

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

## **Contributors**

Ceylon. Civil Medical Department.

## **Publication/Creation**

[Colombo] : [Government Printer], [1913]

## **Persistent URL**

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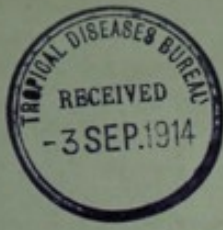
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CEYLON.



# ADMINISTRATION REPORTS, 1912-13.

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PART IV.—EDUCATION, SCIENCE, AND ART.

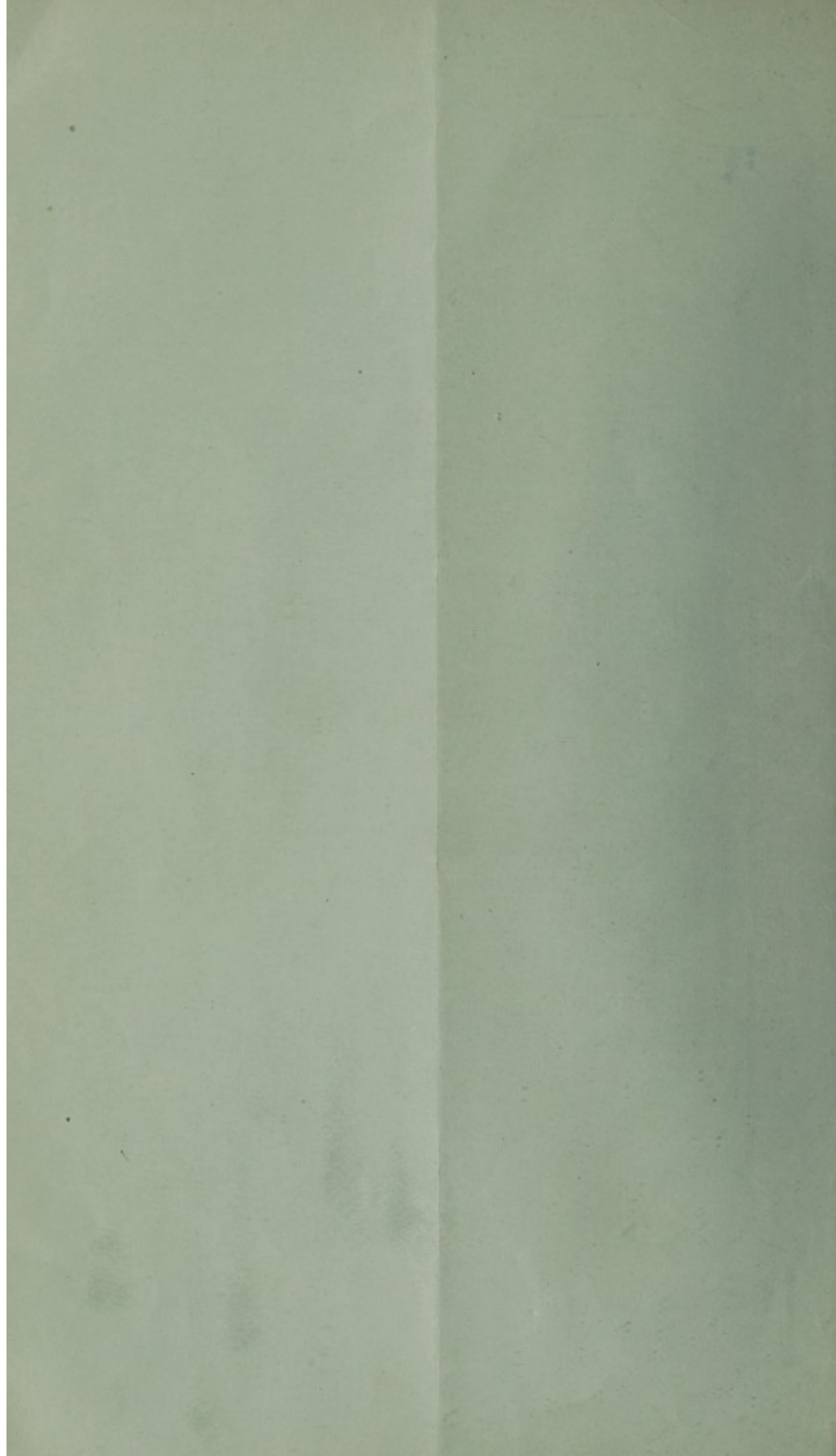
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## MEDICAL.

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REPORT OF SIR ALLAN PERRY, M.D.,

*Principal Civil Medical Officer and  
Inspector-General of Hospitals.*





# MEDICAL.

## REPORT OF THE HON. THE PRINCIPAL CIVIL MEDICAL OFFICER AND INSPECTOR-GENERAL OF HOSPITALS FOR 1912-13.

I HAVE the honour to submit for the information of His Excellency the Governor and for transmission to the Right Honourable the Secretary of State for the Colonies the Medical Report on the health and sanitary condition of the Island for the eighteen months July 1, 1912, to December 31, 1913. I was absent from the Island on leave from March to December, 1913, during which period Dr. G. Rutherford acted for me.

### SECTION I.—POPULATION : BIRTH- AND DEATH-RATES.

2. The population estimated at the last Census (March, 1911) was 4,106,350, and consisted of 7,592 Europeans, 26,663 Burghers, 2,715,420 Sinhalese, 1,059,007 Tamils, 266,625 Moors, 12,990 Malays, and 18,053 others, exclusive of the Military and Shipping; compared with the Census of 1901 there was an increase of 15·1 per cent. in the decade. During the twelve months ended June 30, 1913 (the Registrar-General's figures for the full eighteen months covering this report are not available), the excess of deaths over births noted in the last report disappeared, and was replaced by the natural increase of births over deaths to the number of 30,749; while the number of Indian immigrants exceeded the number of emigrants by 49,349. The population estimated as on July 1, 1913, was 4,220,459, an increase of 114,550 persons, or 2·7 per cent., on the population on July 1, 1912, estimated on the basis of the previous Census.

### SECTION II.—PUBLIC HEALTH.

#### *Vital Statistics.*

3. As in the preceding section, the twelve months period ending June 30, 1913, is employed here also for the purpose of estimating the condition of the public health from the birth- and death-rates kindly furnished to me by the Registrar-General in his quarterly reports. The births registered in the twelve months numbered 150,314, and were in the proportion of 36·2 per 1,000 of the population per annum. The deaths registered during the same period numbered 119,176, and were equal to a rate of 28·7 per 1,000 of the population. Compared with the previous twelve months, the birth-rate shows an increase of 1·2 per 1,000 and a decrease of 1·3 from the rate of 1910; the death-rate shows a decrease of 9·9 per 1,000 from the rate of 1911-12, and an increase over the figures of 1910 of 1·4 per 1,000; compared with the average rates for the thirteen years 1899-1911, the birth-rate for the twelve months shows a decrease of 1·6 per 1,000, and the death-rate a decrease of 1·8 per 1,000.

4. I submit herewith the number of deaths registered under the respective classes of disease for the twelve months under review :—

#### I.—General diseases :—

(a) Epidemic diseases .. ..	7,729	
(b) Septic diseases .. ..	114	
(c) Tuberculous diseases .. ..	4,221	
(d) Venereal diseases .. ..	149	
(e) Cancer or malignant diseases .. ..	437	
(f) Other general diseases .. ..	9,228	21,878
II.—Diseases of the nervous system and organs of special sense .. ..		13,716
III.—Diseases of the circulatory system .. ..		1,081
IV.—Diseases of the respiratory system .. ..		8,698
V.—Diseases of the digestive system .. ..		21,728
VI.—Non-venereal diseases of genito-urinary system and <i>annexa</i> .. ..		588
VII.—The puerperal state .. ..		3,019
VIII.—Diseases of the skin and cellular tissues .. ..		8,633
IX.—Diseases of bones and organs of locomotion .. ..		15
X.—Malformations .. ..		17
XI.—Diseases of early infancy .. ..		6,006
XII.—Old age .. ..		3,277
XIII.—Affections produced by external causes .. ..		2,299
XIV.—Ill-defined diseases .. ..		28,321



5. The following defined diseases under the various heads are the most notable causes of death :—Dysentery (4,659 deaths), phthisis (3,767 deaths), infantile convulsions (11,921 deaths), diarrhoea (12,436 deaths), pneumonia (3,743 deaths), anchylostomiasis (1,905 deaths) and its sequelæ, dropsy (2,595 deaths) and anæmia (3,377 deaths), intestinal parasites (2,952 deaths), puerperal septicæmia (1,688 deaths), malaria (2,247 deaths), enteric fever (403 deaths), rickets (4,271 deaths), tetanus (270 deaths), rabies (10 deaths). 23,148 deaths were registered as due to pyrexia.

