

Report of the Principal Civil Medical Officer and Inspector-General of Hospitals / [Ceylon].

Contributors

Ceylon. Civil Medical Department.

Publication/Creation

[Colombo] : [Government Printer], [1917]

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MEDICAL.

REPORT OF THE PRINCIPAL CIVIL MEDICAL OFFICER AND INSPECTOR-GENERAL OF HOSPITALS FOR THE YEAR 1917.

I HAVE the honour to submit the following report on the health and sanitation in Ceylon and on the administration of institutions of the Ceylon Civil Medical Department for the year ended December 31, 1917.

SECTION I.—POPULATION.

2. The population of Ceylon on December 31, 1917, inclusive of immigrant coolies (but exclusive of military and shipping), was 4,632,384. Of these, 7,220 were Europeans, exclusive of those who left on war service. This is an increase of 85,199 on the previous year's estimate of population.

SECTION II.—PUBLIC HEALTH.

3. *Vital Statistics.*—183,976 births were registered in the proportion of 39 per 1,000 of the population per annum, as compared with 174,929 in the previous year, showing an increase of 9,049. The deaths registered in 1917 totalled 113,389, as compared with 120,162, a decrease in the death-rate of 6,773, in the proportion of 24 per mille. The total number of persons treated in the hospitals in 1917 was 98,134, of whom 8,734 died. The numbers for 1916 were 93,158 patients, with a mortality of 8,836. At dispensaries 1,210,380 persons were treated, who paid 1,832,733 visits in 1917, as against 1,469,573 persons, who paid 2,212,620 visits in 1916.

4. With regard to the causation of deaths, the following table shows the same, registered under the several classes of disease, for the year under review :—

| | | | | |
|---|--------|--|--------|-----|
| I.—General diseases— | | VI.—Non-venereal diseases of genito-urinary system and annexa .. | | 823 |
| (a) Epidemic diseases .. | 5,485 | VII.—The puerperal state .. | 3,762 | |
| (b) Septic diseases .. | 158 | VIII.—Diseases of the skin and cellular tissues .. | 10,038 | |
| (c) Tuberculosis diseases .. | 4,112 | IX.—Diseases of bones and organs of locomotion .. | 16 | |
| (d) Venereal diseases .. | 185 | X.—Malformations .. | 10 | |
| (e) Cancer or malignant diseases .. | 421 | XI.—Diseases of early infancy .. | 7,528 | |
| (f) Other general diseases .. | 10,475 | XII.—Old age .. | 3,869 | |
| II.—Diseases of the nervous system and organs of special sense .. | 14,972 | XIII.—Affections produced by external causes .. | 2,347 | |
| III.—Diseases of the circulatory system .. | 981 | XIV.—Ill-defined diseases .. | 20,112 | |
| IV.—Diseases of the respiratory system .. | 9,267 | | | |
| V.—Diseases of the digestive system .. | 18,828 | | | |

5. The more notable causes of death were the following diseases :—

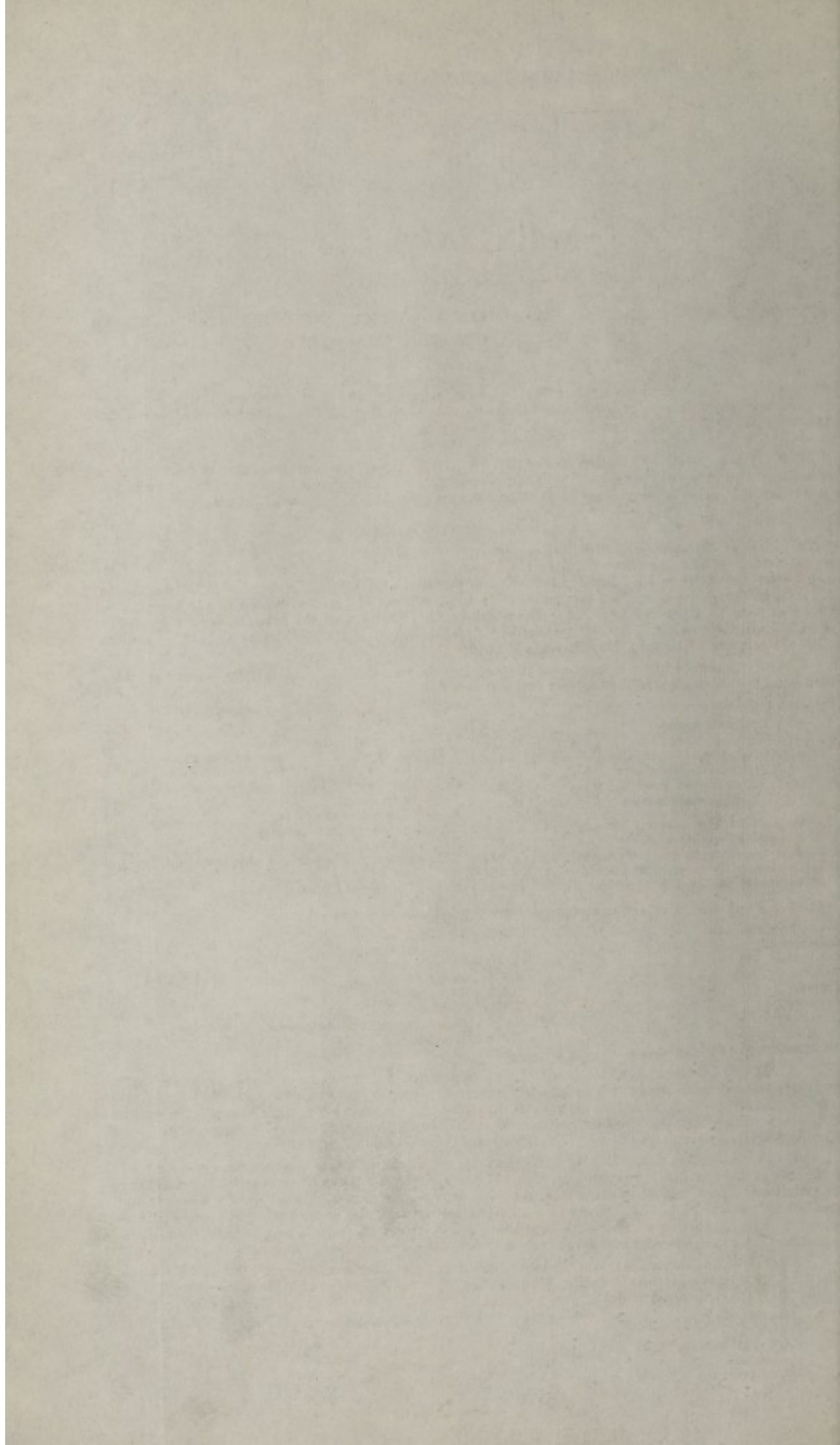
| | | | |
|-------------------------------------|--------|---|--------|
| Infantile convulsions .. | 12,916 | Dropsy .. | 2,586 |
| Diarrhoea .. | 10,174 | Puerperal septicæmia .. | 1,839 |
| Pneumonia .. | 5,005 | Malaria .. | 841 |
| Rickets .. | 4,870 | Enteric fever .. | 417 |
| Phthisis .. | 3,768 | Tetanus .. | 344 |
| Anæmia .. | 3,706 | Rabies .. | 60 |
| Dysentery .. | 3,059 | Deaths attributed to pyrexia of unknown origin .. | 15,022 |
| Intestinal parasites .. | 2,972 | | |
| Anchylostomiasis and its sequelæ .. | 2,639 | | |

6. *Deaths due to Preventable Diseases, i.e.,* to diseases due to faulty sanitary conditions, overcrowding, soil infection, defective or infected water supplies, &c., amounted to 32,106. This figure does not include infantile diarrhoea or infantile convulsions, though it is probable that a large number of deaths from infantile convulsions are due to malarial infection, and a large number of cases of infantile diarrhoea to improper dieting, defective sanitary surroundings, and neglect.

