vegetables flesh foods milk and its products.	Animal proteins, fats, Vitamin A, Vitamin C and calcium.
3. Bombay	—	—	—	Urban middle class population.	..	..	..
4. Punjab	7-day weighing of foods	6 villages	188	Labourers, Zamindars.	..	Leafy vegetables, fruits, flesh foods.	Fat, Vitamin C.
5. Rajasthan	Questionnaire and weighing	Three districts	205	Lower middle class families, average income Rs. 83—100 p.m.	Rabbi, Kharif	Except the intake of cereal the other foods are poorly consumed.	All the nutrients except iron and phosphorus.
6. Uttar Pradesh	7-day weighing	Lathyrism affected areas.	97	Low economic group (labourers and agriculturists).	Paddy, Khesari.	Fruits, fleshy foods, milk and its products.	Animal proteins, fats, calcium Vitamin A and Vitamin C.
7. West Bengal	7-day weighing	Two districts	148	People from transit and relief camps.	..	Fruits, milk and its products, flesh foods.	Animal proteins.

Note :—Nil information.

TABLE No. 20
Results of nutrition surveys undertaken during the year 1958

States	Methods of survey	Type of population surveyed	Prominent deficiency symptoms and signs
1. Andhra Pradesh	Routine nutrition survey schedule	Adults and school children	Vitamin A, Vitamin B complex, Vitamin C.
2. Bihar	Do.	Adults and children	Conjunctival xerosis, Angular conjunctivitis, Angular stomatitis glossitis.
3. Bombay	Do.	Adults and children	Nothing particular.
4. Punjab	Do.	Adults and children	Conjunctival xerosis, Eye discharge, caries.
5. Rajasthan	Do.	Adults and children	Conjunctival xerosis, Angular conjunctivitis, Bilot's spots.
6. Uttar Pradesh	Routine clinical assessment	Adults, children and school children	Conjunctival xerosis, corneal xerosis, Goitre, Lathyrism.
7. West Bengal	Routine and rapid nutritional	Adults and children	Conjunctival xerosis, Angular conjunctivitis, Angular stomatitis Glossitis and caries.

TABLE No. 21

Number of Hospitals, Dispensaries, number of beds reserved for T.B. patients and Maternity and Child Welfare Centres with beds under different Railways during the year 1958

Description	Central Railway		Northern Railway		Southern Railway		Eastern Railway		Western Railway		North Eastern Railway		South Eastern Railway		North-East Frontier Railway		Chittaranjan Locomotive Works		Ganga Bridge Project	
	1957	1958	1957	1958	1957	1958	1957	1958	1957	1958	1957	1958	1957	1958	1957	1958	1957	1958	1957	1958
1. Hospitals ..	10	10	13†	9	13	13	10	10	10	10	4	4	7	7	9@	9@	1	1	1	1
Beds ..	478	500	601†	587	566	620	516	583	239	263	244	307	372	377	251	277	70	70	19	19
2. Dispensaries.	51	53	76†	82	68	69	58	58	65	65	25	35	56	56	53	53	6	6	3	3
Beds ..	39	47	149	232	31	49	100	74	100	108	31	33	7	7	21	21	—	—	—	—
3. T. B. Sanatoria, Clinics, etc. ..	—	—	5	6	1	1	10	10	—	8	—	1	2	2	—	4	—	—	—	—
Beds ..	—	—	18	20	25	25	—	18	—	12	—	25	15	15	—	10	—	—	—	—
4. Other Institutions	—	—	—	—	19	19	10	10	—	—	—	—	—	—	—	—	—	—	—	—
Beds ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5. T.B. beds ..	85	105	50	80	69	151	125	190	61	65	42	28	77	101	42	24	12	12	—	—
6. Maternity and Child Welfare Centres	3	3	—	—	19	19	37	32	16	15	1	1	24	24	—	5	1	1	—	—
Beds ..	18	18	—	—	—	10	—	—	70	79	—	—	—	—	—	—	—	—	—	—

NOTE:— † Variation in figures is due to conversion of 5 Sub-hospitals into dispensaries.

— Nil information.

@ Including 3 sub-hospitals.

TABLE No. 22

Cases and deaths due to different causes of sickness recorded in hospitals and dispensaries under different Railway Administrations in India during the years 1957 and 1958

Railways		Years	Cholera		Smallpox		Plague		Dysentery and Diarrhoea		Malaria		Enteric Fever	
			Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
1. Central	..	..	67	14	742	25	—	—	65,154	8	27,498	4	617	7
		1957	16	3	769	26	—	—	75,155	34	32,049	2	855	15
2. Northern	..	..	10	—	392	7	—	—	99,202	3	48,800	3	1,538	6
		1958	13	3	608	20	—	—	129,978	22	38,251	1	2,515	14
3. Southern	..	..	18	3	262	13	—	—	88,720	22	4,420	—	445	16
		1958	22	6	365	33	—	—	127,489	18	3,358	13	785	90
4. Eastern	..	..	15	5	70	7	—	—	63,291	10	1,305	—	1,487	14
		1958	31	15	240	20	—	—	73,470	12	685	—	1,751	8
5. Western	..	..	9	—	634	34	—	—	72,918	3	85,780	8	636	9
		1958	—	—	807	16	—	—	96,429	6	70,234	7	2,339	6
6. North-Eastern	..	..	10	5	73	6	—	—	91,277	27	11,060	6	925	15
		1958	—	—	262	11	—	—	40,641	—	6,318	1	1,439	11
7. South-Eastern	..	..	38	9	141	13	—	—	102,071	16	4,702	—	1,833	9
		1958	34	6	332	27	—	—	111,544	17	1,911	1	3,202	16
8. North-East Frontier	..	..	7	1	19	1	—	—	76,632	17	3,146	11	286	5
9. Chittaranjan Locomotive Works	..	..	—	—	3	1	—	—	6,297	3	4	—	10	—
		1958	—	—	7	—	—	—	5,497	10	9	—	81	2
10. Ganga Bridge Project	..	..	—	—	—	—	—	—	1,435	—	44	—	14	—
		1958	—	—	—	—	—	—	1,667	—	60	—	17	—

Note :— Nil information.

TABLE No. 22

Cases and deaths due to different causes of sickness recorded in hospitals and dispensaries under different Railway Administrations in India during the years 1957 and 1958—contd.

Railways	Years	Other fevers		T.B.		Leprosy		Injuries		Other causes		Total	
		Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
1. Central	..	1957	147,434	11	2,027	56	1	50,252	48	371,026	233	664,869	407
	..	1958	143,718	31	2,346	41	1	52,980	43	392,146	312	700,711	508
2. Northern	..	1957	71,414	13	2,084	21	—	72,061	19	844,310	114	1,139,850	186
	..	1958	82,189	4	3,386	47	1	101,186	32	1,080,214	92	1,438,369	236
3. Southern	..	1957	266,893	18	1,763	42	2	139,651	15	794,705	193	1,297,089	324
	..	1958	223,552	31	2,396	59	—	134,164	8	1,054,367	245	1,546,814	503
4. Eastern	..	1957	24,684	6	1,138	38	—	58,474	11	457,761	34	603,259	34
	..	1958	48,778	20	858	26	3	60,389	13	454,314	88	610,602	205
5. Western	..	1957	19,681	3	1,119	30	—	103,225	26	733,290	119	1,020,314	234
	..	1958	25,472	5	1,672	36	—	96,626	21	809,787	176	1,103,390	273
6. North-Eastern	..	1957	81,041	9	1,299	27	2	51,852	14	524,767	196	762,309	307
	..	1958	60,986	11	1,277	10	1	30,403	12	282,931	136	424,286	200
7. South-Eastern	..	1957	180,039	16	1,523	38	—	98,809	5	534,733	43	923,934	149
	..	1958	107,918	14	1,787	78	—	50,720	7	596,053	60	873,576	226
8. North-East Frontier	..	1958	57,522	14	338	21	—	29,647	2	359,227	78	526,841	150
9. Chittaranjan Locomotive Works.	1957	4,404	—	56	2	—	—	602	1	55,788	26	67,164	33
	1958	3,182	—	64	1	—	—	658	—	64,869	47	74,372	60
10. Ganga Bridge Project	1957	16,873	—	—	—	—	—	931	—	365	—	19,662	—
	1958	18,082	—	—	—	—	—	1,735	—	656	—	22,217	—

Note:— Nil information.

TABLE No. 23
Immunisation Statistics and Malaria Control Work done during the year 1958

Description	Central Railway		Northern Railway		Southern Railway		Eastern Railway		Western Railway	
	1957	1958	1957	1958	1957	1958	1957	1958	1957	1958
I. No. of vaccinations performed—										
(i) Primary ..	8,388	11,041	5,946	6,808	11,276	6,897	11,340	6,327	—	4,302
(ii) Re-vaccination ..	48,419	79,756	38,624	47,193	45,138	43,559	133,980	116,388	—	10,248
Total ..	56,807	90,797	44,570	54,001	56,414	50,456	145,320	122,710	—	14,550
II. No. of inoculations performed—										
(i) Anti-cholera ..	72,008	66,232	15,651	20,373	48,795	22,965	28,939	34,273	—	2,020
(ii) Anti-plague ..	30	—	73	17	1	—	—	—	—	—
(iii) Anti-typhoid ..	5,412	6,116	1,749	2,246	3,857	6,205	6,714	13,734	—	522
(iv) Others ..	224	55	124	1,088	80	1,113	3,144	3,977	—	1,495
III. No. of BCG vaccinations performed	—	—	—	—	606	445	—	—	—	—
IV. Quantity of Quinine and other anti-malarials distributed—										
(i) Powder used (in lbs.) ..	26	38	68	63	76	52	—	—	—	134
(ii) Tablets ..	295,963	305,104	173,307	184,900	34,750	27,101	10,920	5,243	—	529,000
(iii) Injections ..	9,374	10,419	5,184	6,578	2,319	4,774	—	—	—	32,240
V. No. of Anti-Malaria Units working ..	28	29	40*	41†	4	4	19	18	—	33
VI. No. of Anti-Malaria Surveys ..	—	—	—	—	—	—	1	36	—	—
VII. No. of houses sprayed ..	33,482	19,995	89,714	83,806	10,500	10,600	10,095	17,574	—	35,873
VIII. Quantity of D.D.T. used (in lbs) ..	15,375	5,658	4,728	4,474	5,660	5,729	3,607	2,893	—	7,823

Note :— † Including 18 temporary units.

‡ Including 19 temporary units.

— Nil information.

TABLE No. 23

Immunisation Statistics and Malaria Control Work done during the year 1958—contd.

