

Annual Report on Vaccination

King Institute

1917-18



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ANNUAL REPORT

ON

VACCINATION IN THE MADRAS
PRESIDENCY

AND ON THE WORK OF THE

VACCINE SECTION OF THE KING INSTITUTE
OF PREVENTIVE MEDICINE, MADRAS

FOR THE YEAR

1917-18.

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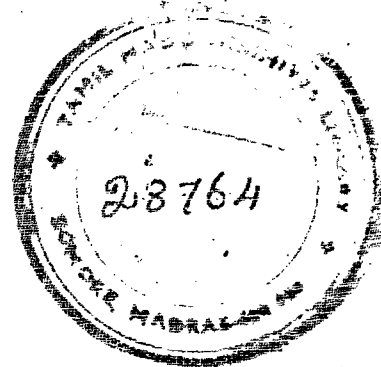
FOR THE YEAR

1917-18.

செப்பனுவதற்குக் கருதுக
கொள்ளப்பட்ட
மாதம் வருடம்
செப்பனிடும் முடித்த
மாதம் வருடம்
ஆராய்ச்சி உதவியாளர்
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1918.



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OFFICE OF THE SANITARY COMMISSIONER,
MADRAS, 19th August 1918.

From

MAJOR W. A. JUSTICE, M.B., C.M., D.P.H., I.M.S.,
Sanitary Commissioner for the Government of Madras,

To

THE SECRETARY TO THE GOVERNMENT OF MADRAS,
LOCAL AND MUNICIPAL DEPARTMENT.

SIR,

I have the honour to forward herewith the report of the Director, King Institute, Guindy, on the working of the Vaccine Section of the Institute and that of the Deputy Sanitary Commissioner, Madras, on the progress of vaccination in the Madras Presidency during the official year 1917-18.

2. Vaccine Section of the King Institute, Guindy.—(i) General.—The section maintained its usual standard of efficiency reflecting credit on the officers responsible for its working.

(ii) The cost of the section rose from Rs. 38,962 in 1916-17 to Rs. 43,319 in 1917-18. The increase occurred mainly under the budget head 'Cost of calves including transport.' The high cost of working the section during the year resulted in a slight rise of price of vaccine from 3 pias to 4 pias per case.

(iii) Vaccine.—The method of preparing vaccine at the Institute was the same as in the previous year. Lanolinized vaccine was the general supply made during the year to local bodies. Madras City and Colombo received their usual supplies of glycerinated vaccine.

Supplies of lanolinized vaccine to local bodies were made fortnightly as heretofore. Tri-monthly supplies also were ordered in a few special instances to see if frequent supplies would in any way improve the local success rates. The results were not disappointing. Now that vaccinators under the new scheme sanctioned in G.O. No. 963 L., dated 4th July 1917, will have no verification work whatever, it is proposed to supply vaccine thrice a month to all, in order to keep these vaccinators fully engaged on vaccination work proper throughout the month. The working of the system will be watched.

The average success rate of the year was less by 3.78 per cent than that of the previous year. The fall in the success rate was conspicuous in all the districts of the Presidency and was particularly so in South Kanara and Gôdâvari. As remarked by the Director, this universal low rate is difficult to explain. The Director should personally look into the matter and see if there is anything defective in the lymph supplied and, if so, how it should be remedied. The question will also be investigated by me and by my Deputies during our inspection tours and every endeavour will be made to set matters right.

3. Vaccination Department.—(i) Deputy Sanitary Commissioners and their inspections.—A second Deputy Sanitary Commissioner was appointed to the department at the close of the year and on his assumption of charge on the 28th February 1918 the three ranges were distributed as shown hereunder:—

(1) Dr. K. T. Matthew, D.M., D.P.H. (Cantab.) in charge of Northern and Central Ranges with headquarters at Madras, and

(2) Dr. S. Jesudoss, B.A., M.B., C.M., D.P.H. (Cantab.), F.R.C.S.E., in charge of the Southern Range with headquarters at Coimbatore.

The inspections of the Deputy Sanitary Commissioners were, on the whole, satisfactory. Deputy Sanitary Commissioners should particularly bear in mind that the inspection of tracts much interior in the districts have been for a long time neglected and now that there is an additional Deputy Sanitary Commissioner on duty, they will see that no cause for complaint exists in this direction. The first programmes of inspection tours of these officers should include districts and tracts which have not been visited for a long time past. There are several such tracts in the East Coast and West Coast districts.

(ii) *Vaccination Staffs.*—The much-hoped-for re-organization of the vaccination staffs in the Presidency has at last been sanctioned and introduced with effect from 1st April 1918. Under this scheme, Deputy Inspectors of Vaccination and Vaccinators will get better rates of pay and this will, it is hoped, bring in men with superior qualifications and character and place the vaccination staffs of the Presidency on a more satisfactory basis. Presidents of Taluk Boards in whom is vested the direct control over these staffs should pay more attention to this branch of the district administration and on them therefore much depends the future satisfactory working of the department.

(iii) *Results of Vaccination, etc.*—The total number of cases vaccinated rose from 1,699,926 in 1916-17 to 1,707,278. The increase was chiefly under re-vaccination, indicating that the protective value of re-vaccination is appreciated by adults in times of smallpox epidemics. As suggested in the last year's report, the Government should consider the desirability of conferring upon the Presidents of District Boards the power to extend the compulsory provisions of vaccination to re-vaccination in areas threatened with smallpox epidemics, by amending the Local Boards Act. As observed by Dr. Matthew, good lymph, good vaccinator, and free extension of compulsory vaccination provisions of the District Boards Act are the chief factors underlying the successful working of the department. These matters should receive the earnest attention of the authorities in whose hands the power to control them rests.

I have the honour to be,

Sir,

Your most obedient servant,

W. A. JUSTICE, Major, I.M.S.,
Sanitary Commissioner for the Govt. of Madras.

ANNUAL REPORT ON THE WORK OF THE VACCINE SECTION OF THE KING INSTITUTE OF PREVENTIVE MEDICINE, GUINDY, FOR THE YEAR ENDING 31st MARCH 1918.

The total number of cases supplied by the Institute during the year showed an increase of 66,779 or 3.29 per cent over that of the previous year. It was however still 22,698 or rather over 1 per cent short of the record number supplied in the year 1915-16.

2. Table I shows the quantity of vaccine issued to various bodies for the quinquennium 1913-14 to 1917-18.

TABLE I.

Statement showing the quantity of vaccine supplied to various bodies from 1913-14 to 1917-18.

To whom supplied.	1913-14.	1914-15.	1915-16.	1916-17.	1917-18.
Government officers including jails ...	47,172	29,951	21,451	{ 22,656 * 1,700 }	24,300
Agency Tracts ...	23,150	25,069	24,103	28,815	28,455
Military Departments ...	27,587	25,671	14,410	19,077	44,655
District Boards ...	1,625,926	1,649,070	1,739,000	1,652,330	1,653,635
Municipalities ...	179,230	178,900	226,185	212,035	248,580
Superintendent of Vaccination, Secunderabad ...	...	19,580	8,970	7,930	9,560
Vaccinator, Bolarum ...	...	1,460	1,550	1,070	1,030
Civil Surgeon, Civil Hospital, Basrah ...	...	...	2,400	100	...
Private bodies ...	69,009	62,925	65,625	77,907	80,765
Total ...	1,972,165	1,883,917	2,113,657	2,024,220	2,090,990

* Supplied to the Port Health Officer, Negapatam.

The quantities supplied to the Agency Tracts, District Boards, and the Vaccinator, Bolarum, remain substantially the same as in last year. That supplied to the Port Health Officer, Negapatam, is classed along with the supplies to Government Officers and the Civil Surgeon, Civil Hospital, Basrah, disappears altogether. All the others show percentage increases which is very large 126.9 per cent in the case of the Military Department, are moderate in the cases of the Superintendent of Vaccination, Secunderabad, and municipalities, 20.5 per cent and 17.2 per cent, respectively, and are small, 7.3 per cent and 3.8 per cent in the cases of Government officers including jails and private bodies.

3. There was no change in the manufacture of the vaccine. As usual the bulk of the material issued was lanolinized vaccine, but glycerinated vaccine was supplied to Madras City and to Colombo as in previous years.

4. In the great majority of cases the usual fortnightly dispatch was adhered to, but the system of three supplies a month was extended so as to include the whole of the Madras district. Districts receiving three supplies a month were then Chingleput, Madras and parts of the Gōdāvari and North and South Arcot districts. Two of the five municipalities receiving three supplies a month, namely, Anantapur and Cocanada, showed improved results, so the experiment was continued for another year. It is intended shortly to give three supplies a month to the whole Presidency. This is to be done coincidentally with the introduction of the new scheme of vaccine operations which has arisen out of G.O. No. 963 L., dated 4th July 1917.

5. The introduction of the scheme allowing the vaccinators only five clear days after receipt of their consignments of vaccine does not appear to have been much of a success as the success rate for the whole Presidency shows a marked drop. The practice of putting off two or more days before commencing work

with a fresh batch of paste is far too prevalent. It is to be hoped that under the new scheme this evil will be more effectually checked.

6. Extra indents from district boards and mufassal municipalities amounted to 18.95 per cent and 21.69 per cent, respectively. This shows a considerable increase and efforts ought to be made to arrive at a closer estimate of the quantity that will be required.

In Madras City there were extra indents for only 600 cases out of a total of 72,975.

TABLE II.

Statement showing the expenditure incurred during the year 1917-18 under all heads of expenditure of the Vaccine Section of the King Institute of Preventive Medicine, Guindy.

Detailed heads of account.	Amount.
	Rs. A. P.
Establishment charges—	
Assistant Director	14,225 11 11
Clerks and Servants	189 4 2
Deputy Inspectors	124 9 0
Famine batta	
Travelling allowances	
Total establishment ...	14,549 9 1
Supplies and services—Contingencies—	
Purchase of apparatus, stores	4,952 13 8
Cost of calves including transport	22,787 0 0
Feeding charges of calves	1,604 11 8
Water-works, stores	518 4 4
Gas works, stores	125 2 9
Purchase and repair of furniture	168 11 9
Tour charges	26 5 0
Cleaning charges	84 0 0
Service postage and telegram charges	2,867 6 0
Office expenses	816 11 2
Miscellaneous	23 11 0
Other contingencies	223 6 3
Pay of menials, etc.	3,112 2 9
Total contingencies ...	37,315 6 4
Proportionate cost of stationery supplied during 1917-18	123 0 4
Do. of clothing supplied during 1917-18	55 0 7
Cost of repairs to the Vaccine Section buildings for 1917-18 as per statement furnished by the Executive Engineer, South Presidency Division, with his letter No. 1067 M., dated 26th 30th April 1918.	2,015 0 4
Total cost of stationery, clothing and repairs ...	2,193 1 3
Grand total, Vaccine Section ...	54,058 0 8

TABLE III.

Statement showing the net expenditure incurred during the year 1917-18 in the King Institute of Preventive Medicine, Guindy, Vaccine Section.

Particulars.	Amount.
	Rs. A. P.
Gross expenditure as per Statement I	54,058 0 8
Deduct—	
(1) Credits under sale of calves and miscellaneous receipts remitted to treasury	5,691 4 0
(2) Cost of vaccine lymph supplied to private bodies during the year	5,047 13 0
	10,739 1 0
Net total expenditure ...	43,318 15 8

TABLE IV.

Statement showing the number of cases for which vaccine was despatched to different bodies—private bodies being excluded—during the year 1917-18.

To whom supplied.	Number of cases for which vaccine was supplied.	Rate per case.	Total amount debitable.
1. Government officers including jails	(a) 24,309		Rs. A. P. * 523 11 7
2. Agency Tracts	28,455		† 611 2 1
3. Military Department	44,055		940 0 5
4. District Boards	1,653,635		† 35,703 6 2
5. Municipalities	248,590		\$ 5,317 12 7
6. Superintendent of Vaccination, Secunderabad [Secunderabad Local (Abkari, etc.) Fund]	9,580		201 3 11
7. Vaccinator, Bolaram (Bolaram Cantonment Funds)	1,080		21 10 11
Total ...	2,010,234		43,318 15 8

(a) Includes 100 cases to Civil Surgeon and Port Health Officer, Negapatam.

N.B.—In calculating the cost per case of vaccine, Rs. 1,001-13-0 has been deducted from Rs. 43,318-15-8 as the former represents registration charges, and it is charged to the bodies concerned.

* Includes Rs. 12 0 0 for registering vaccine packets.

† " " 12 2 0 " "

‡ " " 892 15 0 " "

\$ " " 84 12 0 " "

Total Rs. 1,001 13 0

7. An examination of Tables II, III and IV will show that there has been a sharp rise of Rs. 4,357 or 11 per cent in the net charges incurred. This has resulted in raising the price of vaccine from 3.744449 to 4.041766. The main cause for this increase is the much larger number of calves used, half as many again as in the previous year. The explanation of this is that it is partially but only slightly due to the increased output of vaccine. The main cause is probably traffic restrictions. During the cool weather of 1917 when work should have been at high pressure in order to lay by a store of vaccine secured under the best conditions possible, consignments of calves were delayed. Vaccination had therefore to be carried on during the hot weather and this probably led to the rejection of an increased number of calves. The yield per calf selected was much the same as in the previous year. A considerable number of calves were also used for experimental purposes. The extra number of calves naturally involved extra charges for feeding but this was more than counterbalanced by the credits under sale of calves remitted to the treasury.

Purchase of apparatus was the only contingency which showed any considerable reduction as compared with the amount expended last year. The amount remitted to Government as the cost of vaccine supplied to private bodies showed a slight rise.

TABLE V.

Returns recorded in the King Institute of Preventive Medicine, Guindy, from the whole of the Madras Presidency according to the months of the year.

Serial number.	Months.	Number successful.	Number unsuccessful.	Percentage of success.
1	April 1917	82,262	20,816	79.80
2	May "	76,783	25,199	75.30
3	June "	78,441	26,988	74.43
4	July "	76,529	31,691	70.71
5	August "	87,233	23,340	78.89
6	September "	94,995	18,619	83.61
7	October "	97,165	12,805	88.27
8	November "	96,429	16,127	85.67
9	December "	112,221	9,559	91.92
10	January 1918	102,212	10,563	90.63
11	February "	95,795	11,910	88.94
12	March "	83,551	13,351	86.19
	Total ...	1,083,560	221,386	83.03 % successful.

8. Table V shows the returns recorded at the King Institute from the whole of the Madras Presidency, excluding Madras City. It will be seen that there has been over the whole year a most regrettable drop of 3.78 per cent in the success rate as compared with last year. This is the biggest drop shown since 1910-11 and seems very difficult to explain. It is in the main due to extraordinary bad results in the first six months of the year when the average success rate was only 77.12 per cent or 9.69 per cent worse than that of the corresponding period of 1916. The results also come quite irregularly and do not show the usual temperature curve, the defect as compared with the previous year varying from 3.46 per cent in September to no less than 15.31 per cent in July. In the second six months of the year the average is 88.60 per cent or 0.32 per cent better than the corresponding period of 1916-17 and the figures follow the normal curve and even show the curious little autumnal drop in efficiency which has been frequently adverted to before.

TABLE VI.

Returns recorded in the King Institute of Preventive Medicine, Guindy, from the whole of the Madras Presidency according to districts, 1917-18.

Serial number.	Districts.	Total successful.	Total unsuccessful.	Percentage of success.
1	Anantapur	28,161	3,652	88.43
2	Bellary	21,529	1,516	93.29
3	Chingleput	37,625	5,644	79.59
4	Chittoor	30,114	4,274	87.57
5	Coimbatore	51,806	23,993	69.11
6	Cuddapah	22,134	5,934	78.65
7	Ganjām	54,702	9,506	84.71
8	Godāvāri	38,809	21,378	61.11
9	Guntūr	53,450	6,786	88.79
10	Kistna	61,065	7,938	89.07
11	Kurnool	25,514	832	96.84
12	Madara	50,705	11,105	82.03
13	Malabar	29,748	29,627	77.14
14	Nellore	26,443	9,837	72.76
15	Nūgiri	5,488	329	94.34
16	North Arcot	52,773	7,631	87.36
17	Rāmnād	48,896	3,515	93.29
18	Salom	42,155	5,073	89.25
19	South Arcot	47,514	12,583	79.12
20	South Kanara	35,758	7,334	82.68
21	Tanjore	66,464	4,810	93.25
22	Tinnevely	52,748	11,679	81.87
23	Trichinopoly	50,592	7,450	87.15
24	Vizagapatam	99,460	17,566	84.99
Total		1,083,560	221,386	83.03

9. In Table VI an analysis of the returns is given district-wise. Without a single exception all the districts show lower figure though it is inappreciable in 5 being below 1 per cent. Kurnool which again heads the list is only 0.01 per cent worse than last year, whereas Godāvāri, too well accustomed to the bottom of the list, is 7.23 per cent worse than last year and is a very bad last. The defect in eight districts is definitely higher than the average defect, in eight districts it is considerably lower and in five very much lower than the average.

TABLE VII.

Statement showing the percentage of success obtained in certain districts selected for comparison in each of the last five years.

Serial number.	Districts.	1913-14.	1914-15.	1915-16.	1916-17.	1917-18.	Average.
1	Bellary	97.59	96.81	96.56	95.12	93.29	95.87
2	Anantapur	94.41	91.35	92.24	90.84	88.43	92.03
3	Kurnool	99.65	99.82	99.64	99.85	99.84	99.76
4	Godāvāri	84.64	81.46	79.93	69.34	61.11	73.23
5	Coimbatore	78.92	76.59	70.59	68.72	63.11	72.66

10. Table VII shows the percentage rate of success in five districts selected for comparison. Godāvāri on this occasion is the lowest and its average for the five years is coming dangerously close to that of Coimbatore. These comparisons have now been shown for the past eleven years and have been consistent throughout, Coimbatore and Godāvāri always bad and at the bottom of the list; Bellary, Anantapur and Kurnool always good and at the top of the list. The distance between the two groups is also steadily increasing. When the comparisons were first started, Coimbatore was on an average for the years shown 14 per cent worse than Bellary. Now on an average of the past five years Coimbatore is 23.21 per cent worse than Bellary and 24.1 per cent worse than Kurnool. Kurnool is as remarkable for its consistency as for the goodness of its results. During the last five years the maximum variation in its success rate is 0.31 per cent.

TABLE VIII.

Statement showing the percentage of success obtained in the different months of the year for five years and the average for each month during that time.

Serial number.	Months.	1913-14.	1914-15.	1915-16.	1916-17.	1917-18.	Average.
1	April 1917	87.24	95.76	84.26	88.51	79.80	87.11
2	May	86.09	92.55	82.62	84.00	75.30	84.17
3	June	81.61	92.57	81.49	82.35	74.40	82.58
4	July	87.47	98.19	83.27	86.22	70.71	84.17
5	August	90.53	92.65	79.86	83.73	78.89	85.18
6	September	92.10	93.14	81.75	87.07	63.61	87.33
7	October	93.83	90.64	92.18	90.33	83.27	90.90
8	November	90.17	90.93	92.76	89.21	85.67	90.82
9	December	93.79	86.82	88.28	86.25	81.92	90.41
10	January 1918	95.28	87.24	92.82	89.28	80.63	91.05
11	February	96.36	87.91	93.74	80.38	83.94	90.76
12	March	95.72	87.25	92.43	88.04	86.19	89.97

11. The irregularities pointed out this year and the last have not succeeded in affecting the quinquennial average which shows a defined seasonal curve.

TABLE IX.

Statement showing the duration of storage of 'Lunoline' paste during the official year 1917-18.

Serial number.	Months.	Duration of storage each month.	
		Minimum period.	Maximum period.
1	April 1917	26 days	41 days
2	May	4 "	40 "
3	June	7 "	64 "
4	July	8 "	81 "
5	August	57 "	64 "
6	September	1 "	60 "
7	October	1 "	38 "
8	November	4 "	36 "
9	December	5 "	17 "
10	January 1918	5 "	27 "
11	February	21 "	37 "
12	March	22 "	56 "

12. Table IX shows the maximum and minimum periods during which lanolinated lymph was stored in the cold room during the official year. As pointed out in paragraph 7 the vaccination of calves had to be carried on more continuously and therefore the periods of storage were necessarily shorter. If, as some have held, storage be detrimental to the vaccine, some evidence to this effect should be got by a comparison of this year's figures with the last. The average minimum period of storage last year was 33.3 days, this year 13.4 days, barely more than a third of the time; the average maximum period of storage last year

was 98.5, this year only 45 days, considerably less than a half. The results over all being so much worse this year than last, it must be concluded that the period of storage, within the limits shown, has no detrimental effect on the vaccine.

TABLE X.

Statement showing the duration of storage of 'Glycerine' paste during the official year 1917-18.