6. *Deaths due to Preventable Diseases.*—The total number of deaths in the period was 119,176, as compared with 143,382 in the year 1911 and 110,195 in 1910. Of the number for the 1912-13 period, 18,642 were due to preventable disease. This includes enteric fever, phthisis, anchylostomiasis, puerperal septicæmia, malaria, cholera, intestinal parasites, and rabies, but does not include the large number of deaths from diarrhoea and infantile convulsions. It would appear that the muzzling order introduced into Municipalities and most Local Board towns has had the effect of reducing rabies cases, as only 10 deaths occurred from this cause during the period, as compared with 38 in the year 1911. Rules made under section 12 of the Diseases (Labourers) Ordinance, No. 10 of 1912, and approved in Executive Council in July, 1913, will, it is hoped, initiate the control of anchylostomiasis on estates by the installation of latrines and proper bathing places. With regard to tuberculosis, it is gratifying to record that the General Committee of the King Edward VII. Anti-Tuberculosis Fund have got so far as to ask for tenders for the building of the dispensary, and the sanatorium is expected to be begun shortly.

7. *Infantile Mortality.*—The infant mortality in the thirty-one principal towns during the period was equal to a rate of 249·3 per 1,000 births, as compared with 266 per 1,000 in the year 1911. (The figure 220 given for 1911 was a tentative one supplied by the Registrar-General, and was subsequently amended to 266 in his Administration Report.)

8. *The Health on Estates.*—The mean birth-rate on estates for the year ended June 30, 1913, was 35·4 per 1,000 and the death-rate 39·3 per 1,000, as compared with a birth-rate of 33·1 per 1,000 and a death-rate of 39·0 per 1,000 in the year 1911. The principal causes of death were dysentery (3,038), debility (3,289), diarrhoea (3,233), pneumonia (1,668), anchylostomiasis (1,586), infantile convulsions (1,305), dropsy (349), phthisis (235), anæmia (162). The total number of deaths was 19,936, and the total births 17,921. The estate population was 507,189, based on the Census figures of March 10, 1911.

#### Principal Diseases.

9. *Malaria.*—The total number of persons treated for this disease in hospitals and dispensaries during the eighteen months was 788,287, an actual decrease of 81,182 from the number treated during the previous twelve months, which, however, was characterized by an unusually severe outbreak in the Western, Sabaragamuwa, and Central Provinces. In hospitals alone 17,249 cases were treated with 509 deaths, an increase of 5,372 cases and 17 deaths over the previous twelve months. The largest number of cases (182,995) occurred in the North-Western Province, next in the Western Province (165,708), and then in the Southern Province (122,600). It is to be observed, however, that in the Sabaragamuwa, Central, and Uva Provinces a very large number of cases are treated on estates, and therefore are not entered on hospital and dispensary returns. 109,992 ounces of quinine were issued from the Civil Medical Stores at a cost of Rs. 66,766·80.

As in previous years, the measures carried out were general improvement in the sanitation of some of the towns, the education of the public by lectures and pamphlets, and the free distribution of quinine. In addition, however, mosquito surveys were carried on in Kurunegala, Talaimannar, Galle, and other towns; and in Badulla by means of a small gang of labourers operating as a mosquito brigade the town has been largely freed from mosquitoes. The Kurunegala campaign mentioned in the previous report ceased on the transfer of the medical officer in charge to Talaimannar to initiate a similar campaign, and the town was left in charge of the Local Board. The results of the Kurunegala campaign are still uncertain. A number of additional wards were fly-proofed in hospitals, and the Municipalities and Local Boards tend to show slightly more activity in pursuing anti-malarial measures. The Sanitary Branch of the Department, which had just begun operations before the end of the period, will, in addition to their own staff, work through the already existing machinery.

I herewith submit the draft return suggested by Sir Ronald Ross, which accompanied his note No. 34,335 to the Advisory Committee on Tropical Research, dated November 8, 1910 :—

#### Return of Malarial Fever, Blackwater Fever, Yellow Fever, Filariasis, and Dengue during the period from July 1, 1912, to December 31, 1913.

1. Name of Colony	..	..	..	Ceylon
2. Total area	..	..	..	23,331½ square miles
3. Estimated population :—				
(a) Total	..	..	..	4,106,350
(b) Europeans	..	..	..	7,592
(c) } Other races	..	..	..	4,098,758*
(d) }				
(e) }				
4. Births during the year 1911-12 :—				
Total births	..	..	..	150,314
5. Deaths during the year :—				
(a) Total deaths	..	..	..	119,176
(b) Deaths ascribed to general fevers	..	..	..	21,878
(c) Deaths ascribed to blackwater fever	..	..	..	} No deaths have been recorded from these causes
(d) Deaths ascribed to yellow fever	..	..	..	

\* Exclusive of immigrant coolies, military, and shipping.



## 6. Government hospitals :—

(a) Number of such hospitals	..	78
(b) Totals during year	{ Admissions ..	122,806
	{ Deaths ..	12,011
(c) Malarial fever	{ Admissions ..	17,249
	{ Deaths ..	509
(d) Blackwater fever	{ Admissions ..	Nil
	{ Deaths ..	Nil
(e) Yellow fever	{ Admissions ..	Nil
	{ Deaths ..	Nil
(f) Filarial Diseases	{ Admissions ..	12
	{ Deaths ..	Nil
(g) Dengue	{ Admissions ..	70
	{ Deaths ..	Nil

## 7. Government dispensaries :—

(a) Number of such dispensaries	..	423
(b) Total attendances during year	..	376,144
(c) Attendances for malaria	..	770,738
(d) Attendances for filarial diseases	..	3
(e) Attendances for dengue	..	37

## 8. Medical Service :—

(a) Number of Government medical officers	..	306
(b) Number of special health officers	..	6
(c) Number of other registered medical practitioners	..	180

## 9. Schools :—

(a) Number of Government and State-aided schools	..	2,769
(b) Number of scholars registered in those schools	..	296,620
(c) Average daily attendances	..	196,695

## 10. Estates employing unindentured labour :—

(a) Number of such	..	2,335
(b) Number of unindentured labourers employed	..	507,189
(c) Number of hospitals and dispensaries on such estates	..	321
(d) Total deaths among such labourers	..	19,192
(e) Total admissions and attendances at hospitals and dispensaries	..	133,179

## 11. Estimated revenue of Colony :—

Total during year	..	Rs. 45,232,800
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## 12. Estimated expenditure of Colony :—

(a) Total during year	..	Rs. 45,112,348
(b) Annual medical and sanitary expenditure	..	Rs. 2,228,695
(c) Upkeep of Government hospitals and dispensaries	..	Rs. 1,228,291
(d) Total salaries and allowances of medical officers	..	Rs. 1,160,586

## 13. Towns under Municipalities or Local Boards :—

(a) Number of such	..	31
(b) Total population	..	870,832
(c) Total revenue	..	Rs. 4,634,224
(d) Total medical and sanitary expenditure	..	Rs. 769,361

## 14. Additional information to be given on the following points :—

(a) Is there any legislation in force against the breeding of mosquitoes in premises? Numbers of notices, convictions, and warnings during the year	}	No special legislation, but in certain towns ordinary sanitary by-laws are applied
(b) Number of persons under the age of 15 examined for enlarged spleen		
Where was this done?	..	At the various hospitals, dispensaries, and schools
(c) Percentage affected	..	Spleen rate 25.74
Does Kala-azar exist?	..	Kala-azar exists to a very slight extent
Number of persons examined for filarial diseases	..	As only three persons were examined for filarial diseases, the percentage would be of no value
Where was this done?	..	
Percentage affected	..	None
(d) Any large works for surface drainage of towns or reclamation of marshes? Approximate cost	..	In three or four towns small mosquito brigades are employed
(e) Number of men employed in towns and villages for petty anti-mosquito works. Approximate cost	..	109,992 oz., costing Rs. 66,766.80
(f) Amount of Government quinine sold or distributed gratis during the year	..	Chiefly through the headmen
Agencies employed	..	Yes, at 324 out of 731 Government schools
(g) Is quinine distributed regularly in the schools?	..	Free quinine given and improvement in general sanitation in many estates
(h) Measures taken against these diseases on estates employing unindentured labour	..	No
(i) Any steps taken regarding the housing of the poor?	..	A slight decrease in malaria has been recently noticed in the majority of the Provinces, but this is more apparent than real
(j) Any exceptional increase or decrease of these diseases recently noticed?	..	Vide introductory remarks
(k) Any other remarks on the subject	..	