Description	North-Eastern Railway		South-Eastern Railway		North-East Frontier Railway		Chittaranjan Locomotive Works		Ganga Bridge Project	
	1957	1958	1957	1958	1957	1958	1957	1958	1957	1958
I. No. of vaccinations performed—										
(i) Primary ..	2,217	2,298	12,144	14,663	15,188	16,503	420	353	83	67
(ii) Re-vaccination ..	27,802	33,975	164,912	170,283	75,240	81,198	3,688	5,775	5,646	4,819
Total ..	30,019	36,273	177,056	184,946	90,428	97,701	4,108	6,128	5,729	4,886
II. No. of inoculations—										
(i) Anti-cholera ..	16,058	15,234	31,780	42,552	19,100	28,487	*	15	4,235	4,874
(ii) Anti-plague ..	—	—	—	285	1,687	—	*	—	—	—
(iii) Anti-typhoid ..	326	371	11,307	8,846	19,100	28,487	*	147	675	49
(iv) Others ..	2	—	101	303	—	—	—	172	—	1
III. No. of BCG vaccinations performed.	—	—	865	—	—	—	—	—	18	21
IV. Quantity of Quinine and other anti-malarials distributed—										
(i) Powder used (in lbs.) ..	18	23	18	7	51	24	—	—	—	—
(ii) Tablets ..	203,378	103,792	126,903	114,258	810,521	574,005	—	—	35,279	34,600
(iii) Injections ..	86	182	135	†	2,061	1,392	—	—	—	—
V. No. of Anti-Malaria Units working	2	2	37	37	23	23	1	1	2	2
VI. No. of Anti-Malaria Surveys	1	2	2	1	—	—	2	—	—	—
VII. No. of houses sprayed	9,903	14,439	23,000	23,300	21,329	23,790	17,728	13,468	4,900	5,012
VIII. Quantity of D.D.T. used (in lbs.)	1,628	6,124	10,842	7,541	6,318	7,020	5,562	3,100	2,500	3,320

Note :— Nil information.

* Information not available.

TABLE No. 24
*Number of Hospitals, Dispensaries, Beds and patients treated during
the year 1958*

States/Union Territories			Hospitals	Dispensaries	Beds	Patients treated	
						In-door	Out-door
1. Andhra Pradesh	..	..	265	345	13,795	12,29,694	1,76,06,541
2. Assam ..	..	..	†	†	†	†	†
3. Bihar ..	..	..	226	951§	6,757	7,16,851	53,50,220
4. Bombay*	..	..	277	1,630	18,048	6,82,332	1,25,26,808
5. Jammu and Kashmir	..	..	24	114	2,406	†	†
6. Kerala ..	..	..	66	261	11,419	4,60,282	1,08,31,358
7. Madras ..	..	..	266	541	12,816	8,14,708	1,05,72,532
8. Mysore ..	..	..	173	712	12,124	3,58,858	1,37,52,490
9. Madhya Pradesh	..	..	275	593	8,790	6,62,872	50,70,325
10. Orissa ..	..	..	161	266	4,064	1,61,944	58,22,704
11. Punjab ..	..	..	249	622	12,005	4,50,990	95,64,696
12. Rajasthan ..	..	..	320	314	9,137	1,82,683	99,38,705
13. Uttar Pradesh ..	..	..	409	869	18,630	5,42,381	1,83,05,402
14. West Bengal ..	..	..	638†	1,566	25,484	5,68,355	1,02,05,567
15. Andaman and Nicobar Islands	..	..	6	28	388	12,972	1,30,463
16. Delhi ..	..	..	33	39*	2,641*	95,540	40,16,557
17. Himachal Pradesh	..	..	19	80	1,243	2,30,221	13,59,695
18. Laccadive Islands	..	..	—	7	†	†	†
19. Manipur ..	..	..	17	54	355	3,936	1,03,990
20. Pondicherry ..	..	..	5	34	890	18,116	5,15,194
21. Tripura ..	..	..	6	69	259	95,442	8,60,438
Total ..			3,435	9,095	1,61,258	72,88,177	13,65,33,685

NOTE:— * Part information.

† Including Primary Health Centres.

‡ Information not available.

§ Including Primary Health Centres, Mobile Units and Clinics etc.

— Nil information.

TABLE No. 25
Expenditure incurred on Contributory Health Service Scheme and per capita expenditure during the year 1958

Months	Pay of Officers	Pay of establish- ment	Allowances and honorarium	Medicines	Other charges	Total expenditure	Total attendance of new cases	Expenditure per patient	Expenditure per capita (beneficiary)
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1. January	..	28,606.06	18,216.65	54,374.07	1,90,403.94	32,205.15	3,23,805.87	92,165	0.76
2. February	..	32,857.22	19,376.98	59,289.15	1,85,733.68	62,862.04	3,60,119.07	78,162	0.84
3. March	..	69,128.50	19,130.25	71,322.00	1,79,620.02	49,299.73	3,88,500.50	88,958	0.91
4. April	..	41,290.85	19,482.96	58,591.23	1,85,207.32	18,943.40	3,23,515.76	92,450	0.76
5. May	..	41,295.52	19,713.88	58,670.01	2,03,612.59	53,977.06	3,77,269.06	10,110	0.88
6. June	..	43,471.30	22,775.29	64,711.83	2,03,087.61	21,070.83	3,55,116.86	88,740	0.83
7. July	..	44,605.30	21,174.91	64,830.34	2,14,472.33	40,687.72	3,85,770.60	1,22,697	0.91
8. August	..	47,546.67	22,369.41	67,391.25	2,18,125.25	79,601.08	4,35,033.43	1,28,271	1.02
9. September	..	45,392.16	21,842.53	65,219.77	2,19,231.24	64,335.57	4,16,021.27	1,27,442	0.97
10. October	..	53,322.23	21,527.18	66,455.75	2,24,145.99	41,003.13	4,06,453.38	1,11,129	0.95
11. November	..	46,372.81	22,126.18	65,974.91	2,18,132.06	54,128.66	4,06,734.62	85,225	0.95
12. December	..	48,917.29	23,596.41	79,810.64	2,09,565.23	79,730.21	4,41,619.78	92,319	1.03
Total	..	5,42,805.91	2,51,332.63	7,76,640.95	24,51,336.13	597,844.58	46,19,960.20	12,08,571	10.81
								3.82	

NOTE :—Expenditure per patient and per capita (beneficiary) do not include expenditure on administration incurred at the headquarters, rent of the buildings of the C.H.S. dispensaries and that of the head quarters, expenditure incurred by the Government hospitals and on printing and stationery.

TABLE No. 26

Monthly attendance at the Contributory Health Service Scheme dispensaries during the years 1955-58

Months	1955		1956		1957		1958	
	Total attendance	Daily average	Total attendance	Daily average	Total attendance	Daily average	Total attendance	Daily average
1. January ..	1,56,396	5,792	1,99,403	7,976	2,13,402	8,208	2,51,389	9,669
2. February ..	1,55,782	5,992	2,87,658	8,746	2,29,491	9,562	2,44,380	10,182
3. March ..	1,69,205	6,043	2,32,090	8,927	2,57,823	10,313	2,72,208	10,892
4. April ..	1,71,551	6,598	2,25,023	9,376	2,73,835	10,953	2,78,711	11,148
5. May ..	1,65,852	6,379	2,20,045	8,149	2,66,098	9,855	3,05,145	11,302
6. June ..	1,76,341	6,782	2,37,559	9,137	2,89,099	11,564	2,76,728	11,530
7. July ..	2,12,972	8,191	2,71,143	10,428	2,88,054	10,669	3,55,682	13,680
8. August ..	2,37,863	9,324	2,89,545	11,582	3,38,480	13,540	3,96,848	15,874
9. September ..	2,52,064	9,695	2,77,226	11,089	3,28,987	13,159	3,97,560	15,902
10. October ..	2,16,823	8,673	2,49,248	9,970	2,62,848	10,952	3,56,703	14,268
11. November ..	1,91,062	7,673	2,34,838	9,394	2,56,547	9,867	2,77,564	12,068
12. December ..	2,08,767	7,769	2,39,487	9,211	2,46,253	9,471	3,01,973	11,614
Total ..	23,14,678	8,150	29,62,265	10,322	32,50,930	10,676	37,14,981	12,342

TABLE No. 27

Number of patients treated for the various important diseases in the various Contributory Health Service Scheme dispensaries during the year 1958

Months	Tuberculosis (all forms)	Typhoid (Enteric group)	Dysentery (all forms)	Diphtheria	Measles	Malaria	Avitaminosis	Anamias
1	2	3	4	5	6	7	8	9
1. January ..	188	31	3,083	6	66	—	3,525	1,793
2. February ..	163	23	2,353	15	113	1	2,773	1,568
3. March ..	194	83	3,421	15	258	5	3,378	1,789
4. April ..	160	150	4,057	7	308	—	3,259	1,599
5. May ..	183	151	3,376	14	187	13	3,020	2,220
6. June ..	154	210	3,198	11	176	18	2,814	2,060
7. July ..	208	155	4,582	11	87	30	3,883	2,619
8. August ..	201	205	7,287	30	27	44	3,926	2,701
9. September..	214	171	5,634	5	29	32	3,806	2,783
10. October ..	173	123	3,932	19	19	34	4,471	2,000
11. November ..	139	113	2,903	7	12	55	4,044	1,538
12. December ..	148	60	2,927	2	10	20	4,065	1,760
Total ..	2,125	1,475	46,753	142	1,292	252	42,964	24,430
Incidence per mille of beneficiaries ..	4.97	3.45	109.36	0.33	3.02	0.59	100.50	57.15

NOTE:— —Nil information.

TABLE No. 27
Number of patients treated for the various important diseases in the various Contributory Health Service Scheme dispensaries during the year 1958--contd.