Serial number.	Months.	Duration of storage each month.	
		Minimum period.	Maximum period.
1	April 1917	5 days	28 days.
2	May	6 "	31 "
3	June	7 "	35 "
4	July	8 "	32 "
5	August	15 "	44 "
6	September	14 "	72 "
7	October	6 "	28 "
8	November	1 "	29 "
9	December	3 "	27 "
10	January 1918	10 "	44 "
11	February	10 "	31 "
12	March	3 "	42 "

13. Table X gives the same information as Table IX but for glycerinated vaccine. It calls for no farther remark than that conditions being similar, the periods of storage were much shorter than last year.

TABLE XI.

Statement showing the average yield of pulp per calf according to the months of the year 1917.

Serial number.	Months.	Grammes.			Average yield of lymph per calf during 1917.
		Average.	Maximum.	Minimum.	
1	January	3.8	12.0	1.0	5.24 grammes.
2	February	4.5	11.0	1.0	
3	March	5.0	12.2	1.0	
4	April	6.0	13.8	1.5	
5	May	5.7	12.4	1.2	
6	June	5.3	16.0	1.2	
7	July	5.6	18.0	1.5	
8	August	No operation.			
9	September	4.0	8.6	1.0	
10	October	4.0	10.1	1.2	
11	November	4.1	9.5	1.0	
12	December	6.04	17.5	1.0	

14. Table XI gives details as to the quantity of pulp obtained from calves. It will be noticed that there was only one month out of the twelve during which no calves were vaccinated for lymph collection. Last year there were four such months. Two months show higher maximal quantities than any recorded last year but there was more fluctuation. The average yield per animal selected was almost exactly the same as in last year, 5.24 grammes as against 5.25 grammes in 1916-17.

TABLE XII.

Statement showing the average yield of lymph per calf according to years.

Year.	Grammes.	Year.	Grammes.
1904	4.9*	1911	5.3
1905	3.5	1912	5.9
1906	No records.	1913	5.3
1907	3.2	1914	7.9
1908	2.6	1915	6.29
1909	3.7	1916	5.25
1910	5.1	1917	5.24

* The records are incomplete; this figure would be lower.

15. Table XII gives the average yield per calf in each year since the Institute was founded. The decrease of 0.01 gramme as compared with last year is inappreciable. In five out of the eight last year's the figure has been five and a small fraction. It seems likely that with the present strains now available, this figure is the normal one.

16. Civil Assistant Surgeon S. Ramakrishnan continued as temporary Assistant to the Director till 2nd December 1917 when he was relieved by Civil Assistant Surgeon M. Gopala Ayyar who continued from 3rd December to 31st March 1918.

17. The Vaccination class was held as usual during February and March 1918. Fifty students attended and 49 of them obtained qualifying marks in the examination held at the end of the course.

18. Four medical graduates attended a course of instruction on the methods of preparation and preservation of animal vaccine and all passed the examination at the end of the course.

19. The staff of the section worked well and carried out their various duties with efficiency.

THE KING INSTITUTE, GUINDY,
7th June 1918.

F. MAITLAND GIBSON, M.B., B.S.O.,
Director.

REPORT ON VACCINATION IN THE MADRAS PRESIDENCY FOR THE YEAR 1917-18.

From Dr. K. T. MATTHEW, D.M.Y., D.P.H. (Cantab.), Deputy Sanitary Commissioner and Inspector of Vaccination, Madras, to the Sanitary Commissioner for Madras, No. 217, dated 26th June 1918.

I have the honour to submit the Annual Report on Vaccination in the Madras Presidency for the year 1917-18.

2. *Staff.*—I continued to be in charge of all the three Deputy Sanitary Commissioners' Ranges in the Presidency till the 28th February 1918 on which date Dr. S. Jesudoss, the newly appointed Deputy Sanitary Commissioner, took charge of the Southern Range. Since then I am in charge of the Northern and Central Ranges.

The following statement shows the subordinate vaccination staffs employed in the Presidency during the past two years:—

(1)	Deputy Inspectors.			First-class vaccinators. Rs. 20—15.	Second-class vaccinators. Rs. 12—10.	Third-class vaccinators. Rs. 7—5.	Total number of vaccinators.
	First grade, Rs. 70.	Second grade, Rs. 60.	Third grade, Rs. 40.				
(2)	(3)	(4)	(5)	(6)	(7)	(8)	
1916-17 ...	19	23	40	261	437	151	849
1917-18 ...	19	20	43	256	410	165	861

NOTE.—These figures include the staffs employed in Bangalore and Secunderabad Cantonments and exclude those on duty in the King Institute, Guindy. In the Institute five Deputy Inspectors of the first grade were employed during the past year.

3. *Inspections by the Deputy Sanitary Commissioners.*—During the year under report I inspected the municipalities of Dharapuram, Coimbatore, Hospet, Chittoor, Kurnool, Mangalore and Vizagapatam and vaccination in the districts of Chittoor, Cuddapah, South Arcot, Malabar, the Nilgiris, Tinnevely, South Kanara, Vizagapatam and Koraput. The number of villages and towns other than municipalities inspected in these districts was 229 and the total number of cases of vaccination verified was 3,288. A good number of cases was also verified in the municipal towns inspected. A class for the training of Plague Inspectors was opened at the King Institute, Guindy, on 15th March 1918, with 49 students from different parts of the Presidency. The preliminary arrangements and lectures in connexion with it kept me at head-quarters practically throughout March and the following month. The two batches of students trained by the District Medical and Sanitary Officer, Kurnool, for Plague Inspector's work were examined by me and certificates given to those found fit.

Dr. Jesudoss during the one month he was in charge of the Southern Range inspected the Srirangam Municipality and visited 9 villages in the Malabar district where he verified 267 cases of vaccination.

4. (i) *Vaccination.*—The trial scheme of vaccination continued to be in force during the year in the whole of Chingleput district and in selected areas of North Arcot, South Arcot and Madura districts. The cry for many years past in the Presidency has been the poor pay and prospects offered to vaccinators and the consequent inferior quality of hands available and employed for this work. During the year under report, the Government have passed orders in G.O. No. 963 L., dated 4th July 1917, for the reorganization of the subordinate vaccination establishments considerably improving the pay and prospects of vaccinators and of Deputy Inspectors of Vaccination. The minimum pay of vaccinators under this order is Rs. 15 with a fixed travelling allowance of Rs. 10 a month and the maximum Rs. 40 also with a fixed travelling allowance of

Rs. 10. These posts are also recommended to be made pensionable. It now remains for the District Boards in whom these appointments are vested to select suitable men for the posts and thus make vaccination in the Presidency a success. The reorganization was ordered to be given effect to from 1st April 1918.

(ii) The total vaccination work performed during the past two years by all the agencies throughout the Presidency is shown in the following table:—

	1916-17.	1917-18.
Primary vaccination (including secondary) ...	1,481,337	1,432,386
Re-vaccination	218,589	274,892
Total ...	1,699,926	1,707,278

As compared with the previous year the total number of cases under primary and re-vaccination showed an increase of 7,352. There was a fall under primary vaccination, but an increase in the number of re-vaccinations. Considering that many of the old vaccinators worked with much indifference as they knew that they would have to lose their position with the introduction of the new scheme, the outturn may, on the whole, be taken as satisfactory. The increase in the number of re-vaccinations is noted with satisfaction. The importance of re-vaccination as a preventive against smallpox cannot be over-estimated. Much of the disease and deaths from smallpox is confined to adults in whom the effects of primary vaccination have, either wholly or partially, disappeared with time. I would therefore urge on the district authorities never to relax their efforts to push on this wholesome measure. The inconvenience resulting from re-vaccination is often very little and most people are able to carry on their ordinary avocation without a day's interruption after re-vaccination. There is, therefore, no excuse for avoiding re-vaccination. As compared with the previous year, large increases are noticeable in the districts of Coimbatore (+ 9,850), Guntūr (+ 9,276) and Nellore (+ 6,419). The districts which show a great decrease in this direction are Vizagapatam (— 8,541), Salem (— 7,399), Ganjām (— 5,829) and Chittoor (— 5,144). The decrease in these districts is attributed to vacancies in the staff of vaccinators which could not be filled up for want of suitable hands, diminished prevalence of smallpox and despondency of the old set of vaccinators who expected to be sent away at the close of the year.

(iii) The following table shows the total successful vaccinations by all agencies and the percentage of successful cases including re-vaccinations:—

Establishment.	Number of successful vaccinations.				Total of successful vaccinations.		Ratio per cent of successful cases.				Ratio per cent of total successful cases.	
	1916-17.		1917-18.		1916-17.	1917-18.	1916-17.		1917-18.		1916-17.	1917-18.
	Primary vaccination.	Re-vaccination.	Primary vaccination.	Re-vaccination.			Primary vaccination.	Re-vaccination.	Primary vaccination.	Re-vaccination.		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Local Fund vaccinators ...	1,090,029	97,737	939,157	121,763	1,187,766	1,110,920	86.2	76.7	82.6	73.4	85.3	81.5
Government do. ...	13,900	4,119	15,057	3,024	19,019	18,081	82.0	80.2	81.8	73.4	81.6	80.3
Municipal do. ...	107,326	34,500	113,852	41,073	141,926	151,731	93.0	68.6	91.0	67.0	85.6	82.1
Cantonment do. ...	2,950	1,687	3,447	2,763	4,617	6,230	87.6	40.9	85.2	41.5	82.0	58.1
Dispensaries ...	145	30	189	92	175	231	99.0	100.0	99.0	87.6	93.3	94.9
Medical subordinates ...	218	6,771	103	7,252	6,984	7,355	88.0	66.3	62.8	70.5	66.8	70.1
Total ...	1,214,563	144,824	1,121,655	175,973	1,359,887	1,297,028	86.7	73.4	83.4	70.8	85.0	81.4

The percentage of success both under primary vaccination and re-vaccination showed a marked fall. The total fall is 3.6 per cent when compared with 1916-17 and the fall in the percentage of success under primary vaccination including secondary operations is 3.3. As observed in the last year's report it would be more correct to compare the success rates under primary vaccination alone. A

perusal of the previous annual reports on vaccination shows that the success rate under primary vaccination was 91.8 per cent in 1913-14, 90.8 in 1914-15, 87.7 in 1915-16 and 86.7 in 1916-17. The success rate during 1917-18 as already observed was 83.4 so that there has been a continuous fall in the success rate from year to year. Steps taken by means of special circulars to improve the technique of operation and to use the lymph promptly and by the issue of tri-monthly supply of vaccine lymph to certain selected localities to ensure the more prompt use of lymph have not been of much avail. There is no doubt that many of the old vaccinators are difficult to be moved out of their old grooves. The fall is put down by several of the Deputy Inspectors to the indifference shown by unqualified vaccinators who expected to be ousted out of the department on the introduction of the new scheme. But even all these do not wholly explain the steady fall in the success rate. A trial with the use of freshly prepared lymph as opposed to stored lymph made towards the close of the year showed some improvement in the result and the supply of fresh lymph is now being continued.

To ensure good vaccination three factors are necessary, viz. (1) good lymph, (2) good vaccinator, and (3) compulsory powers. The authorities at the King Institute are constantly on the alert to ensure a supply of good lymph. It is earnestly hoped that the district authorities will take full advantage of the G.O. No. 963 L., dated 4th July 1917, to purge the department of the old and useless vaccinators and to provide a proper set of men with suitable education and special training instead. It would indeed be a false sense of sympathy to exempt and continue in service any of the old vaccinators who cannot do full justice to their work. And last but by no means the least I hope the Government will be pleased to introduce compulsory vaccination in all the districts except perhaps in the Agency tracts as soon as possible. In the absence of compulsory powers it is difficult to collect children in a suitable place for vaccination and verification of results and it remains to be seen whether the scheme sanctioned in G.O. No. 963 L., dated 4th July 1917, is even practicable without it.

Infantile vaccination.—When compared with the previous year there was a fall of 38,544 in the number of children successfully vaccinated under one year of age. The districts which show a marked decrease in this respect are the Nilgiris (— 13.2%), Kistna (— 11.4%), Malabar (— 11.3%) and Bellary (— 10.1%). The following districts show a decided increase in this respect: Ganjām (+ 36.4%), Tanjore (+ 15.3%) and South Arcot (+ 11.6%). Among municipalities Gudiyāttam (+ 42.9%), Virudupatti (+ 41.0%), Narasaraopet (+ 36.4%), Karūr (+ 31.7%), Vaniyambādi (+ 29.8%), Dhārāpuram (+ 28.1%), Erode (+ 27.7%), Coimbatore (+ 27.2%) and Salem (+ 27.2%) show an increase and Bellary (— 55.7%), Coonoor (— 35.7%) and Poddapur (— 30.1%) show a marked decrease.

(iv) The cost of the various vaccination staffs and the average cost of each successful case are exhibited in the subjoined statement:—

Establishment.	Total expenditure.		Average cost of each successful case.	
	1916-17.	1917-18.	1916-17.	1917-18.
	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Government establishment ...	10,690 12 6	10,797 4 3	0 9 6	0 9 7
Local fund do. ...	2,86,188 5 0	2,83,677 10 4	0 3 10	0 4 2
Municipal do. ...	42,511 8 2	42,607 13 5	0 4 10	0 4 5
Cantonments do. ...	3,409 15 0	3,507 8 3	0 11 10	0 9 9
Total ...	* 3,12,789 8 8	3,45,890 4 3	0 4 1	0 4 3

When compared with the previous year there is a rise in the cost of all kinds of establishment. The average cost of each successful case rose from As. 4-1 in 1916-17 to As. 4-3 in 1917-18. It varied from As. 2-7 in Guntūr district to As. 10-11 in the Nilgiris.

* Exclusive of the pay and allowances of the Inspectors of Vaccination and Deputy Sanitary Commissioners.

The municipalities which showed a comparatively high cost per successful case are Peddapuram (As. 13-5), Kodaikanal (As. 12-6) and Tirupati (As. 9-1). The lowest figure was reached by Calicut Municipality where it was As. 1-11. The rate in Cannanore was As. 2-1, in Tuticorin As. 2-3 and in Vizianagram and Madura As. 2-6.

(v) Vaccination was compulsory in all the municipalities. The total number of operations performed during the year is 195,110 against 174,810 in 1916-17, i.e., there is an increase of 20,300 operations. The municipalities which show a marked increase in the number of operations over the previous year are Madura (+14,140) and Cochin (+2,168). The towns which show a large decrease in this respect are Madras (-3,090) and Cocanada (-1,541). The fall in Madras City is attributed to the very large number of re-vaccinations performed in 1916-17 during the prevalence of an epidemic of smallpox there, and in the Cocanada Municipality it is reported to be due to the reduction of the minimum fixed for vaccinators, an explanation which can hardly be accepted as satisfactory.

(vi) The following table exhibits the comparative success obtained by the use of different kinds of lymph in primary vaccination (including secondary):—

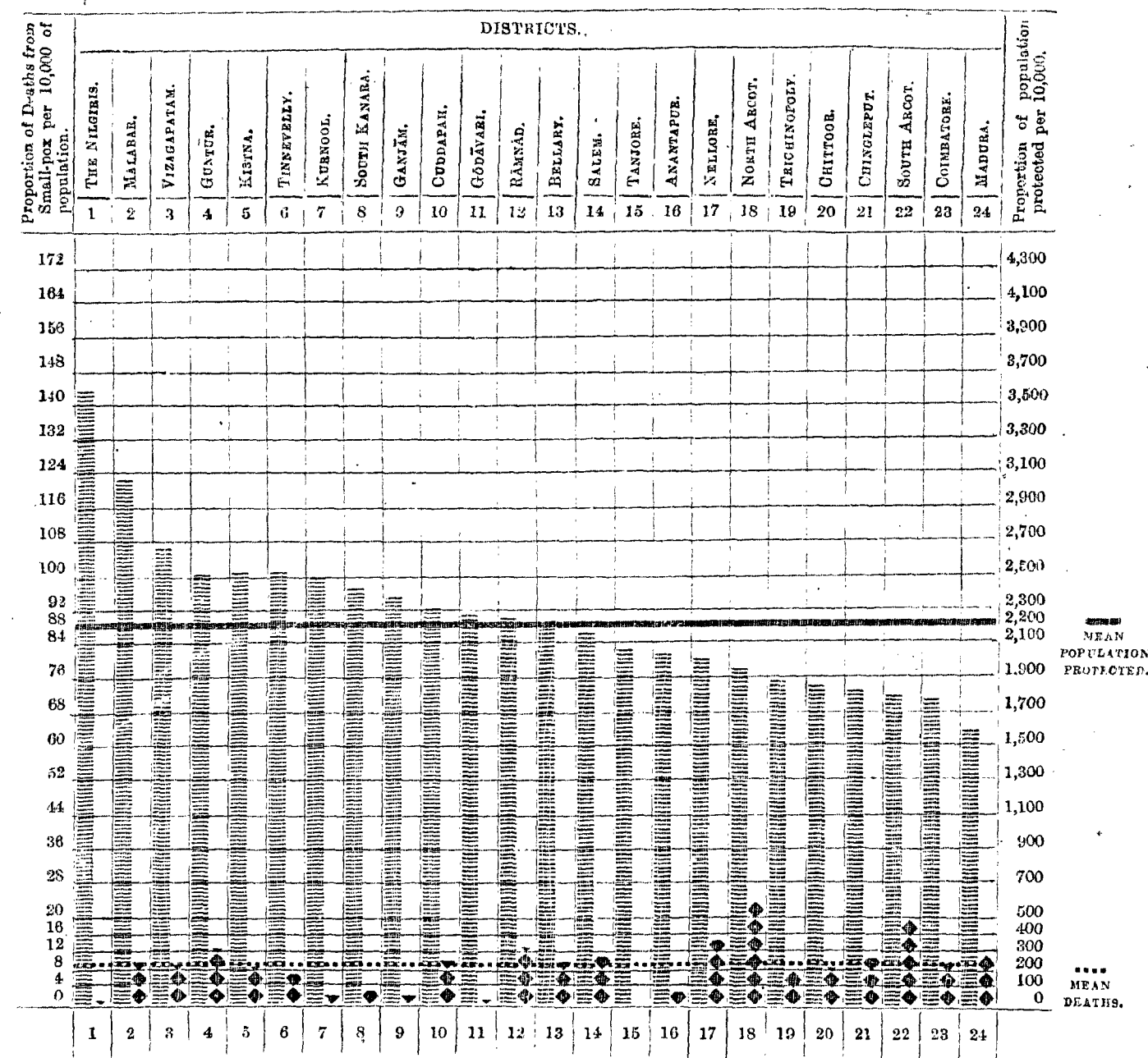
Number of cases excluding unknown.	Area.	Kind of lymph.	Whence obtained.	Percentage of success.
1,196,909	Local Fund	Lanoline lymph	Supplied by the King Institute, Coimbatore.	82.6
1,02,252	Do.	Glycerine "	Do.	...
22,693	Municipalities	Lanoline "	Do.	89.3
	Do.	Glycerine "	Do.	98.3

The percentage of success from lanoline lymph was 82.6 in 1917-18 against 86.2 in 1916-17 in Local Fund areas and 89.3 and 92.2, respectively in municipalities. On the other hand glycerine lymph showed an increased rate of success of 98.3, against 96.8 in the previous year. The supply of glycerine lymph is practically confined to the Madras City and all glycerine lymph supplied is freshly prepared.

(vii) 34,958 deaths from smallpox were reported during the year 1917 against 21,903 in 1916. This means that there has been a considerable increase in the number of deaths from smallpox in 1917 over that of the previous year. The districts of South Arcot, North Arcot, Malabar, Madura, Vizagapatam, Tanjore, Coimbatore, Kistna, Guntur, Ramanad and Nellore reported large number of deaths from smallpox. I may observe that all these districts with the exception of Tanjore were inspected by me and the district authorities were acquainted with the poor state of vaccination existing there. The agencies employed for reporting outbreaks of infectious diseases in villages are still very imperfect. It is often weeks and months before the report of the village official reaches the proper quarter. A more strict enforcement by the district authorities of the provisions in the Board's Standing Order No. 102 seems highly necessary.

(viii) The Deputy Inspectors of Vaccination, Kavali (32.0), Pattukkottai (49.0) and Calicut (49.5) failed to verify the minimum of 50 per cent of the cases vaccinated within their ranges. Of these the shortage in Calicut and Pattukkottai is small and the Deputy Inspectors have accounted for it satisfactorily. The Deputy Inspector of Vaccination, Kavali range, is being dealt with suitably for his neglect.