7. *Infantile Mortality.*—The infantile mortality in the 33 principal towns during the year was at the rate of 233 per 1,000, as compared with 227 per 1,000 in the previous year and 237 per 1,000 in the penultimate year. 12,916 deaths from infantile convulsions were registered during the year, and from infantile diarrhoea 1,143. During 1917 22 midwives were trained at the De Soysa Lying-in Home, Colombo. The number so trained since September 1, 1909, was 184. Midwives have been appointed to sixteen Government hospitals in large centres to try and decrease the infant mortality.

8. *Vital Statistics on Estates.*—The mean birth-rate on estates was 34·4 per 1,000 and the death-rate 36·4. The mean birth-rate during 1916 was 32·5 per 1,000, and the mean death-rate 35·6 per 1,000. The principal causes of death were :—

| | | | |
|---------------------|-------|--------------------------|-------|
| Debility .. | 3,848 | Infantile convulsions .. | 1,573 |
| Diarrhoea .. | 2,301 | Dropsy .. | 258 |
| Anchylostomiasis .. | 2,072 | Phthisis .. | 258 |
| Pneumonia .. | 1,907 | Anæmia .. | 89 |
| Dysentery .. | 1,774 | Other diseases .. | 5,018 |



9. *Malaria*.—The table given below shows the number of cases of malaria treated in medical institutions of the several Provinces during the year. The incidence of the disease in any Province cannot be estimated from these figures, as in the more remote districts and in districts where the population is scattered patients may not resort to medical institutions for treatment. To meet this an issue of quinine is made to Government Agents and others for free distribution, both as a prophylactic and for remedial purposes before and during the periodical outbreaks. The amount of quinine distributed for these purposes during the year was 98 lb. in powder and 40 bottles of 100 pulverettes in each, as compared with 261½ lb. in powder and 24 bottles of 100 pulverettes in each in the previous year. The increased cost and greater difficulty in obtaining the drug, owing to war conditions, continued to be felt:—

Table showing the Number of Cases of Malaria treated in Medical Institutions during 1917.

| Province. | In Hospitals. | At Dispensaries. | Province. | In Hospitals. | At Dispensaries. |
|-------------------|---------------|------------------|--------------------------|---------------|------------------|
| Western Province | .. 2,429 | .. 53,775 | North-Western Province | .. 414 | .. 60,181 |
| Central Province | .. 773 | .. 31,987 | North-Central Province | .. 167 | .. 17,901 |
| Southern Province | .. 370 | .. 32,967 | Province of Uva | .. 748 | .. 12,181 |
| Northern Province | .. 1,065 | .. 40,959 | Province of Sabaragamuwa | 860 | .. 30,703 |
| Eastern Province | .. 134 | .. 61,114 | | | |

The total number treated for malaria in 1917 was 6,900 at hospitals and 341,768 at dispensaries, making a total of 348,728, against 682,919 cases in 1916, of whom 12,618 were treated in hospitals and 670,301 at dispensaries. There was very little epidemic malaria during the year, which accounts for the very large decrease in the numbers treated compared with the previous year.

10. *Plague*.—A report on the incidence of plague within the Municipality of Colombo will doubtless be furnished by the Medical Officer of Health of that corporation. There were 77 cases treated at the Infectious Diseases Hospital, Kanatta, Colombo, 58 of which proved fatal, as compared with 88 cases with 64 deaths in 1916. 63 cases were of the bubonic type and 14 septicæmic, all of the latter proving fatal, while 19 of the bubonic type recovered. Five cases—all fatal—occurred at Beruwala, a township on the west coast, about 35 miles south of Colombo, largely inhabited by Moors. All these cases were presumably directly infected in Colombo. Two cases occurred in the Central Province: one in Kandy and one in Nawalapitiya. Here, again, the infection was from Colombo. Plague did not occur in any of the other Provinces of the Island during the year under review.

11. *Cholera*.—It is satisfactory to report that no case of cholera was admitted to the Infectious Diseases Hospital, Colombo, in 1917, thus comparing favourably with the previous year, when 42 cases were treated. No cholera occurred in the Provinces.

12. *Smallpox*.—105 cases of this disease, with a mortality of 13, occurred in the Island during 1917, as compared with 78 cases with 12 deaths in 1916, and 451 cases with 108 deaths in the year previous; of the 105 cases in the year under review, 5 were treated at the Infectious Diseases Hospital, 4 of which were landed from vessels in the harbour. One case only was indigenous, the source of infection not being evident. 98 cases with 11 deaths occurred in the Northern Province, which, since the re-opening of small coastal ports and roadsteads to native craft from South India, is more exposed to infection than other parts of the Island, especially in view of the difficulty or impossibility of maintaining the strict quarantine vigilance adopted in the larger ports of the Island. Six separate outbreaks were due to infection directly imported from South India during the year: 2 at Kankasanturai, 1 at Valluvedditturai, 1 at Sandilippai, 1 at Pallai, and 1 at Kayts. It would appear that the existing precautions are inadequate to prevent the importation of this disease to the northern parts of the Island, though it is not easy to see what measures can be adopted that would not press with undue severity upon the traffic and commerce between Ceylon and the Indian coast.

13. *Vaccination*.—The total number of primary vaccinations performed during the year was 125,455. Of these, 116,294 were successful, 1,956 unsuccessful, and the results not ascertainable in 7,205 cases. It is satisfactory to report that 98·48 per cent. of all primary vaccinations were successful. The staff of the Vaccination Department consists of 9 Inspectors of Vaccination, one for each Province, 138 vaccinators, including 6 female vaccinators, besides the medical officers in charge of districts and medical institutions. The Provincial Surgeons of each Province are Superintendents of Vaccination for their Provinces.

14. *The Government Vaccine Establishment* has worked most satisfactorily during the year. Seed lymph, as in previous years, was obtained from the Lister Institute of Preventive Medicine, London, and the King Institute, Madras, while a certain amount was also prepared at the local institute. 350 calves were hired from a contractor for inoculation. 135,537 tubes of calf lymph were issued for use during the year, and an ample surplus stored in bulk as a reserve supply. The lymph used is glycerinated calf lymph, and is issued for use either in glass capillary tubes or in metal collapsible tubes to stations where the daily consumption is large. The large percentage of successful primary vaccinations (98·48 per cent.) is evidence of the efficiency of this institution.

15. *Enteric Fever*.—The case incidence of this disease during 1917 was 518 with a mortality of 93, as compared with 593 cases and a mortality of 162 in the year before. These figures, however, apply only to cases registered in the Government hospitals, and do not give any fair index of the actual prevalence of the disease in towns and rural districts generally. Another factor which obscures the statistics of this disease is the error of diagnosis not uncommon among practitioners of native medicine, who treat a considerable number of cases of "fever" without much discrimination as to type or causative agents. The following table will serve to show the case incidence and mortality in the nine Provinces. It is noticeable that no cases were reported in the North-Central Province:—

| Province. | Cases. | Deaths. | Province. | Cases. | Deaths. |
|-------------------|--------|---------|--------------------------|--------|---------|
| Western Province | .. 275 | .. 54 | North-Western Province | .. 10 | .. 4 |
| Central Province | .. 89 | .. 10 | North-Central Province | .. — | .. — |
| Southern Province | .. 91 | .. 11 | Province of Uva | .. 9 | .. 4 |
| Northern Province | .. 10 | .. 2 | Province of Sabaragamuwa | 23 | .. 7 |
| Eastern Province | .. 11 | .. 1 | | | |

16. *Dysentery*.—The number of cases of this disease treated in Government hospitals in 1917 was 2,883 with 620 deaths and the number treated in dispensaries was 14,276, as compared with 3,773 cases with 809 deaths in hospitals and 16,143 at dispensaries in 1916. It is to be hoped that the introduction of latrine accommodation on estates during the year will result in a reduction in the epidemics of this disease hitherto of common occurrence. This disease and many of the acute and chronic diarrhoeas result from defective sanitation in and around dwellings, pollution of water supply and insect conveyance being important factors in its spread.