*Spleen Census.*

Number examined .. .. .	96,118
Total enlargements .. .. .	24,743
Spleen rate .. .. .	25.74

The following are the figures in the separate Provinces:—

	Number Examined.	Total Enlargements.	Spleen Rate. Per Cent.
Western Province .. .. .	15,246	127	.83
Central Province .. .. .	14,600	2,566	17.57
Northern Province .. .. .	7,958	2,769	34.80
Southern Province .. .. .	10,467	1,589	15.18
Eastern Province .. .. .	6,277	3,218	51.26
North-Western Province .. .. .	9,413	5,328	56.60
Province of Uva .. .. .	6,390	2,810	43.97
Province of Sabaragamuwa .. .. .	8,129	1,595	19.62
North-Central Province .. .. .	17,638	4,741	26.68
	96,118	24,743	25.74

10. *Cholera*.—The total number of cases which occurred during the eighteen months period was 123, of which 91 died; 117 of these occurred in the Western Province, beginning in and around Colombo (except 17 which occurred in Ragama Camp at an earlier period). The disease broke out in Grandpass, extended to Hendala, the Lunatic Asylum, Panadure (1 case), Moratuwa (1 case), Negombo (10 cases), and Peliyagoda. Of the remaining 6 cases, 1 occurred on an estate in the Gampola District, and the source of infection could not be determined, and the remaining 5 occurred in the village of Asmadola, in the Kegalla District, Sabaragamuwa. In the remaining six Provinces no cases occurred.

Three vessels infected with cholera were dealt with, each returning only 1 case:—(1) and (2) ss. Bangala from Tuticorin was infected on two occasions; (3) ss. Bharata from Tuticorin. Of the 3 cases, 2 died at sea and 1 was treated in the infectious diseases hospital.

11. *Smallpox*.—Only 6 cases were treated, with 1 death. Of these, 3 occurred on Sunnycroft estate with 1 death, and the disease, which was brought from Ragama, was confined to one line. Only 1 case occurred in the Western Province, as against 58 in the previous period. In the Central Province only 1 case occurred, as against 175 in the period covered by the previous report. The figures show a sudden and gratifying absence of the disease.

12. *Enteric Fever*.—834 cases were treated in hospitals in the Island; of these, 304 occurred in Colombo hospitals, with 94 deaths (not including the Jail and Municipal hospitals). In addition to the above total cases, 178 were reported by the rural medical officer, all of which were seen by him, and every precaution taken to prevent the spread of the disease. Pamphlets were issued, premises were disinfected, and free disinfectants were issued to the poor. Of the total cases, 271 were treated in the General Hospital, Colombo, with 69 deaths, 23 in Moratuwa with 10 deaths, 39 in Kalutara with 8 deaths, 12 in Galle, 37 in Kandy with 6 deaths, and 8 in Nawalapitiya with 3 deaths. It would appear that the lack of, or faulty, conservancy is largely responsible for the dissemination of the disease.

13. *Dysentery*.—The value of Dr. Leonard Rogers' discovery of emetine in the treatment of amoebic dysentery is already proving inestimable to Ceylon, despite the fact that the drug has no effect on the bacillary type. Nevertheless, it appears also to be effective in some of the unclassified types and of pseudo-dysenteries, an example of which is that of which ankylostomiasis is the basal cause. A further investigation into such cases will determine the value of the drug in the treatment of other cases than the purely amoebic. The drug is now in use in all hospitals, where it is administered hypodermically with excellent results. In the form of keratin-coated tablets it is being supplied for mouth administration to dispensaries and estates. The disease is prevalent all over the Island, particularly in the planting districts and in and around Colombo; in the former consequent upon unprotected and polluted water supplies, and in the latter wherever shallow unprotected wells are in use. 9.76 per cent. of the total were treated in the Colombo General Hospital, and the total number of cases treated in the other Government hospitals was 4,365 with 1,124 deaths. There were 471 cases with 12 deaths in jail hospitals: 170 cases with 11 deaths occurred in Borella Convict Hospital (a very marked decrease from the previous twelve months period, when the figures were 299 cases with 22 deaths); 145 with 4 deaths in Kandy jail, as compared with 90 with 8 deaths in the previous period; and 52 with 1 death in Jaffna jail, as compared with 52 and 7 deaths in the previous period. Dysentery and diarrhoea are more common than any other disease in the jails, but in the period under review both the disease incidence and the mortality rate have markedly decreased, particularly in the Colombo jails. 1,138 admissions were recorded in jail hospitals with a mortality of 38. In the Colombo jail hospitals 387 cases of both diseases were treated, with 19 deaths (4.8 mortality), as compared with 758 cases with 57 deaths (7.5 mortality) in the previous twelve months period.

14. *Leprosy*.—644 cases of leprosy were treated in the Government medical institutions during the period under review, with a mortality of 71.93. A few lepers are confined in the hospital at Kalmunai (Eastern Province). It is proposed to establish a leper colony on the island of Mantivu, Batticaloa District, to accommodate those lepers who are now at large. Cases were admitted to Hendala from every Province, the total admissions during the period being 204. 136 cases were reported in the Western Province; of these 70 were admitted to Hendala.

15. *Ankylostomiasis*.—This disease is very markedly on the increase, and is rife not only among estate labourers, but among the Sinhalese village population. In hospitals alone 10,669 cases were treated, with 1,517 deaths. A comparison with a previous eighteen months period which is available, namely, 1910-1911, shows the numbers then treated in hospitals to be 8,372. During the twelve months period covering the last Administration Report 4,576 cases were treated in hospitals. The lack of a conservancy system is one of the chief factors in the spread of the disease.



16. *Diphtheria*.—16 cases were treated with 3 deaths, but as 9 of these cases were returned from a dispensary, the results as regards mortality were not ascertained. Fourteen of these occurred in the Western Province, and the remaining 2 were treated in the Kandy hospital.

17. *Chickenpox*.—3,222 cases occurred, with no deaths. All the Provinces returned cases.

18. *Parangi*.—4,882 cases of this disease were treated in hospitals alone during the period, with 33 deaths, as against 3,335 with 43 deaths for the previous period. Of these, 1,229 have been treated by Salvarsan "606," with 1 death from epileptic fits. This is the only instance in which an untoward result occurred, and it cannot be said to be directly due to the administration of the drug. All other cases, except those still under treatment, have been cured, and no relapse is yet recorded in any of the cases treated since treatment was first initiated. Of the cases still under treatment, it has been observed that in some, where bone lesions are present, the disease seems to be somewhat resistant to treatment, while in others it yields. As the cases noted as resistant have occurred in institutions in which the treatment has only in the latter part of the period been in operation, the efficacy of the drug in all such cases is still open to conjecture. The drug was administered both intravenously and intramuscularly. The reactions noted were from 10 to 20 minutes after injection; rigors and fever with pains in the joints for 2 to 4 hours, followed by diarrhoea, perspiration, and in some cases vomiting; headache persisted for two or three days, but at latest on the fourth day the patient was perfectly well; children and females were almost completely free from such reactions, and it was only in the aged and debilitated males that they were prolonged. In addition to the three hospitals and the clinic for tropical diseases in which the treatment was adopted previously, in ten other hospitals the treatment was carried out during the period. At one of these, Dambulla, where the treatment has been in operation only for nine months, 549 patients were treated without either adverse result or resistance to the action of the drug. Steps are being taken to extend the treatment to six other hospitals. It should be mentioned that, in addition to the employment of Salvarsan in syphilitic cases with marked success in primary and secondary cases, patients suffering from such diverse manifestations as fibroma of the foot, carbuncle, gonorrhoea, orchitis and rheumatism, and neurasthenia have benefited from its administration. The limitations of this medicament, even if the apparent cure proves in the future to be a prolonged temporary alleviation, are still ill-defined.

19. *Cancer*.—Under this heading 406 deaths were registered in 1912, as against 394 in 1911 and 264 in 1910. The attention of medical practitioners has been directed to this subject from time to time through many channels, notably through the reports published by the Cancer Research Fund, and it is therefore probable that diagnosis is more accurate than formerly, and the figures tend to show that the disease is not widespread, nor is it on the increase.