Months	Asthma	Trachoma	Hypertension				Diseases of the upper respiratory passage	Acute bronchitis	Chronic bronchitis	Abortion	Scabies
			With heart disease	Without heart disease							
10	11	12	13	14	15	16	17	18	19		
1 January ..	525	1,105	4	219	15,826	2,227	3,041	118	179		
2 February ..	326	668	8	150	12,936	1,586	2,092	124	191		
3 March ..	366	775	16	153	13,341	1,842	1,962	160	159		
4 April ..	304	908	7	130	13,717	1,282	2,173	165	130		
5 May ..	371	705	9	118	14,131	1,452	2,307	126	180		
6 June ..	293	760	4	97	10,963	1,138	1,713	136	162		
7 July ..	452	1,072	28	124	16,394	1,440	1,927	166	251		
8 August ..	422	1,048	12	118	18,430	1,206	2,532	137	314		
9 September ..	421	1,031	28	136	17,610	1,853	3,066	102	251		
10 October ..	573	769	13	187	17,241	1,791	2,805	88	307		
11 November ..	441	659	4	115	13,378	1,503	2,175	86	245		
12 December ..	440	591	2	145	17,346	1,993	2,213	127	219		
Total ..	4,934	10,091	135	1,692	1,76,313	19,313	28,006	1,535	2,588		
Incidence per mille of beneficiaries ..	11.54	23.60	0.32	3.96	412.43	45.18	65.51	3.59	6.05		

TABLE No. 28
Statistics of work done in the Family Planning Centres functioning under the Contributory Health Service Scheme during the year 1958

Months	Attendance at the clinic	No. of active cases following F.P. Methods	Nature of advice		Home visits		Cost of contra- ceptives sold	Meetings held	
			Contra- ceptive	Sterilisa- tion	New contracts	Follow up		Number	Attendance
1. January	879	261	303	†	547	683	†	38	722
2. February	275	934	285	—	972	663	†	18	538
3. March	976	281	344	1	888	674	†	16	641
4. April	975	369	305	3	1,110	923	†	40	616
5. May	870	257	259	2	1,381	603	†	35	375
6. June	916	343	300	4	943	781	†	42	483
7. July	1,018	338	272	9	479	792	532	19	225
8. August	808	300	275	43	270	862	696	34	327
9. September	920	260	200	21	653	960	421	46	476
10. October	860	409	223	14	523	903	591	53	532
11. November	645	280	209	24	630	468	449	59	1,173
12. December	312	363	326	42	1,632	833	824	61	1,135
Total	9,454	4,395	3,301	163	10,028	9,145	3,513	461	7,243

NOTE:—† Information not available.

— Nil information.

TABLE No. 29

Number of Blood Banks and the statistics of the work done therein during the year 1958

States/Union Territories	No. of Blood Banks	No. of donors of blood	Quantity of blood collected (ml.)	No. of blood transfusions	No. of Blood Banks having facilities for preparation of plasma	Total quantity of plasma/serum prepared
1. Andhra Pradesh	12	8,315	2,343,280	8,669	—	—
2. Assam	1	539	161,700	539	—	—
3. Bihar	2	5,892	6,210,145	7,683	1	15,320
4. Bombay	13	14,704	3,835,825	13,190	—	5,150
5. Jammu and Kashmir	2	153	106,150	227	—	—
6. Kerala	5	1,904	537,600	2,054	—	—
7. Madhya Pradesh	6	4,526	902,225	3,192	1	2,000
8. Madras	18	13,460	8,204,965	11,188	3	—
9. Mysore	3	2,224	825,850	2,209	—	—
10. Orissa	1	597	140,925	597	—	—
11. Punjab	6	7,517	1,929,035	7,244	—	—
12. Rajasthan	5	2,617	814,220	2,895	1	—
13. Uttar Pradesh	3	5,173	1,199,350	3,800	—	{ Serum 1733 ampoules of one c.c. each.
14. West Bengal	6	28,923	8,068,740	29,575	1	{ 368 bottles of plasma.
15. Andaman and Nicobar Islands	—	2	300	2	—	—
16. Delhi	2	4,947	1,484,100	4,801	—	—
17. Himachal Pradesh	1	82	20,000	71	—	—
18. Manipur	1	250	1,200	30	—	—
19. Pondicherry	—	—	—	—	—	—
20. Tripura	—	—	—	—	—	—

NOTE:— Nil information.

TABLE No. 30

Number of institutions having X-ray facilities, number of cases examined and number of cases treated in the various States of India during the year 1958

States/Union Territories				No. of institutions having X-ray facilities	No. of cases examined	No. of cases treated
1.	Andhra Pradesh*	..	..	19	1,13,906	85,315
2.	Assam* ..	..	..	24	32,523	3,549
3.	Bihar ..	..	..	26	36,511	6,903
4.	Bombay ..	..	..	81	3,77,799	1,10,528
5.	Jammu and Kashmir ..	..	..	4†	39,406	1,988
6.	Kerala ..	..	..	18	1,30,128	82,157
7.	Madhya Pradesh ..	..	..	52	1,37,649	29,742
8.	Madras ..	..	..	26	1,39,676	21,377
9.	Mysore ..	..	..	27	1,52,837	82,958
10.	Orissa ..	..	..	18	20,612	815
11.	Punjab ..	..	..	54	1,28,499	—
12.	Rajasthan ..	..	..	46	1,43,090	7,420
13.	Uttar Pradesh ..	..	..	84	1,90,143	1,74,854
14.	West Bengal ..	..	..	36	1,56,219†	1,353
15.	Andaman and Nicobar Islands ..	..	..	1	329	—
16.	Delhi* ..	..	..	13	2,56,025	6,031
17.	Himachal Pradesh ..	..	..	7	13,313	859
18.	Manipur ..	..	..	1	648	—
19.	Pondicherry ..	..	..	2	12,425	—
20.	Tripura ..	..	..	2	2,886	—

NOTE:—*Relates to the year 1957.

†Excepting the cases those were treated at Calcutta Medical College Hospital.

‡Excluding clinics.

—Nil information.

TABLE No. 31

Number of institutions having radium facilities and quantity of radium available (mg) etc., in various States in India during the year 1958

States/Union Territories	No. of institutions having radium facilities	Quantity of radium available (mg)	No. of patients treated	No. of Institutions having radium-isotopes facilities	Diagnosed	Treated
1. Andhra Pradesh*	3	690	369	—	—	—
2. Assam*	4	880	68	—	—	—
3. Bihar*	1	840	501	1	11	11
4. Bombay*	3	308	1,233	—	—	—
5. Jammu and Kashmir	—	—	—	—	—	—
6. Kerala	1	378	—	—	—	—
7. Madhya Pradesh	2	1,435	50	—	—	—
8. Madras	1	256	68	—	—	—
9. Mysore	4	1,013·13	706	—	—	—
10. Orissa	1	354†	48	—	—	—
11. Punjab	3	455	287	—	—	—
12. Rajasthan	1	140	23	—	—	—
13. Uttar Pradesh	3	450	3,174	—	—	—
14. West Bengal	3	1,271·5‡	312‡	2	131	2
15. Andaman and Nicobar Islands	—	—	—	—	—	—
16. Delhi*	1	242	174	—	—	—
17. Himachal Pradesh	1	227·73	55	—	—	—
18. Manipur	—	—	—	—	—	—
19. Pondicherry	—	—	—	—	—	—
20. Tripura	—	—	—	—	—	—

NOTE—*Relates to the year 1957.

†174 mg. damaged.

‡Excluding figures for Calcutta Medical College Hospital.

—Nil information.

TABLE No. 32

Statement showing amounts sanctioned to various Organisations for Family Planning Programme during the years 1957 and 1958

States/Union Territories	Amount sanctioned during 1957			Amount sanctioned during 1958				
	State Govts. (Rs.)	Local Bodies (Rs.)	Voluntary Organisations (Rs.)	Total (Rs.)	State Govts. (Rs.)	Local Bodies (Rs.)	Voluntary Organisations (Rs.)	Total (Rs.)
1. Andhra Pradesh ..	90,621	—	14,030	1,04,651	—	—	—	—
2. Assam ..	91,500	—	25,696	1,17,196	5,268	—	5,780	11,048
3. Bihar ..	38,442	—	2,000	40,442	—	—	10,750	10,750
4. Bombay ..	71,240	56,261	8,22,741	9,50,242	—	56,477	4,23,288	4,79,765
5. Jammu and Kashmir ..	—	—	—	—	—	—	—	—
6. Kerala ..	—	—	39,596	39,596	—	—	33,444	33,444
7. Madhya Pradesh ..	7,000	—	1,500	8,500	—	—	19,603	19,603
8. Madras ..	31,530	—	22,167	66,031	4,809	—	91,712	96,521
9. Mysore ..	49,248	—	20,940	70,188	4,204	—	22,645	26,849
10. Punjab ..	65,782	—	87,513	1,53,295	5,585	—	23,000	28,585
11. Rajasthan ..	1,55,180	—	13,089	1,68,269	—	—	—	—
12. Uttar Pradesh ..	600	—	1,33,777	1,34,377	—	—	19,290	19,290
13. West Bengal ..	—	10,100	1,61,020	1,71,130	70,597	4,175	79,484	1,54,256
14. Delhi ..	—	94,900	27,600	1,22,500	—	—	1,78,760	1,78,760
15. Manipur ..	—	—	7,750	7,750	—	—	—	—
Total ..	6,01,143	1,73,595	13,79,419	21,54,157	90,463	60,652	9,07,756	10,58,871

NOTE:—These figures do not include the expenditure incurred on Family Planning Clinics attached to the Contributory Health Service Scheme Dispensaries, Training Centres at Ramanagar and Bombay and on the Central Organisations. The figures of expenditure under State Government for 1958 do not include the amount sanctioned to State Governments during 1958-59 as the grants to State Governments were released as lump sum ways and means advances and are to be adjusted against final sanctions. The actual expenditure by the State Governments was Rs. 12,28,518 and the budget provision for grants to State Governments B1(10) to be released by ways and means was Rs. 17,97,000.

—Nil information.

M/B(N)72DGHs—18

TABLE No. 33
Number of Family-Planning Clinics opened during the First Five Year Plan period and during the years 1956 to 1958

States/Union Territories	Clinics opened during the First Five year Plan period (1951-56)		Clinics opened during the years				Total	
			1956		1957		1958	
	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban
1. Andhra Pradesh	—	8	—	—	1	7	86	—
2. Assam	—	1	—	—	35	8	1	—
3. Bihar	—	20	—	—	—	—	22	6
4. Bombay	—	10	—	—	43	16	8	12
5. Jammu and Kashmir	—	—	—	—	—	—	—	2
6. Kerala	11	1	10	4	10	—	4	8
7. Madhya Pradesh	—	7	—	—	—	2	67	22
8. Madras	2	16	—	—	63	11	2	—
9. Mysore	—	6	—	1	5	5	8	6
10. Orissa	—	3	—	1	—	3	25	21
11. Punjab	—	1	—	—	2	1	12	9
12. Rajasthan	—	6	—	—	25	7	—	—
13. Uttar Pradesh	1	10	—	—	—	6	35	8
14. West Bengal	7	13	—	—	10	18	2	1
15. Andamans and Nicobar Islands	—	—	—	—	—	—	—	—
16. Delhi	—	18	—	—	—	8	—	5
17. Himachal Pradesh	—	5	—	—	—	2	—	—
18. Manipur	—	—	—	—	—	—	—	2
19. Pondicherry	—	—	—	—	—	1	—	—
20. Tripura	—	1	—	—	—	—	—	—
Total	21	126	10	6	194	95	272	102
							497	329

NOTE:— Nil information.