17. *Leprosy*.—There are two leper asylums in the Island: one at Hendala, to the north of Colombo; and the other at Kalmunai, in the Eastern Province. At the Hendala asylum there remained at the end of 1916 419 inmates, 335 of whom were males and 84 females, 99 males and 13 females were admitted during the year, making a total of 531 inmates for the year 1917. Of these, 24 were discharged and 78 died; with regard to those discharged, 18 absconded, 7 of whom were subsequently arrested and again interned, 3 were granted home isolation, and 3 were found to be free from manifestation of the disease. As far as the admissions to the leper asylums indicate, the disease appears to be more prevalent in the maritime districts than in the interior of the Island, for of the 99 admissions in 1917, 73 were from the Western Province, 9 from the Southern, and 17 from all the other Provinces, excluding the Eastern. This may, however, be the result of the greater vigilance exercised by the Municipalities, Police, and village headmen in the Western Province. Home isolation (sanctioned where housing conditions are approved) was allowed in 10 cases in the Western Province during the year, and in 6 cases in all the other Provinces collectively. There were 49 inmates in the Kalmunai asylum in 1917. Accommodation being insufficient for requirements of the Eastern Province, a new ward with 30 beds was completed during the year, and this when equipped will go far towards providing for a number of lepers now not segregated.

18. *Anchylostomiasis*.—The total number of cases of this disease treated in the Ceylon Government hospitals during the year was 8,617, as compared with a total of 14,881 during 1916. The total number treated at dispensaries was 10,447, against 7,471 in 1916. The mortality rate in hospitals was 17 per cent. Besides these cases, a large number was treated by Government medical officers on estates, and a considerable number was treated by estate dispensers. The disease appears to be most prevalent in the Central Province, and, though most common among the estate coolies, has spread to a considerable extent to villages.

The activities of the Anti-Anchylostomiasis Directors of the Rockefeller International Health Foundation continued during the year in the Matale District. Over 10,000 coolies were treated on the intensive plan; however, the fact that about three times that number of persons living in the neighbourhood of estates have not been subjected to treatment must inevitably result in a certain degree of re-infection. Considerable progress has been made in sanitation, both on estates and in villages, and the ultimate outlook is good. Campaigns against the disease were also completed in the Dikoya and Bogawantalawa districts during the year, and very satisfactory progress can be claimed, notwithstanding certain discouraging incidents and temporary sets-back, due to ignorance and prejudice on the part of the coolies, and sometimes to malicious, organized, active, or passive opposition on the part of designing persons. It is satisfactory, however, to report that patience, tact, and persuasion, with an infrequent resort to legal assistance on occasion, has to some extent succeeded in overcoming local opposition, mostly due to perverted ideas on the part of prejudiced leaders. In addition to the officers of the Health Board engaged in the campaign, two Ceylonese medical men from the Medical Department, Drs. Keyt and Gunasekera, have been appointed Directors of Campaigns. The outlook will progressively improve, it is hoped, with time, when, as the result of lessened soil pollution and regular and systematic treatment, aided by the active co-operation of planters and labourers, the difficulties now met with have become a thing of the past.

19. *Diphtheria*.—This disease is uncommon in the Island. During the year under review 13 cases, with 6 deaths, were registered in the hospitals.

20. *Parangi (Frambæsia, or Yaws)*.—The total number of cases of this disease treated in Government medical institutions during 1917 was 46,032. Of these, 5,361 were treated in hospitals and 40,671 in dispensaries, the figures in 1916 being 51,105, of which 9,097 were hospital cases and 42,008 dispensary cases. Of these, 853 were treated with specific remedial preparation as substitute for salvarsan, the following being those made use of: Kharsivan, arsenious iodide, arseno-benzol, or modification and combinations of these. The administration of these remedies or combinations and modifications of the same were satisfactorily reported upon by Dr. R. L. Spittel of the General Hospital and officers in charge of district hospitals.

21. *Cancer and Sarcoma*.—The number of cases of these diseases treated in the hospitals of the Island in 1917 was 474, the mortality from the disease being 86. The figures for the previous year were 412 hospital cases, with a mortality of 34. It may be observed that the hospital and dispensary statistics of these diseases in Ceylon afford unsatisfactory data as to the prevalence of the disease, as the dread of operative procedure deters many sufferers from seeking medical assistance, and those that do seek such assistance have frequently allowed the disease to progress to such an advanced stage as renders their cases inoperable. Labial and buccal epithelioma is a common form of the disease, and is probably much induced by inveterate betel chewing. 226 cases of malignant disease were admitted to the General Hospital, Colombo, during the year, among which were 41 deaths. As in the year previous, no case of malignant tumour was registered in the North-Central Province. Presumably a considerable number of those admitted to the General Hospital, Colombo, were cases from Provinces other than the Western, and some from remote districts.

22. *Tuberculosis of the Lung (Phthisis)*.—The hospital records of this disease during the year show a total of 1,862 cases treated, with 569 deaths, compared with a total of 1,580 cases and 572 deaths in 1916. Overcrowding, defective sanitation, ignorance, and neglect in the matter of ventilation are the chief predisposing causes of this scourge. Only cases in the more advanced stage seek hospital or dispensary aid, and in such cases, where the reparative powers of the patient have been much undermined, little or nothing can be done beyond the relief of urgent symptoms. It was the appreciation of these facts and the inception of the King Edward VII. Anti-Tuberculosis Fund that

has resulted in the establishment of an up-to-date, fully equipped Anti-Tuberculosis Institute in Colombo, a Tuberculosis Hospital at Ragama for the graver and more chronic cases among the poorer classes, and a sanatorium for the hygienic and open-air treatment of early and incipient cases at Kandana. These institutions will be more fully dealt with under the heading of "Hospitals, Asylums, and Dispensaries."

23. *Port Health Precautions.*—1,802 steamers and 331 native coasting vessels arrived at the port of Colombo during the year under review, as compared with 2,458 steamers and 317 native vessels in 1916. 9,409 Asiatic passengers from India were landed, of whom 946 were immigrant labourers, the previous year's figures being 30,501 Indian passengers, of whom 8,229 were coolies. Eight vessels were placed in strict quarantine. Five cases of smallpox, 4 cases of chickenpox, 9 cases of measles, and 1 case of plague were landed and sent to the Infectious Diseases Hospital. A vessel, ss. "Atlantique" (French), infected with cerebro-spinal fever (spotted fever), arrived in October, and 11 suspects sent to the Infectious Diseases Hospital, while 776 Annamites in charge of 9 French officers were segregated at Ragama for observation and pending disinfection of the vessel. 113,884 persons were disinfected, comprising passengers, cargo coolies, coal coolies, and tally clerks. 245 persons were vaccinated.

SECTION III.—METEOROLOGICAL CONDITIONS.

24. The rainfall for the year was heaviest on the north-east and the south-west slopes of the hills, being specially heavy in the district east of Matale and in the Nitre Cave district, and in the south-west monsoon to the north of Ratnapura and the Ambegamuwa district. An excess over normal was experienced practically throughout the east, and a deficit to the south-west and the north. The weather conditions for the year were, on the whole, somewhat unbalanced, and resulted in spells of unseasonable weather, but no great extremes were experienced. The mean shade temperature for the Island was in most months below normal, and in no month was it above normal at more than two-thirds of the stations. Usually heavy rain set in towards the end of September, and caused extensive flooding to the south-west of the Island.