Turning to the records of the hospitals, it is seen that the number of cases of malignant disease (sarcoma and carcinoma together) treated during the period was 347, as compared with 221 in the previous twelve months period. Of these, 251 were treated in the General Hospital, Colombo. The provincial distribution is as follows:—

			Sarcomata.		Carcinomata.
Central Province	..	..	4	..	26
North-Western Province	..	..	1	..	2
Northern Province	..	..	—	..	14
Province of Uva	..	..	—	..	2
Southern Province	..	..	—	..	8
Province of Sabaragamuwa	..	..	—	..	1
Eastern Province	..	..	—	..	4
North-Central Province	..	..	—	..	—
Western Province	..	..	—	..	285
			—		—
Total	..	..	5	..	342
			—		—

Exclusive of the 251 treated in the General Hospital, Colombo, the remaining 91 cases were distributed through the various parts and organs of the body as follows:—

			Males.		Females.		Total.
Cheek	..	..	10	..	11	..	21
Penis and scrotum	..	..	12	..	—	..	12
Breast	..	..	—	..	5	..	5
Tongue	..	..	1	..	6	..	7
Uterus	..	..	—	..	20	..	20
Jaws	..	..	4	..	1	..	5
Stomach	..	..	1	..	1	..	2
Lips	..	..	4	..	4	..	8
Vagina	..	..	—	..	1	..	1
Bladder	..	..	—	..	1	..	1
Pancreas	..	..	—	..	1	..	1
			—		—		—
			32		51		83
			—		—		—
Not stated	..	..	—	..	—	..	8
			—		—		—
							91
							—

20. *Phthisis*.—In the Registrar-General's returns for 1912 3,795 are shown as deaths from phthisis, as compared with 4,286 in 1911. During the eighteen months period there were 2,328 cases reported from the hospitals. In these reports the notified cases registered at the Municipality of Colombo are not included. For the hospital cases the following tables show the race and sex distribution in the



Provinces and the race and age distribution in the sexes, excepting the General Hospital, Colombo, where 955 cases were treated during the period with 345 deaths, 162 cases with 43 deaths in the Southern Province, and 100 cases with 13 deaths in the Province of Uva. The tables are therefore for the six remaining Provinces :—

Table I.—Race and Sex Table showing Distribution in the Provinces.

Province.	Sinha- lese.	Indians	Ceylon Tamils.	Moors.	Bur- ghers.	Malays.	Euro- peans.	Not stated.	Total.	Grand Total.
	M. F.	M. F.	M. F.	M. F.	M. F.	M. F.	M. F.		M. F.	
Western ..	137 131	43 22	21 11	3 5	4 11	— 5	— —	—	208 185	
Northern ..	13 4	6 3	44 6	1 —	4 —	— —	— —	—	68 13	
North-Western ..	63 28	12 2	8 1	2 —	— —	— —	— —	—	85 31	
Central ..	137 47	73 33	— —	8 3	5 3	2 —	— —	—	225 86	
Sabaragamuwa ..	64 24	33 8	— —	4 —	— —	— —	— —	—	101 32	
Eastern ..	— —	33 5	— —	9 2	6 1	— —	— —	—	48 8	
North-Central ..	10 —	9 2	— —	— —	— —	— —	— —	—	19 2	
Racial Sex Totals ..	424 234	209 75	73 18	27 10	19 15	2 5	— —	—	754 357	
Racial Total ..	658	284	91	37	34	7	—	—	1,111	1,111
General Hospital, Colombo, Southern Province, and Uva	—	—	—	—	—	—	—	1,217	—	1,217
Grand Total ..										2,328

Table II.—Race and Age Table showing Distribution in the Sexes.

	Sinha- lese.	Indians	Ceylon Tamils.	Bur- ghers.	Malays.	Moors.	Euro- peans.	Not stated.	Total.
0—10 ..	14	4	—	3	3	—	—	—	24
11—20 ..	70	34	6	4	1	7	—	—	122
21—30 ..	219	98	36	10	—	14	—	—	377
31—40 ..	177	93	32	8	2	11	—	—	323
41—50 ..	135	38	14	7	1	2	—	—	197
51—60 ..	31	12	3	1	—	1	—	—	48
61—70 ..	9	5	—	1	—	—	—	—	15
71—80 ..	3	—	—	—	—	1	—	—	4
81—90 ..	—	—	—	—	—	—	—	—	—
91—100 ..	—	—	—	—	—	—	—	—	—
Age not stated ..	—	—	—	—	—	1	—	1,217	1,218
Racial Total ..	658	284	91	34	7	37	—	1,217	2,328

Since the publication of the last Administration Report the Committee of the Anti-Tuberculosis Fund has invited tenders for the various buildings, and the work is expected to be in progress early in 1914. In addition to the handsome donation of the site for the sanatorium, Mr. A. E. de Silva has very generously offered to erect all the buildings of the sanatorium, which will save the King Edward VII. Fund a sum of Rs. 60,000, and only leaves the maintenance of the institution to be met. The Government having been approached, His Excellency the Governor stated that he was prepared to ask the Secretary of State to agree to Government providing half the cost of maintenance, on condition that the control of the whole undertaking was vested entirely in the Medical Department. In view of Mr. de Silva's further gift, the Sub-Committee consider that the balance saved to the fund should be set apart (a) to meet unforeseen expenses, and (b) to provide facilities for anti-tuberculosis treatment in the more important outstations.

21. *Vaccination.*—During the period 254,814 vaccinations were performed, of which 197,996 were primary (48,507 were performed by the medical staff of Ragama Camp and the Port Surgeon) and 7,511 were re-vaccinations. Of the primary vaccinations, 186,634 were successful, 5,477 unsuccessful, and in 9,866 the results were not known. The percentages of successful cases to the total infected was 97·76, an increase per cent. of 7·35 on that of the period covered by the previous report. For re-vaccination cases, 5,063 were successful, 1,665 unsuccessful, and in 796 the results were not known. The percentage of success in the re-vaccinated was 74·56, an increase per cent. of 3·61 on the figures



shown in the previous report. The results achieved are the best possible testimony to the high quality of the lymph. The number vaccinated during this eighteen months period is 92,835 in excess of the previous yearly period.

At the vaccine establishment 645 calves were used for vaccination, and they were generally of a better quality than those received in previous years. Seed lymph was obtained from the Lister Institute in London and from the King Institute, Madras. The total number of tubes of calf lymph issued during the period was 126,395, of which 1,707 were sold. A large quantity was also stored in bulk as a reserve supply. Bacteriological examination of the lymph at the time of collection showed the number of micro-organisms present to be normal, and in the majority of cases to consist of staphylococci only.

22. *Precautions taken at Colombo and Galle against the Introduction of Infectious Diseases into the Island.*—The total number of vessels calling at the port of Colombo during the eighteen months was 5,001, of which 1,299 came from infected ports. The total number of estate coolies landed was 183,218, and of miscellaneous deck passengers 87,784. The following ports were infected either with cholera or plague:—Hong Kong, Mauritius, Bombay, Calcutta, Mangalore, Karachi, Madras (and other South Indian ports from time to time), Bangkok, Batavia, Sourabaya, and Singapore. The 5,001 vessels consisted of 4,497 British and foreign steamers and 504 Indian and native sailing craft. The number of vessels placed in strict quarantine was 4, 3 for cholera and 1 for smallpox. 1,295 vessels worked healthy in quarantine, having come from infected ports. The infected vessels dealt with were:—

- (1) ss. "Nevasa" from Calcutta, which had a lascar fireman suffering from smallpox, who was landed and sent to the infectious diseases hospital.
- (2) and (3) ss. "Bangala" from Tuticorin, infected with cholera on two occasions.
- (4) ss. "Bharata" (cholera).

In all there were 3 cases of cholera, 2 of which died at sea and 1 was sent to the infectious diseases hospital. 94,141 passengers, 42,362 cargo coolies, 19,560 coal coolies, and 4,925 tally clerks were dealt with at the disinfectant stations. 2,517 persons were vaccinated. Rs. 18,658.50 was realized by the sale of bills of health and was credited to revenue.

At Galle 234 vessels arrived and 39 native craft. Of these, 62 worked healthy in quarantine and 172 had free pratique. 160 lighters were fumigated, and 4,567 coolies, 405 tally clerks, and 304 traders were dealt with at the disinfecting station. No case of infectious disease occurred during the whole period. Rs. 714, realized from the sale of bills of health, was credited to revenue.

23. *Lunacy.*—The total number of patients treated in the Colombo Asylum during the eighteen months period was 1,087 (males 708, females 379). The number discharged was 195 (males 144, females 51). The number of deaths was 112 (males 70, females 42). In the house of observation 482 persons were treated (males 336, females 146), of whom 256 (males 176, females 80) were transferred to the asylum and 193 (males 141, females 52) were discharged, while 15 cases died and 18 remained at the end of the period. As there is very considerable overcrowding in the present asylum, the Government have decided to build a new one, and are acquiring 50 acres of land at Angoda for the purpose; the accommodation will be for 1,000 patients, and the necessary staff and offices.

### SECTION III.—METEOROLOGICAL CONDITIONS AND THEIR RELATIONSHIP TO DISEASE.

25. The rainfall maps supplied by the Superintendent of the Observatory show the driest districts to have been Delft and Point Pedro in the north, Mannar in the west, and Tangalla in the south.