TABLE No. 34

Number of sterilization operations performed in different States of India during the years 1957 and 1958

States/Union Territories	1957			1958		
	Males	Females	Total	Males	Females	Total
1. Andhra Pradesh	157	—	157	808	418	1,226
2. Assam ..	13	248	261	19	365	384
3. Bihar ..	128	858	986	191	1,244	1,435
4. Bombay ..	403	1,721	2,124	2,019	4,778	6,797
5. Jammu and Kashmir	—	41	41	238	402	640
6. Kerala ..	321	158	479	1,633	1,507	3,140
7. Madhya Pradesh	484	605	1,089	623	709	1,332
8. Madras ..	231	1,573	1,804	986	1,864	2,850
9. Mysore ..	920	997	1,917	567	765	1,332
10. Orissa ..	28	6	34	63	15	78
11. Punjab ..	189	193	382	652	327	979
12. Rajasthan ..	315	286	601	473	445	918
13. Uttar Pradesh ..	194	2,000	2,194	585	1,879	2,464
14. West Bengal ..	22	632	654	155	1,312	1,467
15. Delhi ..	94	117	211	215	214	429
16. Himachal Pradesh	13	81	94	39	104	143
17. Manipur ..	—	—	—	—	9	9
18. Tripura ..	1	4	4	2	12	14
Total ..	3,512	9,520	13,032	9,268	16,369	25,637

NOTE :— — Nil information.

TABLE No. 35

Number of Maternity Centres and Maternity & Child Welfare Centres in different States in India during the year 1958

States/Union Territories	Maternity Centres			Maternity and Child Welfare Centres		
	Rural	Urban	Total	Rural	Urban	Total
1. Andhra Pradesh*	608	224	832	†	†	†
2. Assam ..	91	3	94	—	—	—
3. Bihar ..	†	†	†	†	†	†
4. Bombay ..	232	197	429	847	2,970	3,717
5. Jammu and Kashmir	†	†	†	†	†	†
6. Kerala ..	593	49	642	593	49	642
7. Madhya Pradesh*	60	43	103	49	33	82
8. Madras ..	390	431	821	—	600	600
9. Mysore ..	†	†	†	†	†	†
10. Orissa ..	45	19	64	—	1	1
11. Punjab ..	217	100	317	127	41	168
12. Rajasthan ..	5	60	65	—	—	—
13. Uttar Pradesh ..	834	14	848	†	†	†
14. West Bengal ..	60	54	114	61	38	103
15. Andaman and Nicobar Islands.	—	—	—	—	—	—
16. Delhi*	33	53	86	32	100	132
17. Himachal Pradesh	29	4	53	14	15	29
18. Laccadive, Minicoy and Amindivi Islands	—	—	—	—	—	—
19. Manipur ..	—	—	—	—	—	—
20. Pondicherry ..	†	†	†	†	†	†
21. Tripura ..	6	1	7	—	—	—

NOTE:—*Information relates to 1957.

— Nil information.

† Information not available.

TABLE No. 36

Number of live births, maternity beds, paediatric beds etc., during 1957 and 1958

States/Union Territories	Years	Total No. of live births	Maternity beds	Paediatric beds	No. of maternity beds per 100 of live births	No. of paediatric beds per 100 of live births
1. Andhra Pradesh	1958	619,204	†	†	†	†
	1957	669,537	†	†	†	†
2. Assam ..	1958	89,056	313	—	0.35	—
	1957	91,032	313	—	0.34	—
3. Bihar ..	1958	545,741	†	†	†	†
	1957	565,168	†	†	†	†
4. Bombay ..	1958	1,542,142	4,611	220	0.30	0.14
	1957	1,519,146	3,419	250	0.23	0.16
5. Jammu and Kashmir	1958	†	†	†	†	†
	1957	†	†	†	†	†
6. Kerala ..	1958	374,695	1,721	201	0.46	0.05
	1957	356,964	1,721	184	0.48	0.05
7. Madhya Pradesh	1958	483,517	1,883*	1,108*	0.39	0.23
	1957	†	1,883	1,108	†	†
8. Madras ..	1958	885,061	2,649	398	0.30	0.04
	1957	866,642	†	†	†	†
9. Mysore ..	1958	510,392	†	†	†	†
	1957	†	†	†	†	†
10. Orissa ..	1958	356,991	338	76	0.09	0.02
	1957	359,984	332	76	0.09	0.02
11. Punjab ..	1958	703,699	1,021	123	0.14	0.02
	1957	787,974	1,243	161	0.18	0.02
12. Rajasthan ..	1958	125,415	783	264	0.62	0.21
	1957	108,236	767	249	0.71	0.23
13. Uttar Pradesh ..	1958	1,080,769	1,998	250	0.18	0.02
	1957	1,002,586	1,893	268	0.19	0.03
14. West Bengal ..	1958	648,279	3,894	430	0.60	0.07
	1957	639,138	2,410	430	0.38	0.07
15. Andaman and Nicobar Islands	1958	1,141	20	36	1.75	3.15
	1957	960	20	36	2.08	3.75
16. Delhi ..	1958	68,405	422*	266*	0.62	0.39
	1957	73,536	422	266	0.57	0.36
17. Himachal Pradesh	1958	20,032	85	14	0.42	0.07
	1957	21,173	21	15	0.10	0.07
18. Laccadive Islands	1958	†	—	—	†	†
	1957	†	—	—	†	†
19. Manipur ..	1958	1,923	10	—	0.52	—
	1957	5,715	10	—	0.17	—
20. Pondicherry ..	1958	†	†	†	†	†
	1957	†	†	†	†	†
21. Tripura ..	1958	3,734	46	—	1.23	—
	1957	1,454	41	—	2.82	—

NOTE:— * Figures for 1958 are not available and hence the figures for 1957 are substituted.

† Information not available

— Nil information.

TABLE No. 37

Maternity and Child Welfare personnel trained in different States of India during the year 1958

States/Union Territories	Dais (Indigenous)	Mid-wives	Auxiliary Nurse Midwives	Health visitors	Public Health Nurses	M.C.H. Officers	Post- graduate courses	Refresher courses
1. Andhra Pradesh ..	..	†	†	†	†	†	†	†
2. Assam ..	..	—	104	—	—	—	—	—
3. Bihar ..	..	†	†	†	†	†	†	†
4. Bombay ..	195	89	—	66	—	—	23	—
5. Jammu and Kashmir ..	†	†	†	†	†	†	†	†
6. Kerala ..	—	—	—	—	—	—	—	46
7. Madhya Pradesh ..	†	†	†	†	†	†	†	†
8. Madras ..	557	397	—	—	—	2	11	15
9. Mysore ..	†	†	†	†	†	†	†	†
10. Orissa ..	421	—	29	—	—	—	—	—
11. Punjab ..	512	91	57	25	—	—	—	—
12. Rajasthan ..	57	—	39	—	—	—	—	—
13. Uttar Pradesh ..	747	70	—	72	—	—	—	—
14. West Bengal ..	276	—	111	18	37	17	9	18
15. Andaman and Nicobar Islands ..	7	—	—	—	—	—	—	—
16. Delhi ..	†	†	†	†	†	†	†	†
17. Himachal Pradesh ..	66	—	—	—	—	—	—	—
18. Laccadive, Minicoy and Amindivi Islands	†	†	†	†	†	†	†	†
19. Manipur ..	28	—	—	—	—	—	—	—
20. Pondicherry ..	†	†	†	†	†	†	†	†
21. Tripura ..	—	—	19	—	—	—	—	—

NOTE:—† Information not available.

— Nil information.

TABLE No. 38

Number of Maternity and Child Welfare personnel employed in different States of India during the years 1957 and 1958

States/Union Territories	Years	Obstetri- cians		Paediatrici- cians		M.C.H. Officers		M.C.H. Officers for School Health		Family Planning Doctors		Health Visitors		Public Health Nurses		Midwives	
		Full time	Part time	Full time	Part time	Full time	Part time	Full time	Part time	Full time	Part time	Full time	Part time	Full time	Part time	Full time	Part time
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. Andhra Pradesh ..	..	1957	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1958	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2. Assam ..	..	1957	3	10	2	4	1	—	—	—	—	7	—	12	—	132	—
	1958	3	10	2	1	4	1	—	—	52	—	12	—	—	—	183	—
3. Bihar ..	..	1957	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	1958	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
4. Bombay ..	..	1957	76	23	18	7	308	22	—	57	36	362	—	64	—	829	—
	1958	104	26	23	16	308	61	2	—	57	36	402	—	74	—	889	—
5. Jammu and Kashmir ..	..	1957	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	1958	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6. Kerala ..	..	1957	20	3	—	2	—	—	—	—	37	23	—	6	—	584	—
	1958	20	3	1	2	3	—	—	—	—	—	59	—	9	—	686	—
7. Madhya Pradesh ..	..	1957	5	—	1	—	—	—	—	—	18	199	—	2	—	391	—
	1958	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
8. Madras ..	..	1957	—	—	—	99	—	—	—	6	4	273	—	11	—	1,667	—
	1958	53	4	33	4	13	1	—	—	22	17	85	—	18	—	1,174	—
9. Mysore ..	..	1957	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	1958	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
10. Orissa ..	..	1957	3	—	—	1	—	—	—	—	7	28	—	—	—	85	—
	1958	3	—	—	—	1	—	3	—	—	—	41	—	—	—	86	—

TABLE No. 38—contd.

Number of Maternity and Child Welfare personnel employed in different States of India during the years 1957 and 1958—contd.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
11. Punjab	1957 31	1958 77	4 1	2 6	— 1	4 8	1 —	13 1	7 20	2 2	117 168	— —	22 38	— —	167 160	— —
12. Rajasthan	1957 10	1958 10	— —	4 1	— —	24 19	— 17	— —	3 —	4 —	134 13	— —	— —	— —	538 46	— —
13. Uttar Pradesh	1957 83	1958 232	— 2	4 5	1 1	18 18	12 12	14 14	— 4	— 2	81 172	— —	2 3	— —	503 623	— —
14. West Bengal	1957 44	1958 69	10 137	5 22	4 2	1 9	— 2	2 7	311 26	11 2	62 79	— —	4 9	— —	102 361@	— —
15. Andaman and Nicobar Islands	1957 1958	1 —	— —	1 1	— —	— —	1 —	— 1	— —	2 —	— —	1 1	— —	— —	— —	7 6	— —
16. Delhi	1957 6	1958 +	1 +	4 +	1 +	— +	— +	2 +	2 +	— +	82 +	— +	8 +	— +	7 +	— +
17. Himachal Pradesh	1957 —	1958 2	1 1	— —	1 1	— —	— —	1 1	— —	10 14	1 34	— —	1 3	— —	29 54	— —
18. Manipur	1957 —	1958 —	1 —	— —	— —	1 1	— —	1 —	1 —	— 1	1 2	— —	— —	— —	1 1	— —
19. Tripura	1957 —	1958 —	— —	— —	— —	— —	1 1	— —	1 1	— —	— —	— —	— —	— —	3 7	— —

Note:—†Information not available.

— Nil information.

@ Including 121 Assistant Mid-wives.