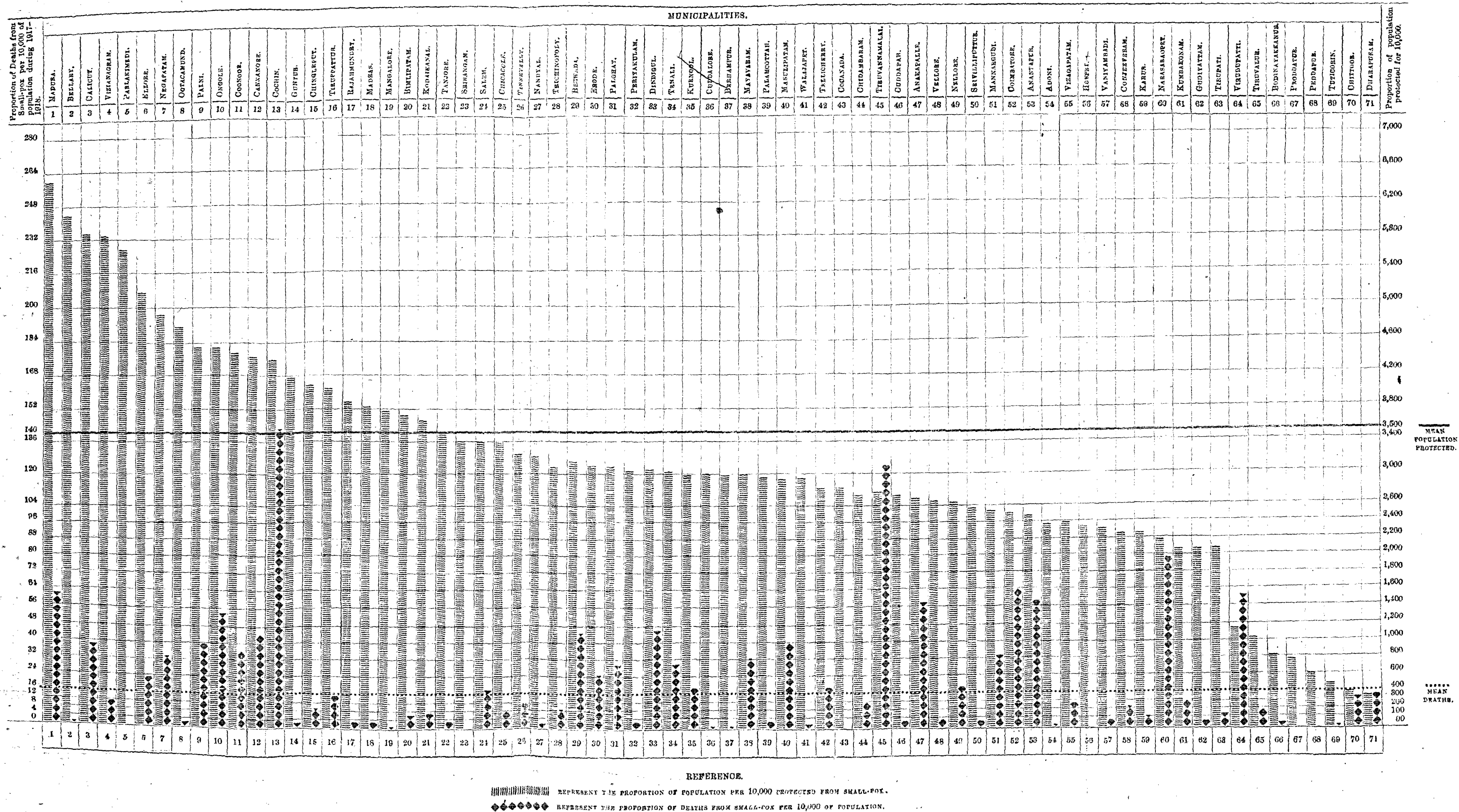
(ix) During the year under report one Deputy Inspector of Vaccination was dismissed from service for submission of false diaries and returns, one was removed from service for continued neglect and incompetence, one was reduced, one was suspended and several were fined for serious irregularities of one sort or another. Of the 86 Deputy Inspectors borne on the Provincial list 80 are qualified or Certificated Sanitary Inspectors, the remaining are either exempted men or those specially selected for these posts before the present rules came into force. The service registers of all the Deputy Inspectors of Vaccination are being verified in the office of the Sanitary Commissioner for Madras.



REFERENCE.

■■■■■ REPRESENT THE POPULATION PER 10,000 PROTECTED FROM SMALL-POX.

●●●●● REPRESENT THE PROPORTION OF DEATHS FROM SMALL-POX PER 10,000 POPULATION.



5. The figures required for the compilation of the statements appended to this report have to be obtained in the first instance from the Deputy Inspectors of Vaccination, Chairmen of Municipal Councils, District Medical and Sanitary Officers, Civil Surgeons, etc., and they are not all received on the due date. In some cases the figures furnished by these officers are found to be incorrect and revised statements with correct figures have therefore to be called for. During the year under report revised statements from the Deputy Inspector of Vaccination, Bhadrachalam and the Chairman, Municipal Council, Nellore, were received on the 13th and 15th of June 1918 respectively in spite of repeated reminders and telegrams. Hence the slight delay in the submission of this report.

6. I have once again the pleasure to record the good services done by the ministerial staff. The arrangements preparatory to the introduction of the new scheme of vaccination sanctioned in G.O. No. 963 L., dated 4th July 1917, resulted in a multitude of references from the districts all of which had to be urgently attended to to enable the scheme to be brought into force at the beginning of the next official year. This involved a considerable increase of work which they cheerfully undertook.

I have the honour to be,

Sir,

Your most obedient servant,

K. T. MATTHEW, D.M.Y., D.P.H. (CANTAB.),

Deputy Sanitary Commissioner

and Inspector of Vaccination, Madras.

VACCINATION

A—VACCINE

Statement No. I showing the Particulars of Vaccination in the

Number.	Districts.	Circles.	Population of districts or circles according to the census of 1911.	Average population per square mile.	Average number of vaccinators employed throughout the year.	Total number of persons vaccinated.			Average number of persons vaccinated by each vaccinator.	Primary		
						Males.	Females.	Total.		Total number of operations.	Under 1 year.	
1	2	3	4	5	6	7			8	9	10	
NORTHERN RANGE.												
1	Ganjam.	Barhampur circle ...	2,153,614	257	9	7,008	5,898	12,904	1,434	11,402	4,814	
2		Chicacole do. ...				9	7,381	6,755	14,136	1,571	10,126	5,491
3		Aska do. ...				8	6,570	4,771	11,341	1,418	9,210	3,356
4		Parlikimedi do. ...				8	6,918	6,208	13,126	1,641	8,836	3,884
5		Purnshottapur do. ...				8	7,766	5,243	13,009	1,626	10,909	4,281
6		Ganjam Hill Tracts, North.				8	4,644	3,925	8,569	1,071	8,055	1,842
7		Ganjam Hill Tracts, South			7	4,321	3,893	8,214	1,173	5,892	1,107	
		Total of district ...	2,153,614	257	57	44,606	36,693	81,299	1,426	64,430	24,772	
GOLAVARI.												
8	Golavari.	Cocanada circle ...	1,534,896	249	7	6,212	5,801	12,013	1,716	13,858	3,997	
9		Rajahmundry do. ...				9	10,983	10,025	21,008	2,334	22,634	2,665
10		Polavaram do. ...				6	2,754	2,539	5,293	882	5,274	740
11		Peddapur do. ...				10	6,067	6,261	12,928	1,273	18,209	4,240
12		Bhadrachalam do. ...				6	1,742	1,639	3,381	564	3,694	803
		Total of district ...	1,534,896	249	38	28,358	28,265	54,623	1,437	63,659	12,447	
GUNTUR.												
13	Guntur.	Guntur circle ...	1,614,702	283	10	12,330	10,865	23,195	2,329	20,065	10,469	
14		Narasaraopet circle ...				10	14,967	10,263	25,233	2,523	17,084	5,821
15		Bapatla do. ...				11	13,301	11,794	25,095	2,281	20,450	6,762
		Total of district ...	1,614,702	283	31	40,598	32,925	73,523	2,372	57,599	23,055	
KISTNA.												
16	Kistna.	Ellore circle ...	1,884,726	319	15	12,482	12,079	24,561	1,637	21,683	8,021	
17		Masnikipatam circle ...				14	12,213	10,558	22,771	1,627	21,484	7,266
18		Narasapur do. ...				12	10,921	9,552	19,773	1,648	20,272	6,280
		Total of district ...	1,884,726	319	41	34,916	32,189	67,105	1,637	68,424	21,577	
NELLORE.												
19	Nellore.	Kavali circle ...	1,294,906	162	9	8,885	6,760	15,145	1,688	14,312	2,842	
20		Gudur do. ...				9	9,777	7,472	17,249	1,917	11,775	2,939
21		Kanigiri do. ...				10	8,019	6,278	14,297	1,430	12,973	2,405
		Total of district ...	1,294,906	162	28	23,181	20,510	46,691	1,608	39,660	8,186	
VIZAGAPATAM.												
22	Vizagapatam.	Vizagapatam circle ...	2,454,029	...	14	16,919	16,397	33,616	2,401	23,925	7,935	
23		Government vaccinators (Gudem hills) ...				2	660	765	1,625	812	1,621	231
24		Vizagapatam circle ...				13	15,465	15,594	31,359	2,412	24,604	4,011
25		Pervatipuram do. ...				12	14,225	12,867	27,092	2,258	20,825	5,985
26		Government vaccinators, Palkonda Agency, Gampur circle ...				1	294	218	542	542	343	76
		Total of district ...	2,454,029	...	8	6,439	5,911	12,880	1,548	10,792	1,327	
		Total of district ...	2,454,029	...	50	54,202	52,412	106,614	2,132	87,120	20,375	

* Includes Hill Tracts.

STATEMENTS.

DEPARTMENT.

Madras Presidency for the official year 1917-18.

vaccination.		Re-vaccination.			Percentage of successful cases in which the results were known.		Persons successfully vaccinated per 1,000 of population.	Percentage of unknown cases to total cases.		Average annual number of persons successfully vaccinated during previous 5 years.		Average annual number of deaths from small pox during previous 5 years.	
Successful.					Primary vaccination.	Re-vaccination.		Primary vaccination.	Re-vaccination.	Number.	Ratio per 1,000.	Number.	Ratio per 1,000.
1 and under 6 years.	Total of all ages.	Unknown.	Total number of operations.	Successful.	Unknown.								
11	12	13	14	15	16	17	18	19	20	21	22	23	24
3,934	9,185	606	2,040	1,617	131	84.6	86.3	...	5.3	6.4	...	...	...
2,736	8,429	432	4,083	3,235	331	87.3	86.2	...	4.8	8.1	...	...	...
3,724	7,346	688	2,475	1,659	450	86.2	81.9	...	7.5	18.2	...	...	...
2,775	6,823	448	4,375	3,176	368	81.3	79.3	...	5.1	8.4	...	...	...
3,653	8,454	526	2,746	2,143	251	81.4	85.9	...	4.6	9.1	...	...	...
3,843	6,816	365	1,688	1,314	127	83.6	85.3	...	4.5	7.6	...	...	...
2,189	4,510	307	2,552	1,486	307	82.1	66.2	...	6.7	12.9	...	...	...
22,859	51,594	3,512	19,939	14,660	1,965	84.5	81.5	30.7	5.5	9.8	73,236	34.0	594
4,419	8,732	1,005	303	114	53	68.0	46.2	...	7.3	18.5	...	...	...
8,410	11,910	2,563	856	304	208	59.5	46.9	...	11.3	24.3	...	...	...
1,748	2,837	415	291	166	46	68.4	67.8	...	7.9	15.8	...	...	...
4,515	8,853	1,723	1,120	472	177	53.9	50.1	...	9.5	15.8	...	...	...
1,051	1,977	314	119	20	12	59.2	18.7	...	9.3	10.1	...	...	...
20,153	34,376	6,049	2,689	1,076	499	59.7	40.1	23.1	9.5	18.6	53,858	35.2	1,006
6,697	17,682	520	3,919	3,555	68	90.5	92.3	...	2.6	1.7	...	...	...
8,910	15,520	154	6,795	6,019	44	91.7	98.2	...	0.9	0.5	...	...	...
8,360	16,745	761	5,532	4,650	309	85.0	89.0	...	3.7	5.6	...	...	...
21,007	49,947	1,437	18,176	16,294	421	88.9	91.8	41.0	2.5	2.3	60,286	37.3	1,012
11,634	21,810	404	1,855	995	81	90.0	59.1	...	1.6	4.4	...	...	...
9,790	18,928	572	2,503	2,316	75	91.5	93.2	...	2.7	2.9	...	...	...
9,048	16,999	522	615	466	15	86.1	77.7	...	2.6	2.4	...	...	...
31,072	57,773	1,408	5,063	3,807	171	89.0	77.8	32.7	2.3	3.4	70,680	37.2	1,196
5,832	9,328	1,212	3,859	2,186	624	71.2	67.6	...	8.5	16.2	...	...	...
5,511	8,947	622	6,333	3,873	729	80.2	70.8	...	5.3	11.4	...	...	...
4,901	7,936	1,106	3,018	1,625	400	66.9	62.1	...	8.5	13.3	...	...	...
16,214	26,210	2,940	13,210	7,784	1,744	72.6	67.9	26.3	7.5	13.2	38,687	29.9	1,025
12,684	23,581	1,901	5,317	4,178	432	87.4	84.7	...	6.8	8.0	...	...	...
664	1,430	83	7	7	...	93.6	100.0	...	5.1	...	...	...	...
11,228	17,285	2,281	8,910	6,280	786	77.4	77.3	...	9.3	8.8	...	...	...
8,949	17,537	1,219	7,344	5,794	605	89.6	85.1	...	6.0	8.2	...	...	...
143	315	...	220	197	...	91.3	89.5	...	...	...	...	...	...
5,374	9,531	422	1,717	1,000	150	91.9	63.8	...	3.9	8.7	...	...	...
39,042	69,684	5,936	23,555	17,456	1,973	85.9	80.9	35.5	6.9	8.4	97,593	38.8	697

A—VACCINE

Statement No. I showing the particulars of Vaccination in the

Number.	Districts.	Circles.	Population of districts or circles according to the census of 1911.	Average population per square mile.	Average number of vaccinators employed throughout the year.	Total number of persons vaccinated.			Average number of persons vaccinated by each vaccinator.	Primary	
						Males.	Females.	Total.		Total number of operations.	Under 1 year.
1	2	3	4	5	6	7			8	9	10
NORTHERN RANGE— cont.											
26	Koraput.	Jeypore Circle ...	...	...	11	8,458	8,250	16,704	1,519	17,084	2,621
27		Koraput do. ...	624,890	74	8	6,431	6,126	12,557	1,570	9,300	1,105
		Total of district ...	624,890	74	19	14,889	14,376	29,261	1,540	26,384	3,786
		Total of circles in the Northern range ...	11,531,763	...	264	243,746	215,370	459,116	1,739	404,976	114,198
		Total of Medical Subordinates.	...	...	...	3,767	290	4,057	...	15	7
1	Municipalities.	Anakāpalle ...	20,625	1,719	1	522	455	977	977	680	399
2		Berhampore ...	31,456	5,244	1	766	598	1,364	1,364	1,106	872
3		Bexwada ...	32,887	5,976	2	889	755	1,644	822	1,200	553
4		Bimlipatam ...	9,314	179	1	361	323	683	683	403	260
5		Chicacole ...	17,852	5,617	1	533	427	965	965	580	427
6		Cocanada ...	54,110	9,018	2	1,196	1,026	2,218	1,109	2,312	1,315
7		Ellore ...	37,819	12,636	2	1,902	1,265	3,174	1,567	2,507	1,542
8		Guntur ...	42,625	9,134	2	2,445	1,487	3,912	1,956	1,618	1,297
9		Hasulipatam ...	42,123	2,113	3	1,476	1,120	2,605	863	1,349	795
10		Narasaraopet ...	8,743	4,371	1	813	461	1,274	1,274	556	329
11		Nellore ...	33,246	2,078	1	1,397	684	2,081	2,081	1,073	555
12		Ongole ...	18,286	3,321	1	1,013	721	1,734	1,734	742	369
13		Parlakimedi ...	18,370	13,812	1	623	303	926	926	611	427
14		Peddapur ...	15,438	1,029	1	269	177	446	446	393	164
15		Rajahmundry ...	43,417	14,583	2	2,216	784	3,000	1,500	1,821	1,274
16		Tenali ...	18,195	6,968	1	747	551	1,298	1,298	751	477
17		Vizagapatam ...	43,413	8,349	2	1,423	1,219	2,642	1,321	1,363	704
18		Vizianagaram ...	37,550	7,510	2	2,756	2,208	4,964	2,482	2,251	1,047
		Total of Municipalities in the Northern Range.	525,447	...	27	21,553	14,304	35,857	1,930	21,371	13,116
		Grand Total of Northern range.	12,087,310	...	291	268,896	230,214	499,080	1,701	426,062	127,321
CENTRAL RANGE.											
1	Anantapur.	Anantapur circle ...	954,766	142	6	6,593	6,424	12,927	1,436	12,535	6,297
2		Penukonda do. ...	...	...	9	7,540	7,516	15,056	1,766	16,572	7,591
		Total of district ...	954,766	142	15	14,133	13,940	28,073	1,571	28,167	13,888
3	Bellary.	Bellary circle ...	...	...	10	6,422	6,063	12,425	1,243	13,410	8,159
4		Hospet do. ...	885,164	156	10	5,940	5,471	11,111	1,111	11,513	7,727
		Total of district ...	885,164	156	20	12,062	11,474	23,536	1,177	24,923	15,886
5	Chingleput.	Chingleput Circle ...	...	...	4	9,209	9,130	18,339	4,585	18,326	8,183
6		Saidapet do. ...	1,340,518	436	4	8,916	8,972	17,788	4,417	15,610	5,841
7		Ponneri do. ...	...	...	4	9,872	8,996	18,868	4,717	18,730	7,619
		Total of district ...	1,340,518	436	12	27,997	26,998	54,995	13,740	52,666	21,643
8	Chittoor.	Chittoor Circle ...	...	...	17	8,744	7,420	16,164	1,616	15,463	5,252
9		Karvetnagar do. ...	1,206,892	215	13	10,693	9,604	19,697	1,515	19,094	8,359
		Total of district ...	1,206,892	215	23	18,837	17,024	35,861	1,565	34,577	13,611
10	Ondlapah.	Ondlapah circle ...	...	...	8	4,404	4,050	8,514	1,064	9,041	2,676
11		Proddatur do. ...	860,435	148	7	3,885	3,456	7,341	1,012	8,448	2,933
12		Sidhout do. ...	...	...	8	5,439	4,277	9,716	1,215	10,116	3,244
		Total of district ...	860,435	148	23	13,728	11,783	25,511	1,112	28,205	8,853

* Excludes Sandur (13,526).

DEPARTMENT—cont.