The most striking features of the period were the abnormal rainfall in January, 1913, particularly in the Uva, Eastern, and Central Provinces, and the heavy rainfall in a belt extending from Matale in the north to Ratnapura in the south. This latter resulted in an extensive inundation of Colombo, which was followed by an outbreak of cholera. Gampola hospital was inundated three times during the period. In addition to Colombo, the towns of Ratnapura and Batticaloa were inundated during the period.

Respiratory diseases, besides being common in the hilly districts during the north-east monsoon, were prevalent in Colombo towards the end of the period, and were due to sudden changes of temperature with erratic winds. Intestinal diseases are particularly evident during the rains, but are common all the year round, variations of temperature affecting their incidence. The same causes increase the incidence of rheumatic and allied conditions. Eye affections are extremely prevalent during high winds, and are largely due to dust and sand being blown about. Dust and sand are also instrumental in disseminating phthisis.

### SECTION IV.—GENERAL SANITARY CONDITION OF THE COLONY AND OF THE CHIEF TOWNS.

26. In November, 1912, His Excellency Sir Henry McCallum appointed a Committee consisting of the Hon. Mr. W. H. Jackson (Chairman), Hon. Mr. J. G. Fraser, Mr. F. Bowes, Dr. G. J. Rutherford, Dr. J. Lunn, and Dr. H. M. Fernando to consider the question of establishing a Sanitary Department. The recommendations of this Committee were approved by the Secretary of State, and as a result a Sanitary Branch of the Department was initiated; Dr. K. McGahey from Northern Nigeria was appointed Senior Sanitary Officer and Dr. A. J. Milne from Mauritius appointed Junior Sanitary Officer. At the end of the period under review 32 inspectors were in process of being trained. Dr. G. W. R. Fernando was appointed an Assistant Sanitary Officer.

*Sanitary State of the Island.*—The remarks made in the previous report merely demand the addition of the obstructive factor in places where sanitary activity has been concentrated. Of the many sanitary defects, faulty or defective conservancy stands out pre-eminent, and until this is remedied progress is impeded. As satisfactory systems of conservancy the domestic pig and cesspits are not only worse than primitive, but create new foci of disease dissemination which would not otherwise occur.

27. *Colombo.*—A separate annual report is published by the Medical Officer of Health to the Colombo Municipality. Major S. James, M.D., I.M.S., was employed by Government during ten months of 1913 to make a stegomyia survey of Colombo. His full report has not been published yet.



In the districts surrounding Colombo the Rural Medical Officer reports the occurrence of 178 cases of enteric fever, 262 of chickenpox, 85 of measles, and 6 of cholera (from the Colombo outbreak in the latter part of the period), and that the following prosecutions were instituted under Ordinances No. 38 of 1908, No. 15 of 1862, and No. 3 of 1897:—Dairies 27, laundries 118, filthy premises 939, bakeries, tea boutiques, and eating-houses 224, meat stalls 15, fish stalls 11, tanneries 9, cattle nuisances 87, exposing unwholesome food for sale 26, and not reporting infectious diseases 5. The total amount of fines imposed was Rs. 4,014·75. The Rural Medical Officer once again emphasizes the necessity of establishing a proper conservancy system, and calls attention to particular villages where the urgency of this installation is depicted.

28. **Kandy.**—Drainage has been considerably improved. Some of the barrel drains have been entirely rebuilt with cement concrete inverts. Water supply was constant. The erection of a second incinerator is under consideration. There are now 21 public latrines in the Municipal limits, and night soil is buried in trenches. There is still considerable overcrowding and sanitary deficiency in the alleys. Dairies, laundries, and bakeries were regularly inspected. No special measures were taken for prevention of disease. The Senior Sanitary Officer has submitted a report which is still under consideration. The health of the town was satisfactory.

29. **Galle.**—During the period Major James, I.M.S., reported on the sanitation of this town in connection with a *Stegomyia* survey he was conducting. His conclusions amply confirmed previous reports on its insanitary conditions, and to quote his own words: "This town is one in which general sanitation has not yet reached the minimum degree, above which an anti-mosquito campaign at a moderate expense would be likely to be attended with success." The state of the town during the period may be summed up in a lack of supervision, resulting in defective scavenging and inadequate disposal of refuse. Drainage is in the transitional stage, and there is overcrowding in the parts of the town inhabited by the poorer class.

30. **Jaffna.**—The sanitary condition is unsatisfactory. Shallow surface earth drains are the only attempt at drainage. The water supply is from surface wells often close to cesspits, which during the rainy seasons receive the overflow from tanks. Very few of the inhabitants employ the dry-earth system of conservancy. Scavenging is unsatisfactory. By-laws enacted for the control of dairies and bakeries are neither observed nor rigidly enforced.

31. **Batticaloa.**—There is considerable room for improvement. Extensive low-lying pools are submerged during the rains, forming breeding grounds for mosquitoes. By-laws have been enacted to procure cementing of drains and waterways. Water is from surface wells, and a pipe supply from them is in contemplation. Scavenging is unsatisfactory, the labour gang taking a week to complete the circuit of the town. Most of the better class houses and public institutions have dry-earth conservancy, but cesspits close to water supplies are numerous. Parts of the town are overcrowded. Washing is done in a special tank. There are no dairies; the bakeries are in a fairly sanitary condition. Markets and slaughter-houses are satisfactory, but the cattle galas are dirty and insanitary. Two aerated water factories manufacture mineral water of poor quality.

32. **Anuradhapura.**—Drainage is satisfactory. Cement drains have been installed in the market and principal streets, and further extension is contemplated. The town requires a piped water supply; the present supply is always liable to pollution, and consists of a pond. Adjoining this pond is a bathing pond, in which soiled linen is washed. The Local Board have taken steps to stop this. Scavenging and disposal of refuse is fairly satisfactory. Excreta is removed in iron carts, and public latrines are well kept. There is no overcrowding in the town.

33. **Kurunegala.**—Drainage is not satisfactory, as more cement drains are required, as is also an improved system of flushing. Large areas are under water most of the year. Water supply is insufficient, and wells are the chief source even in the better class houses. A scheme for a pipe-borne supply is under consideration. Scavenging is unsatisfactory, garbage is heaped on the sides of the roads, dustbins or other receptacles are rarely used, and the number of carts employed in removal is too small. Conservancy is dry earth, but there is considerable soil pollution. Laundries and markets under the supervision of the Local Board are satisfactory.

34. **Badulla.**—Owing to the energies of the Government Agent and the Provincial Surgeon a mosquito brigade is at work, and has rendered the town fairly free of mosquitoes. Galas are regularly inspected, manure is buried, and flies are less in number. Some additional concrete drains were built, and others are in contemplation. Bakeries, dairies, markets, and slaughter-houses are well kept. A new infectious diseases hospital is in process of building.

35. **Ratnapura.**—The water supply, which is chiefly pipe-borne from a reservoir, is inadequate, and an extension scheme is under consideration. Drainage is very defective, a considerable portion of the town being easily waterlogged. Overcrowding occurs markedly. Dry-earth conservancy is in vogue, and controlled by the Local Board; market stalls are fly-proofed and well preserved. There are no laundries or drains; the seven bakeries and eating-houses are kept sanitary. The town was inundated by floods in October, 1913.

#### SECTION V.—GENERAL.

36. **Medico-legal.**—The Government Analyst ceased his connection with the Department on June 30, 1913. The report, therefore, is only up till that date. During this period 273 reports were completed, involving the examination of 596 samples. The total number of judicial cases was 180, in connection with which 393 productions were examined. There were 55 cases of suspected poisoning, with 107 productions. 171 samples, including 48 of kerosine oils, 48 drinking waters, and 58 toddy, were reported on for other Government Departments. Opium and ganja 18 cases, 32 productions; blood, &c., stains 97 cases, 228 productions; miscellaneous 10 cases, 26 productions.

37. **Administrative: Hospitals, Asylums, and Dispensaries.**—These institutions were well maintained; many additions of wards and other improvements were carried out. The new ward given by Mr. Walter de Soysa to the Victoria Memorial Eye Hospital was opened in November, 1913. There are 78 hospitals, beside the Lunatic and Leper Asylums, 423 Government dispensaries, and 321 estate dispensaries. The following hospitals and dispensaries were completed and opened during the period:—Kendangamuwa hospital; Mirigama, Tiriyai, Kahatagasdigiliya, Tamblegam, and Welimada dispensaries. In addition, dispensaries were opened at Iranai Illuppaikkulam, Samanturai, Mawatagama, and Pothupitiya. The hospitals at Mulhalkele and Puliyadi Irakkam were closed during the period; Mihintale



hospital was re-opened. A house of detention for vagrants was opened in Colombo. The following were commenced during the period but not completed:—Infectious diseases hospitals at Dikoya and Badulla, and hospitals at Passara and Kitulgala; dispensaries and quarters at Murungan, Silavaturai, Kahatarupe, Anamaduwa, and Kumburupitiya; dispensaries at Chempianpattu and Tirukovil. The following are almost completed:—Tissamaharama, Ingiriya, and Undugoda hospitals.