TABLE No. 39

*Number of training schools for different categories of nursing personnel,
the students under training and the number of students
qualified during the years 1957 and 1958.*

Courses	Number of Schools		Number of students under training		Number of candidates qualified	
	1957	1958	1957	1958	1957	1958
1. B.Sc. degree in Nursing	2	2	146	156	17	24
2. General Nursing ..	204	187	8,701	9,807	2,078	2,142
3. Junior (B Grade) Nursing	31	37	†	†	†	†
4. Midwifery for Nurses..	222	214	2,805	2,636	2,670	2,594
5. Midwifery for other candidates ..	22	38				
6. Auxiliary Nurse-Mid- wives	96	146	2,451	3,675	501	793
7. Health Visitors ..	18	21	939	1,106	214	261

NOTE:—† Information not available.

Registered Nursing personnel during the years 1957 and 1958

Description								Years	
								1957	1958
1. Nurses .. ..	..	..	..	..	..	..	..	26,470	28,049
2. Midwives .. ..	..	..	..	..	..	..	..	31,412	33,208
3. Health Visitors ..	..	..	..	..	..	..	..	939	1,131
4. Auxiliary Nurse-Midwives	..	..	..	..	..	..	..	587	1,056

TABLE No. 40

Medical Colleges in India during the year 1958

States	University	Location	Name of the College	Year of estab- lishment	Controlling Authority	Number of admissions during the year 1958			
						Males	Females	Total	
1	2	3	4	5	6	7	8	9	
1. Andhra Pradesh	(i) Andhra	..	Visakhapatnam	Andhra Medical College	1923	State Govt.	95	30	125
	(ii) Andhra	..	Guntur	Guntur Medical College	1946	State Govt.	95	30	125
	(iii) Osmania	..	Hyderabad	Osmania Medical College	1926	State Govt.	76	27	103
	(iv) Osmania	..	Hyderabad	Gandhi Medical College	1955	State Govt.	36	14	50
	(v) Venkateshwar	..	Kurnool	Kurnool Medical College	1957	State Govt.	41	11	52
	(vi) Andhra	..	Kakinada	Kakinada Medical College	1958	Kakinada Medical Education Society	99	11	110
2. Assam	(i) Gauhati	..	Dibrugarh	Assam Medical College	1947	State Govt.	87	13	100
3. Bihar	(i) Patna	..	Patna	P.W. Medical College	1925	Patna University	83	17	100
	(ii) Bihar	..	Darbhanga	Darbhanga Medical College	1946	State Govt.	56	16	72
	(iii) Bihar	..	Ranchi	Ranchi Medical College	1955	State Govt.	42	8	50
4. Bombay	(i) Bombay	..	Bombay	Grant Medical College	1845	State Govt.	83	37	120
	(ii) Bombay	..	Bombay	G.S. Medical College	1925	Municipal Corporation	46	38	84
	(iii) Bombay	..	Bombay	T.N. Medical College	1946	Municipal Corporation	38	24	62
	(iv) Gujarat	..	Ahmedabad	B.J. Medical College	1946	State Govt.	64	36	100
	(v) Poona	..	Poona	B.J. Medical College	1946	State Govt.	54	46	100
	(vi) Baroda	..	Baroda	Baroda Medical College	1949	State Govt.	50	10	60
	(vii) Gujarat	..	Jamnagar	M.P. Shah Medical College	1955	State Govt.	52	8	60
	(viii) Nagpur	..	Nagpur	Nagpur Medical College	1947	State Govt.	87	31	118
	(ix) Marathwada	..	Aurangabad	Govt. Medical College	1956	State Govt.	48	6	54

5. Kerala ..	..	(i) Kerala ..	..	Trivandrum ..	..	Trivandrum Medical College.	Medical 1951	State Govt.	70	34	104
		(ii) Kerala ..	..	Kozhikode ..	..	Kozhikode Medical College	1957	State Govt.	49	26	75
6. Madhya Pradesh ..	..	(i) Jabalpur ..	..	Jabalpur ..	..	Jabalpur Medical College	1955	State Govt.	72	21	93
		(ii) Vikram ..	..	Indore ..	..	M.G.M. Medical College	1948	State Govt.	59	32	91
		(iii) Vikram ..	..	Gwalior ..	..	G.R. Medical College	1946	State Govt.	69	24	93
		(iv) Vikram ..	..	Bhopal ..	..	Bhopal Medical College	1955	State Govt.	76	22	98
7. Madras ..	..	(i) Madras ..	..	Madras ..	..	Madras Medical College	1935	State Govt.	95	42	137
		(ii) Madras ..	..	Madras ..	..	Stanley Medical College	1938	State Govt.	80	29	109
		(iii) Madras ..	..	Vellore ..	..	Christian Medical College	1942	Missionary Agency.	25	25	50
		(iv) Madras ..	..	Madurai ..	..	Madurai Medical College	1954	State Govt.	81	21	102
		(v) Madras ..	..	Tanjore ..	..	Tanjore Medical College	1958	State Govt.	†	†	75
8. Mysore ..	..	(i) Mysore ..	..	Mysore ..	..	Mysore Medical College	1924	State Govt.	84	17	101
		(ii) Mysore ..	..	Bangalore ..	..	Bangalore Medical College	1955	State Govt.	50	10	60
		(iii) Karnataka ..	..	Manipal ..	..	Kasturba Medical College	1952	Academy of General Education.	107	16	123
		(iv) Karnataka ..	..	Hubli ..	..	Karnataka Medical College	1957	State Govt.	60	8	68
9. Orissa ..	..	(i) Utkal ..	..	Cuttack ..	..	S.C.B. Medical College	1944	State Govt.	65	35	100
10. Punjab ..	..	(i) Punjab ..	..	Amritsar ..	..	Amritsar Medical College	1943	State Govt.	79	20	99
		(ii) Punjab ..	..	Ludhiana ..	..	Christian Medical College	1953	Missionary Agency.	25	25	50
		(iii) Punjab ..	..	Patiala ..	..	Govt. Medical College ..	1953	State Govt.	67	17	84
11. Rajasthan ..	..	(i) Rajasthan ..	..	Jaipur ..	..	S.M.S. Medical College	1947	State Govt.	70	30	100
12. Uttar Pradesh ..	..	(i) Lucknow ..	..	Lucknow ..	..	K.G. Medical College ..	1911	Lucknow University.	115	27	142

TABLE No. 43—*contd.**Medical Colleges in India during the year 1958—contd.*

1	2	3	4	5	6	7	8	9
	(ii) Agra	.. Agra	.. S.N. Medical College	1939	State Govt.	59	15	74
	(iii) Lucknow	.. Kanpur	.. G.S.V.M. Medical College	1953	State Govt.	74	25	99
13. West Bengal	(i) Calcutta	.. Calcutta	.. Calcutta Medical College	1835	State Govt.	118	29	147
	(ii) Calcutta	.. Calcutta	.. Calcutta National Medical College.	1948	Local Governing Body.	114	11	125
	(iii) Calcutta	.. Calcutta	.. N.S. Medical College	1948	State Govt.	90	15	105
	(iv) Calcutta	.. Calcutta	.. R.G. Kar Medical College	1916	State Govt.	107	19	126
	(v) Calcutta	.. Bankura	.. Bankura Sammilani Medical College.	1955	Local Governing Body.	50	—	50
14. Delhi	(i) Delhi	.. New Delhi	.. Lady Harding Medical College.	1916	Governing Body.	—	69	69
	(ii) Delhi	.. New Delhi	.. Maulana Azad Medical College.	1958	State Govt.	45	15	60
	(iii) Delhi	.. New Delhi	.. All India Institute of Medical Sciences.	1956	Governing Body.	33	17	50
15. Pondicherry	.. Madras	.. Pondicherry	.. Medical College	1956	Central Govt.	42	8	50

NOTE :— † Information not available.

— Nil information.

TABLE No. 41

Number of registered Medical Practitioners in the States together with the mid-year population during the year 1958

Name of State/ Union Territories	Graduates	Licentiates	Total	Mid-year population (in millions)
1	2	3	4	5
<i>I. States—</i>				
1. Andhra Pradesh	2,090	842	2,932	34.41
2. Assam	761	2,242	3,003	10.28
3. Bihar	2,921	3,104	6,025	41.67
4. Bombay	10,951	5,479	16,430	54.85
5. Jammu and Kashmir	51	71	122	4.71
6. Kerala	+	+	808	15.75
7. Madhya Pradesh	966	1,404	2,370	27.71
8. Madras	6,736	4,601	11,337	33.14
9. Mysore	+	+	3,393	22.08
10. Orissa	+	+	1,459	15.32
11. Punjab	2,510	2,707	5,217	17.23
12. Rajasthan	+	+	+	17.72
13. Uttar Pradesh	4,377	3,082	7,459	58.69
14. West Bengal	7,973	14,330	22,303	28.80
<i>II. Union Territories—</i>				
1. Andaman and Nicobar Islands	7	10	17	0.03
2. Delhi	+	+	670	2.18
3. Himachal Pradesh ..	67	59	126	1.15
4. Laccadive, Minicoy and Amindivi Islands.	7	—	7	0.02
5. Manipur	15	25	40	0.63
6. Pondicherry	+	+	58	0.37
7. Tripura	55	74	129	0.75
TOTAL	39,487	38,030	83,905	397.54

NOTE: — + Information not available.

— Nil information.

TABLE No. 42

*Number of admissions and the number of students graduated in
Dentistry during 1958*

Name of the College			Students admitted	Students passed
1.	Dental College & Hospital, Calcutta	.. ..	28	13
2.	Dental Wing, Madras Medical College, Madras	.. ..	29	9
3.	Dental Wing, Government Medical College, Patiala	.. ..	12	
4.	Nair Hospital Dental College, Bombay	.. ..	60	10
5.	Sir C.E.M. Dental College, Bombay	.. ..	72	17
6.	Punjab Government Dental College and Hospital, Amritsar.		14	10
7.	Dental College, Bangalore	.. ..	10	—
8.	Dental College & Hospital, Lucknow.	.. ..	26	17
Total			251	76

NOTE:— —Nil information.

TABLE No. 43

Statement showing Government Analysts appointed by the State Governments under the Drugs Act during the year 1958.