SECTION IV.—THE SANITARY BRANCH OF THE MEDICAL DEPARTMENT.

25. This branch consists of a Senior Sanitary Officer (Dr. K. McGahey), one Acting Junior Sanitary Officer, two Assistant Sanitary Officers, and fifty-two Sanitary Inspectors, in addition to a Sanitary Engineer, with four surveying coolies, an Acting Sanitary Superintendent, and nine coolies for disinfection, rat-catching, &c. Besides the Sanitary Inspectors above enumerated, there are 57 Sanitary Inspectors employed and paid by Local and Sanitary Boards. The following is a summary of the work done by the Sanitary Branch of this Department during the year 1917, as reported by the Senior Sanitary Officer. 175,366 premises were inspected during the year, of which 23,702 were found insanitary. 2,416 actual mosquito-breeding places were discovered and dealt with. There were 839 prosecutions, with 795 convictions, in respect of breaches of sanitary rules and regulations, the fines amounting to Rs. 6,911.61. Prosecutions are sanctioned only after inspection by the Sanitary Officers, Government Agents, or Assistant Government Agents.

26. *New or re-constructed Buildings.*—2,168 applications were dealt with, and permits granted in the Board towns of the Western Province.

27. *Infectious Diseases.*—The following infectious diseases were reported and prophylaxis carried out: Dysentery 240, measles 745, chickenpox 1,013, enteric fever 268, continued fever 25, and 225 cases of plague occurred in the Island, of which 23 were outside Colombo Municipal limits, 22 being in the Western Province and 1 at Kandy. There is no evidence to point to any endemic plague centre or rat epizootic existing outside of Colombo. With one exception, the source of infection of all these cases could be traced to Colombo. Accurate information regarding the movements of patients previous to illness is most difficult to obtain, usually through fear of the preventative measures which ensue.

In the Western Province (extra Colombo) 4,531 rats were caught during the year, 1,149 were examined bacteriologically, and 1 was found positive for plague. This rat was caught at Beruwala on May 24; 5 cases of plague occurred there in May, the first one being reported on May 15. There are two possible sources of the rat infection in this instance: one from Colombo; the other from Negapatam, through the open port of Beruwala, with which it has direct communication by sea, but through which channel the infection gained entrance is not evident.

Thirty-seven anti-typhoid inoculations were given, but the Senior Sanitary Officer found it very difficult to induce contacts to submit to this treatment, and patients amongst the poorer classes could rarely be induced to go to hospital, where the spread of the disease could be more readily controlled.

28. *Sanitary Conveniences.*—Public latrines of an approved type were constructed at Government expense in the Sanitary Board towns of Kochchikade, Henaratgoda, and Mirigama. The Local Boards of Minuwangoda, Moratuwa, Kalutara, and Negombo have been most energetic, and made considerable progress in the installation of latrines for the inhabitants. In the Colombo District 4,791 and in the Kalutara District over 9,000 new private latrines were constructed in the rural areas. These results are principally due to the great assistance given by Mr. C. V. Brayne and the present Assistant Government Agent, Colombo.

In the Matale District 2,424 latrines were installed in the villages in connection with the anti-hookworm campaign, as compared with 163 for the year 1916. These figures represent only intensive efforts; progress in this respect is also being made in other Provinces, but numbers are not yet available. The sanitation of schools is receiving attention, and in the Matale District all those schools in the territories being treated for hookworm disease have been provided with sanitary conveniences at Government expense.

29. *Hookworm Disease.*—Microscopical surveys were carried out at Rayigama and Gorakapola villages; 90 per cent. were positive for hookworm. At Medapola mines in Ingiriya 500 labourers were examined, and 95 per cent. were found infected. At Cotta Church Missionary Society school 400 children were examined; all were infected. At Maggona Reformatory, where boys from all parts of the Island are admitted, 471 were examined; all were infected. These were treated and re-examined, when all but 11 were found cured. Infection did not occur at the home, as it is well sanitated.

In Rayigama village, containing 478 houses, latrines were installed for each of them, where hitherto none had existed, and arrangements were made for the treatment of the infected, but the staff had to be withdrawn after three days' work, owing to the aggressive attitude of the people brought about by the circulation of false rumours.

Specimens were collected in two isolated Sinhalese villages in the North-Central Province and microscopically examined, when 70 per cent. were found to be infected with hookworm. Twenty-one lantern lectures on sanitation were delivered during the year, and were largely attended.

30. *Town Planning*.—Surveys and improvement schemes were carried out at Henaratgoda, Padukka, Peliyandara, Kelaniya, Kandana, Homagama, Kochechikade, Nugegoda, Ja-ela, and Diwulapitiya.

Inspections of the principal towns in the Island were made by me during the course of the year, and recommendations for their improvement sent to the respective Chairmen.

SECTION V.—GENERAL SANITARY CONDITION OF CHIEF TOWNS.

31. *Colombo*.—A report and commentary on the vital statistics and sanitary conditions of Colombo will be furnished by the health authorities of the city. The medical institutions under my departmental administration in Colombo consist of (1) the General Hospital, (2) Ceylon Medical College, (3) De Soysa Lying-in Home, (4) Victoria Memorial Eye Hospital and Grenier Ear and Throat Infirmary, (5) Colombo Lunatic Asylum, (6) Lady Havelock Hospital for Women, (7) Lady Ridgeway Memorial Hospital for Children, (8) Borella Convict Hospital, (9) Infectious Diseases Hospital, (10) Police Hospital, (11) Bacteriological Institute, (12) Civil Medical Stores, (13) Branch Hospital for Women, (14) Leper Asylum at Hendala, and (15) Anti-Tuberculosis Institute, and two jail hospitals. There are out-patient dispensaries at (1) Borella (for women), (2) Urugodawatta, Grandpass, (3) Mutwal, and (4) the Out-patient Department of the General Hospital. The total number of patients treated in all the Colombo hospitals was 22,518 for the year, and the total number of out-patients was 64,865, exclusive of inmates in the Lunatic and Leper Asylums.

32. *Kandy*.—The sanitary condition of this town is satisfactorily controlled by the Municipality. The medical institutions consist of (1) the Civil Hospital, including the Eye Infirmary, with 200 beds, (2) the Jail Hospital, and (3) the Outdoor Dispensary.

33. *Galle*.—The sanitary condition of this town has not progressed towards improvement during the year. Shortage of funds in the Municipality has delayed or checked improvements in drainage, water supply, and other sanitary requirements. The hospital is provided with 104 beds.

34. *Jaffna*.—The sanitary condition of this town as regards drainage, water supply, and disposal of excreta leaves much to be desired. Soil pollution is general, though public latrines are provided. Under present conditions funds do not appear to be available for sanitary improvements. There is hospital accommodation for 102 beds. Paying wards are in the course of construction.

35. *Batticaloa*.—There has been an improvement in the water supply of this town by the laying down of a pipe system. Drainage remains unsatisfactory. The disposal of excreta has improved, where the dry-earth system has been adopted, but this is by no means universal in the town, where there is much soil pollution. There are 50 beds in the hospital. Nurses' quarters have been built.

36. *Anuradhapura*.—The sanitary condition of this town shows progressive improvement. The water supply is defective as to quality, but sufficient in quantity, except in exceptionally dry weather. Scavenging, &c., is effectively done, and drainage has improved. The hospital has 82 beds.

37. *Kurunegala*.—The sanitation of this town shows amelioration. Drainage has improved, scavenging and the disposal of excreta are satisfactorily effected, but the water supply remains defective. The hospital accommodation is for 170 patients.

38. *Badulla* has a wholesome and abundant water supply, is comparatively well drained, and systematic efforts are exercised to check malaria. The scavenging, &c., is satisfactory. There are 159 beds in the hospital.