Madras Presidency for the official year 1917-18—cont.

vaccination.			Re-vaccination.			Percentage of successful cases in which the results were known.		Persons successfully vaccinated per 1,000 of population.	Percentage of unknown cases to total cases.		Average number of persons successfully vaccinated during previous 5 years.		Average number of deaths from small-pox during previous 5 years.	
Successful.									Primary vacci- nation.	Re-vaccination.	Number.	Ratio per 1,000.	Number.	Ratio per 1,000.
1 and under 6 years.	Total of all ages.	Unknown.	Total number of operations.	Successful.	Unknown.	Primary vaccination.	Re-vaccination.	19	20	21	22	23	24	25
11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
8,119 4,757	12,333 7,647	694 571	1,523 3,413	952 2,203	198 491	81.3 87.6	71.6 71.7	...	4.1 6.1	13.0 14.1	...	...	...	...
12,876	20,980	1,265	4,941	3,055	679	83.5	71.7	38.5	4.8	13.7	25,180	40.3	...	...
166,253	310,478	22,697	87,573	64,132	7,452	81.3	80.0	32.4	5.6	8.5	419,020	36.2	5,530	0.5
7	14	...	4,042	2,558	168	93.3	73.8	...	...	4.2	...	...	...	...
120 100 204 52 61 305 751 137 297 73 183 179 36 23 419 191 275 213	595 972 1,099 323 498 1,059 2,346 1,442 1,155 404 758 680 477 188 1,695 677 1,055 1,449	5 1 10 ... 2 94 11 ... 29 28 18 ... 13 ... 4 8 57	331 865 470 333 435 222 693 2,445 1,307 841 1,140 1,082 349 1.08 1,079 695 1,433 3,048	228 234 298 207 327 91 375 1,530 1,157 542 451 912 135 30 542 181 474 1,841	4 40 1 6 7 79 31 369 ... 120 216 12 90 4 169 41 230 196	88.3 88.0 92.4 73.2 91.3 74.8 93.6 89.1 85.6 76.7 72.5 80.1 78.1 40.5 88.2 90.6 77.9 64.7	72.6 72.0 63.5 62.3 76.4 63.6 54.1 73.7 88.5 71.9 50.4 85.2 52.5 28.8 50.6 85.7 39.4 64.6	40.4 38.3 42.5 56.9 46.2 32.3 71.9 69.7 54.9 108.2 36.4 112.3 33.4 14.1 46.2 63.0 35.2 82.8	0.7 0.1 0.8 ... 0.4 1.1 0.4 ... 5.2 2.6 2.4 25.8 3.7 15.7 6.8 0.6 2.5	1.2 11.0 0.2 1.8 1.6 25.6 11.7 15.1 ... 14.2 21.6 1.1 25.8 3.7 15.7 6.8 16.1 6.1	793 1,396 1,569 493 822 2,100 2,293 2,520 1,710 4.6 1,343 788 1,755 371 2,629 767 1,519 2,209	38.7 44.4 47.7 52.9 46.0 38.6 76.5 59.1 40.6 55.5 40.4 59.3 95.5 24.0 54.3 42.2 35.0 85.5	20 28 9 3 4 62 49 87 50 3 14 1 36 17 104 4 14 3	1.0 0.9 0.3 0.3 0.2 1.1 1.3 2.0 1.2 0.3 0.4 0.1 2.0 1.1 2.1 0.2 0.3 0.1
3,619	17,343	280	16,294	9,866	1,695	82.2	67.6	51.8	1.3	10.4	27,167	51.7	508	1.0
169,879	327,833	22,977	107,909	70,656	9,315	81.3	80.0	33.5	5.4	8.6	446,817	26.9	6,038	0.5
4,670 5,771	11,397 13,046	132 378	577 599	454 357	17 19	91.2 89.8	81.1 62.6	...	1.1 2.4	2.9 3.2	...	...	...	...
10,441	24,953	510	1,160	811	36	90.4	71.9	27.0	1.8	3.1	27,727	28.0	654	0.7
3,629 2,510	12,081 10,606	226 169	163 443	144 397	16 16	91.6 94.0	94.1 92.9	...	1.6 1.5	6.1 3.6	...	...	...	...
6,189	22,747	389	696	541	26	92.7	93.4	26.3	1.6	4.3	28,972	32.7	1,032	1.2
4,676 2,503 6,667	13,044 9,327 13,295	1,908 3,104 2,235	679 2,178 652	357 703 213	159 740 165	79.9 74.6 80.6	49.6 48.9 49.9	...	10.9 19.9 11.8	18.1 34.0 25.3	...	...	...	...
12,846	35,666	7,337	3,709	1,903	1,064	78.7	40.3	27.6	13.9	28.7	34,343	25.6	780	0.6
6,223 8,300	11,894 17,159	578 725	2,011 1,240	768 783	295 158	79.8 93.4	44.8 72.5	...	3.7 3.8	14.7 12.7	...	...	...	...
14,572	29,053	1,301	3,251	1,553	453	97.3	55.5	25.0	3.8	13.9	33,407	27.3	948	0.8
3,427 2,911 4,498	6,553 6,166 8,131	560 390 583	243 218 1,210	139 111 977	17 44 59	72.2 77.8 85.3	61.1 54.4 84.9	...	5.8 4.6 5.8	7.0 17.7 4.9	...	...	...	...
10,826	20,950	1,538	1,701	1,227	120	78.6	77.6	25.3	5.5	7.1	29,657	32.7	591	0.7

A—VACCINE

Statement No. I showing the Particulars of Vaccination in the

Number.	Districts.	Circles.	Population of districts or circles according to the census of 1911.	Average population per square mile.	Average number of vaccinators employed throughout the year.	Total number of persons vaccinated.			Average number of persons vaccinated by each vaccinator.	Primary.	
						Males.	Females.	Total.		Total number of operations.	Under 1 year.
1	2	3	4	5	6	7			8	9	10
CENTRAL RANGE—cont.											
13	Kurnool.	Cumbum circle ...	...	...	13	7,872	5,413	13,285	1,022	11,964	4,879
14		Kurnool do. ...	892,929	118	12	8,004	6,090	14,094	1,249	14,023	7,571
		Total of district ...	892,929	118	25	15,876	12,403	28,279	1,131	25,992	12,450
15	North Arcot.	Vellore circle ...	...	...	3	7,259	6,728	13,987	4,622	14,060	7,597
16		Ranipettai circle ...	1,825,742	371	3	7,211	6,856	14,067	4,639	14,084	5,443
17		Polar do. ...	...	...	3	7,392	7,330	14,722	4,907	15,623	5,877
18		Tirupattur do. ...	...	...	10	10,493	8,961	20,459	2,045	10,494	5,815
		Total of district ...	1,825,742	371	19	32,360	20,875	63,235	3,328	63,261	24,682
19	Salem.	Salem circle ...	...	...	6	6,441	6,245	12,686	2,114	12,780	5,958
20		Sankari do. ...	1,707,527	256	10	8,133	8,038	16,160	1,617	17,188	5,485
21		Hosur do. ...	...	...	8	8,345	7,855	16,210	2,026	15,993	7,683
		Total of district ...	1,707,527	256	24	22,919	22,146	45,065	1,878	45,971	19,106
22	South Arcot.	Cuddalore circle ...	...	...	4	9,857	9,147	18,504	4,626	15,143	8,840
23		Vridhachalam circle ...	...	...	7	8,772	7,641	16,413	2,345	16,095	5,392
24		Tirukkoyilur do. ...	2,284,665	545	6	7,515	6,112	13,627	2,271	13,426	3,614
25		Tindivanam do. ...	...	...	5	7,659	6,372	14,031	2,836	13,303	4,761
26		Villupuram do. ...	...	...	4	7,531	7,632	15,163	3,791	14,409	7,076
		Total of district ...	2,284,665	545	26	40,834	36,904	77,738	2,920	72,776	28,682
		Total of circles in the Central Range.	11,958,638	...	190	19,016	18,517	382,533	2,019	376,478	159,815
		Total of Medical Subordinates.	...	...	...	1,161	1	1,162	...	1	1
1	Municipalities.	Adoni ...	31,845	2,281	1	493	396	889	889	854	716
2		Anantapur ...	8,457	940	1	368	172	510	540	318	166
3		Bellary ...	34,956	6,991	3	2,119	1,117	3,236	1,079	2,611	1,918
4		Chidambaram ...	21,327	10,663	1	631	353	984	984	627	441
5		Chingleput ...	11,626	9,301	1	539	272	811	811	520	375
6		Chittoor ...	15,140	2,019	1	543	325	875	875	633	347
7		Conjeevaram ...	53,864	13,466	2	1,170	944	2,114	1,057	1,818	1,450
8		Cuddalore ...	56,574	4,254	2	1,486	1,288	2,754	1,377	2,368	1,862
9		Cuddapah ...	17,807	903	1	773	307	1,080	1,080	586	372
10		Gudiyattam ...	23,390	19,655	1	481	371	852	852	811	759
11		Hospet ...	17,671	5,644	1	427	450	877	877	880	662
12		Kurnool ...	26,040	5,208	1	493	375	873	873	800	555
13		Madras ...	518,660	19,209	† 10	21,278	13,980	35,258	3,521	23,410	19,889
14		Nandyal ...	16,220	3,246	1	399	339	738	738	704	391
15		Proddatur ...	15,756	3,939	1	352	293	645	645	622	394
16		Salem ...	59,153	13,984	2	1,467	1,298	2,765	1,353	2,450	2,219
17		Tirupattur ...	10,470	4,188	1	547	343	890	870	651	633
18		Tirupati ...	16,701	5,000	1	239	218	457	457	431	387
19		Tiruvannamalai ...	21,244	1,931	1	583	446	1,029	1,029	917	615
20		Vaniyambadi ...	20,436	5,850	1	440	399	839	839	837	698
21		Vellore ...	49,748	8,102	2	1,381	1,151	2,532	1,266	2,204	1,573
		Walajapet ...	9,962	9,962	1	303	186	489	489	424	324
		Total of Municipalities.	1,056,234	...	37	36,523	24,904	61,427	1,660	45,642	36,743
1	Military Cantonments.	Bangalore ...	100,834	7,447	2	1,026	137	1,163	682	202	121
2		Secunderabad ...	103,879	5,467	4	5,243	4,508	9,751	2,438	3,955	2,154
		Total of Cantonments ...	204,713	6,291	6	6,269	4,645	10,914	1,817	4,157	2,275
		Grand Total of Central Range.	13,015,472	...	233	242,969	213,097	456,066	1,952	428,178	198,834

* Excludes Banganapalli (29,344).

† Medical Vaccinators.

DEPARTMENT—cont.

Madras Presidency for the official year 1917-18—cont.

vaccination.			Re-vaccination.			Percentage of successful cases in which the results were known.		Persons successfully vaccinated per 1,000 of population.	Percentage of unknown cases to total cases.		Average number of persons successfully vaccinated during previous 5 years.		Average number of deaths from small-pox during previous 5 years.		
Successful.	Unknown.	Total number of operations.	Successful.	Unknown.	Primary vaccination.	Re-vaccination.	Primary vaccination.		Re-vaccination.	Number.	Ratio per 1,000.	Number.	Ratio per 1,000.		
1 and under 5 years.	Total of all ages.														
11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
5,712	11,406	100	2,458	2,208	113	96.1	94.1	{	0.8	4.6	{				
6,048	13,656	53	1,448	1,352	3	97.7	93.6		0.4	0.2					
11,791	25,082	153	3,905	3,569	116	97.0	93.9	32.1	0.6	3.0	32,809	36.7	816	0.9	
3,960	10,909	1,493	891	475	125	86.8	62.0	{	10.6	14.0	{				
3,889	9,442	2,350	1,219	381	493	80.5	45.3		16.7	32.3					
5,439	11,507	1,867	181	94	54	83.6	74.0		11.9	29.8					
9,771	16,836	1,376	1,692	1,069	219	90.2	72.0		7.1	12.9					
22,409	48,194	7,086	4,913	2,010	801	85.8	62.6	27.5	11.2	20.0	50,611	27.7	1,182	0.6	
4,874	11,106	533	524	383	39	90.6	80.9	{	4.5	7.4	{				
8,245	14,116	566	741	570	50	81.9	82.5		3.3	6.7					
6,815	14,632	229	1,023	909	51	82.9	92.3		1.4	4.9					
20,024	39,874	1,328	2,291	1,358	149	89.3	86.3	24.4	2.9	6.1	56,616	33.2	866	0.5	
1,891	10,918	1,900	4,568	3,239	376	83.4	77.2	{	12.5	8.2	{				
5,386	11,431	1,423	2,010	1,142	393	77.9	70.8		8.8	19.7					
4,777	9,651	1,773	1,742	1,036	327	80.1	73.4		12.8	18.8					
4,344	8,518	1,626	1,329	611	325	81.5	80.9		12.2	24.5					
1,542	8,784	2,913	2,091	1,197	599	76.4	70.2		20.2	18.6					
18,000	50,310	9,435	11,743	7,227	1,814	79.7	72.8	25.2	13.2	15.4	60,436	26.5	1,575	0.7	
127,218	299,809	29,277	32,886	20,090	4,570	85.5	72.2	26.4	7.8	14.1	353,579	29.5	8,454	0.7	
...	1	...	1,161	659	7	100.0	50.3	...	...	0.6	...	...	...	...	
25	714	104	85	28	7	99.2	100.0	24.4	12.2	20.0	1,200	37.9	91	2.9	
109	281	...	212	161	1	85.7	76.3	52.3	...	0.5	286	33.9	6	0.7	
493	2,553	...	656	490	...	90.1	77.0	81.3	...	...	2,941	84.1	75	2.2	
74	551	17	413	309	51	90.3	85.4	40.3	2.7	12.3	891	41.9	30	1.4	
89	462	8	291	194	43	90.2	78.2	58.4	1.5	14.8	678	58.1	2	0.2	
257	612	4	324	15	142	90.1	18.8	41.4	0.6	63.4	...	...	...	...	
170	1,637	70	304	268	39	93.6	81.4	35.3	3.8	10.7	1,796	33.3	21	0.4	
412	2,291	9	386	320	5	97.1	83.9	46.0	0.2	1.3	2,414	42.7	19	0.3	
80	462	25	528	180	41	82.4	36.9	36.1	4.3	7.8	681	38.2	8	0.3	
45	502	3	49	17	29	99.4	45.0	35.1	0.4	6.1	658	28.1	30	1.3	
156	818	...	5	5	...	92.9	100.0	40.6	...	...	673	38.1	5	0.3	
129	750	18	102	9	71	95.7	20.0	20.1	2.0	69.6	1,151	45.3	12	0.5	
2,356	22,804	717	11,971	5,276	2,845	93.3	57.8	53.2	3.1	23.8	27,787	53.6	157	0.3	
235	656	...	61	56	...	92.1	91.8	43.9	...	...	704	17.1	34	2.1	
88	488	1	23	15	1	78.6	68.2	31.0	0.2	4.3	369	22.2	...	...	
123	2,312	...	233	180	...	95.4	52.7	41.9	...	...	2,868	48.5	92	1.6	
7	650	...	239	231	...	99.8	96.7	84.1	...	...	563	51.0	29	2.3	
17	406	7	26	13	11	95.8	86.7	25.1	1.6	42.3	503	30.4	5	0.3	
172	835	...	112	81	6	91.0	76.4	43.1	...	5.4	857	40.3	16	0.8	
129	821	1	3	1	...	99.7	33.3	40.9	0.1	...	635	31.1	15	0.7	
524	2,108	77	328	39	287	99.1	95.1	43.2	3.4	87.5	1,967	38.3	40	0.8	
22	350	1	112	54	19	82.7	58.1	40.6	0.2	16.9	411	41.3	4	0.4	
5,655	42,737	1,060	16,378	7,896	3,601	96.1	61.8	47.0	2.3	22.0	49,859	47.5	691	0.7	
38	169	...	961	422	365	83.2	70.8	...	...	38.0	596	...	55	5.0	
709	3,329	52	6,243	2,841	178	85.3	38.6	...	1.3	2.9	6,049	...	17	0.2	
747	3,497	52	7,204	2,763	541	85.2	41.5	30.6	1.0	7.5	7,245	35.4	36	2.6	
133,650	343,644	39,889	57,129	31,399	8,719	88.7	64.8	28.7	7.1	15.3	410,786	31.5	9,145	0.7	

A—VACCINE

Statement No. 1 showing the Particulars of Vaccination in the

Number.	Districts.	Circles	Population of districts or circles according to the census of 1911.	Average population per square mile.	Average number of vaccinators employed throughout the year.	Total number of persons vaccinated.			Average number of persons vaccinated by each vaccinator.	Primary	
						Males.	Females.	Total.		Total number of operations.	Under 1 year.
1	2	3	4	5	6	7			8	9	10
SOUTHERN RANGE.											
1 2 3 4	Coimbatore.	North Coimbatore circle. East do. do. South do. do. Central do. do.	2,082,856	266	{ 10 9 7 9	10,414	10,024	20,438	2,047	18,071	5,659
						11,742	11,102	22,844	2,538	22,126	5,400
						9,575	8,979	18,554	2,660	14,396	4,530
						11,386	10,662	22,048	2,449	21,839	6,229
		Total of district	2,082,856	266	35	43,147	40,776	83,923	2,397	76,432	21,827
5 6 7	Madura.	Dindigul circle Madura do. Usilampatti do.	1,718,613	354	{ 4 4 4	9,026	8,614	17,640	4,410	18,911	9,014
						10,450	8,987	19,437	4,862	18,121	6,572
						8,568	8,265	17,253	4,313	17,407	7,388
		Total of district				1,718,613	354	12	28,044	25,876	53,920
8 9 10 11	Malabar.	Tellicherry circle Calicut do. Palghat do. Malappuram do.	2,809,117	485	{ 10 8 12 10	16,335	13,835	30,170	3,017	21,610	7,908
						14,008	13,179	27,187	3,548	21,399	5,812
						20,454	20,192	40,646	3,387	32,000	13,191
						17,212	16,214	33,426	3,342	28,818	10,995
		Total of district	2,809,117	485	40	68,909	63,720	132,629	3,316	104,747	37,906
12	The Nilgiris.	Nilgiris circle	89,856	89	3	3,015	1,949	4,964	1,654	3,948	1,533
		Total of district	89,856	89	3	3,015	1,949	4,964	1,654	3,948	1,533
13 14 15	Ramanathapuram.	Srivillipattur circle Ramanathapuram do. Tirupattur circle	1,608,032	337	{ 9 10 12	9,744	8,425	18,169	2,016	17,743	7,913
						8,883	8,170	17,053	1,703	16,123	6,430
						8,723	8,233	16,956	1,413	16,684	7,314
		Total of district				1,608,032	337	31	27,350	24,825	52,175
16 17 18	South Kanara.	Northern circle Central do. Southern do.	1,142,860	285	{ 8 8 10	7,817	7,150	14,967	1,876	14,400	4,746
						6,705	6,209	12,914	1,614	13,737	6,374
						8,223	8,113	16,336	1,633	12,659	4,808
		Total of district				1,142,860	285	26	22,745	21,512	44,257
19 20 21 22	Tanjore.	Tanjore circle Negapatam do. Pattukkottai do. Kumbakonam do.	2,108,014	578	{ 8 10 11 12	7,776	6,940	14,716	1,840	13,969	4,420
						8,049	7,023	15,072	1,508	14,815	5,021
						10,035	9,173	19,208	1,747	18,058	4,591
						9,745	9,408	19,153	1,598	17,600	5,025
		Total of district	2,108,014	578	41	35,605	32,552	68,157	1,662	64,440	19,057
23 24 25	Tinnevely.	Shermadevi circle Srivaikuntam do. Koilpatti do.	1,680,720	381	{ 8 9 8	10,721	9,651	20,372	2,546	23,697	9,797
						12,162	10,641	22,803	2,533	24,149	9,980
						11,258	7,949	19,207	2,401	19,094	7,574
		Total of district				1,680,720	381	25	34,141	28,241	62,382
26 27 28	Tiruchinopoly.	Tiruchinopoly circle Ariyalur do. Namakkal do.	1,941,044	393	{ 12 8 9	10,869	10,396	21,265	1,772	21,836	7,867
						8,113	7,660	15,773	2,009	16,347	5,173
						9,062	9,526	18,588	2,112	19,392	6,609
		Total of district				1,941,044	393	29	28,044	27,882	55,926
		Total of circles in the Southern range.	15,111,112	...	242	282,030	267,336	549,366	2,911	519,869	188,342
		Total of Medical Subordinates.	...	...	...	5,649	164	5,813	...	181	30

* Excludes Laccadives (10,600). † Excludes Amindivi Islands (3,955). ‡ Excludes Pudukottah (411,886).

DEPARTMENT—cont.