States/Union Territories	Name of the Government Analysts for Schedules C & C (I) Drugs	Name of Government Analysts for other than Schedule C & C (I) Drugs	Name of the Government Analysts for patent and proprietary Drugs	Remarks
1	2	3	4	5
1. Andhra Pradesh ..	—	—	—	No Govt. Analyst was appointed in the State but samples were sent to Govt. Analyst, King Institute, Guindy for analysis.
2. Assam ..	1. Director, Haffkine Instt., Bombay. 2. Shri K.G.A. Narayanan, Haffkine Institute, Bombay. 3. Director, Pasteur Instt., Shillong.	Dr. Sheo Vehari Lal, Government Analyst for Drugs, Bihar Drugs Control Laboratory, Bankipur, Patna.	Director, Central, Drugs Laboratory, Calcutta.	—
3. Bihar ..	Director and Deputy Director, Central Drugs Laboratory, Calcutta.	1. Dr. Sheo Vehari Lal 2. Dr. L.P.N. Sinha 3. Dr. L.M. Banerjee	Drugs Control Laboratory, Patna.	—
4. Bombay ..	Dr. N.K. Dutta, Haffkine Instt., Bombay.	1. Shri K.G. Anantanarayanan 2. Shri R.B.M. Kolah 3. Dr. V.G. Kudalkar (Resigned Bombay from November)	Haffkine Institute, Bombay.	—
5. Kerala ..	Govt. Analyst not yet appointed.	4. Shri M.R. Shastri, Drugs Laboratory, Baroda. 5. Dr. A.K. Roy, Chemical Examiner, Junagadh.	—	—
6. Madhya Pradesh ..	1. Director, Central Drugs Laboratory, Calcutta. 2. Director, Central Research Institute Kasauli for Sera & Vaccines.	Dr. P.M. Tosniwal, Govt. Analyst, Drugs Testing Laboratory, Indore.	—	—

TABLE No. 43
Statement showing Government Analysts appointed by State Governments under the Drugs Act during the year 1958—contd.

1	2	3	4	5
7. Madras ..	Dr. K. Dattareyulu, Govt. Analyst, Drugs Special, King Instt. Guindy, Madras.	Shri S. Narayana Iyer, Govt. Analyst (Foods & Drugs), King Institute, Guindy, Madras.	1. Govt. Analyst (Drugs) 2. Govt. Analyst (Drugs) Special, King Instt., Guindy, Madras.	—
8. Mysore ..	Govt. Analyst not yet appointed.	—	—	—
9. Orissa ..	Haffkine Instt., Bombay	—	Director, Central Drugs Laboratory, Calcutta.	—
10. Punjab ..	Director, Central Drugs Laboratory, Calcutta.	Dr. B.D. Kochhar, Public Analyst, Food & Drugs Laboratory, Ambala, Central Public Health Laboratory, Jaipur.	Director & Deputy Central Drugs Laboratory, Calcutta.	—
11. Rajasthan ..	Shri P.N. Bhargawa, Chief Public Analyst, Rajasthan, Jaipur.	—	Central Public Health Laboratory, Jaipur.	—
12. Uttar Pradesh ..	1. Director, Haffkine Instt., Bombay. 2. Director, Central Drugs Laboratory, Calcutta.	1. Dr. A.C. Chatterjee, Govt. Analyst, Lucknow. 2. Dr. R.S. Srivastava, Asstt. Public Analyst, Lucknow.	Director, Central Drugs Laboratory, Calcutta.	Government Analysts in Col. 3 are in scale of Rs. 300—850.
13. West Bengal ..	Dr. P.K. Sanyal, West Bengal, Central Drugs Laboratory, School of Tropical Medicine, Calcutta.	Dr. P.K. Sanyal, West Bengal Central Drug Laboratory, School of Tropical Medicine, Calcutta.	Dr. P.K. Sanyal, West Bengal Central Drug Laboratory, School of Tropical Medicine, Calcutta.	—
14. Delhi ..	Officers of the Haffkine Instt., Bombay.	1. Officers of the Haffkine Instt., Bombay. 2. Director & Deputy Director, Central Drugs Laboratory, Calcutta.	Director, Central Drugs Laboratory, Calcutta.	—
15. Himachal Pradesh	Director and Deputy Directors, Central Drugs Laboratory, Calcutta.	*Officers of Haffkine Institute, Bombay.	Haffkine Institute, Bombay.	*Arrangements were discontinued from 31-12-58 and now Public Analyst, Punjab analyses the drugs on payments.
16. Manipur ..	Director and Deputy Directors, Central Drugs Laboratory, Calcutta.	—	Director and Dy. Directors, Central Drugs Laboratory, Calcutta.	—
17. Tripura ..	Directors and Deputy Directors, Central Drugs Laboratory, Calcutta.	Director and Deputy Directors, Central Drugs Laboratory, Calcutta.	Director and Deputy Directors, Central Drugs Laboratory, Calcutta.	—

TABLE No. 44

Number of samples tested etc., during the year 1958.

States/Union Territories	No. of samples sent for test	Details of samples sent for test							
		Vitamins	Hormones	Antibiotic products	Insulin	Biological	Chemotherapeutic	Galnicals	Others
1. Andhra Pradesh	..	—	—	—	—	—	—	—	—
2. Assam	..	17	—	9	—	—	3	2	1
3. Bihar	..	219	1	12	—	14	13	34	98
4. Bombay	..	3,562	18	115	6	28	203	298	1,471
5. Kerala	..	—	—	—	—	—	—	—	—
6. Madhya Pradesh	..	106	—	6	—	6	11	36	40
7. Madras	..	380	—	21	9	6	7	14	271
8. Mysore	..	—	—	—	—	—	—	—	—
9. Orissa	..	8	—	2	—	3	—	1	2
10. Punjab	..	892	1	17	—	48	4	484	262
11. Rajasthan*	..	—	—	—	—	—	—	—	—
12. Uttar Pradesh	..	1,031	3	16	—	5	287	185	352
13. West Bengal	43	—	3	—	—	9	3	25
14. Delhi	..	354	1	26	23	58	22	65	134
15. Himachal Pradesh	..	—	—	—	—	—	—	—	—
16. Manipur	..	—	—	—	—	—	—	—	—
17. Tripura	..	—	—	—	—	—	—	—	—

Note:— * Drugs Act not yet enforced.
— Nil information.

TABLE No. 44
Number of samples tested etc., during the year 1958--contd.

States/Union Territories	No. of samples reported of standard quality	Details of samples reported of standard quality					
		Vitamins	Hormones	Anti-biotics	Insulin	Biological	Chemotherapeutic
1. Andhra Pradesh	—	—	—	—	—	—	—
2. Assam	13	—	—	9	—	—	3
3. Bihar	93	—	6	—	2	2	—
4. Bombay	2,200	830	14	68	3	9	139
5. Kerala	—	—	—	—	—	—	—
6. Madhya Pradesh	57	—	3	1	—	—	9
7. Madras	163	—	25	21	7	5	5
8. Mysore	—	—	—	—	—	—	—
9. Orissa	1	—	—	1	—	—	—
10. Punjab	753	—	67	16	—	41	4
11. Rajasthan*	—	—	—	—	—	—	—
12. Uttar Pradesh	481	1	54	9	—	1	183
13. West Bengal	35	2	—	3	—	—	3
14. Delhi	106	—	7	10	18	24	7
15. Himachal Pradesh	—	—	—	—	—	—	—
16. Manipur	—	—	—	—	—	—	—
17. Tripura	—	—	—	—	—	—	—

Note:—* Drugs Act not yet enforced.

— Nil information.

TABLE No. 44

Number of samples tested etc., during the year 1958—contd.

States/Union Territories	Details of Samples found not of Standard Quality										No. of samples found not of standard quality	No. of samples rejected	No. of samples pending with Analyst
	Vita- mins	Hor- mones	Anti- biotics	Insu- lin	Bio- logical	Chemo- thera- peutic	Gali- nicals	Others	No. of samples rejected	No. of samples pending with Analyst			
1. Andhra Pradesh	—	—	—	—	—	—	—	—	—	—	—	—	—
2. Assam	2	—	—	—	—	—	1	1	—	—	—	—	—
3. Bihar	16	—	—	—	3	—	2	9	—	—	94	—	—
4. Bombay	370	3	10	—	6	33	114	242	37	536	—	—	—
5. Kerala	—	—	—	—	—	—	—	—	—	—	—	—	—
6. Madhya Pradesh	—	—	—	—	1	2	8	5	—	—	33	—	—
7. Madras	2	—	—	—	1	—	1	83	1	128	—	—	—
8. Mysore	—	—	—	—	—	—	—	—	—	—	—	—	—
9. Orissa	—	—	—	—	—	—	—	—	—	—	7	—	—
10. Punjab	5	—	—	—	—	—	—	—	—	—	4	—	—
11. Rajasthan*	—	—	—	—	—	—	90	31	4	—	—	—	—
12. Uttar Pradesh	54	1	1	—	—	24	7	27	24	285	—	—	—
13. West Bengal	1	—	—	—	3	3	—	4	—	—	—	—	—
14. Delhi	2	—	—	3	18	—	2	18	—	205	—	—	—
15. Himachal Pradesh	—	—	—	—	—	—	—	—	—	—	—	—	—
16. Manipur	—	—	—	—	—	—	—	—	—	—	—	—	—
17. Tripura	—	—	—	—	—	—	—	—	—	—	—	—	—

Note:— * Drugs Act not yet enforced.

— Nil information.

TABLE No. 45
Statement showing the prosecutions launched under the Drugs Act in the various States of India during the year 1958.

States/Union Territories	No. of prosecutions pending from the previous year	No. of prosecutions launched during the year	No. of prosecutions decided during the year	Results of the prosecutions decided during the year					Remarks
				Imprisonment	Convictions		Acquittals	Pending	
					Penalties				
1	2	3	4	5	6	7	8	9	
1. Andhra Pradesh	(a) (b)	— —	— —	— —	— —	— —	— —	— —	
2. Assam	(a) (b)	— —	— —	— —	— —	— —	— —	— —	
3. Bihar	(a) (b)	† †	† †	† †	† †	† †	† †	† †	
4. Bombay	(a) (b)	† †	14 42	5 10	Rs. 775 as fine for 4 cases. Rs. 3,650 as fine for 37 cases	2 13	3 —	2 discharged 2 discharged	
5. Kerala	(a) (b)	— —	— 6	— —	— —	— —	— 1	— —	
6. Madhya Pradesh	(a) (b)	*1 1	1 23	— —	— —	— —	— —	— 24	
7. Madras	(a) (b)	— 9	1 12	— —	— —	— —	— 2	— 9	

*Revision case was sent back. 1 discharged.

NOTE:— (a) Stands for the prosecutions/launched/decided etc., for sale and manufacture of spurious drugs.

(b) Stands for the prosecutions launched/decided etc., for other contraventions.

† Information not available.

— Nil information.

TABLE No. 45—contd.

Statement showing prosecutions launched under the Drugs Act in the various States of India during the year 1958—contd.