39. *Ratnapura*.—The public water supply from pipes is insufficient, and is supplemented by wells. Drainage is defective, and there is much overcrowding. Scavenging and the disposal of excreta are properly attended to. The district hospital has 96 beds.

SECTION VI.—GENERAL.

40. *Administration: Hospitals, Asylums, and Dispensaries*.—Besides the Lunatic Asylum, Colombo, and the Leper Asylum, Hendala, which are capable of accommodating respectively 514 and 406 patients, there existed in 1917 84 Government hospitals with accommodation varying from 12 to 665 beds. These hospitals are well equipped with modern conveniences and appliance, and officered by qualified medical men, the larger ones having also a trained staff of nurses. New hospitals were opened during the year at Pimbura in Western Province and at Kahawatta and Kitulgala in the Province of Sabaragamuwa. In addition to these hospitals, there are 441 central and branch dispensaries. A new building for the Chilaw hospital was completed during the year. New buildings were also completed for dispensaries at Watawala, Morawaka, Irakkamam, and Kurunegala. The following buildings were in progress but not completed on December 31, 1917: Hospital in Agradatana; Leper Asylum, Batticaloa; Alut-nuwara hospital; Lunugala hospital (rebuilding); Aranayaka hospital; Infectious Diseases Hospital, Ratnapura; Kandana Hospital for Consumptives. Many other improvements and additions to hospitals and dispensaries were effected during the year.

41. *The General Hospital, Colombo*.—This is the largest medical institution in the Colony, and is divided into two sections: the paying section and the non-paying section. The Medical Superintendent submits the following report for the year 1917:—

On December 31, 1916, there were left 630 patients in hospital, 35 in the paying section and 595 in the pauper section. During 1917 the total number of admissions was 12,950; of these, 814 were admitted to the paying wards and 12,136 to the pauper wards. Of the 849 under treatment in the paying wards, 779 were

discharged, 35 died, and 35 remained on December 31, 1917. Of the 12,731 under treatment in the pauper wards, 11,830 were discharged, 1,256 died, and 645 remained on December 31, 1917.

The average daily sick in hospital was 41·30 in the paying wards and 670·49 in the pauper wards.

The maximum and minimum number of patients in hospital on any one day during the period under review in the paying and pauper sections respectively was as under :—

Pauper Section :—Maximum, 696 on October 18, 1917 ; minimum, 578 on February 21, 1917.

Paying Section :—Maximum, 53 on February 23, 1917 ; minimum, 33 on February 1, 1917.

Of the 12,136 admitted in 1917 to the pauper wards, 4,535 were surgical cases and 7,601 were medical cases.

The number of surgical operations during 1917 was 2,322, exclusive of 86 minor operations in the Out-patient Department. Of the 2,322 operations, 2,099 were in the pauper section operating theatre and 223 in the paying section operating theatre.

As regards particular diseases, the following table shows their comparative prevalence and mortality for 1916 and 1917, as shown by hospital admissions :—

| | |
|-----------------------------------|-----------------------------------|
| <i>Acute Pneumonia.</i> | <i>Pulmonary Phthisis.</i> |
| 1916: 357 cases, with 177 deaths. | 1916: 581 cases, with 276 deaths. |
| 1917: 358 cases, with 136 deaths. | 1917: 319 cases, with 178 deaths. |
| <i>Anchylostomiasis.</i> | <i>Malaria.</i> |
| 1916: 360 cases, with 49 deaths. | 1916: 977 cases, with 11 deaths. |
| 1917: 408 cases, with 55 deaths. | 1917: 764 cases, with 15 deaths. |
| <i>Dysentery.</i> | <i>Enteritis and Diarrhoea.</i> |
| 1916: 268 cases, with 45 deaths. | 1916: 425 cases, with 156 deaths. |
| 1917: 222 cases, with 29 deaths. | 1917: 409 cases, with 112 deaths. |
| <i>Enteric Fever.</i> | <i>Appendicitis.</i> |
| 1916: 261 cases, with 83 deaths. | 1916: 117 cases, with 4 deaths. |
| 1917: 174 cases, with 42 deaths. | 1917: 144 cases, with 4 deaths. |

Additions, Alterations, and Improvements to existing Buildings.—During 1917 the other half of the pauper section wards were provided with water-closets in connection with the town sewers. The year was memorable for the fact that a start was made on the new quarters for the Religious Sisters, the want of which has long been felt. The new paying ward block, the gift of the Hon. Mr. W. H. Figg, was nearly completed in 1917, and good progress made with the new operating theatre in connection with the paying ward.

Owing to the generosity of G. Sanmugam, Esq., J.P., a complete new X-ray outfit was installed under the supervision of an Electrical Engineer from England, and has proved of great service. Some 300 cases were photographed, and others examined with the screen.

Expenditure and Receipts.—The receipts from patients in the paying section were Rs. 61,831·02, and the expenditure was Rs. 33,003·16. The receipts on behalf of certain patients in the pauper section were Rs. 5,238·70, and the expenditure Rs. 98,277·58. The expenditure in both sections covers the cost of diets, fuel, light, and equipment, and the salaries of attendants and servants, but does not include the salaries of the medical and nursing staff, nor the cost of drugs and dressings.

Accommodation.—For several years past certain wards for certain classes of cases in the pauper section have been overcrowded during the greater part of the year. As there are no poor-houses in this country, a large number of aged and infirm cases have to be kept for lengthy periods in our convalescent wards, and this prevents the transfer of cases to these wards from the acute wards. Provision will have to be made to house these aged and infirm cases elsewhere, or we shall have to increase our accommodation. Occasionally cases have to be refused admission or delayed when seeking admission to the paying wards, but when circumstances permit of the opening of the new ward now approaching completion, the accommodation for paying patients should suffice for several years to come.

42. *The Colombo Lunatic Asylum.*—Dr. L. D. Parsons resumed charge of this institution on February 5, 1917, relieving Dr. Lucius Nicholls, who had acted for him while on leave. The institution is divided into the Asylum proper for lunatics, and the House of Observation for persons remanded for observation pending committal or release by the Judicial authorities. As regards the Lunatic Asylum, the year opened with 607 males and 336 females, being an increase of 48 males and a decrease of 2 females compared with the corresponding period of last year. In other words, there were 897 patients in the Asylum on January 1, 1916, compared with 943 on January 1, 1917, the increase being 46 patients.

During 1917 there were 260 males and 105 females admitted, being 25 more males and 11 less females than were admitted during 1916. The total number treated in 1917 is thus 867 males and 441 females, or in all 1,308 patients, compared with a total of 1,248 treated in 1916, being an increase of 60 in all (73 males, less 13 females.)

During the year 133 males and 51 females were discharged, compared with 135 males and 79 females discharged in 1916. There were thus 2 males and 28 females, or 30 patients in all, less discharged this year than last year, but it must be borne in mind that the number discharged in 1916 was 49 in excess of those discharged the previous year.

There were 115 deaths during the year, 72 males and 43 females, compared with 52 males and 39 females for the previous year. The assigned causes are set out in the table attached.

The daily average number resident in the Asylum was 654·61 males and 342·62 females. The largest number present on any one day in the Asylum, viz., on October 6, 1917, was 656 males and 350 females, total 1,006, and the smallest number resident was on January 31, 1917, 600 males and 335 females.

With regard to the House of Observation, the year opened with 18 males and 5 females, or 23 in all, being 7 more males and 1 female less than in 1916. During the year 288 cases of males and 90 of females were admitted for observation, being 22 more males and 10 less females than in 1916. These 378 cases were distributed among 257 male persons and 82 female persons. As the same person may be admitted more than once, there are obviously more cases than there are persons under observation.