Madras Presidency for the official year 1917-18—cont.

vaccination.			Re-vaccination.			Percentage of successful cases in which the results were known.		Persons successfully vaccinated per 1,000 of population.	Percentage of unknown cases to total cases.		Average number of persons successfully vaccinated during previous 5 years.		Average number of deaths from small-pox during previous 5 years.	
Successful.						Primary vaccination.	Re-vaccination.		Primary vaccination.	Re-vaccination.	Number.	Ratio per 1,000.	Number.	Ratio per 1,000.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1 and under 5 years.	Total of all ages.	Unknown.	Total number of operations.	Successful.	Unknown.	Primary vaccination.	Re-vaccination.							
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
5,155	11,080	1,101	3,233	1,379	403	65.0	49.0		6.6	12.0				
6,443	12,466	1,375	1,336	620	187	60.7	55.0		6.2	10.2				
5,923	10,806	760	4,509	3,740	135	79.3	85.5		5.3	3.0				
7,139	14,043	2,005	630	397	55	70.5	69.0		9.2	6.7				
24,866	48,401	5,241	9,708	6,176	730	63.0	68.8	26.6	6.0	7.5	50,060	24.3	1,369	1.0
8,271	12,446	2,453	1,211	281	218	75.6	28.3		12.9	18.0				
5,118	12,593	3,117	2,195	671	449	83.9	40.6		17.2	21.3				
3,494	11,030	3,036	349	142	128	77.0	64.3		17.7	36.7				
11,883	36,069	8,656	3,635	1,094	795	78.7	38.1	21.3	15.9	21.7	40,050	23.0	670	0.4
6,773	17,609	845	8,545	4,627	224	84.7	55.6		3.9	2.6				
6,487	15,440	1,362	7,651	2,931	492	77.1	49.1		6.3	5.2				
5,902	19,958	4,034	6,822	4,459	1,991	65.7	54.8		12.2	19.5				
7,524	21,599	1,876	5,340	3,428	394	80.7	69.3		6.6	7.3				
20,653	74,615	8,116	31,158	15,455	2,921	77.2	64.8	22.1	7.7	6.3	125,816	44.7	443	0.2
1,789	3,697	17	1,024	976	2	94.1	95.4		0.4	0.2				
1,789	3,697	17	1,024	976	2	94.1	95.4	52.0	0.4	0.2	4,471	40.7	17	0.2
6,781	14,699	926	1,067	478	125	85.9	71.8		3.5	11.7				
5,142	15,478	137	917	776	83	96.0	92.0		1.1	9.0				
7,582	16,189	178	405	396	86	97.0	90.0		1.0	16.0				
21,462	46,765	601	2,389	1,758	274	93.5	83.1	29.5	2.0	11.4	53,102	32.1	400	0.2
6,025	11,693	768	1,431	782	98	85.7	58.7		5.2	6.8				
4,176	10,888	379	578	339	41	81.5	63.1		2.8	7.1				
4,643	10,246	369	2,907	2,461	228	84.2	65.8		2.9	5.7				
14,844	32,327	1,501	5,976	3,582	367	89.1	62.8	32.9	3.7	6.1	39,681	34.7	323	0.3
7,660	13,142	128	903	640	28	95.0	95.8		0.4	2.0				
7,594	14,019	269	2,015	1,842	70	96.5	94.7		1.9	3.5				
9,770	18,629	762	1,694	1,355	151	92.7	92.8		4.2	10.0				
8,934	15,976	992	2,167	1,542	292	90.7	85.9		5.6	14.0				
34,027	58,266	2,172	6,529	5,479	543	98.2	91.5	29.9	3.3	8.3	60,208	27.2	945	0.4
5,442	16,820	1,539	1,305	681	257	76.2	64.9		6.6	19.7				
6,985	18,119	1,255	2,303	1,025	274	79.2	80.1		5.3	11.9				
6,251	14,941	1,159	3,145	2,583	264	83.9	83.0		6.1	8.4				
19,073	42,920	4,003	6,753	4,845	795	79.3	81.3	33.7	6.9	11.7	81,008	36.7	287	0.2
9,787	18,321	1,016	306	239	17	87.9	82.6		4.0	5.6				
7,189	12,676	1,077	1,019	714	138	83.0	81.6		6.5	13.4				
8,277	15,670	914	275	217	37	81.9	99.5		4.8	13.4				
25,204	46,667	3,927	1,591	1,170	190	85.5	83.5	24.6	5.2	11.9	53,560	27.5	790	0.5
179,839	396,527	33,734	68,703	40,665	6,617	81.6	65.2	28.7	6.4	9.6	487,953	32.1	5,255	0.3
9	88	2	5,632	2,744	370	48.6	66.4		1.1	6.5				

A—VACCINE

Statement No. I showing the Particulars of Vaccination in the

Number.	Districts.	Circles.	Population of districts or circles according to the census of 1911.	Average population per square mile.	Average number of vaccinators employed throughout the year.	Total number of persons vaccinated.			Average number of persons vaccinated by each vaccinator.	Primary	
						Males.	Females.	Total.		Total number of operations.	Under 1 year.
1	2	3	4	5	6	7			8	9	10
	Municipalities.	SOUTHERN RANGE —cont.									
1		Bodinayakanur	20,205	20,205	3	611	540	1,151	384	1,268	683
2		Calicut	78,417	7,292	3	5,471	2,471	7,942	2,347	4,110	2,181
3		Cannanore	28,957	5,791	1	1,939	1,070	3,009	3,009	1,082	771
4		Cochin	20,023	20,023	1	2,445	1,394	3,839	3,839	1,101	597
5		Coimbatore	47,007	11,060	3	1,561	1,130	2,691	887	2,251	1,230
6		Coonoor	9,938	1,710	1	711	539	1,250	1,250	606	247
7		Dindigul	25,052	9,035	1	320	584	1,494	1,494	1,046	535
8		Dharmapuri	20,000	8,000	1	319	307	626	626	680	351
9		Erode	16,701	16,701	1	479	378	857	857	810	377
10		Karur	17,674	8,837	1	434	285	729	729	650	510
11		Kodaikanal	2,806	528	1	156	136	292	292	191	144
12		Kumbakonam	24,647	14,628	3	1,410	1,024	2,434	811	2,052	1,498
13		Madurai	134,130	5,036	17	19,451	9,014	28,465	1,581	14,822	7,191
14		Mannargudi	21,338	3,586	1	523	360	887	887	725	545
15		Mangalore	48,412	9,680	2	1,765	1,349	3,114	1,557	2,761	1,329
16		Meyyuram	27,121	9,040	1	732	507	1,239	1,239	1,059	887
17		Nagapattinam	60,168	11,038	3	2,929	1,071	4,000	1,333	3,655	1,873
18		Ootacamund	16,829	1,418	1	705	555	1,260	1,260	705	532
19		Palamcottah	44,909	11,227	2	1,543	824	2,367	1,188	1,668	1,137
20		Palghat	44,319	4,185	3	1,373	1,028	2,401	1,291	1,947	1,149
21		Periyakulam	18,715	18,715	1	496	415	911	911	12	722
22		Palni	13,211	7,549	1	893	402	1,295	1,295	723	534
23		Srirangam	24,799	3,543	1	698	591	1,289	1,289	1,223	734
24		Srivillipattur	29,066	20,761	1	619	522	1,141	1,141	1,152	1,009
25		Tanjore	60,341	805	4	2,349	1,254	3,603	896	2,531	1,471
26		Tellicherry	29,253	11,703	2	1,006	674	1,680	790	704	672
27		Tinnevely	44,805	7,463	2	1,216	863	2,079	1,092	2,099	1,507
28		Trichinopoly	123,512	14,893	3	2,366	2,193	5,059	1,856	4,415	2,853
29		Tiruvellar	21,000	2,100	1	348	259	607	643	547	443
30		Tuticorin	40,186	11,481	2	1,456	961	2,417	1,208	1,137	1,016
31		Virudupatti	21,355	7,118	1	848	707	1,555	1,555	1,409	845
		Total of Municipalities.	1,177,055	...	71	58,084	34,142	92,176	1,298	60,093	35,806
		Grand Total of Southern Range	16,288,167	...	313	355,713	301,642	657,355	2,082	580,146	224,233
	Grand Total	41,390,849	311	837	667,548	744,953	1,612,501	1,913	1,432,386	550,393	

* Excludes the population of Bangalore and Secunderabad Cantonments.

† In finding out the average number of persons vaccinated, the total work of medical subordinates is excluded.

Note.—(1) Difference between number of operations and number of persons vaccinated, equals 94,777 which represents secondary operations.

(2) This statement does not include the statistics of dispensary vaccination which are exhibited separately in statement No. III.

N.B.—In calculating the percentage of success shown in this statement and statement No. III, unknown cases have not been taken into account.

DEPARTMENT—cont.

Madras Presidency for the official year 1917-18—cont.

Vaccination.			Re-vaccination.			Percentage of successful cases in which the results were known.		Persons successfully vaccinated per 1,000 of population.	Percentage of unknown cases to total cases.		Average number of persons successfully vaccinated during previous 5 years.		Average number of persons from small-pox during previous 5 years.	
Successful.						Primary vaccination.	Re-vaccination.		Primary vaccination.	Re-vaccination.	Number.	Ratio per 1,000.	Number.	Ratio per 1,000.
1 and under 6 years.	Total of all ages.	Unknown.	Total number of operations.	Successful.	Unknown.	Primary vaccination.	Re-vaccination.	Persons successfully vaccinated per 1,000 of population.	Primary vaccination.	Re-vaccination.	Number.	Ratio per 1,000.	Number.	Ratio per 1,000.
11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
453	1,147	...	28	25	...	98.0	89.2	53.0	...	...	509	25.1	2	0.1
881	3,633	5	3,944	3,186	85	88.6	81.6	67.2	0.1	...	5,478	82.6	53	1.0
244	1,025	6	2,199	1,828	35	94.4	62.8	81.2	0.5	3.9	1,736	59.9	81	3.0
196	930	37	2,803	567	387	87.4	23.6	74.7	3.4	13.8	1,206	60.2	14	1.0
388	1,700	86	534	175	62	78.5	37.1	30.8	3.5	11.6	1,785	37.9	103	2.1
221	468	1	744	503	6	92.7	80.4	106.8	0.2	0.8	594	59.8	2	0.2
73	940	25	384	301	21	92.1	82.9	49.5	2.4	5.5	1,073	42.3	2	0.1
70	434	54	11	6	...	63.8	54.5	22.0	7.9	...	61	30.5	2	0.1
164	543	112	65	29	19	78.8	63.0	34.2	13.7	20.2	772	40.2	26	1.6
49	613	...	101	81	4	94.3	83.5	39.2	...	3.9	559	31.6	9	0.5
25	189	...	101	88	...	90.0	87.0	95.3	...	...	128	44.0	...	...
266	1,776	8	389	264	22	86.8	71.9	31.5	0.4	6.7	1,243	30.1	42	0.7
6,042	13,395	183	14,977	10,256	450	90.8	70.5	176.2	1.2	3.0	10,809	80.5	128	1.0
87	654	...	180	143	...	99.2	79.4	37.2	...	...	790	39.9	17	0.8
1,125	2,076	3	363	283	22	97.4	77.1	60.7	0.1	6.1	2,566	63.0	1	...
71	919	...	293	170	15	86.8	61.1	40.4	...	5.1	1,154	42.5	11	0.4
1,375	3,354	1	945	739	8	91.8	78.9	67.5	...	0.8	4,086	67.4	36	0.6
71	616	13	561	442	45	93.4	85.7	57.7	1.8	8.0	1,291	68.5	2	0.1
295	1,349	1	917	515	110	80.9	63.8	41.5	0.1	12.0	1,080	43.1	9	0.2
254	1,449	...	657	312	...	74.4	49.8	49.4	...	...	1,087	43.8	5	0.1
53	785	...	99	99	...	95.7	100.0	47.2	...	...	807	43.1	10	0.5
143	690	...	567	456	35	93.4	85.7	65.9	...	...	782	59.1	8	0.6
375	1,174	31	61	50	10	99.1	98.0	49.3	2.5	16.4	1,206	48.6	17	0.7
57	1,064	...	73	62	...	92.4	84.9	39.7	...	...	1,058	36.1	...	...
619	2,415	18	1,064	792	4	96.1	74.7	53.1	0.7	0.4	8,341	55.8	79	1.4
19	702	...	823	286	8	91.3	35.1	33.0	...	1.0	1,221	41.6	43	1.5
203	1,771	21	817	266	3	85.6	84.7	45.4	1.0	0.1	2,117	47.2	11	0.2
1,318	4,330	81	614	479	71	93.9	88.2	38.9	0.7	11.4	5,062	46.8	120	1.0
86	548	...	43	46	...	91.8	100.0	28.2	...	...	326	15.5	2	0.1
71	1,087	2	1,234	1,094	71	95.8	90.2	54.2	0.2	5.5	2,008	72.3	6	0.1
310	1,171	86	255	165	42	89.5	77.4	62.5	6.1	16.4	223	10.4	2	0.1
15,429	53,572	724	35,429	23,317	1,515	89.1	65.9	65.3	1.2	4.2	61,130	65.3	845	0.7
195,277	450,587	34,460	109,854	67,623	8,502	82.5	63.6	...	5.9	7.7	549,036	...	6,100	0.3
398,808	1,121,466	87,826	274,892	175,831	26,536	83.4	70.8	31.2	6.1	9.6	1,406,689	33.8	21,283	0.6

SUMMARY OF STATEMENT NO. I.

	Total number of persons vaccinated.		Total number of operations performed.		Percentage of successful cases in which the results were known.		Average number of persons vaccinated by each vaccinator.	Number of children successfully vaccinated.		Ratio of successful vaccination per 1,000 of population.	Total cost of department.	Average cost of each successful case.
	Primary.	Re-vaccination.	Primary.	Re-vaccination.	Primary.	Re-vaccination.	Vaccinators employed.	Persons vaccinated by each vaccinator.	Under one year.	One and under six years.		
By Special staff (statement No. I).	1,337,600	274,832	1,432,386	274,892	83.4	70.8	837	1,913	550,323	498,803	31.2	345,390 4 3 0 4 3
By Dispensary staff (statement No. III).	101	108	191	106	99.0	87.6	...	...	144	25	...	...
By other agencies, if any.	...	...	...	...	...	...	...	...	...	...	...	...
Total	1,337,600	274,933	1,432,577	274,993	83.4	70.8	837	1,913	550,537	498,831	31.2	345,390 4 3 0 4 3

† Exclusive of the pay and allowances of the Inspectors of Vaccination and Deputy Sanitary Commissioners, Madras.

A—VACCINE DEPARTMENT—cont.

Statement No. II showing the Cost of the Department in the Madras Presidency for the official year 1917-18.

Number.	Districts.	Circles.	Expenditure.												Total pay of establishment.
			Inspector of Vaccination and Deputy Sanitary Commissioner.	Deputy Inspectors.			Vaccinators.			Peons, etc.		Number.	Pay.	Peons, etc.	Pay.
				First grade.	Second grade.	Third grade.	Pay.	First class.	Second class.	Prohibitors.	Pay.				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
NORTHERN RANGE.															
1	Ganjam.	Berhampur circle	...	...	...	...	...	Rs. A. P.	3	5	1	1,736 1 7	1	99 8 0	2,283 9 7
2		Chionole do.	...	...	...	...	...	860 14 5	2	6	1	1,384 14 10	1	99 8 0	2,345 6 8
3		Aska circle	...	...	...	...	...	471 3 8	2	4	2	1,103 10 6	1	99 8 0	1,674 6 2
4		Parlakimedi circle	...	...	...	...	...	820 0 0	1	7	...	1,223 3 0	1	97 0 5	2,139 3 8
5		Parushottapur circle	...	...	...	...	...	480 0 0	3	5	...	1,789 0 10	1	99 8 0	2,343 8 10
6		Gaujam Hill tracts, North	...	...	...	...	...	537 2 3	2	6	...	1,057 0 10	1	82 13 9	1,737 0 10
7		Gaujam Hill tracts, South	...	...	...	...	...	600 0 0	2	2	3	1,156 6 11	1	105 1 5	1,921 8 4
		Total of district	...	2	...	5	4,627 4 4	15	35	7	9,429 6 6	7	692 15 10	14,449 10 8	
GOVERNMENT RANGE.															
8	Gadagur.	Cocanada circle	...	...	...	...	...	544 10 8	4	8	...	1,206 0 7	1	102 0 0	1,852 11 3
9		Rajamundry do.	...	...	...	...	...	580 5 8	4	5	...	1,395 4 4	1	102 0 0	2,077 10 0
10		Polavaram do.	...	...	...	...	...	644 11 4	2	4	...	845 3 0	1	113 5 11	1,706 4 3
11		Peddapur do.	...	...	...	...	...	490 6 8	4	6	...	1,601 13 5	1	97 13 3	2,190 2 4
12		Bhadraohalam do.	...	...	...	...	...	651 6 11	2	3	1	1,129 13 2	1	114 0 0	1,835 4 1
		Total of district	...	...	...	5	2,911 9 8	15	21	1	6,281 2 6	5	539 4 2	9,721 15 11	
SOUTHERN RANGE.															
13	Guntur.	Guntur circle	...	...	...	...	...	838 12 1	3	4	3	1,174 14 7	1	102 0 0	2,175 10 8
14		Narasaraopet circle	...	...	...	...	...	480 0 0	2	3	5	1,127 10 7	1	84 0 0	1,891 10 7
15		Bapatla circle	...	...	...	...	...	739 11 6	4	3	4	1,366 0 1	1	102 0 0	2,207 11 7
		Total of district	...	1	...	2	2,118 7 7	9	10	12	3,868 9 3	3	288 0 0	6,075 0 10	

16	Kistna.	Eluru circle	...	...	...	...	...	720 0 0	1	2	13	2,273 12 6	1	102 0 0	3,095 12 6
17		Masulipatam circle	...	...	...	...	...	840 0 0	4	3	7	2,256 15 4	1	102 0 0	3,136 13 4
18		Narasapur do.	...	...	...	...	...	423 12 0	4	2	7	2,323 14 2	1	92 1 4	2,844 11 6
		Total of district	...	1	1	1	1,863 12 0	9	7	27	6,559 8 0	3	296 1 4	9,133 5 4	
19	Nellore.	Kavali circle	...	...	...	...	...	725 2 7	1	3	6	1,385 12 6	1	84 0 0	2,094 15 1
20		Gudur do.	...	...	...	...	...	707 5 11	3	1	8	1,688 2 0	1	96 7 11	2,491 15 10
21		Kanigiri do.	...	...	...	...	...	1,110 0 0	3	5	2	2,012 9 5	1	94 10 10	3,217 4 3
		Total of district	...	1	1	2	2,542 9 6	7	9	16	4,986 7 11	3	275 2 9	7,804 3 2	
22	Vizagapatnam.	Vizagapatnam circle	...	...	...	...	...	540 0 0	6	6	2	1,889 9 0	1	76 6 8	2,505 15 8
23		Government vaccinators (Gudem Hills)	...	...	...	...	...	...	...	...	...	...	...	...	...
24		Vizagapatnam circle	...	...	...	...	...	840 0 0	4	9	...	1,794 10 7	1	77 8 0	2,712 2 7
25		Parvatipuram do.	...	...	...	...	...	760 11 2	3	1	3	1,635 5 0	1	84 0 0	2,510 0 2
26		Government vaccinators, Palkonda Agency	...	...	...	...	...	...	...	...	...	...	...	...	...
		Total of district	...	1	1	1	600 0 0	1	1	7	964 5 9	1	99 0 0	1,723 5 9	
27	Koraput.	Jaypore circle	...	...	...	...	...	2,800 11 2	14	34	5	6,776 15 11	4	336 14 8	8,914 9 9
		Koraput do.	...	...	...	...	...	735 8 0	1	6	4	1,711 0 2	1	101 8 4	2,548 0 6
		Total of district	...	...	...	...	...	1,000 8 6	1	6	1	989 10 1	1	107 0 0	2,106 13 7
		Total of district	...	...	...	...	...	1,735 11 6	2	12	5	2,710 10 3	2	298 8 4	4,654 14 1
Municipalities.															
1	Municipalities in the Northern range.	Anakapalle	...	...	...	...	...	18,420 0 4	72	128	73	40,712 12 4	27	2,626 15 1	61,759 11 9
2		Berhampur	...	...	...	...	...	...	...	...	...	...	...	...	...
3		Bowada	...	...	...	...	...	...	...	...	...	...	...	...	...
4		Bimlipatam	...	...	...	...	...	...	...	...	...	...	...	...	...
5		Chitrode	...	...	...	...	...	...	...	...	...	...	...	...	...
6		Cocanada	...	...	...	...	...	...	...	...	...	...	...	...	...
7		Eluru	...	...	...	...	...	...	...	...	...	...	...	...	...
8		Guntur	...	...	...	...	...	...	...	...	...	...	...	...	...
9		Masulipatam	...	...	...	...	...	...	...	...	...	...	...	...	...
10		Narasaraopet	...	...	...	...	...	...	...	...	...	...	...	...	...
11		Nellore	...	...	...	...	...	...	...	...	...	...	...	...	...
12		Parlakimedi	...	...	...	...	...	...	...	...	...	...	...	...	...
13		Peddapuram	...	...	...	...	...	...	...	...	...	...	...	...	...
14		Rajamundry	...	...	...	...	...	...	...	...	...	...	...	...	...
15		Tenali	...	...	...	...	...	...	...	...	...	...	...	...	...
16		Vizagapatnam	...	...	...	...	...	...	...	...	...	...	...	...	...
17		Vizagapatnam	...	...	...	...	...	...	...	...	...	...	...	...	...
18		Total of Municipalities in the Northern range	...	...	...	...	...	...	12	11	4	5,416 15 6	4	338 12 3	5,750 11 8
		Grand Total of Northern range	...	5	4	18	18,420 0 4	84	189	77	46,129 11 9	31	2,960 11 4	67,510 7 5	

A—VACCINE DEPARTMENT—cont.

Statement No. II showing the Cost of the Department in the Madras Presidency for the official year 1917-18—cont.