1	2	3	4	5	6	7	8	9
8. Mysore ..	(a) (b)	1 1	— —	— —	— —	— —	1 3	
9. Orissa ..	(a) (b)	— —	— 1	— —	Rs. 35 as fine	— —	— —	An appeal case.
10. Punjab ..	(b) (b)	1 25	— 11	— —	— 9 cases of fine	— 2	1 26	
11. Rajasthan*	(a) (b)	— —	— —	— —	— —	— —	— —	
12. Uttar Pradesh	(a) (b)	— 114	— 130	— 8	— Rs. 16,405 as fine for 93 cases.	— 29	— 64	
13. West Bengal	(a) (b)	— —	— —	— —	— —	— —	— —	
14. Delhi ..	(a) (b)	— 8	— 10	— —	— Rs. 2,425 as fine for six cases.	— 1	1 12	Died during trial on 27-12-58. 3 discharged.
15. Himachal Pradesh	(a) (b)	— 12	— 4	— —	— 2 cases of fine	— 2	— 16	
16. Manipur ..	(a) (b)	— —	— —	— —	— —	— —	— —	
17. Tripura ..	(a) (b)	— —	— —	— —	— —	— —	— —	

NOTE:— (a) Stands for the prosecutions launched/decided etc., for sale and manufacture of spurious drugs.

(b) Stands for the prosecutions launched/decided etc., for other contraventions.

* Drugs Act not yet enforced.

— Nil information.

TABLE No. 46

Information regarding sale and manufacturing licences issued by the various States of the Indian Union during the year 1958.

States/Union Territories	No. of licences issued during the year 1958				Total No. of drug licences issued from the beginning of the enforcement of the drugs Act upto the end of 1958				No. of drug manufacturers holding licences in the State as on 31-12-58		No. of dealers in drugs holding sale licences under the Drugs Act as on 31-12-58		
	Sale licences		Manufacturing licences		Sale licences		Manufacturing licences		For Bio-logical products	For non Bio-logical products	Re-tail	Whole-sale	Total
	Fresh on forms 20/20A 20B 21/21A 21B	Renewal on forms 25/25A 26/26A 28	Fresh on forms 20/20A 20B 21/21A 21B	Renewal on forms 25/25A 26/26A 28	Fresh on forms 20/20A 20B 21/21A 21B	Renewal on forms 25/25A 26/26A 28	Fresh on forms 20/20A 20B 21/21A 21B	Renewal on forms 25/25A 26/26A 28					
1. Andhra Pradesh	607	1,012	10	8	3,207	5,277	22	34	10	31	2,025	233	2,258
2. Assam	112	986	1	5	2,931	3,484	17	5	1	7	951	135	1,086
3. Bihar	+	+	+	+	+	+	+	+	+	+	+	+	+
4. Bombay	3,108	3,324	213	131	23,953	19,190	1,914	1,383	852	554	6,044	2,785	8,829
5. Kerala	324	1,154	12	13	2,499	1,976	8	8	10	24	1,773	534	1,625
6. Madhya Pradesh	765	385	9	2	1,250	442	28	26	—	28	1,166	69	1,235
7. Madras	3,728	—	51	83	19,313	—	774	105	50	176	8,717	1,897	10,614
8. Mysore	443	282	18	1	1,034	955	59	20	18	37*	462	63	813†
9. Orissa	232	315	2	2	2,209	1,790	7	2	1	5	546	628	1,174
10. Punjab	800	1,278	15	6	12,190	10,181	115	112	6	62	7,144	803	7,947
11. Rajasthan †	—	—	—	—	—	—	—	—	—	—	—	—	—
12. Uttar Pradesh	2,042	4,448	15	16	26,667	38,628	264	172	19	78	12,597	1,358	13,955
13. West Bengal	1,174	2,709	20	55	19,248	19,753	1,084	1,053	169	407	15,875	1,643	17,518
14. Delhi	422	722	22	15	5,069	4,992	161	108	7	63	—	—	6,610
15. Himachal Pradesh	54	65	1	2	204	156	1	2	1	2	171	2	173
16. Manipur	2	2	—	—	21	15	—	—	—	—	29	—	29
17. Tripura	—	—	—	—	—	—	—	—	—	—	—	—	—

Note :—*15 manufacturers have both the licences in forms 25 and 28.

† 288 dealers have both the licences i.e., wholesale and retail.

‡ Drugs Act not yet enforced.

+ Information not available.

— Nil information.

TABLE No. 47

Statistics of the work done by the Chemical Analysers, Chemical Examiners and the Serologists to the Government of India during the year 1958.

Description	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. Director-cum-Senior Chemical Examiner, F.S. Laboratory, Calcutta-12.	1,145	1,568	104	218	2,004	7,011	241	770	3,494	9,567	1,301	2,259
2. Chemical Examiner, Punjab, Patiala.	798	2,935	12	43	831	2,925	488	828	2,129	6,731	7,212	10,396
3. Chemical Examiner to the Govts. of U.P. & M.P., Agra.	586	1,698	42	79	1,783	9,802	16	58	2,427	11,637	1,871	5,955
4. Chemical Analyser, Bombay ..	2,799	4,831	56	210	1,816	12,695	231	1,035	4,902	18,771	—	[23,638
5. Chemical Examiner, Madras ..	1,492	5,894	55	315	1,323	7,936	223	1,319	3,093	15,464	6	13
6. Chemical Examiner, Jammu & Kashmir, Jammu.	181	275	9	21	51	144	—	—	191	440	414	414
7. Chemical Examiner, Mysore, Bangalore.	420	1,540	—	—	573	3,511	127	196	1,120	5,247	1,342	1,774
8. Chemical Analyser, Indore ..	204	376	—	—	294	1,189	192	313	690	1,878	305	305
9. Chemical Examiner, Rajasthan, Jaipur.	336	740	2	7	274	1,704	102	219	714	2,670	—	—
10. Dy. Chemical Analyser (Bombay) for Junagadh.	69	191	4	4	308	1,696	13	23	894	1,914	—	4,872
11. Chemical Examiner, Andhra ..	211	580	6	41	180	1,030	4	24	401	1,675	29	29
12. Director, Central Forensic Science Laboratory, Calcutta.	76	76	—	—	4	7	—	—	80	83	46	56
13. Serologist & Chemical Examiner to the Govt. of India.	—	—	—	—	*8,548	*40,460	—	—	8,548	40,460	†4,706 +12,865	‡25,644

NOTE.—*Includes 202 cases with 304 articles from the Government of the Union of Burma.

† 6463 W.R., 6304 V.D.R.L. and 98 Kahn tests.

‡ Detections of blood and semen groups from stains etc., for medico-legal purposes.

— Nil information.

TABLE No. 48

Statistics of the work done by the Health Organisations at the major seaports in India during the year 1958.

Particulars of work done	Bombay	Calcutta	Madras	Cochin	Visakha- patnam	Kandla
<i>I. Incoming Vessels</i>						
1. No. of ships inspected ..	226	104	525	56	50	44
2. No. of crews medically examined ..	26,300	4,426	31,635	3,223	2,466	1,981
3. No. of passengers medically examined ..	43,240	11,805	38,181	380	—	16
4. No. of ships arriving from yellow fever areas inspected ..	175	74	77	51	26	—
5. No. of members of crew inspected ..	15,733	3,882	4,339	58	1,116	—
6. No. of passengers inspected	24,542	57	100	2,751	—	—
7. Infectious diseases detected on vessels ..	37 chicken-pox 7 measles 2 meningitis	37 influenza 1 small-pox 7 chicken-pox	9 influenza 5 chicken-pox	1 Small-pox	80 influenza 2 chicken-pox	—
<i>II. Out-going Vessels</i>						
1. No. of ships medically inspected ..	1,266	1,369	358	585	169	122
2. No. of passengers medically examined ..	99,385	13,305	27,450	14,621	16	12
3. No. of crews medically examined ..	88,949	73,540	22,773	34,699	9,269	6,518
4. No. of ships inspected for lascar provision ..	473	684	67	80	34	20
5. No. of ships inspected for medical stores on board	23	101	45	—	2	20
6. No. of ships given medical advice on high seas ..	11	4	2	—	—	—
7. No. of ships fumigated ..	49	25	—	—	—	—
8. No. of ships issued with D.E.C. ..	131	179	28	16	22	—
9. No. of ships issued with permits ..	19	11	13	11	2	1
10. No. of pilgrimships inspected	12	—	—	—	—	—
11. No. of pilgrims inspected—						
(i) Out going ..	14,817	—	—	—	—	—
(ii) In-coming ..	15,188	—	—	—	—	—

Notes:— Nil information.

TABLE No. 49

Particulars of aircrafts medically inspected which arrived from and left for foreign countries from International Airports in India during the year 1958.

Particulars of work done	Bombay Airport Santacruz	Calcutta Airport Dum Dum	Madras Airport	Tiruchirappalli Airport	Delhi Airport Palam	Amritsar Airport	Diversionary Airports
<i>I Inward Traffic</i>							
1. No. of Aircrafts medically inspected ..	1,679	2,598	690	406	1,550	462	3 Ahmedabad
2. No. of passengers medically inspected	51,925	76,904	3,591	4,740	42,753	796	74 Ahmedabad
3. No. of crews medically examined ..	14,599	20,818	14,208	1,625	11,663	1,990	13 Ahmedabad
4. No. of aircrafts disinfected ..	769	85	49	—	8	—	—
5. No. of passengers quarantined in Yellow Fever Isolation Hospital for being at risk to yellow fever ..	189	11	1	—	—	—	—
<i>II. Outward Traffic</i>							
1. No. of aircraft medically inspected ..	1,787	2,734	—	409	1,186	—	4 Ahmedabad
2. No. of passengers medically examined	59,156	88,762	—	5,630	31,280	—	74 Ahmedabad
3. No. of crew medically examined ..	15,707	23,230	—	1,631	10,103	—	25 Ahmedabad
<i>III. Dispensaries</i>							
1. No. of patients treated	23,530	15,759	—	—	—	—	—

Note:— Nil information.

TABLE No. 50

Statistics of the seamen examined at various major seaports in India and seamen treated at the seamen's clinics at Bombay and Calcutta during the year 1958.

Particulars of work done	Bombay	Calcutta	Madras	Cochin	Visakha- patnam
1. No. of Seamen examined	5,897	4,778	245	82	105
2. No. of Seamen declared fit	3,568	3,477	181	74	91
3. No. of Seamen declared temporarily unfit ..	2,680	1,099	58	8	5
4. No. of Seamen declared permanently unfit ..	51	202	6	—	9
<i>Seamen's Clinics</i>					
1. Seamen treated as out-patients					
(i) New Cases ..	1,899	1,290	†	†	†
(ii) Old Cases ..	5,490	10,184	†	†	†
2. Seamen treated as in-patients	222	—	†	†	†

Note:— † Information not available.

— Nil information.

TABLE No. 51

Quantity of sera manufactured and supplied to different States in India during the year 1958.