38. *Nursing in Ceylon.*—This is performed by qualified European trained nurses, religious sisters, and locally-trained Ceylonese young women. There are 5 European trained matrons, 18 European trained nurses, and 37 religious sisters; there are also 35 locally-trained matrons and 43 nurses; 40 pupil nurses are in training; male and female attendants assist the nurses in the wards.

39. *Number of In-patients treated.*—The total number of in-patients treated in all the hospitals and asylums of the Island was 122,806. The deaths were 12,011, giving a death-rate per cent. of 9·78 of the hospital population.]

*Number of Out-patients treated.*—At the 423 Government dispensaries and dispensaries attached to hospitals 1,888,770 new cases were treated, who paid 3,761,144 visits.

40. *Surgical Operations.*—7,368 in general surgery were performed in all the hospitals, with 112 deaths, a death-rate of 1·52 per cent. Operations on the eye, ear, throat, and nose, not included in the above, numbered 950 in the Eye hospital, independent of those performed at the out-patient dispensary. This figure, 950, shows a relatively marked increase, as in the previous twelve months period 352 in-patients were operated upon.

41. *General Hospital, Colombo.*—On June 30, 1912, there remained in hospital 577 patients, of whom 40 were in the paying section and 537 in the pauper; during the eighteen months under review 22,204 new cases were admitted, 1,358 to the paying section and 20,846 to the pauper, making a total of 22,781 cases under treatment. Of this total, 20,024 were discharged, 2,088 died, and 669 were left in hospital on December 31, 1913—23 in the paying section and 646 in the pauper. Of the 2,088 who died, 77 were in the paying section and 2,011 in the pauper.

The following table gives a comparison with recent years as regards the number of cases under treatment, the percentage of mortality, and the daily number of cases in the paying and pauper sections respectively:—

1.—*Paying Section.*

Year.	Cases under Treatment.	Deaths.	Mortality. Per Cent.	Daily Average in Wards.
1906 ..	630 ..	75 ..	11·9 ..	43·25
1907 ..	582 ..	46 ..	7·9 ..	31·68
1908 ..	657 ..	71 ..	10·8 ..	36·9
1909 ..	733 ..	41 ..	5·5 ..	32·22
1910 and half of 1911 ..	1,214 ..	89 ..	7·3 ..	40·6
1911-12 ..	893 ..	71 ..	7·9 ..	43·88
1912-13 (18 months) ..	1,398 ..	77 ..	5·5 ..	42·30

2.—*Pauper Section.*

1906 ..	16,475 ..	1,969 ..	11·93 ..	599·06
1907 ..	10,723 ..	1,387 ..	12·9 ..	455·74
1908 ..	12,524 ..	1,324 ..	10·5 ..	461·52
1909 ..	11,993 ..	1,440 ..	12·05 ..	450·18
1910 and half of 1911 ..	19,879 ..	1,815 ..	9·13 ..	431·11
1911-12 ..	15,456 ..	1,606 ..	10·3 ..	580·65
1912-13 (18 months) ..	21,423 ..	2,011 ..	9·3 ..	589·63

The maximum number of cases in hospital on any one day was 642 in the pauper section on June 12, 1913, and 51 in the paying section on July 13, 1913. The minimum number of cases on any one day was 541 in the pauper section on October 6, 1913, and 23 in the paying section on December 24, 1913.

The following table gives comparative particulars with previous years of certain diseases treated:—

Diseases.	Cases.	Deaths.	Year.
Acute pneumonia ..	263 ..	80 ..	1900
Do. ..	427 ..	176 ..	1909
Do. ..	421 ..	191 ..	1911-12
Do. ..	456 ..	194 ..	1912-13 (18 months)
Malaria ..	1,399 ..	19 ..	1900
Do. ..	1,530 ..	5 ..	1909
Do. ..	2,608 ..	28 ..	1911-12
Do. ..	2,305 ..	24 ..	1912-13 (18 months)
Pulmonary phthisis ..	303 ..	102 ..	1900
Do. ..	717 ..	201 ..	1909
Do. ..	887 ..	209 ..	1911-12
Do. ..	958 ..	345 ..	1912-13 (18 months)
Dysentery ..	752 ..	82 ..	1900
Do. ..	725 ..	175 ..	1909
Do. ..	474 ..	72 ..	1911-12
Do. ..	472 ..	69 ..	1912-13 (18 months)
Anchylostomiasis ..	476 ..	92 ..	1900
Do. ..	575 ..	107 ..	1909
Do. ..	633 ..	61 ..	1911-12
Do. ..	955 ..	98 ..	1912-13 (18 months)
Enteritis and diarrhoea ..	108 ..	44 ..	1900
Do. ..	663 ..	203 ..	1909
Do. ..	1,432 ..	332 ..	1911-12
Do. ..	1,367 ..	353 ..	1912-13 (18 months)



Diseases.	Cases.	Deaths.	Year.
Enteric fever .. .. .	108 ..	44 ..	1900
Do. .. .. .	357 ..	110 ..	1909
Do. .. .. .	416 ..	92 ..	1911-12
Do. .. .. .	271 ..	69 ..	1912-13 (18 months)
Appendicitis .. .. .	7 ..	3 ..	1900
Do. .. .. .	31 ..	4 ..	1909
Do. .. .. .	56 ..	3 ..	1911-12
Do. .. .. .	95 ..	7 ..	1912-13 (18 months)

3,239 surgical operations were performed, with 33 deaths, a mortality of 1·01 per cent. Of these, 356 were performed in the paying section.

Overcrowding has been most marked in the female diarrhoea ward, but has also been constant in the male ulcer and venereal wards. Arrangements have been made to begin rebuilding the whole pauper section of the hospital. For this a plot of land between the hospital and the eye hospital has been acquired, and on this six wards are in process of erection to relieve the particular wards rebuilt from time to time.

Modern sanitary fittings have been provided in the European sisters' and the Ceylonese nurses' quarters, and this is also in process in the paying ward block. Drainage in the pauper section is now connected directly with the Municipal sewers.

The receipts in the pauper section amounted to Rs. 3,719, and the expenditure (including wages of attendants and ward servants, but not of the medical staff, religious sisters, cost of drugs, and dressings) Rs. 182,436. The receipts in the paying section were Rs. 102,729, and the expenditure Rs. 68,335, including and excluding the same items as in the pauper section.

42. *Houses of Observation for Suspected Lunatics.*—In addition to the admissions to the house of observation at the Colombo Lunatic Asylum, the numbers admitted into those at Kandy, Galle, and Jaffna were 90, 88, and 10, respectively.

43. *De Soysa Lying-in Home.*—The total number of patients treated in the eighteen months period was 1,915, of which 1,799 were discharged cured, 45 were transferred to other hospitals for the treatment of intercurrent disorders, 21 remained at the end of the period, and 50 died (2·6 per cent.). Of the total admissions, 1,502 were admitted before delivery, 75 after, and 338 before the commencement of labour. Of the 50 deaths, 29 were due to accidents of childbirth, 6 to puerperal causes, and 15 to non-puerperal causes. 32 cases were complicated with anchylostomiasis, and of these 5 died. 329 obstetric operations were performed. 37 Muhammadans were amongst those treated, and the total infantile mortality was 3·86 per cent. 28 pupil midwives qualified themselves.

44. *The Lady Havelock Hospital for Women and the Lady Ridgeway Block for Children.*—During the period under review the total number of cases treated in the Lady Havelock Hospital was 1,108, with 97 deaths, a mortality rate of 8·75. 247 surgical operations were performed, an increase of 136 on the previous twelve months. 38 paying patients were admitted. The popularity of this institution is so great that the wards are continually overcrowded.

In the Lady Ridgeway block 1,056 patients were treated, 231 of whom died, a mortality rate of 21·87, a slightly lower rate than the 23·4 of the period covering the last report. The wards are continuously overcrowded, and children are only brought in many cases by parents in a moribund condition and die within 48 hours of admission. The chief diseases treated were anchylostomiasis (122 cases), malarial fever (76), dysentery (50 with 28 deaths), and pneumonia (58 cases with 34 deaths). Fifty surgical operations were performed.

Both institutions had kitchens fly-proofed, electric fans installed in the Lady Havelock, and other improvements effected.