Number.	Districts.	Circles—cont.	Expenditure—cont.				Paid from				Total.	Number of all successful primary vaccination.	Average cost of each successful case.
			Travelling allowance.	Contingencies.*	Total cost.*	Imperial funds.	Provincial funds.	Local funds.	Municipal funds.				
1	Ganjam.	NORTHERN RANGE—cont.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	24	25	26
2		Borhanpur circle	397 5 0	430 15 5	3,111 14 0	...	1,001 11 11	2,110 2 1	...	3,111 14 0	10,782	10,782	0 4 7
3		Oncoole do.	308 13 3	569 8 2	3,223 10 8	...	1,377 2 8	1,846 8 0	...	3,223 10 8	11,385	11,385	0 4 5
4		Aska do.	323 13 11	578 15 7	2,977 3 8	...	1,987 2 2	1,590 1 6	...	2,577 3 8	9,005	9,005	0 4 7
5		Putlakimedi do.	294 14 0	496 1 1	2,870 2 9	...	1,210 8 4	1,659 10 5	...	2,870 2 9	9,999	9,999	0 4 7
6		Putushothapur do.	281 6 0	553 0 9	3,182 15 7	...	973 2 11	2,209 12 8	...	3,182 15 7	10,597	10,597	0 4 10
7		Ganjam Hill tracts, North	1,091 13 0	377 15 9	3,206 13 7	...	3,206 13 7	...	...	3,206 13 7	8,183	8,183	0 6 4
8	Gadavari.	Ganjam Hill tracts, South	1,121 10 0	322 8 3	3,365 10 7	...	3,365 10 7	...	...	3,365 10 7	5,996	5,996	0 9 0
9		Total of district	3,759 11 2	3,329 1 0	21,538 6 10	...	12,122 4 2	9,416 2 8	...	21,538 6 10	61,164	61,164	0 5 8
10		Cocanada circle	700 10 1	559 13 6	3,113 2 10	...	890 4 8	2,122 14 7	...	3,113 2 10	8,853	8,853	0 5 8
11		Rajahmundry do.	833 12 11	910 5 9	3,881 12 8	...	1,141 9 8	2,740 3 0	...	3,881 12 8	12,214	12,214	0 5 1
12	Guntur.	Polayaram do.	940 9 6	349 13 5	2,966 11 2	...	1,495 11 6	1,500 15 8	...	2,996 11 2	8,063	8,063	1 0 0
13		Peddapur do.	773 7 2	958 4 4	3,921 13 10	...	884 5 2	3,037 8 8	...	3,921 13 10	4,353	4,353	0 6 8
14		Bhadrichalam do.	1,126 3 1	270 14 11	3,292 6 1	...	3,292 6 1	...	...	3,292 6 1	1,937	1,937	1 10 5
15		Total of district	4,434 10 9	3,349 3 11	17,205 14 7	...	7,504 4 9	9,401 9 11	...	17,205 14 7	35,452	35,452	0 7 9
16	Guntur.	Guntur circle	718 0 10	862 15 8	3,756 11 2	...	1,425 5 7	2,331 5 7	...	3,756 11 2	21,237	21,237	0 2 10
17		Narasaraopet circle	837 13 0	796 0 3	3,325 7 10	...	920 13 6	2,404 10 4	...	3,325 7 10	23,609	23,609	0 2 3
18		Daspada circle	517 3 8	858 14 10	2,713 13 11	...	1,153 9 0	2,557 4 11	...	3,713 13 11	21,365	21,365	0 2 9
19		Total of district	2,293 1 4	2,517 14 9	10,783 0 11	...	3,593 12 1	7,293 4 10	...	10,783 0 11	66,241	66,241	0 2 7

16	Kistna.	Ellore circle	1,205 11 2	759 7 3	5,059 14 11	...	1,211 6 9	3,848 8 2	...	5,059 14 11	22,841	22,841	0 3 7
17		Masulipatam circle	1,305 1 4	521 10 8	5,925 9 4	...	1,411 1 0	3,884 8 4	...	5,925 9 4	21,274	21,274	0 4 0
18		Narasapur do.	1,162 15 7	619 13 2	4,627 8 3	...	369 0 1	3,950 8 2	...	4,627 8 3	17,405	17,405	0 4 3
19		Total of district	3,573 12 1	2,299 15 1	15,013 0 6	...	3,630 7 10	11,392 8 8	...	15,013 0 6	61,580	61,580	0 3 11
20	Nellore.	Kavali circle	685 3 6	513 12 0	3,303 14 7	...	1,105 4 1	2,198 10 6	...	3,303 14 7	11,514	11,514	0 4 7
21		Gundur do.	731 13 2	537 8 1	3,761 5 1	...	1,133 13 6	2,667 7 7	...	3,761 5 1	12,920	12,920	0 4 8
22		Kangiri do.	693 6 6	541 5 1	4,451 15 10	...	1,554 6 10	2,897 9 0	...	4,451 15 10	9,660	9,660	0 7 5
23		Total of district	2,090 7 2	1,632 9 2	11,517 3 6	...	3,853 8 5	7,063 11 1	...	11,517 3 6	33,994	33,994	0 5 5
24	Vizagapatnam.	Vizagapatnam circle	855 5 9	1,762 7 9	5,123 13 2	...	1,069 15 5	4,053 13 9	...	5,123 13 2	27,759	27,759	0 2 11
25		Government vaccinators (Undem Hills).	144 0 0	176 4 3	665 5 10	...	665 5 10	...	...	665 5 10	1,148	1,148	0 7 4
26		Vizagapatnam circle	705 13 11	1,189 11 3	4,698 12 3	...	1,827 12 0	3,271 0 3	...	4,698 12 3	23,665	23,665	0 3 1
27		Government vaccinators, Palkonda Agency.	862 4 5	1,034 14 4	4,317 2 11	...	1,322 2 5	3,025 0 6	...	4,317 2 11	23,331	23,331	0 3 0
28	Vizagapatnam.	Government vaccinators, Palkonda Agency.	117 10 0	31 6 2	207 0 2	...	267 0 2	...	...	267 0 2	512	512	0 8 4
29		Gundur circle	1,307 0 9	851 1 0	3,971 7 6	...	1,432 13 8	2,538 9 10	...	3,971 7 6	10,531	10,531	0 6 0
30		Total of district	4,022 2 10	5,086 13 3	18,973 9 10	...	6,085 1 6	12,388 8 4	...	18,973 9 10	87,144	87,144	0 3 6
31		Jeyore circle	1,083 14 2	691 2 6	4,273 1 2	...	1,884 14 7	2,388 2 7	...	4,273 1 2	14,285	14,285	0 4 9
32	Koraput.	Koraput do.	876 4 3	492 1 6	3,475 3 4	...	1,724 5 6	1,750 13 10	...	3,475 3 4	9,750	9,750	0 5 8
33		Total of district	1,940 2 5	1,153 4 0	7,748 4 6	...	3,109 4 1	4,639 0 5	...	7,748 4 6	21,035	21,035	0 5 2
34		Total of districts in the Northern range.	22,023 15 9	19,008 13 2	1,02,792 8 8	...	40,097 10 9	62,694 13 11	...	1,02,792 8 8	374,610	374,610	0 4 5
35		Anakapalle	...	86 1 4	266 1 4	...	...	...	...	266 1 4	834	834	0 5 1
36	Municipalities.	Berhanpur	...	23 8 7	317 8 7	...	...	...	...	317 8 7	1,206	1,206	0 4 3
37		Bezawada	...	41 5 7	476 8 2	...	...	...	...	476 8 2	1,397	1,397	0 5 5
38		Bhimipatam	...	63 2 8	239 8 11	...	...	...	...	239 8 11	530	530	0 7 3
39		Chicaole	...	88 8 5	268 8 5	...	...	...	...	268 8 5	825	825	0 5 2
40		Cucanada	...	114 5 7	591 2 5	...	...	...	...	591 2 5	1,750	1,750	0 5 5
41		Ellore	...	134 14 0	591 9 1	...	...	...	...	591 9 1	2,721	2,721	0 3 6
42		Gundur	...	192 11 0	823 3 3	...	...	...	...	823 3 3	2,972	2,972	0 4 5
43		Masulipatam	...	258 5 3	778 13 3	...	...	...	...	778 13 3	2,812	2,812	0 5 5
44		Narasaraopet	...	90 13 8	233 1 3	...	...	...	...	233 1 3	946	946	0 3 11
45		Nellore	...	86 6 5	347 3 3	...	...	...	...	347 3 3	1,269	1,269	0 4 7
46		Oragole	...	51 5 10	242 5 10	...	...	...	...	242 5 10	1,492	1,492	0 2 7
47		Parlakimedi	...	22 11 9	262 11 9	...	...	...	...	262 11 9	613	613	0 6 10
48		Peddapuram	...	38 4 7	182 4 7	...	...	...	...	182 4 7	218	218	0 13 5
49		Rajahmundry	...	64 5 5	488 3 11	...	...	...	...	488 3 11	2,387	2,387	0 3 7
50		Tenali	...	81 13 7	291 13 7	...	...	...	...	291 13 7	1,158	1,158	0 3 7
51		Vizagapatnam	...	161 0 3	607 0 3	...	...	...	...	607 0 3	1,529	1,529	0 6 4
52		Vizagapatnam	...	127 0 2	499 11 8	...	...	...	...	499 11 8	3,250	3,250	0 2 6
53	Total of Municipalities in the Northern range.	Total of Municipalities in the Northern range.	...	1,756 11 10	7,577 7 6	...	...	...	...	7,577 7 6	27,209	27,209	0 4 5
54		Grand Total of Northern range	22,023 15 9	20,735 9 0	1,10,270 0 2	...	40,097 10 9	62,694 13 11	...	1,10,270 0 2	401,819	401,819	0 4 5

* Includes cost of lymph supplied by King Institute of Preventive Medicine during 1917-18.

A—VACCINE DEPARTMENT—cont.

Statement No. II showing the Cost of the Department in the Madras Presidency for the official year 1917-18—cont.

Expenditure.																
Number.	District.	Circles.	Inspector of Vaccination and Deputy Sanitary Commissioner.				Deputy Inspectors.			Vaccinators.				Peons, etc.		Total pay of establishment.
			Pay.	First grade.	Second grade.	Third grade.	Pay.	First class.	Second class.	Probationers.	Pay.	Number.	Pay.			
1	3		4	5	6	7	8	9	10	11	12	13	14	15	16	
CENTRAL RANGE.																
1	Anantapur.	Anantapur circle	...	...	...	...	1	450 0 0	3	3	3	1,545 9 3	1	95 8 7	2,120 12 10	
2		Penakonda do.	...	...	...	...	1	480 0 0	3	3	5	1,816 1 0	1	88 0 0	2,484 1 0	
		Total of district	...	...	...	...	2	930 0 0	6	6	8	3,361 10 3	2	183 3 7	4,604 13 10	
3	Bellary.	Bellary circle	...	...	...	...	1	770 8 0	5	5	1	1,409 8 10	1	79 4 8	2,339 5 6	
4		Hosangudi do.	...	...	...	...	1	460 0 0	3	3	...	1,242 2 7	1	93 0 0	1,835 2 7	
		Total of district	...	...	...	...	1	1,230 8 0	8	12	1	2,751 11 5	2	172 4 8	4,154 8 1	
5	Chingleput.	Chingleput circle	...	...	...	...	1	754 14 0	...	4	...	1,572 5 0	1	88 5 2	2,813 8 2	
6		Siddapur do.	...	...	...	...	1	918 1 4	...	4	...	1,348 12 7	1	53 7 6	2,360 5 5	
7		Ponneri do.	...	...	...	...	1	909 8 8	...	4	...	1,164 9 10	1	55 0 0	2,169 2 6	
		Total of district	...	...	...	...	2	2,582 8 0	...	13	...	4,155 11 5	3	274 12 8	7,343 0 1	
8	Chittoor.	Chittoor circle	...	...	...	...	1	480 0 0	6	3	1	1,600 14 2	1	93 0 0	2,173 14 2	
9		Karvetimgar circle	...	...	...	...	1	480 0 0	6	7	1	2,062 4 3	1	89 8 9	2,571 11 0	
		Total of district	...	...	...	...	2	960 0 0	12	10	2	3,663 2 5	2	182 6 9	4,745 9 2	
10	Cuddapah.	Cuddapah circle	...	...	...	...	1	1,055 12 10	3	5	...	1,154 2 5	1	86 6 0	2,305 5 3	
11		Proddatur do.	...	...	...	...	1	480 0 0	2	5	...	1,130 10 5	1	101 0 0	1,711 10 5	
12		Sidhout do.	...	...	...	...	1	480 0 0	2	6	...	1,304 9 1	1	100 0 0	1,884 9 1	
		Total of district	...	...	...	...	3	2,015 12 10	7	15	...	3,539 5 11	3	287 6 0	5,302 8 9	

13	Cumbham circle	...	...	...	...	...	1	974 13 5	4	4	5	1,943 7 0	1	99 0 0	2,917 4 5
14	Kurnool do.	...	...	...	...	...	1	653 10 4	4	4	4	1,757 5 1	1	99 0 0	2,509 15 5
Total of district															
15	Vellore circle	...	...	...	...	...	1	720 0 0	3	...	...	72 4 0	1	96 0 0	1,540 0 0
16	Ranipettai do.	...	...	...	...	...	1	995 1 10	1	2	...	662 14 3	1	96 0 0	1,754 0 3
17	Polur do.	...	...	...	...	...	1	480 0 0	2	1	...	645 8 7	1	96 0 0	1,221 8 7
18	Tirupattur do.	...	...	...	...	...	1	720 0 0	3	6	...	1,249 1 11	1	98 0 0	2,165 1 11
Total of district															
19	Salem circle	...	...	...	...	...	1	2,915 1 10	9	9	1	3,381 8 11	4	384 0 0	6,680 10 9
20	Sakkari do.	...	...	...	...	...	1	480 0 0	3	4	...	918 10 0	1	80 7 4	1,609 1 4
21	Hosur do.	...	...	...	...	...	1	560 12 9	2	7	...	1,222 7 9	1	84 0 0	1,867 4 6
Total of district															
22	Cuddalore circle	...	...	...	...	...	1	1,730 12 9	6	20	...	2,964 1 7	2	247 8 8	5,022 7 0
23	Viduthichalam do.	...	...	...	...	...	1	720 0 0	...	4	...	1,002 15 6	1	96 0 0	1,818 15 6
24	Tirukottai do.	...	...	...	...	...	1	480 0 0	3	3	...	839 9 9	1	96 0 0	1,515 9 9
25	Tindivanam do.	...	...	...	...	...	1	645 0 0	2	3	...	819 0 8	1	108 0 0	1,572 0 8
26	Villupuram do.	...	...	...	...	...	1	786 2 7	2	2	...	1,259 10 10	1	96 0 0	1,641 13 5
Total of district															
27	Cuddalore circle	...	...	...	...	...	1	3,215 1 7	7	16	3	5,045 6 8	5	402 0 0	8,752 8 3
Total of circles in the Central Range															
Total of Municipalities															
1	Adoni	...	...	...	...	...	1	...	...	...	...	305 13 5	...	...	305 13 5
2	Anantapur	...	...	...	...	...	1	...	...	...	...	129 0 0	...	...	129 0 0
3	Bellary	...	...	...	...	...	1	...	...	...	...	578 10 7	...	...	578 10 7
4	Chidambaram	...	...	...	...	...	1	...	...	...	...	253 0 0	...	...	253 0 0
5	Chingleput	...	...	...	...	...	1	...	...	...	...	120 12 10	...	...	120 12 10
6	Chittoor	...	...	...	...	...	1	...	...	...	...	165 0 0	...	...	165 0 0
7	Conjeevaram	...	...	...	...	...	1	...	...	...	...	319 0 0	...	...	319 0 0
8	Cuddalore	...	...	...	...	...	1	...	...	...	...	420 0 0	...	...	420 0 0
9	Cuddapah	...	...	...	...	...	1	...	...	...	...	174 0 4	...	...	174 0 4
10	Gudiyatom	...	...	...	...	...	1	...	...	...	...	135 0 9	...	...	135 0 9
11	Hespet	...	...	...	...	...	1	...	...	...	...	148 11 4	...	...	148 11 4
12	Kurnool	...	...	...	...	...	1	...	...	...	...	275 0 0	...	...	275 0 0
13	Madras	...	...	...	...	...	1	...	...	...	...	7,809 9 10	10	1,196 2 0	9,005 11 10
14	Nandyal	...	...	...	...	...	1	...	...	...	...	191 0 0	...	...	191 0 0
15	Proddatur	...	...	...	...	...	1	...	...	...	...	180 0 0	...	...	180 0 0
16	Salem	...	...	...	...	...	1	...	...	...	...	859 0 3	...	...	859 0 3
17	Tirupattur	...	...	...	...	...	1	...	...	...	...	240 0 0	...	...	240 0 0
18	Tirupathi	...	...	...	...	...	1	...	...	...	...	204 0 0	...	...	204 0 0
19	Tiravanamalai	...	...	...	...	...	1	...	...	...	...	215 0 0	...	...	215 0 0
20	Vaniyambadi	...	...	...	...	...	1	...	...	...	...	150 0 0	...	...	150 0 0
21	Vellore	...	...	...	...	...	2	...	...	...	...	420 12 0	...	...	420 12 0
22	Walajpet	...	...	...	...	...	1	...	...	...	...	159 8 0	...	...	159 8 0
Total of Municipalities															
Total of Municipalities															

* Includes the pay of Assistant Vaccinators and a Vaccinator.

A.—VACCINE DEPARTMENT—cont.

Statement No. II showing the Cost of the Department in the Madras Presidency for the official year 1917-18—cont.

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A—VACCINE DEPARTMENT—cont.

Statement No. II showing the Cost of the Department in the Madras Presidency for the official year 1917-18—cont.

Expenditure.																
Number.	Districts.	Circles.	Inspector of Vaccination and Deputy Sanitary Commissioner.	Pay.	Deputy Inspectors.				Vaccinators.				Peons, etc.		Total pay of establishment.	
					First grade.	Second grade.	Third grade.	Pay.	First class.	Second class.	Probationers.	Pay.	Number.	Pay.		
1		3	4	5	6	7	8	9	10	11	12	13	14	15	16	
CENTRAL RANGE—cont.																
		Bangalore Cantonment	...	...	1	...	...	...	1	1	...	386 0 0	...	...	386 0 0	
		Seydumbad do.	...	...	1	...	...	1,080 0 0	1	3	...	950 6 2	4	340 2 5	2,370 3 7	
		Total of Cantonments	...	...	1	...	...	1,080 0 0	2	4	...	1,286 6 2	4	340 2 5	2,706 8 7	
		Grand Total of Central Range	...	...	7	6	14	18,378 4 9	80	128	31	47,471 13 2	40	3,957 14 9	69,567 15 8	
SOUTHERN RANGE.																
1	Colombatore.	North Colombatore circle	...	...	1	...	...	712 0 0	3	5	2	1,559 5 11	1	94 7 3	2,395 13 3	
2		East do.	...	...	1	...	...	840 0 0	1	7	1	1,475 6 0	1	96 0 0	2,411 6 0	
3		South do.	...	...	1	...	...	450 0 0	2	3	2	1,006 3 7	1	95 8 0	1,581 11 7	
4		Central do.	...	...	1	...	...	840 0 0	2	6	1	1,248 7 1	1	98 0 0	2,294 7 7	
		Total of district	...	...	2	1	1	2,872 0 0	8	21	6	5,839 7 1	4	381 15 3	8,593 6 4	
5	Madura.	Dindigul circle	...	...	...	1	...	655 2 7	...	4	...	1,161 18 9	1	140 0 0	1,918 15 7	
6		Madura do.	...	...	...	1	...	720 0 0	...	4	...	1,569 2 7	1	101 0 0	2,390 2 7	
7		Usilampatti do.	...	...	...	...	1	...	480 0 0	...	4	...	1,828 10 2	1	101 0 0	1,869 10 2
		Total of district	...	...	...	2	1	1,855 2 7	...	12	...	3,459 9 9	3	302 0 0	4,116 12 4	
8	Malabar.	Tellicherry circle	...	...	...	...	...	571 5 4	2	8	...	1,947 1 11	1	102 0 0	2,650 7 3	
9		Calicut do.	...	...	...	...	...	470 0 0	3	6	...	1,877 4 5	1	102 0 0	2,419 4 5	
10		Palghat do.	...	...	...	...	1	...	574 3 1	3	9	...	2,063 5 9	1	100 8 0	2,768 0 1
11		Malapuranam do.	...	...	...	...	...	...	480 0 0	3	8	...	1,534 19 11	1	102 0 0	2,436 10 11
		Total of district	...	...	...	1	3	2,095 8 5	11	31	...	7,772 6 2	4	408 8 0	10,274 6 8	