The total number under observation was 306 males (275 persons) and 95 females (87 persons), or 401 cases. Of these 401 cases, 161 males and 63 females were transferred to the Asylum, 123 males and 24 females were discharged, 7 males and 2 females died, leaving 15 males and 6 females still in the House of Observation at the close of the year.

discharged, 35 died, and 25 remained on December 31, 1917. Of the 12,191 under treatment in the hospital, 11,970 were discharged, 1,266 died, and 655 remained on December 31, 1917. The average daily rate in hospital was 41.35 in the preceding year and 47.07 in the present year. The maximum and minimum number of patients in hospital in any one day during the period under review in the paying and paying sections respectively was as under:—

Paying Section.—Maximum, 600 on October 16, 1917; minimum, 375 on February 21, 1917. Paying Section.—Maximum, 55 on February 23, 1917; minimum, 25 on February 1, 1917. On the 12,191 admitted in 1917 to the paying wards, 1,228 were surgical cases and 1,091 were medical cases.

The number of surgical operations during 1917 was 3,325, exclusive of 50 minor operations in the Out-patient Department. Of the 3,325 operations, 2,693 were in the paying section operating theatre and 632 in the paying section operating theatre.

As regards post-mortem dissection, the following table shows their comparative frequency and mortality for 1916 and 1917, as shown by hospital admissions:—

| Paying Section | | Paying Section | |
|-----------------------------------|--|-----------------------------------|--|
| 1916: 381 cases, with 178 deaths. | | 1916: 381 cases, with 178 deaths. | |
| 1917: 319 cases, with 119 deaths. | | 1917: 319 cases, with 119 deaths. | |
| Medical Section | | Medical Section | |
| 1916: 377 cases, with 11 deaths. | | 1916: 377 cases, with 11 deaths. | |
| 1917: 304 cases, with 11 deaths. | | 1917: 304 cases, with 11 deaths. | |
| Surgical and Medical | | Surgical and Medical | |
| 1916: 438 cases, with 120 deaths. | | 1916: 438 cases, with 120 deaths. | |
| 1917: 409 cases, with 113 deaths. | | 1917: 409 cases, with 113 deaths. | |
| Surgical Section | | Surgical Section | |
| 1916: 417 cases, with 144 deaths. | | 1916: 417 cases, with 144 deaths. | |
| 1917: 344 cases, with 113 deaths. | | 1917: 344 cases, with 113 deaths. | |

Admission, Discharge, and Mortality.—The following table shows the comparative frequency and mortality for 1916 and 1917, as shown by hospital admissions:—

Admission, Discharge, and Mortality.—The following table shows the comparative frequency and mortality for 1916 and 1917, as shown by hospital admissions:—

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Admission, Discharge, and Mortality.—The following table shows the comparative frequency and mortality for 1916 and 1917, as shown by hospital admissions:—

The average number resident in the House of Observation was 18·01 males and 7 females, or 25·01 in all, compared with 23·03 males and 8·33 females, or 31·36 for the previous year. The highest number on any single day was 41 on June 28, 1917, and the lowest 16 on March 24, 1917.

The figures for the Asylum and the House of Observation together are as follows :—

| | | Males. | Females. | Total. |
|-------------------------------|----|--------|----------|--------|
| Remained on December 31, 1916 | .. | 625 | 341 | 966 |
| Admitted during 1917 | .. | 517 | 187 | 704 |
| Total treated | .. | 1,142 | 528 | 1,670 |
| Discharged | .. | 386 | 130 | 516 |
| Deaths | .. | 79 | 45 | 124 |
| Remaining | .. | 677 | 353 | 1,030 |

The largest number simultaneously resident was 1,033 on December 25, 1917, and the lowest 964 on January 29, 1917, for both institutions together, compared with 982 and 910 respectively for last year. The daily average for both institutions together was 672·61 males and 349·62 females, or a total of 1,022·23, being an increase of 72·29 in the daily average of males and a decrease of 3·15 in the daily average of females. The total increase in the daily average is thus 69·14.

A large amount of useful work was done by the inmates of the Asylum, the males being employed in carpentry, manufacture of string rugs and mats from coir, repairs to furniture, basket-making, rattanning of cots and chairs, &c.; and the females, besides engaging in the coir industries, employed their time in sewing and tailoring work for the General Hospital, the Eye Hospital, the Lady Havelock Hospital, and also contributed their handiwork to the Queen Mary's Needlework Guild. Great credit is due to the matron for her supervision of the needlework. The foundations for the new asylum at Angoda on the Colombo-Avissawella road were commenced during the year, and its completion is looked forward to, owing to the insufficiency of accommodation in the present building.

43. *The Infectious Diseases Hospital.*—864 cases were treated in this hospital, with 67 deaths in 1917, as compared with 1,647 cases and 99 deaths in the year previous. The following table is instructive :—

| | 1917. | | 1916. | |
|-----------------|-----------------|---------|-----------------|---------|
| | Number treated. | Deaths. | Number treated. | Deaths. |
| Smallpox | 5 | 2 | 9 | 2 |
| Cholera | — | — | 88 | 64 |
| Plague | 77 | 58 | 42 | 20 |
| Diphtheria | 7 | 2 | 5 | 2 |
| Chickenpox | 506 | — | 1,251 | 6 |
| Measles | 157 | 1 | 1 | — |
| Mumps | 22 | — | 124 | — |
| Pneumonia | 5 | 2 | — | — |
| Acute Diarrhoea | 5 | — | 31 | — |
| Other Diseases | 58 | — | 89 | 3 |

44. *The Convict Hospitals and Jails.*—There is bed accommodation for 213 patients in the Borella Convict Hospital, for 8 patients at the Welikada Female Jail Hospital, and for 29 patients at the Mahara Jail Hospital. The daily average at the Borella Convict Hospital was 70·37.

45. *The Police Hospital.*—There is accommodation for 28 patients in this hospital. 964 patients were treated during the year.

46. *The De Soysa Lying-in Home.*—1,739 cases were treated in this institution during the year, as against 1,437 in 1916. 58 patients died, the death-rate being 3·33. The causation of death was as follows: 36 due to unavoidable accidents of childbirth, 8 to puerperal disease, and 14 to non-puerperal causes. 231 operations were performed at the institution. 1,365 children were born, 84 of whom did not survive. The institution continues to be useful for purposes of instruction to pupils in midwifery, such usefulness, however, being restricted by insufficient accommodation for pupil midwives. I am of opinion that the infant mortality of the Island, particularly on the estates, could be appreciably reduced if modern methods and precautions could be more generally adopted. A new building to accommodate an additional twenty-two pupils is in course of construction.

47. *The Lady Havelock Hospital for Women and the Lady Ridgeway Block for Children.*—868 patients were treated in the Lady Havelock Hospital in 1917, as compared with 851 the previous year. The mortality was 7·8 per cent. 233 of the cases treated were for diseases peculiar to women. 268 operations, mostly gynaecological, were performed by the Lady Surgeon in charge.

757 children patients were treated in the Lady Ridgeway Block during the year, being 32 less than in 1916, the daily average being 39·90. The mortality was 20·73. The Lady Surgeon in charge of the hospital deprecates the practice of bringing moribund infants to the hospital, which continues to be common. Additional accommodation for pupil nurses is being provided.

48. *The Victoria Memorial Eye Hospital, and the Grenier Ear, Nose, and Throat Infirmary.*—There were 947 admissions during 1917, of whom 47 were paying patients, as compared with 1,018 patients in the previous year. 12,583 patients made 33,850 visits to the Out-patient Department, or an average of about 3 visits per individual. 1,634 patients were treated in the Ear, Nose, and Throat section. 412 Ophthalmic surgical operations were performed, 119 of which were for cataract. Increased waiting accommodation for out-patients continues to be a requirement.