Types of Sera		Balance as on 1-1-1958	Manu- factured during 1958	Total issued during 1958	Balance as on 31-12-1958	Sera issued to the States of			
						Madras	Andhra Pradesh	Mysore	Kerala
1. Tetanus Anti-toxin prophylactic	1500 .. 1950	1,113	32,755	29,755	4,113	21,132	8,509	107	7
2. Tetanus Anti-toxin prophylactic in vials of 10 doses.	1500 .. 1950	38	1,743	1,773	8	1,366	288	119	—
3. Tetanus Anti-toxin prophylactic in vials of 11 doses.	1500 .. 1950	—	2,810	2,802	8	2,112	690	—	—
4. Tetanus Anti-toxin prophylactic	20000 .. 1950	4	—	4	—	4	—	—	—
5. Tetanus Anti-toxin prophylactic	25000 .. 1950	—	6,657	6,653	4	4,833	1,820	—	—
6. Anti-gas gangrene	4000 .. 1950	597	2,461	2,835	223	1,020	1,777	38	—

Note:— Nil information.

TABLE No. 52
*International Experts provided by W.H.O. for different projects
during the year 1958.*

Name of Projects	No. of Experts
1. Nursing, Ludhiana	1
2. Tuberculosis Control and Training Centre, Nagpur	4
3. Tuberculosis Control and Training Centre, Hyderabad	4
4. Tuberculosis Chemotherapy Centre, Madras	9
5. Maternal and Child Health/Nursing, West Bengal	1
6. Maternal and Child Health/Nursing, Bihar	4
7. Maternal and Child Health/Nursing, Uttar Pradesh	2
8. Maternal and Child Health/Nursing, Kerala	2
9. Post-graduate Course for Midwife Tutors, College of Nursing, New Delhi	1
10. Assistance to the All-India Institute of Mental Health, Bangalore	4
11. Domiciliary Nursing and Midwifery, Lady Hardinge Medical College and Hospital, New Delhi	1
12. Maternal and Child Health/Nursing Education, Mysore	2
13. Public Health Engineering, University of Madras	1
14. Maternal and Child Health/Nursing, Nagpur	1
15. Maternal and Child Health/Nursing, Bombay	3
16. Environmental Sanitation, Uttar Pradesh	2
17. Maternal and Child Health/Public Health Training, Saurashtra	2
18. Vital and Health Statistics, Nagpur	1
19. Professor of Preventive and Social Medicine	1
20. Public Health/Nursing Education, Andhra Pradesh	6
21. Rural Health/Nursing Education, Assam	3
22. Health Education, Singur	1
23. Environmental Sanitation, Kerala	2
24. Nursing Education (Public Health Integration)	3
25. Trachoma Pilot Project, Aligarh	1
26. Health Education, Bombay, Uttar Pradesh and Bihar	1
27. Nursing Advisers to States	1
28. Paediatric Education	1
29. Health Education, All-India Institute of Hygiene and Public Health, Calcutta	1
30. Assistance to Up-graded Department of Paediatrics, Madras Medical College	2
31. Paediatrics Programme, Visakhapatnam	1
32. Public Health Programme, West Bengal	1
33. Public Health Programme, Bihar	3
34. Public Health Programme, Mysore	2
35. Public Health Programme, Madhya Pradesh	2
36. Public Health Programme, Bombay	4
37. Public Health Programme, Andhra Pradesh	5
38. Public Health Programme, Assam	4
39. Malaria Eradication	8

TABLE No. 53

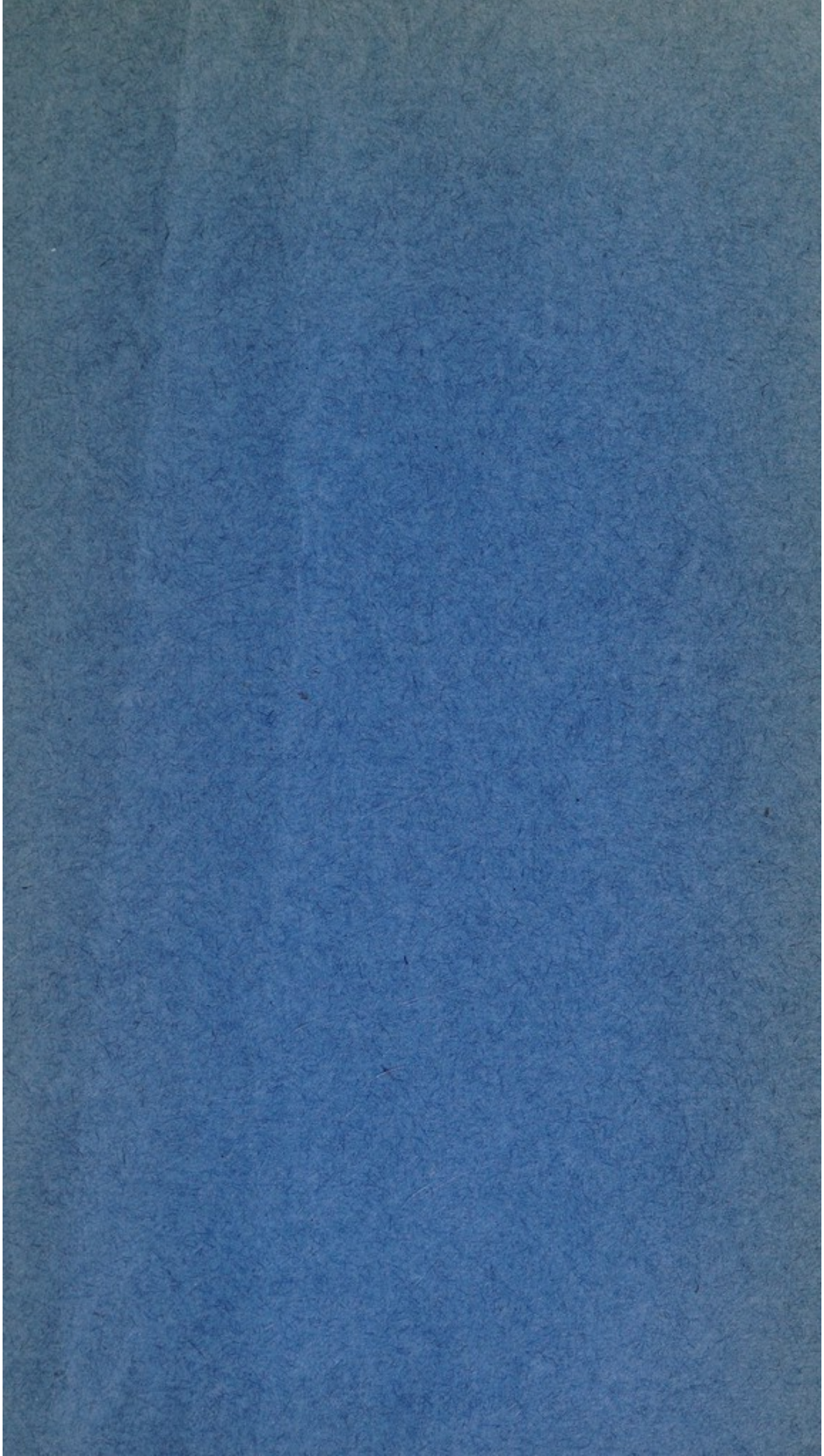
Statement showing amounts allocated by the UNICEF Executive Board at its March and September sessions for different health projects during the year 1958.

							Amount (in dollars)
I. March Session							
1. Community Development (Maternity and Child Welfare)	..	..					22,92,000
2. Child feeding	..	..	..	..	..	..	3,89,000
3. BCG vaccination	..	..	..	..	..	..	1,12,000
4. Trachoma control	..	..	..	..	..	..	7,000
Total							28,00,000
II. September Session							
1. Basic Maternity and Child Welfare Services, Paediatrics Training and Services in Trivandrum	..	..	..	..	..	..	21,000
2. Paediatrics Training and Services, Bombay	..	..					66,000
3. School feeding	..	..	..	..	..	..	3,37,000
4. Goitre control	..	..	..	..	..	..	27,500
5. Trachoma control	..	..	..	..	..	..	33,000
Total							4,84,500

TABLE No. 23

Statement of expenditures incurred by the UNITED STATES BUREAU OF HEALTH during the year 1958.

March Section		Amount
1. Community Development (Malaria and Other Tropical Diseases)	1,000,000	
2. Child feeding	2,500,000	
3. MCO vaccination	1,500,000	
4. Typhoid control	1,000,000	
5. Total	25,000,000	
II. September Section		
1. Basic Nutrition and Health Welfare Services, Foundation Building, and Research	1,000,000	
2. Production, Training and Services, Bombay	1,000,000	
3. School feeding	1,500,000	
4. Coffee control	1,000,000	
5. Typhoid control	23,000,000	
6. Total	25,000,000	
7. Total	50,000,000	
8. Public Health Service, Bureau of Health	1,000,000	
9. Public Health Service, Bureau of Health	1,000,000	
10. Public Health Service, Bureau of Health	1,000,000	
11. Public Health Service, Bureau of Health	1,000,000	
12. Public Health Service, Bureau of Health	1,000,000	
13. Public Health Service, Bureau of Health	1,000,000	
14. Public Health Service, Bureau of Health	1,000,000	
15. Public Health Service, Bureau of Health	1,000,000	
16. Public Health Service, Bureau of Health	1,000,000	
17. Public Health Service, Bureau of Health	1,000,000	
18. Public Health Service, Bureau of Health	1,000,000	
19. Public Health Service, Bureau of Health	1,000,000	
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27. Public Health Service, Bureau of Health	1,000,000	
28. Public Health Service, Bureau of Health	1,000,000	
29. Public Health Service, Bureau of Health	1,000,000	
30. Public Health Service, Bureau of Health	1,000,000	
31. Public Health Service, Bureau of Health	1,000,000	
32. Public Health Service, Bureau of Health	1,000,000	
33. Public Health Service, Bureau of Health	1,000,000	
34. Public Health Service, Bureau of Health	1,000,000	
35. Public Health Service, Bureau of Health	1,000,000	
36. Public Health Service, Bureau of Health	1,000,000	
37. Public Health Service, Bureau of Health	1,000,000	
38. Public Health Service, Bureau of Health	1,000,000	
39. Public Health Service, Bureau of Health	1,000,000	
40. Public Health Service, Bureau of Health	1,000,000	
41. Public Health Service, Bureau of Health	1,000,000	
42. Public Health Service, Bureau of Health	1,000,000	
43. Public Health Service, Bureau of Health	1,000,000	
44. Public Health Service, Bureau of Health	1,000,000	
45. Public Health Service, Bureau of Health	1,000,000	
46. Public Health Service, Bureau of Health	1,000,000	
47. Public Health Service, Bureau of Health	1,000,000	
48. Public Health Service, Bureau of Health	1,000,000	
49. Public Health Service, Bureau of Health	1,000,000	
50. Public Health Service, Bureau of Health	1,000,000	



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