12	Nilgiris circle	...	...	...	...	...	...	721 10 7	3	...	...	...	...	1,049 0 5	1	117 4 8	1,887 15 8
13	...	Total of district	...	...	...	...	...	721 10 7	3	...	...	...	...	1,049 0 5	1	117 4 8	1,887 15 8
14	Sivilliputtur circle	...	...	...	...	...	...	952 0 2	3	5	1	...	...	1,611 7 4	1	160 0 0	2,633 7 3
15	...	Ramanad do.	...	...	...	...	...	740 12 0	3	8	1	...	...	2,092 15 2	1	95 15 9	2,987 12 3
16	...	Thirupattur circle	...	...	...	...	...	680 0 0	3	8	1	...	...	1,484 6 7	1	91 8 0	2,265 14 7
17	...	Total of district	...	...	...	...	...	2,372 12 11	9	19	3	...	...	5,195 13 8	3	287 7 9	7,706 2 4
18	...	Northern circle	...	...	...	...	...	720 0 0	1	3	...	...	...	1,655 2 7	1	102 0 0	2,467 2 7
19	...	Central do.	...	...	...	...	...	1,008 12 8	2	1	...	...	...	1,881 11 10	1	102 0 0	2,942 8 6
20	...	Southern do.	...	...	...	...	...	480 0 0	1	5	...	...	...	2,093 7 6	1	102 0 0	2,675 7 6
21	...	Total of district	...	...	...	...	...	2,208 12 8	4	9	...	...	...	5,580 5 11	3	303 0 0	8,106 2 7
22	...	Tanjore circle	...	...	...	...	...	720 0 0	2	5	...	...	...	1,255 5 3	1	95 14 0	2,102 3 3
23	...	Neyyattur do.	...	...	...	...	...	768 14 2	2	6	...	...	...	1,457 7 2	1	100 1 2	2,330 6 8
24	...	Palakkottai do.	...	...	...	...	...	780 0 0	2	10	...	...	...	1,900 10 5	1	102 0 0	2,782 10 5
25	...	Kumbakonam do.	...	...	...	...	...	480 0 0	2	11	...	...	...	1,710 11 6	1	102 0 0	2,292 11 6
26	...	Total of district	...	...	...	...	...	2,748 14 3	9	32	4	...	...	6,554 2 4	4	450 15 3	9,503 15 10
27	...	Sermadavi circle	...	...	...	...	...	727 8 11	4	3	...	...	...	1,822 12 2	1	102 0 0	2,162 5 1
28	...	Srivasthikottam do.	...	...	...	...	...	820 0 0	3	5	...	...	...	1,169 1 1	1	102 0 0	2,091 1 7
29	...	Kovilpatti do.	...	...	...	...	...	622 5 4	1	4	...	...	...	816 2 2	1	102 0 0	1,540 7 6
30	...	Total of district	...	...	...	...	...	2,179 14 3	8	12	5	...	...	5,337 15 11	3	303 0 0	5,833 14 2
31	...	Trichinopoly circle	...	...	...	...	...	886 10 8	4	8	...	...	...	1,932 8 7	1	95 0 0	2,915 2 3
32	...	Arifalar do.	...	...	...	...	...	824 3 1	4	6	...	...	...	1,401 3 1	1	113 10 6	2,339 0 8
33	...	Namakkal do.	...	...	...	...	...	480 0 0	3	6	...	...	...	2,194 11 3	1	95 0 0	2,766 11 3
34	...	Total of district	...	...	...	...	...	2,160 13 9	11	18	5	...	...	5,518 6 11	3	305 10 6	8,014 15 2
35	...	Total of circles in the Southern Range	...	...	...	...	...	19,245 9 5	63	154	36	...	...	44,057 4 3	25	2,813 12 5	66,116 11 1
36	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
37	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
38	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
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41	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
42	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
43	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
44	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
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46	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
47	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
48	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
49	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
50	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
51	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
52	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

* Medical Officer with vaccination allowances

† The posts of Vaccinators in this municipality are not graded.

A—VACCINE DEPARTMENT—cont.

Statement No. II showing the Cost of the Department in the Madras Presidency for the official year 1917-18—cont.

Number.	Districts.	Circles—cont.	Expenditure—cont.				Paid from				Number of all successful primary vaccination.	Average cost of each successful case.
			Traveling allowance.	Contingencies.	Total cost.	Imperial funds.	Provincial funds.	Local funds.	Municipal funds.	Total.		
			17	18	19	20	21	22	23	24	25	26
			RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.		
1		CENTRAL RANGE—cont.										
2		Bangalore Cantonment	240 0 0	4 3 4	59 2 4	580 3 4				59 2 4	590	0 15 9
3		Secunderabad do.	180 0 0	670 12 4	2,227 5 11					3,227 4 11	5,670	0 9 1
4		Total of Cantonment	420 0 0	680 15 8	3,867 8 3	580 3 4				3,907 8 3	6,260	0 9 9
5		Grand Total of Central Range	17,875 5 7	21,784 6 6	1,06,067 11 9	580 3 4	32,205 3 7	57,057 14 0	18,024 6 10	1,00,067 11 9	378,732	0 1 8
6		SOUTHERN RANGE—cont.										
7		North Coimbatore circle	422 3 4	362 8 9	3,721 9 3		1,440 0 6	2,932 8 9		2,751 9 3	12,403	0 4 9
8		East do.	1,439 7 6	839 3 8	3,566 1 2		1,564 6 7	2,245 10 7		3,991 1 3	18,120	0 4 7
9		South do.	535 5 2	820 8 3	5,030 8 11		1,025 4 2	1,805 4 5		2,831 9 11	11,346	0 3 2
10		Central do.	741 13 5	1,021 0 11	3,307 5 2		1,587 2 3	2,410 8 11		3,997 3 2	14,410	0 4 3
11		Total of district	3,191 15 8	5,694 5 5	14,572 11 6		5,625 18 7	8,593 14 11		14,471 11 0	54,377	0 4 3
12		Dindigul circle	770 8 4	765 11 7	3,451 3 6		1,205 11 10	9,947 7 8		3,452 3 6	12,727	0 4 4
13		Madurai do.	736 13 4	722 2 7	3,019 2 6		1,224 2 0	2,375 6 6		3,600 2 6	13,361	0 4 8
14		Udhampatti do.	1,000 14 3	680 8 1	3,507 6 6		1,250 2 3	2,343 12 8		3,497 5 4	11,172	0 5 0
15		Total of district	2,574 8 11	2,168 6 3	10,839 6 0		3,680 1 8	7,169 4 10		10,830 6 4	37,103	0 4 8
16		Tellicherry circle	1,035 5 6	1,373 4 0	5,023 14 3		1,467 5 10	3,651 8 5		5,028 14 3	22,396	0 3 7
17		Calicut do.	1,273 10 1	1,323 4 8	6,049 3 2		1,352 9 5	3,305 9 5		4,657 3 2	18,350	0 4 4
18		Palghat do.	1,207 6 3	1,537 14 5	5,633 4 9		1,333 4 1	4,270 6 8		5,603 1 0	24,437	0 2 7
19		Malappuram do.	1,297 14 2	1,524 6 1	5,233 15 2		1,241 7 1	3,837 3 1		5,078 15 2	25,027	0 3 4
20		Total of district	4,875 1 0	6,037 13 8	21,367 5 4		5,431 10 9	15,512 30 7		21,307 6 4	90,100	0 3 8

12		Nilgiris Circle	638 4 6	846 11 11	3,191 0 1		1,993 11 3	1,197 4 10		3,191 0 1	4,673	0 10 11
13		Total of district	638 4 6	846 11 11	3,191 0 1		1,993 11 3	1,197 4 10		3,191 0 1	4,673	0 10 11
14		Srivillipattur circle	998 3 10	695 6 9	4,348 2 1		1,822 3 8	2,455 14 10		4,348 2 1	15,874	0 4 6
15		Rameswaram do.	361 10 7	586 0 11	3,914 7 3		1,332 5 9	2,482 1 6		3,914 7 3	16,231	0 3 9
16		Tirupattur circle	859 0 2	841 2 10	3,938 1 7		1,243 12 6	2,719 5 1		3,963 1 7	16,465	0 3 9
17		Total of district	2,215 14 1	3,113 10 6	12,225 10 11		4,408 5 6	7,657 5 5		12,225 10 11	48,123	0 2 0
18		Northern circle	872 3 1	389 4 3	3,743 10 4		1,275 1 0	2,473 3 4		3,743 10 4	15,475	0 4 9
19		Central do.	375 8 3	450 12 9	3,743 13 6		1,534 13 5	2,704 0 1		4,268 13 6	17,227	0 6 0
20		Southern do.	1,023 1 9	490 11 3	4,192 4 6		1,106 6 10	3,095 13 8		4,192 4 6	12,407	0 6 2
21		Total of district	2,273 13 1	1,330 12 8	12,209 12 4		4,006 11 3	8,203 1 1		12,209 12 4	29,509	0 5 4
22		Tanjore circle	368 15 10	589 6 3	3,020 9 4		1,174 11 4	1,851 14 0		3,029 9 4	13,892	0 3 5
23		Nagapattinam do.	335 15 1	673 6 2	3,305 11 11		1,189 7 0	2,146 4 11		3,335 11 11	12,601	0 3 4
24		Pattukottai do.	835 3 6	638 10 5	4,045 8 4		1,442 3 0	2,604 4 10		4,046 8 4	17,284	0 3 8
25		Kumbakonam do.	371 9 3	1,084 3 4	5,748 8 1		981 6 9	2,787 1 4		3,748 8 1	16,618	0 3 7
26		Total of district	1,441 11 8	3,214 10 2	14,160 5 8		4,767 12 7	9,392 9 1		14,160 5 8	68,745	0 3 6
27		Semraidevi circle	292 13 8	720 6 8	3,305 9 0		1,234 1 2	1,971 7 10		3,305 9 0	17,541	0 3 0
28		Sriekankulam do.	674 13 10	902 8 2	3,618 7 7		1,234 4 6	2,264 3 1		3,618 7 7	19,745	0 2 6
29		Kolipatti do.	579 0 11	603 6 3	2,762 14 8		1,124 7 4	1,658 7 4		2,762 14 8	17,479	0 2 6
30		Total of district	1,496 12 0	2,286 5 1	9,606 15 3		3,712 13 0	5,894 2 3		9,606 15 3	41,766	0 3 5
31		Tiruchinopoly circle	821 0 6	527 15 0	4,827 2 8		1,523 15 8	3,100 2 11		4,827 2 8	18,360	0 4 0
32		Arifalur do.	563 1 7	864 6 6	3,756 8 9		1,347 15 10	2,408 8 11		3,756 8 9	13,350	0 4 6
33		Namakkal do.	219 9 1	742 5 11	3,722 10 3		980 11 0	2,731 15 3		3,722 10 3	15,357	0 3 9
34		Total of district	1,638 11 1	2,424 11 5	12,106 5 8		3,865 10 7	8,240 11 1		12,106 5 8	47,537	0 4 0
35		Total of circles in the Southern Range	19,972 7 0	23,957 7 2	1,10,046 9 3		37,825 10 2	72,220 15 1		1,10,046 9 3	437,492	0 4 0
36		Bedinayakanur		35 15 10	207 4 6					207 4 6	1,172	0 2 9
37		Calicut		339 3 11	834 15 3					834 15 3	6,524	0 1 11
38		Coimbatore		93 5 0	365 5 0					365 5 0	2,353	0 2 1
39		Coimbatore		83 12 8	284 6 6					284 6 6	1,437	0 2 9
40		Coimbatore		172 0 8	846 2 5					846 2 5	1,875	0 4 1
41		Coimbatore		43 8 6	273 4 6					273 4 6	1,061	0 4 2
42		Dindigul		56 0 9	323 15 9					323 15 9	440	0 7 6
43		Dharmapuri		29 15 8	205 15 8					205 15 8	572	0 6 9
44		Erudalur		48 0 8	241 15 7					241 15 7	694	0 7 5
45		Karur		14 3 4	325 3 4					325 3 4	277	0 12 6
46		Kudakulam		7 2 6	217 2 6					217 2 6	277	0 4 5
47		Kumbakonam		23 13 0	567 3 5					567 3 5	3,040	0 2 6
48		Madurai		1,560 0 4	8,708 7 8					8,708 7 8	23,651	0 2 6

* Paid from Local, Abkari, etc., funds.

A—VACCINE DEPARTMENT—cont.

Statement No. II showing the Cost of the Department in the Madras Presidency for the official year 1917-18—cont.

Expenditure.															
Number	Districts.	Circles.	Inspector of Vaccination and Deputy Sanitary Commissioner.	Deputy Inspectors.				Vaccinators.				Peons.		Total pay of establishment.	
				Pay.	First Grade.	Second Grade.	Third Grade.	Pay.	First class.	Second class.	Probationers.	Pay.	Number.		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
SOUTHERN RANGE—cont.															
14				RS. A. P.				RS. A. P.				RS. A. P.			RS. A. P.
15				...	...	...	...	...	1	1	...	207 8 0	...	16 0 0	507 8 0
16				...	...	...	...	...	1	1	...	461 7 3	...	...	647 7 3
17				...	...	...	...	...	...	2	1	666 0 0	...	...	212 0 0
18				...	...	...	...	...	1	1	...	278 0 0	...	...	556 0 0
19				...	...	...	...	...	1	1	...	278 0 0	...	...	278 0 0
20				...	...	...	...	...	1	1	...	402 10 0	...	84 0 0	486 10 0
21				...	...	...	...	...	1	1	...	428 6 10	...	...	428 6 10
22				...	...	...	...	...	1	1	...	188 0 0	...	...	188 0 0
23				...	...	...	...	...	1	1	...	293 11 1	...	...	293 11 1
24				...	...	...	...	...	1	1	...	238 0 0	...	...	238 0 0
25				...	...	...	...	...	1	3	...	120 0 0	...	...	120 0 0
26				...	...	...	...	...	1	1	...	478 9 3	...	...	478 9 3
27				...	...	...	...	...	1	1	...	303 0 0	...	...	303 0 0
28				...	...	...	...	...	1	1	...	438 3 7	...	78 0 0	377 0 0
29				...	...	...	...	...	1	1	...	1,132 7 5	...	36 0 0	1,132 7 5
30				...	...	...	...	...	1	1	...	192 0 0	...	...	192 0 0
31				...	...	...	...	...	1	1	...	239 2 7	...	...	239 2 7
				...	...	...	...	...	...	1	1	243 0 0	...	...	243 0 0
				...	...	...	...	...	...	...	...	12,001 4 4	5	438 0 0	12,139 4 4
				...	...	...	...	...	...	...	...	56,093 8 7	33	3,251 13 5	78,555 13 5
				...	...	...	...	...	...	...	...	...	...	...	9,000 0 0
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				...	...	...	...	...	...	...	...				

* No pay or travelling allowance was drawn by the newly appointed Deputy Sanitary Commissioner, Southern Range, during 1917-18.

A—VACCINE DEPARTMENT—cont.

Statement No. II showing the Cost of the Department in the Madras Presidency for the official year 1917-18—cont.

Number.	Districts.	Circles—cont.			Expenditure—cont.					Paid from					Total.	Number of all successful primary vaccination.	Average cost of each successful case.				
		Travelling allowance.	Contingencies.	Total cost.	Imperial funds.	Provincial funds.	Local funds.	Municipal funds.	Rs.	A.	P.	Rs.	A.	P.				Rs.	A.	P.	
SOUTHERN RANGE—cont.																					
14					41	11	3	249	3	8	3	244	8	3	244	8	3				
15					61	15	11	669	7	2	2	609	7	2	609	7	2				
16					44	4	8	260	4	3	3	260	4	3	260	4	3				
17					187	2	2	732	2	2	2	732	2	2	732	2	2				
18					81	3	10	289	3	10	9	368	3	10	368	3	10				
19					64	0	9	550	10	9	550	10	9	550	10	9					
20					118	14	7	550	4	5	5	559	4	5	559	4	5				
21					34	15	1	250	15	2	2	220	15	2	220	15	2				
22					26	15	1	263	10	3	3	263	10	3	263	10	3				
23					60	14	4	298	14	4	4	298	14	4	298	14	4				
24					70	8	3	160	8	3	3	150	8	3	150	8	3				
25					186	6	4	602	15	7	7	662	15	7	662	15	7				
26					64	5	8	431	5	8	8	431	5	8	431	5	8				
27					153	8	11	714	12	6	6	714	12	6	714	12	6				
28					131	9	7	1,264	0	6	6	1,264	0	6	1,264	0	6				
29					239	5	11	239	5	11	11	239	5	11	239	5	11				
30					49	7	10	308	10	5	5	308	10	5	308	10	5				
31					73	2	1	316	2	10	10	316	2	10	316	2	10				
					40	0	0	4,026	10	9	9	16,505	15	1	16,505	15	1				
					20,012	7	0	27,984	1	11	11	1,26,562	8	4	1,26,562	8	4				
					5,855	5	0	13,285	5	0	0	13,285	5	0	13,285	5	0				
					46,597	1	4	47,014	1	5	5	1,23,418	13	8	1,23,418	13	8				
					Total of municipalities													76,899	0	3	5
					Grand Total of Southern Range													514,881	0	8	11
					Madras Presidency													13,285	5	0	...
					Grand Total													1,23,418	13	8	1,23,418

* No pay or travelling allowance was drawn by the newly appointed Deputy Sanitary Commissioner, Southern Range, during 1917-18.

† Includes cost of lymph supplied from the King Institute of Preventive Medicine, Guindy, during 1917-18.

N.B.—The average cost of each successful case was calculated on the total number of successful vaccinations performed by the special staff only, viz., Local Fund, Government, Municipal and Cantonment staffs (vide G.O. No. 1158 L, dated 4th September 1911).

B—DISPENSARY VACCINATION.

Statement No. III showing Dispensary Vaccination in Madras Presidency for the official year 1917-18.

Districts.	Number of dispensaries in each district to which a vaccinator is attached.	Average number of vaccinators attached to dispensaries during the year.	Total number of persons vaccinated.	Average number of persons vaccinated by each vaccinator.	Total number of operations.	Primary vaccination.				Re-vaccination.			Percentage of successful cases in which the results were known.		Percentage unknown or total operations.
						Under one year.	Successful.			Total number of operations.	Successful.	Unknown.	Primary vaccination.	Re-vaccination.	
							Over one and under six years.	Total of all ages.	Unknown.						
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
NORTHERN RANGE.															
Godavari (L.F. hospital, Amalapur).	...	...	5	...	...	...	...	...	...	...	4	1	...	100.0	...
Guntur	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Kistna	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Nellore	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Vizagapatam	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Koraput	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total	...	...	5	...	...	...	...	...	...	5	4	1	...	100.0	...
CENTRAL RANGE.															
Anantapur	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Bellary	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Chingleput	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Chittoor	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cuddapah	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Kurnool	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Madras	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
North Arcot	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Salem	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
South Arcot	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
SOUTHERN RANGE.															
Coimbatore	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Madura (Municipal hospital, Kodakānal).	...	...	292	...	191	144	25	189	...	101	88	...	99.0	87.1	...
Malabar	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Nilgiris	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Rāmnād	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
South Kanara	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Tanjore	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Tinnevely	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Trichinopoly	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total	...	...	292	...	191	144	25	189	...	101	88	...	99.0	87.1	...
Grand total	...	...	297	...	191	144	25	189	...	106	92	1	99.0	87.1	...

Statement No. IV showing the number of persons primarily vaccinated and the number of those persons who were successfully vaccinated in the Madras Presidency in each of the undermentioned years.

	Persons primarily vaccinated.															
	1908-1909.		1909-1910.		1910-1911.		1911-1912.		1912-1913.		1913-1914.		1914-1915.		1915-1916.	
	Total number.	Number successfully vaccinated.	Total number.	Number successfully vaccinated.	Total number.	Number successfully vaccinated.	Total number.	Number successfully vaccinated.	Total number.	Number successfully vaccinated.	Total number.	Number successfully vaccinated.	Total number.	Number successfully vaccinated.	Total number.	Number successfully vaccinated.
Government vaccinators ...	12,478	11,319	12,448	11,753	11,214	10,276	11,897	10,545	15,546	13,254	17,492	17,015	19,843	17,895	16,052	14,388
Local Fund do. ...	1,372,823	1,235,899	1,319,314	1,168,629	1,240,602	1,027,398	1,323,361	1,183,107	1,277,687	1,118,543	1,338,023	1,222,786	1,333,727	1,188,461	1,332,471	1,155,551
Cantonment do. ...	5,164	5,072	4,134	4,023	4,187	3,963	3,606	3,421	4,821	4,081	5,021	4,918	4,282	3,939	4,354	4,152
Zamindari do. ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Municipal do. ...	110,609	106,433	111,045	104,198	111,754	102,748	111,070	103,025	103,170	99,018	110,076	103,311	113,408	108,722	112,146	10,853
Dispensaries do. ...	120	120	18	18	5	5	65	60	17	11	0	6	1	...	99	96
Medical Subordinates ...	1,045	758	369	214	411	229	497	322	206	116	136	114	181	117	1,681	1,464
Total	1,503,308	1,380,511	1,447,321	1,284,830	1,368,173	1,144,613	1,456,458	1,250,527	1,401,547	1,235,635	1,467,757	1,361,748	1,471,349	1,317,171	1,466,803	1,232,676

* As per G.O. No. 1158 L, M.S., dated 4th September 1911.

Statement No. V showing particulars of Vaccination verified by Inspecting Officers during 1917-18.