45. *The Victoria Memorial Eye Hospital and Grenier Outdoor Dispensary.*—At the dispensary 15,470 patients, involving 38,135 visits, were treated. Of these, 14,201 were eye cases, and 1,269 ear, throat, and nose. This is again a large increase, as the calendar year 1913 gives the total number of cases as 10,277, while the yearly period (1911-12) covering the last report showed 9,784.

At the Victoria Memorial Eye Hospital 1,460 in-patients were treated, with 2 deaths. 950 operations were performed during the period. The indoor accommodation was relieved somewhat by the opening of a new ward in November, 1913, by His Excellency the Acting Governor. An Eye Institute at Galle is now open, and one at Kandy nearing completion will still further relieve the strain on this popular institution. These are the gifts of Mr. Walter de Soysa.

46. *Police Hospital, Colombo.*—1,806 patients were treated during the period, with 1 death from a disease of the nervous system. 8,629 patients were treated at the outdoor dispensary, of which 1,704 were malarial fever and 416 dysentery and diarrhoea.

47. *Branch Hospitals for Women.*—At Colombo 684 cases of venereal disease were treated, with 1 death. At Galle 131 were treated, with no deaths.

At the female outdoor dispensary at Borella 44,963 patients attended, of whom 4,569 were Muhammadan and 4,764 were children. Malarial fever (2,497 cases), dysentery and diarrhoea (755 cases), diseases peculiar to women (874 cases), and anchylostomiasis (582 cases) were the principal diseases from which they suffered. 197 minor operations were performed.

48. *Jail Hospitals and Sick Prisoners.*—During the eighteen months period 14,427 convicted and 9,395 unconvicted prisoners were admitted into the different jails of the Island. The average daily strength of convicted and unconvicted prisoners was 3,346·02. The number treated in jail hospitals was 4,158; the total number of deaths was 138.

The following table shows the number of admissions, number of deaths, average strength, and death-rate to admissions to jail hospitals during the past six years:—

Year.	Admissions to Hospitals.	Number of Deaths.	Average Daily Strength.	Death-rate Per Cent. to Admissions.
1907 .. .. .	5,617 ..	113 ..	3,334·88 ..	2·01
1908 .. .. .	5,667 ..	205 ..	3,371·97 ..	3·61
1909 .. .. .	8,319 ..	346 ..	3,348·21 ..	4·15
1910-11 .. ..	9,829 ..	350 ..	3,108·12 ..	3·56
1911-12 .. ..	4,726 ..	268 ..	2,998·24 ..	3·69
1912-13 (18 months) ..	4,158 ..	146 ..	3,346·02 ..	3·3



There is a marked decrease actually as well as relatively of the number of admissions to these hospitals, particularly in Colombo jails. The chief causes of sickness were diarrhoea, dysentery, and malarial fevers. 64 of the total deaths occurred in Colombo jails, but it is to be noted that in other places convict prisoners dangerously ill are transferred to the civil hospitals.

The following figures show the number of cases treated in the important jail hospitals and the number of deaths which occurred:—

			No. of Cases treated.		No. of Deaths.
Jaffna Jail	..	..	317	..	25
Mankulam	..	..	329	..	21
Anuradhapura	..	..	262	..	—
Colombo Jails	..	..	2,083	..	64
Kandy	..	..	540	..	11
Negombo	..	..	168	..	15
Galle	..	..	333	..	8

It is not possible to give the death-rates in these, as bad cases are transferred from the jail hospital to the civil hospital.

*Colombo Jails.*

	Average Daily Strength.	Average Daily Sick.	Percentage of Sick to Strength.	Number of Deaths.	Percentage of Deaths to Strength.
Welikada ..	892.04	35.38	3.96	47	.009
Mahara ..	509.77	4.56	.89	13	.004
Hulftsdorp ..	140.50	5.44	2.73	4	.005
Total ..	1,542.31	45.38	7.58	64	.018

Mutwal jail was closed at the end of the period covering the previous Administration Report.

49. *Kanatta Infectious Diseases Hospital.*—900 cases of infectious diseases were treated at the hospital during the eighteen months period. The diseases included—

	Cases.	Deaths.
Scarlet fever ..	4	—
Cholera ..	52	38
Smallpox ..	1	—
Chickenpox ..	419	—
Measles ..	218	—
Diarrhoea and dysentery ..	85	20
Mumps ..	44	2
Whooping cough ..	8	1
Enteric fever ..	1	1
Diphtheria ..	4	2
Other cases, including those under observation ..	54	3

50. *Victoria Home for Incurables.*—At this institution 78 remained on June 30, 1912, and 21 were admitted during the twelve months July, 1912, to June, 1913, making a total of 99 cases, of whom 10 were discharged, 12 died, and 77 remained on June 30, 1913.

51. *Bacteriological Institute and Clinic for Tropical Diseases.*—The number of specimens examined bacteriologically was 1,416. The fees recovered from medical practitioners amounted to Rs. 668. Research work was carried out by Dr. Castellani on the following subjects:—

- (1) A new intestinal protozoal parasite causing dysenteric symptoms in man.
- (2) Peculiar bodies found in a case of tropical splenomegaly with fever.
- (3) Cases of pseudo-diphtheria due to fungi.
- (4) The plurality of species of the so-called thrush fungus.
- (5) Typhoid paratyphoid vaccination with mixed vaccines.
- (6) Cases of fever due to *C. columbense* (Cast 1905).

The details of these investigations will be found in the report to the Advisory Committee on Tropical Research.

52. *Clinic for Tropical Diseases.*—133 cases were treated, as against 95 during the preceding eighteen months. These included 62 of parangi.

53. *Hospital Accommodation.*—This was, as a rule, sufficient, although overcrowding occurred in some of the hospitals, principally in the low-country planting districts. All latrines and kitchens are fly-proofed. Most of the mortuaries are also fly-proofed, and certain wards in each hospital are gnat proof. Ample bathroom accommodation is provided.

54. *Inspection.*—Each hospital and dispensary is inspected every half-year by the Provincial Surgeons, as well as surprise inspections, which have been more frequent in the case of those Provincial Surgeons who possess their own motor cars. I have inspected some of them, and the Government Agent and planting visitors also do so. On the whole, the results of these inspections were satisfactory, and there was a gratifying absence of the necessity for adverse comment.

55. *Food Supply.*—This is obtained entirely through the medium of contractors, whose tenders are, in the first instance, considered by a special board and approved by Government. The medical officer of each hospital examines the food on receipt, and also after being cooked. Inferior qualities are rejected, and the contractors fined. The food is therefore of good quality, and there is considerable competition to obtain such contracts.

56. *The Ragama Camp.*—The total number of persons who passed through the camp during the eighteen months period was 179,156. Of these, 178,105 were coolies, 510 Rajputs, and 541 from steamer crews and miscellaneous deck passengers. The number of huts in use during the period was



18 in the new camp and 13 in the old. 18 cases of cholera with 11 deaths, 2 of smallpox, both of whom died, 33 of chickenpox, and 15 of measles with no deaths occurred. The total number treated in hospital was 287, and there were 39 deaths. The number vaccinated was 48,507.

57. *Medical College.*—His Excellency the Governor formally opened the new anatomical block on November 3, 1913, and a general rebuilding scheme is in contemplation. During the session 1912-13 365 students were in attendance, of whom 139 were medical and 226 apothecary; while in session 1913-14 336 students were in attendance, of whom 134 were medical and 202 apothecary. Two medical and 13 apothecary students passed out of the College in the first examination of the 1913-14 session, 10 medical qualified for the license in 1912-13, and 20 apothecaries qualified.

The following table shows the number of students in the College at the opening of year 1912 and 1913 as compared with that of 1911:—

	May, 1911.	May, 1912.	May, 1913.
New medical students ..	26	19	19
Old medical students ..	135	132	117
New apothecary students ..	27	20	20
Old apothecary students ..	55	61	65

The fees collected and credited to revenue were Rs. 30,841.50. The expenditure was Rs. 71,130.28, nett cost to Government Rs. 40,288.78, and the cost to Government per student about Rs. 180.

58. *The Civil Medical Stores.*—The total cost of drugs, chemicals, and instruments for the eighteen months period was Rs. 164,992.81. 109,992 ounces of quinine were issued at a cost of Rs. 66,766.80. The total cost of quinine obtained was Rs. 89,095.89. The cost of repairing surgical instruments was Rs. 1,041.98. The cost of transport, Civil Branch, was Rs. 5,716.02, and of Estates Branch Rs. 1,886.79. The sale of medicines to Government Departments and others was to the value of Rs. 9,963.59, and the sale of medicines, &c., to estates Rs. 1,564.41. The sale of unserviceable articles realized Rs. 296.40, and the value of instruments lost and paid for by officers of the Department amounted to Rs. 208.80. The total cost of drugs, instruments, stationery, printing and binding, cost of transport, and other incidental expenses amounted to Rs. 281,432.62, and the total income realized by sale of drugs, unserviceable articles, &c., amounted to Rs. 13,167.59.