49. *The King Edward VII. Tuberculosis Institute, the Ragama Tuberculosis Hospital, and the Kandana Sanatorium for Consumptives.*—These institutions now provided for the medical treatment and cure of tuberculous patients. The Colombo institution under the care of an officer who has specialized in the disease is being increasingly patronized. 4,185 patients were seen during the year, of whom 1,664 were new cases. Of these, 1,331 were cases of phthisis of the lung; 290 were sent for indoor treatment at

Ragama. 427 domiciliary visits by the Medical Officer, matron, and nurse of the institution were made during the year. 882 specimens of suspected sputa were bacteriologically examined, and 112 fluoroscopic examinations made for diagnostic purposes. 459 cases of more or less advanced tuberculosis of the lung were treated at the Ragama hospital with a mortality of 100.

50. *The Kandana Anti-Tuberculosis Sanatorium* was nearing completion towards the end of the year, and I hope to open it shortly. This institution is the outcome of the benevolence of the late Mr. A. E. de Silva, who gifted the funds necessary for the building and 40 acres of land. The site is an excellent one, on high ground, with a dry porous soil, on the Colombo-Jaela road, and near the railway station. The building consists of four wards with half walls, designed to accommodate fifty patients. There are suitable quarters for resident medical officers, nurses, and staff, with ample grounds for recreation, gardening, and open-air pursuits. I am confident that the public-spirited donor has conferred a great and lasting benefit on the people of the country, and greatly deplore his untimely demise, which has denied him the satisfaction of seeing the completion of the good work.

51. *The Victoria Home for Incurables*.—70 cases remained at this institution at the end of 1916, and 19 were admitted during 1917, of whom 6 died, 10 were discharged, leaving 73 inmates at the close of the year under review. Increased accommodation is urgently needed, but at present funds are not forthcoming.

52. *The Bacteriological Institute, Colombo*.—6,924 bacteriological examinations were made at this institution. The constructing and equipping of a Pasteur Institute in connection with it for the treatment of persons bitten by rabid dogs is being taken in hand.

53. *The Ceylon Medical College*.—The following are the statistics of the Medical College:—

| | | | |
|---|-----|---|----|
| (1) Number of Medical Students on December 31, 1916 | 166 | (3) Number of Medical Students passed in 1917 | 18 |
| Number of Apothecary Students on December 31, 1916 | 64 | Number of Apothecary Students passed in 1917 | 14 |
| (2) Number of Medical Students admitted in 1917 | 45 | (4) Number of Medical Students left in 1917 | 22 |
| Number of Apothecary Students admitted in 1917 | 40 | Number of Apothecary Students left in 1917 | 17 |

Revenue for 1917, Rs. 37,848; expenditure for 1917, Rs. 67,623.

54. *The Civil Medical Stores*.—The cost of drugs, chemicals, instruments, &c., including repairs of the latter, amounted to Rs. 429,657·86 during the year 1917, as compared with Rs. 427,923·13 the previous year. Transport cost Rs. 4,546·86. Miscellaneous expenditure, inclusive of stationery, printed forms, binding, &c., Rs. 19,111·54. A total of Rs. 5,817·94 was recovered by the sale of drugs to estates, &c., by the sale of unserviceable articles, or payment for articles lost or broken by officers of the Department, and by the sale of surgical instruments. 79,972 ounces of quinine were issued for use at a cost of Rs. 116,220·92. During the year 69,016 ounces of the drug were purchased, costing Rs. 119,790·60. Rs. 14,489·73 worth of drugs were issued to Government Departments. Rs. 214,720·07 was expended in the purchase and preparation of opium, Rs. 3,335·56 being expenses incidental to the same. Rs. 6,652·12 was recovered by sale of opium preparations.

SECTION VII.—MEDICAL AID TO IMMIGRANT COOLIES.

55. The health precautions and medical care of immigrants commences on the Indian coast at Tataparai and Mandapam, and continues in the medical inspection at Talaimannar and at the Colombo Wharf Depôt, and consists in internment of infectious cases, contacts, or suspects at Tataparai, Talaimannar, or Ragama, and medical care of all cases of illness. The different immigration depôts are manned by officers of the Medical Department. The new Immigration Camp and Quarantine Depôt at Mandapam was opened on May 1, 1917, replacing the temporary camp that had previously existed. A full description of this very efficiently officered and equipped quarantine station will doubtless be furnished by the Department responsible for its administration. Suffice it to say, that the medical and sanitary provisions are excellent. Water supply, sewage disposal, hospital disinfection, and housing has received careful attention, and ample provision has been made for all requirements and contingencies, and for the safety and comfort of travelling immigrants.

56. *Government District Hospitals in Planting Areas*.—There are 50 such hospitals, with accommodation for 4,047 patients, staffed by efficient and fully qualified medical officers, nurses, and attendants, and equipped with modern requirements. Each such hospital has an out-patient dispensary attached. In addition to district hospitals, there are 74 Government district dispensaries in planting areas. The medical officers, besides attending to their hospitals and dispensaries, pay domiciliary visits to coolies in their lines when summoned by the superintendents of estates.

57. *Estate (Rebate) Hospitals*.—In addition to this Government medical aid for estate coolies, fifty-eight estates have established hospitals for the better treatment, dieting, and medical care of the sick. Such hospitals entitle the estate to a rebate on export tax, in proportion to the efficiency of the medical and sanitary provision made. A sum of Rs. 50,880 was refunded to estates during the year as rebate under the above system. It is satisfactory to report that progressive improvement is evident in many of these hospitals, some indeed having achieved a high degree of efficiency.

58. *Estate Dispensaries*.—401 estate dispensaries received free grants of drugs from Government during the year, this being an increase of 26 over the number for the preceding year. The total cost of this free issue was Rs. 135,356·82.

59. A system of medical instruction, in the form of lectures, demonstrations, and practical clinical work at Government hospitals in the planting districts, was introduced during the year, it having been recognized that the medical training of a number of estate dispensers was defective. These lectures, &c., were given by the District Medical Officers, and at the termination of the course a written and oral examination was held by the Provincial Surgeons. The written examination papers were set by me. The number of candidates presented for instruction was 360. Of these, 281 presented themselves for

examination; 155 satisfied the examiners, and 126 failed to do so. Those who did not present themselves for instruction and examination will be called upon to do so at a subsequent course of instruction, which those who failed will also be required to attend. My provisional approval of the employment of estate dispensers will depend upon their possessing the required standard of medical knowledge, failing which I shall be compelled to withdraw that approval.

60. *Latrines.*—A rule under section 12 of Ordinance No. 10 of 1912 was promulgated by His Excellency the Governor in November, 1916, making it incumbent on every estate to provide latrine accommodation for all employees within one year from the date. The type of such latrine was subject to my approval, one compartment being provided for every fifteen employees, two children being computed as one adult. Type plans of latrines on the pit and the pail system were furnished by the Senior Sanitary Officer. It is satisfactory to report that 1,156 estates have complied with the requirements; such estates as have failed to do so will be dealt with under the penalty clauses of the Ordinance, unless they show sufficient cause for an extension of time.

61. *Sanitary Inspection of Estates.*—The systematic and methodical sanitary inspection of estates in the Western, Central, and Southern Provinces was commenced during the year, two specially selected senior officers of the Medical Department being delegated for these duties. A report on the vital statistics, site and construction of lines, drainage, water supply, scavenging, latrine accommodation, sanitary state of surroundings, and medical provisions, if any, is made by these officers through the Senior Sanitary Officer. The latter officer takes such action as may be indicated if the sanitary conditions are defective. The reports of the Inspecting Medical Officers would serve to indicate that, while the cooly has no actual objection to the use of the latrines provided, there remains on many estates a tendency to revert to insanitary customs of the past. Nothing short of regular and systematic inspection of the surroundings of cooly lines by the superintendents or by persons appointed by him and the admonishment or punishment of offenders will check this tendency. It is gratifying to note that among superintendents of estates there is a growing sense of responsibility as regards the health of their labour force. Greater knowledge of the preventability of a large amount of sickness and death among coolies is, I trust, resulting in greater care. It is regrettable that on many estates, especially in the older districts, the present-day manager has to contend with an inheritance of ill-constructed lines on unsuitable sites, with defective drainage and faulty water supply, in addition to the soil pollution that has existed for many years past. The financial stringency resulting from war conditions and the paucity of assistants further hampers the efforts of managers in the direction of sanitary improvements.