59. *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, 2 Inspecting Medical Officers, 1 Director of the Bacteriological Institute, 1 Assistant Bacteriologist, 1 Medical Superintendent of the General Hospital, Colombo, 1 Registrar, Medical College, 1 Medical Superintendent, Lunatic Asylum, 9 Provincial Surgeons, 35 Medical Officers of Grade I., including 2 Medical Women, 52 Medical Officers of Grade II., 56 Medical Officers of Grade III., including 2 Medical Women, 1 Superintendent of Medical Stores, 288 Apothecaries, 9 Inspectors of Vaccination, 98 Civil Vaccinators, 30 Estate Vaccinators, 6 Female Vaccinators, and 25 Hospital Stewards. There were also 9 Medical Officers seconded for duty in other Departments and 6 Health Officers. With the formation of the new Sanitary Branch, 2 Sanitary Officers were added to the strength, and 1 Assistant Sanitary Officer. One Government Analyst and an Assistant Analyst severed their connection to form a new Department from July 1, 1913.

60. *Changes in the Department.*—Under the new Salaries Scheme with effect from July 1, 1912, the number of posts and the rates of salaries of medical officers were improved as follows:—

- (a) Nine Provincial Surgeons, previously on the scale of Rs. 6,000 to Rs. 8,400 by annual increments of Rs. 480, were placed on Rs. 7,200 to Rs. 9,600 by annual increments of Rs. 600. Provincial Surgeon, Dr. G. P. Schokman, retired on December 4, 1912, and Dr. H. Huybertz on March 1, 1913. Dr. W. T. Ohlmus was promoted from Grade I. on December 4, 1912, and Dr. C. de Vos from Grade I. on March 1, 1913, to fill the vacancies.
- (b) Medical Officers Grade I.—The number of posts was increased from 30 to 35. Drs. A. L. Perera, G. W. R. Fernando, C. E. van Rooyen, D. Schokman (seconded to Immigration Department), H. M. Peiris, and Miss Alice de Boer were promoted from Grade II. on July 1, 1912; Drs. C. F. Nugara, F. Keyt, and C. W. Scharenguivel were promoted from Grade II. on November 11, 1912, December 4, 1912, and April 1, 1913, respectively.

- (c) Medical Officers Grade II.—The number of posts was increased from 34 to 52.

Dr. L. D. Parsons was appointed Medical Superintendent, Lunatic Asylum, and assumed duties on September 21, 1912.

Dr. K. McGahey was appointed Senior Sanitary Officer in the new Sanitary Branch, and assumed duties on November 9, 1913. Dr. A. J. Milne was appointed Junior Sanitary Officer, and assumed duties on September 8, 1913. Dr. G. W. R. Fernando was appointed Assistant Sanitary Officer on January 1, 1914.

The following medical officers were admitted to the Department:—Drs. T. K. Jaya Ram, J. F. Pieris, G. C. S. Perera, M. D. Carolis, A. B. Jayasuriya, E. C. Alles, A. R. Perera, C. S. P. Jayanayake, W. T. de Silva, S. de Vos, A. S. P. Fernando, K. Poothatamby, J. S. E. de Soysa, W. Arndt, R. E. Mendis, P. M. Varugis, M. P. Chacko, and L. Srinivasagam.

A merit class of 10 was established for apothecaries, and in addition the number of posts in Class I. was increased from 40 to 74. Four medical officers of Grade II. retired.

61. The following statement shows the expenditure and receipts of the Department, inclusive of Medical and Estates Branch, for the year 1912-13:—

Expenditure.	Rs.	c.
Personal Emoluments ..	1,058,360	66
Other Charges ..	823,422	66
Hospitals and Dispensaries ..	1,379,454	59
Total ..	2,202,877	25
Grand Total ..	3,261,237	91



Credits.		Rs.	c.
Hospital and dispensary receipts	..	134,854	54
Sale of drugs and medical requisites	..	28,015	99
Medical aid dues (maintenance and visits)	..	157,316	74
Sale of unserviceable and superfluous articles, rent of trees and garden produce, and rent of buildings	..	17,555	62
Total	..	337,742	89
Nett Expenditure	..	2,923,495	2

## ESTATES BRANCH.

62. During the period nearly 200 estates were inspected, and separate reports written on each by the Inspecting Medical Officers. The figures given below are for the period July 1, 1912, to June, 1913, the remaining six months' figures not yet being available.

63. There were 2,335 estates scheduled to 45 hospitals and 114 dispensaries.

64. 18,690 estate labourers were treated in the Government hospitals during the period. Of these, 3,646 died, a death-rate of 19·5 per cent. Of the mixed races, 24,168 were treated, of whom 1,705 died, a death-rate of 17·05 per cent.

65. The highest death-rate among the estate labourers occurred in the hospital at Karawanella, 31·1 per cent., and the lowest in Kandy Hospital, 7·08 per cent. The admissions into the former were 1,495 and into the latter 1,340.

66. The total number of days the estate labourers stayed in hospital was 461,489, an average of 24·6 days each. Of these, 402,101 were paid for by estates, the rest being charged to the fund. The total number of days the mixed races stayed in hospitals was 346,675, an average of 14·3 days.

67. The total number of estate labourers treated at the outdoor dispensaries was 80,859. The total number treated on estates was 33,630.

68. The total number of births reported from estates was 18,396, of which 9,404 were males, 8,992 females, and 945 stillborn.

69. The number of deaths reported from estates was 15,546, of whom 7,784 were males, 7,748 were females, and in 14 the sex was not stated.

ALLAN PERRY,

Principal Civil Medical Officer and  
Inspector-General of Hospitals.

Colombo, March 6, 1914.

## APPENDIX.

## OPIUM.

SINCE the previous report there have been no amendments to or alterations in the Ordinance or rules.

2. The number of depôts in the Island remains the same, viz., 55. The Slave Island depôt in Colombo has been transferred to Kollupitiya, Colombo. The Kurunegala hospital staff has been relieved of the opium work by the establishment of a separate depôt in charge of an additional clerk engaged for the purpose.

3. There has been a decrease in the consumption of eating opium and an increase in that of smoking opium, presumably due to the preference by consumers of smoking opium owing to its greater morphine strength.

4. A statement of the opium sold and the amounts realized during each quarter from October 1, 1912, to December, 1913, is appended. A comparative statement for the past three years is also given, from which it will be seen that the total consumption for the last year is less than that for any preceding year:—

## Statement of Opium sold and the Amount realized during each Quarter from October 1, 1912, to December 31, 1913.

During the Quarters.	Quantity of Opium.		Smoking Opium.		Total realized.
	Quantity sold. Grains.	Amount realized. Rs. c.	Quantity sold. Grains.	Amount realized. Rs. c.	
December 31, 1912	15,739,629	118,370 89	3,051,555	30,515 80	148,886 69
March 31, 1913	15,672,453	117,901 40	3,080,950	30,809 50	148,710 90
June 30, 1913	15,316,139	115,220 20	3,105,590	31,055 90	146,276 10
September 30, 1913	15,551,656	116,996 38	3,112,650	31,126 50	148,122 88
December 31, 1913	14,784,191	111,202 45	3,163,800	31,638 0	142,840 45

## Statement of Opium sold each Year from the start of the system in October 1, 1910, to December 31, 1913.

Total for 1910 (three months)	13,343,433	100,960 71	2,994,398	29,977 34	130,938 5
Do. 1911	64,009,411	481,442 30	12,195,485	121,952 11	603,394 41
Do. 1912	64,195,112	482,914 68	12,076,814	120,768 98	603,683 66
Do. 1913	61,324,439	461,320 43	12,462,990	124,629 90	585,950 33



5. The sale of opium (medicinal preparations) from the start of the system has been as follows :—  
From start to December 31, 1911, Rs. 5,789·85 ; for the year 1912, Rs. 7,894·77 ; for the year 1913, Rs. 8,751·09.

6. A further statement showing the cost of opium purchased from India during the past three years is appended :—

Year.		No. of Chests.		Cost.		Average Cost per Chest.
				Rs. c.		Rs. c.
1911	..	110	..	307,307 18	..	2,795 52
1912	..	60	..	137,546 69	..	2,292 44
1913	..	100	..	258,965 85	..	2,589 65

Colombo, March 6, 1914.

ALLAN PERRY,  
Principal Civil Medical Officer and  
Inspector-General of Hospitals.