One of the Inspecting Officers (Dr. Bawa, to whom the estate inspection in the Western and Southern Provinces has been entrusted) reports that on second or subsequent visits paid to estates on which he originally found sanitary conditions much neglected there was evidence of a marked and sustained effort to remedy evils previously indicated; this shows that, despite the adverse times as regards assistance and economic conditions, planters are showing an encouraging interest in sanitary reform. I am hopeful that the combined efforts of my Department and the Anti-Anchylostomiasis Campaign, with the co-operation of estate managers and estate agencies, will eventually result in a substantial reduction in sickness and deaths due to preventable disease on estates.

62. *Number of Estate Labourers treated in Government Hospitals.*—Total number of days estate labourers stayed in hospital 311,573. Total number of births and deaths on estates was 9,822 and 5,101, respectively.

63. *Inspection.*—In addition to my periodical tours of inspection of Government medical establishments, every hospital and dispensary is visited and reported upon by the Provincial Surgeon. Visits and reports were also made by unofficial visitors delegated by the Planters' Association for the planting districts, and by Government Agents and other senior officials who may have passed through the stations or districts during the year.

64. *Food Supply for Hospitals.*—As in previous years, the system of dieting through the agency of contractors has worked satisfactorily. All food is inspected by responsible officers before and after cooking.

65. *Strength of the Medical Department.*—The following was the strength of the Medical Department during the period: 1 Principal Civil Medical Officer, 1 Assistant Principal Civil Medical Officer, 185 Medical Officers, 321 Apothecaries, 9 Inspectors of Vaccination and 138 Vaccinators, including 6 Female Vaccinators, 1 Bacteriologist, 1 Assistant Bacteriologist, 1 Superintendent of the Civil Medical Stores, 1 Senior Sanitary Officer, 1 Junior Sanitary Officer, 2 Assistant Sanitary Officers, 1 Sanitary Engineer and 68 Sanitary Inspectors, including 1 Superintendent, 27 European Matrons and Trained Nurses, 55 European Matrons and Nursing Sisters (Religious Sisterhoods), 144 Ceylonese Matrons and Nurses, and 40 Pupil Nurses.

66. *Officers on Leave.*—Eight Medical Officers who received temporary commissions in the Royal Army Medical Corps are still on war service. Three Medical Officers who proceeded to Europe to prosecute their studies are still on leave. Mr. W. C. H. Tripp, Accountant, Medical Department, who went on leave in May, 1916, has also received a commission in the Army. Four other Medical Officers had leave out of the Island. The total number of officers of the Department on war service on December 31, 1917, was 11, including 2 officers of the Medical College.

67. *Changes in the Department.*—Dr. G. S. van Rooyen, Provincial Surgeon, was transferred from the Province of Uva to the Western Province, Dr. L. C. Brohier of the Western Province taking the former's place in Uva. Dr. W. C. Peiris, Judicial Medical Officer, Galle (Grade I.), died on October 28, 1917, and Dr. M. Jinadasa of Grade II. was promoted to Grade I. to fill the vacancy; his place in Grade II. was given to Dr. J. P. Subramaniam. Drs. A. S. P. Fernando and H. C. Samuel resigned their appointments, and Dr. D. S. M. E. Perera left the Department having secured the appointment of Medical Officer of Health, Galle. The following were admitted as Third Grade Medical Officers during the year:—Drs. S. Thiagarajah, E. S. Brohier, R. P. Perera, I. T. Kunaratnam, C. O. Perera, L. O. Weinman, B. S. Jayawardana, V. P. de Zoysa, J. H. F. Jayasuriya, G. A. W. Wickramasuriya, K. Cathiravelu, L. G. Blazé, and B. A. Don Robert.

The following statement shows the expenditure and receipts of the Department, inclusive of Medical Aid Estates Branch, for the financial year 1916-17 :—

| Expenditure. | | Rs. | c. | Credits. | | Rs. | c. |
|----------------------------|----|-----------|----|---|----|-----------|----|
| Personal emoluments | .. | 1,532,236 | 48 | Hospital and dispensary receipts | .. | 132,722 | 11 |
| Other charges | .. | 1,178,439 | 97 | Sale of drugs and medical requisites | .. | 2,523 | 96 |
| Hospitals and dispensaries | .. | 1,010,622 | 81 | Sale of drugs under Medical Wants Ordinance | .. | 7,850 | 96 |
| | | | | Medical aid dues (maintenance and visits) | .. | 187,155 | 59 |
| | | | | Sale of unserviceable and superfluous articles, rent of trees and garden produce, and rent of buildings | .. | 19,206 | 15 |
| Total | .. | 2,189,062 | 78 | Total | .. | 349,458 | 77 |
| Grand Total | .. | 3,721,299 | 26 | Nett Expenditure | .. | 3,371,840 | 49 |

Colombo, April 22, 1917.

G. J. RUTHERFORD,
Principal Civil Medical Officer and
Inspector-General of Hospitals.

APPENDIX.

OPIUM.

SINCE the previous report, the Opium (Amendment) Ordinance, No. 40 of 1916, was passed, amending section 13, sub-section (1), of the Opium Ordinance, No. 5 of 1910.

2. There is no change in the selling price of opium.
3. The number of opium depôts in the Island remains the same as last year, namely, 54.
4. During this year 22 new opium consumers were registered on medical grounds.
5. A statement of opium sold and the amounts realized during each quarter of the year is appended. It will be noticed that the total sales for the year are less than those of the previous year, which is inserted for comparison. The figures show a decreased consumption of 1,300,139 grains of eating opium and 995,250 grains of smoking opium :—

Statement of Opium sold and Amounts realized during each Quarter from January 1, 1917, to December 31, 1917.

| During the Quarter ended | Eating Opium. | | | | Smoking Opium. | | | | Total realized. | |
|--------------------------|---------------------------|-------------------------------|----|---------------------------|-------------------------------|-----------|----|--------------|-----------------|---------------|
| | Quantity sold. Grains. | Amount realized. Rs. c. | | Quantity sold. Grains. | Amount realized. Rs. c. | | | | | |
| March 31, 1917 | .. | 13,888,805 | .. | 138,888 5 | .. | 1,187,450 | .. | 23,749 0 | .. | 162,637 5 |
| June 30, 1917 | .. | 13,340,513 | .. | 133,405 13 | .. | 1,061,725 | .. | 21,234 50 | .. | 154,639 63 |
| September 30, 1917 | .. | 13,696,225 | .. | 136,963 50 | .. | 1,001,625 | .. | 20,032 50 | .. | 156,996 0 |
| December 31, 1917 | .. | 13,108,387 | .. | 131,084 62 | .. | 1,018,300 | .. | 20,366 0 | .. | 151,450 62 |
| Total for 1917 | .. | 54,033,930 | | 540,341 30 | | 4,269,100 | | 85,382 0 | | 625,723 30 |
| Total for 1916 | .. | 55,334,069 | | 553,306 94 | | 5,264,350 | | 105,287 0 | | 658,593 94 |

6. The amount realized out of the sale of opium preparations during the year was Rs. 6,762·39.

7. During the year 1917 sixty chests of opium were purchased from India for Rs. 204,765·31, as against sixty chests during the previous year for Rs. 164,806·64.

Colombo, April 22, 1918.

G. J. RUTHERFORD,
Principal Civil Medical Officer and
Inspector-General of Hospitals.