Districts.	Total number of persons vaccinated.	Total number inspected.				Percentage of inspection to total number vaccinated.						Percentage of cases found successful to total number inspected.						Percentage of success as reported by Vaccinators.			
		By District Medical and Sanitary Officers and Civil Surgeons.		By Deputy Inspectors of Vaccination.		By Sanitary Assistants to District Medical and Sanitary Officers.		By District Medical and Sanitary Officers and Civil Surgeons.		By Deputy Inspectors of Vaccination.		By Sanitary Assistants to District Medical and Sanitary Officers.		By District Medical and Sanitary Officers and Civil Surgeons.		By Deputy Inspectors of Vaccination.			By Sanitary Assistants to District Medical and Sanitary Officers.		
		Primary vaccination.	Re-vaccination.	Primary vaccination.	Re-vaccination.	Primary vaccination.	Re-vaccination.	Primary vaccination.	Re-vaccination.	Primary vaccination.	Re-vaccination.	Primary vaccination.	Re-vaccination.	Primary vaccination.	Re-vaccination.	Primary vaccination.	Re-vaccination.		Primary vaccination.	Re-vaccination.	Primary vaccination.
NORTHERN RANGE.																					
Ganjam ..	63,466	21,672	1,267	1,013	48,831	15,993	..	19	20	4.8	76.9	72.8	..	0.3	86.8	86.5	78.8	63.4	..	94.7	80.9
Koraput ..	56,203	6,485	1,261	280	47,610	2,717	149	46	2.2	4.5	84.7	41.9	..	2.3	83.9	41.0	54.8	39.2	..	84.6	57.7
Kandhamar ..	68,619	23,122	67	..	42,538	6,137	1,340	..	1.1	10.9	72.6	26.5	..	0.2	92.1	..	74.6	67.0	..	65.2	89.0
Kishna ..	68,895	7,533	2,335	811	61,362	2,012	1,660	..	8.3	..	82.3	26.7	0.2	..	91.8	62.6	77.1	45.9	100.0	..	77.4
Nellore ..	84,422	14,350	432	106	70,070	21,111	..	..	1.2	0.7	61.3	39.8	..	..	88.6	50.9	63.4	54.5	..	..	86.6
Vizagapatam ..	87,177	20,431	1,049	22	66,746	21,680	..	..	1.8	0.1	58.2	73.5	..	..	83.9	40.9	77.2	48.1	..	..	77.2
Koraput ..	24,820	4,941	576	127	19,883	2,880	..	..	4.0	2.8	65.3	58.3	..	..	87.9	75.2	72.5	65.5	..	..	72.0
Total ..	391,201	107,884	8,641	2,379	281,759	57,047	1,649	65	21	2.2	72.0	52.9	0.4	0.1	88.8	70.2	72.0	55.4	80.9	73.8	78.0
CENTRAL RANGE.																					
Anantapur ..	27,445	1,378	58	203	26,067	633	..	..	1.7	14.7	62.7	47.8	..	..	83.2	81.2	69.0	34.0	..	..	73.5
Bellary ..	27,266	2,367	39	130	24,900	94	..	..	0.3	5.5	60.6	3.9	..	..	88.9	100.0	71.7	41.5	..	..	71.3
Chingleput ..	83,558	4,364	1,050	175	78,193	3,062	..	..	1.9	4.0	84.0	68.8	..	..	88.3	78.3	76.1	51.1	..	..	54.8
Chittoor ..	83,682	3,501	45	..	80,181	1,646	..	..	1.3	0.1	57.2	47.0	..	..	86.0	109.0	76.9	33.7	..	..	54.6
Cuddapah ..	25,044	2,252	523	280	21,637	448	..	..	2.1	10.2	86.4	19.9	..	..	84.3	34.8	37.8	31.3	..	..	68.0
Kurnool ..	23,821	4,060	63	57	19,761	2,201	..	..	2.6	1.4	70.2	54.1	..	..	98.6	84.2	62.0	21.4	..	..	93.4
Madras ..	23,237	11,971	..	..	11,266	*	..	..	..	..	*	*	..	..	100.0	100.0	80.6	56.8	..	..	65.5
North Arcot ..	65,020	4,858	1,075	2	59,739	2,257	405	..	1.7	0.1	76.3	46.5	0.6	..	96.7	63.3	75.9	42.5	..	71.1	82.5
Salem ..	45,222	2,625	1,098	117	42,499	970	..	..	3.9	2.8	80.9	63.5	..	..	90.2	84.5	70.8	71.6	..	..	73.6
South Arcot ..	68,962	12,514	2,733	355	55,541	7,574	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total ..	393,255	49,897	8,693	1,273	342,358	18,851	405	..	2.2	2.6	68.5	37.6	0.1	..	96.3	73.8	74.5	54.6	71.1	..	68.6
SOUTHERN RANGE.																					
Coimbatore ..	77,782	12,757	..	..	65,025	3,539	..	..	..	..	..	..	..	..	..	..	..	..	..	..	70.1
Madura ..	68,204	21,826	853	..	46,378	2,740	..	..	1.2	..	54.5	27.7	..	..	80.2	..	65.9	48.7	..	..	44.9
Malabar ..	109,786	42,414	1,372	1,716	66,041	15,225	..	..	1.2	4.4	60.1	35.9	..	..	94.9	68.4	73.2	55.4	..	..	55.9
Nilgiris, The ..	5,145	2,329	113	51	2,651	708	..	..	..	..	..	..	..	..	92.9	72.2	91.6	30.3	..	..	88.3
Ramanad ..	52,132	2,717	232	117	49,415	2,284	..	..	0.5	6.4	55.3	21.5	..	..	92.9	80.3	88.6	49.2	..	..	82.6
South Kanara ..	41,131	6,339	231	261	37,792	2,204	..	..	6.5	4.1	65.7	39.1	..	..	97.2	50.8	83.9	49.7	..	..	69.7
Tanjore ..	72,103	9,930	847	81	62,173	3,125	104	..	11.7	8.4	63.8	31.4	0.1	..	91.6	67.1	80.6	63.4	..	..	84.3
Tiruchinopoly ..	61,271	2,832	2,580	946	59,435	3,71	..	..	4.2	33.7	64.4	13.2	..	..	75.3	82.3	80.3	65.2	..	..	85.3
Tinnevely ..	60,080	9,339	1,202	577	47,631	1,588	..	..	2.0	6.1	73.2	20.2	..	..	81.5	62.5	73.0	44.3	..	..	81.9
Total ..	547,664	109,953	9,956	4,542	437,298	30,475	104	..	1.3	4.1	61.5	20.2	0.01	..	87.9	71.5	77.3	53.6	83.5	..	60.2
Grand total ..	11,31,169	1,267,734	26,670	8,194	9,91,123	1,041,238	2,163	65	2.0	3.1	66.8	30.4	0.2	0.02	90.9	71.5	74.8	54.7	85.3	73.8	71.8

* Information could not be furnished as the post of Deputy Inspector of Vaccination has been abolished.

Excludes cases performed in cantonments.

Statement No. VI showing the Number of Vaccinations performed in Municipal Towns on children under one year of age (G.O. No. 1534 L., dated 6th December 1909).

Municipalities.	Number of births available for vaccination during the year 1917-18.	Number of deaths amongst children under one year during the year.	Number of successful vaccinations on children under one year during the year ending March 1918.	Date of extension of compulsory vaccination to municipalities.
NORTHERN RANGE.				
Anakapalle ...	674	147	356	1st Nov. 1891.
Berhampur ...	1,005	226	572	15th April 1891.
Bezwa ...	1,317	428	563	1st May 1892.
Bimlipatam ...	286	38	199	1st Jan. 1894.
Chicacole ...	522	90	356	1st Dec. 1890.
Coomada ...	2,094	351	1,033	1st June 1890.
Ellore ...	1,942	585	1,115	1st June 1888.
Ellore ...	1,894	597	801	1st Jan. 1914.
Ellore ...	1,274	368	620	1st May 1888.
Ellore ...	361	36	139	1st April 1916.
Ellore ...	1,208	265	425	1st Aug. 1885.
Ellore ...	550	109	286	1st Dec. 1885.
Ellore ...	774	129	437	1st Dec. 1890.
Ellore ...	509	56	156	1st April 1916.
Ellore ...	1,558	344	844	1st Jan. 1886.
Ellore ...	493	130	240	1st April 1910.
Ellore ...	1,593	276	544	1st Aug. 1890.
Ellore ...	1,541	325	697	1st Jan. 1891.
Total ...	19,756	4,503	9,383	
CENTRAL RANGE.				
Adoni ...	2,643	146	352	1st Dec. 1886.
Anantapur ...	1,295	71	65	1st Jan. 1886.
Bellary ...	1,455	184	410	1st Jan. 1891.
Chidambaram ...	789	179	379	1st July 1887.
Chingleput ...	532	131	141	1st April 1897.
Chittoor ...	193	26	80	9th Jan. 1917.
Conjeevaram ...	2,489	683	1,187	1st Jan. 1891.
Cuddalore ...	2,291	652	1,334	1st Aug. 1896.
Cuddalore ...	612	132	269	15th July 1883.
Gadiyattam ...	932	147	549	1st June 1889.
Hospet ...	572	90	309	1st April 1892.
Kurnool ...	1,010	...	451	1st July 1891.
Nandyal ...	300	66	305	1st Jan. 1900.
Proddattur ...	509	109	235	1st Sep. 1915.
Salem ...	2,230	499	2,190	1st May 1891.
Tirupattur ...	780	193	490	1st July 1891.
Tirupattur ...	517	88	276	1st Mar. 1890.
Tirupattur ...	965	280	520	15th Dec. 1897.
Tiruvannamalai ...	768	115	555	1st May 1889.
Vaniyambadi ...	2,145	391	1,018	1st Jan. 1897.
Vellore ...	511	107	243	20th May 1892.
Walaipet ...	...	...	...	...
Total ...	23,557	4,499	11,398	
SOUTHERN RANGE.				
Chinnayakaner ...	804	79	499	19th Feb. 1916.
Calicut ...	3,526	525	1,896	1st Oct. 1891.
Cannanore ...	1,138	235	602	1st June 1891.
Coimbatore ...	2,422	593	765	1st Jan. 1889.
Cochin ...	754	202	557	1st Jan. 1894.
Coonoor ...	389	42	160	1st April 1887.
Dharapuram ...	801	113	205	1st Feb. 1916.
Dindigul ...	1,475	385	812	16th July 1886.
Erode ...	480	92	153	1st April 1891.
Karur ...	638	...	324	1st Sep. 1900.
Kodaikanal ...	141	29	...	...
Kumbakonam ...	2,231	493	967	1st Aug. 1889.
Madura ...	5,637	1,255	3,684	1st Jan. 1890.
Mangalore ...	1,389	197	1,089	1st Sep. 1891.
Mavayaram ...	1,126	281	567	1st Oct. 1886.
Mannargudi ...	634	178	390	1st Dec. 1890.
Negapatam ...	1,786	528	1,876	1st July 1886.
Ootacamund ...	798	147	440	1st July 1887.
Palamcottah ...	1,541	386	751	1st May 1886.
Palghat ...	2,033	438	1,195	1st Jan. 1883.
Palni ...	736	177	397	1st Dec. 1891.
Periyakulam ...	1,017	224	633	1st Feb. 1891.
Srirangam ...	846	239	394	1st July 1888.
Srivilliputhur ...	1,326	238	875	1st Jan. 1896.
Tanjore ...	2,475	569	1,353	1st July 1893.
Tellicherry ...	1,152	232	675	15th June 1892.
Tinnevely ...	2,012	560	1,060	1st July 1880.
Tiruchinopoly ...	4,220	831	2,264	1st Aug. 1890.
Tiruvallur ...	708	147	308	1st Oct. 1913.
Tuticorin ...	1,568	358	950	1st May 1892.
Virudunpatti ...	909	247	845	1st Sep. 1915.
Total ...	46,963	10,166	26,824	
Grand Total ...	90,276	19,168	47,605	

Statement No. VII showing Inspection work done by the Deputy Inspectors of Vaccination during the year 1917-18.

District.	Circle.	Number of inspect- ing officers.			Number of villages in- spected.			Total number of cases vaccinated.	Number of days spent on Inspection duty.	Number of cases verified.			Total number of successful cases as reported by Deputy Inspectors.	Percentage of successful cases to the total number inspected as reported by Deputy Inspectors.	Proportion per cent of in- spection to total number vaccinated.		
		First-grade Inspector.	Second-grade Inspector.	Third-grade Inspector.	First-grade Inspector.	Second-grade Inspector.	Third-grade Inspector.			First-grade Inspector.	Second-grade Inspector.	Third-grade Inspector.					
Ganjam	Berhampur	1	..	..	529	..	527	13,442	231	..	9,948	13,708	10,511	76.7	..	70.6	102.0
	Chilacole	..	..	..	..	..	..	14,300	221	..	..	9,948	9,948	70.6	..	70.6	..
	Aala	..	..	..	568	..	610	11,835	217	..	..	10,601	8,406	79.3	..	73.4	307
	Parikmeti	..	..	..	..	..	..	13,211	191	..	9,993	10,601	8,406	79.3	..	73.4	76.8
	Furukachapur	..	..	..	..	..	..	13,211	191	..	9,993	10,601	8,406	79.3	..	73.4	307
Godavari	Ganjam Hill Tracts	1	..	..	..	..	555	13,211	221	..	..	10,492	8,982	83.3	..	..	64.4
	Do.	1	..	..	..	..	486	8,444	218	..	..	6,440	3,926	72.4	..	..	94.4
	Ceasana	1	..	..	..	..	276	11,181	247	..	..	10,297	6,518	63.3	..	..	72.7
	Rajahmundry	1	..	..	..	..	296	23,490	179	..	..	13,369	7,396	54.7	..	..	57.0
	Polavaram	1	..	..	..	..	233	5,565	187	..	..	4,438	2,684	60.5	..	..	76.7
Guntur	Peddapuram	1	..	..	..	..	296	19,329	216	..	..	18,496	8,787	47.4	..	..	86.7
	Badrachalam	1	..	..	..	..	370	3,863	169	..	..	3,707	1,862	50.8	..	..	97.5
	Guatnr	1	..	..	203	..	..	23,954	271	..	15,376	..	15,376	11,830	77.1	64.1	75.8
	Narasaraopet	1	..	..	..	..	291	26,809	234	..	..	19,573	14,020	71.9	..	..	62.8
	Digapah	1	..	..	..	..	265	25,982	199	..	..	13,714	9,908	72.7	..	..	..
Kistna	Eluru	1	..	..	244	..	..	26,523	241	..	19,589	..	19,589	16,496	84.2	..	88.9
	Masulipatam	1	..	..	..	..	188	21,077	199	..	19,060	..	19,060	13,463	71.1	78.8	..
Nellore	Narasapur	1	..	..	..	..	..	20,897	180	..	..	18,572	13,462	72.5	..	..	..
	Kavali	1	..	..	..	..	81	18,171	166	..	..	5,808	3,613	62.2	..	..	32.0
Vizagapatnam	Gudur	1	..	..	..	..	425	18,108	217	..	..	12,144	7,167	58.8	..	..	67.1
	Sanigiri	1	..	..	..	..	..	16,591	186	..	8,797	..	8,797	6,644	64.2	..	55.0
	Vizagapatnam	1	..	..	..	..	356	35,690	250	..	..	20,631	13,448	75.8	..	..	57.4
	Vizianagaram	1	..	..	..	..	..	38,514	140	..	26,258	..	26,258	13,448	58.4	78.2	..
	Paraniputram	1	..	..	..	..	..	28,722	233	..	18,247	..	18,247	13,835	70.3	..	57.9
Guntur	Guntur	1	..	..	..	..	349	12,500	181	..	..	7,239	5,761	79.6	..	..	..

Koraput	Jeypore	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...</
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SOUTHERN RANGE.

North Coimbatore	North Coimbatore							352		207			10,681			6,510		61.0				50.1
																						57.8
South do.	South do.							283		212			10,922			8,005		73.3				57.8
																						57.8
East do.	East do.							383		257			12,247			6,984		56.6				57.8
																						57.8
Central do.	Central do.							319		269			12,223			8,240		68.2				57.8
																						57.8

* Information could not be furnished as the post of Deputy Inspector of Vaccination has been abolished.

District.	Circle.	Number of inspecting officers.						Number of villages inspected.			Total number of cases vaccinated.	Number of days spent on inspection duty.	Number of cases verified.			Total number of successful cases as reported by Deputy Inspectors.	Percentage of successful cases to the total number inspected as reported by Deputy Inspectors.	Proportion per cent of inspection to total number vaccinated.		
		First-grade Inspectors.	Second-grade Deputy Inspectors.	Third-grade Deputy Inspectors.	First-grade Deputy Inspectors.	Second-grade Deputy Inspectors.	Third-grade Deputy Inspectors.	First-grade Inspectors.	Second-grade Deputy Inspectors.	Third-grade Deputy Inspectors.			First-grade Deputy Inspectors.	Second-grade Deputy Inspectors.	Third-grade Deputy Inspectors.					
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19		
SOUTHERN RANGE—cont.																				
Madura	Madura	1	1	1	1	1	1	20,226	269	16,080	16,284	15,184	13,080	12,560	78.3	79.5	80.9	85.2		
	Udumputi	1	1	1	1	1	1	20,132	222	16,284	15,184	13,080	12,560	77.1	79.5	80.9	85.2			
Malabar	Malappuram	1	1	1	1	1	1	33,953	211	19,911	20,549	19,911	15,549	78.1	79.5	80.9	85.2			
	Tellicherry	1	1	1	1	1	1	30,185	222	20,549	20,549	19,911	15,549	71.9	79.5	80.9	85.2			
Nilgiris	Calicut	1	1	1	1	1	1	29,050	205	14,371	14,371	14,371	8,579	58.7	79.5	80.9	85.2			
	Palghat	1	1	1	1	1	1	42,712	206	26,485	26,485	26,485	17,905	67.7	79.5	80.9	85.2			
Ramanathapuram	The Nilgiris	1	1	1	1	1	1	4,972	276	3,359	3,359	3,359	3,074	91.5	79.5	80.9	85.2			
	Sivilliputtur	1	1	1	1	1	1	18,812	253	10,044	10,044	10,044	8,920	81.8	79.5	80.9	85.2			
Tamil Nadu	Tirupattur	1	1	1	1	1	1	17,069	227	9,959	9,959	9,959	8,687	90.2	79.5	80.9	85.2			
	Ramanathapuram	1	1	1	1	1	1	17,040	179	9,418	9,418	9,418	8,685	91.6	79.5	80.9	85.2			
Tamil Nadu	Northern S. Kanara	1	1	1	1	1	1	15,831	240	10,464	10,464	10,464	8,887	84.9	79.5	80.9	85.2			
	Central do.	1	1	1	1	1	1	14,315	219	8,041	8,041	8,041	6,147	76.4	79.5	80.9	85.2			
Tamil Nadu	Southern do.	1	1	1	1	1	1	16,626	277	10,848	10,848	10,848	9,548	78.2	79.5	80.9	85.2			
	Tanjore	1	1	1	1	1	1	14,872	211	9,971	9,971	9,971	8,047	80.5	79.5	80.9	85.2			
Tamil Nadu	Nagapattinam	1	1	1	1	1	1	10,820	219	9,971	9,971	9,971	8,047	80.5	79.5	80.9	85.2			
	Pattadakottai	1	1	1	1	1	1	19,560	234	9,519	9,519	9,519	8,047	80.3	79.5	80.9	85.2			
Tamil Nadu	Kumbakonam	1	1	1	1	1	1	19,707	264	10,881	10,881	10,881	8,458	77.7	79.5	80.9	85.2			
	Sivakuntam	1	1	1	1	1	1	20,452	248	16,733	16,733	16,733	12,793	63.4	79.5	80.9	85.2			
Tamil Nadu	Shermadevi	1	1	1	1	1	1	25,002	258	17,312	17,312	17,312	12,248	77.4	79.5	80.9	85.2			
	Kolpatti	1	1	1	1	1	1	22,239	241	15,474	15,474	15,474	12,431	60.3	79.5	80.9	85.2			
Tamil Nadu	Trichinopoly	1	1	1	1	1	1	22,142	172	11,100	11,100	11,100	8,903	81.1	79.5	80.9	85.2			
	Namakal	1	1	1	1	1	1	19,667	208	13,946	13,946	13,946	13,916	80.9	79.5	80.9	85.2			
Tamil Nadu	Arivar	1	1	1	1	1	1	17,657	217	14,610	14,610	14,610	11,672	78.8	79.5	80.9	85.2			
	Total	7	10	11	2,163	3,781	3,492	588,802	6,515	85,184	144,606	137,360	357,773	277,537	75.4	80.5	84.3	61.8		
Total for the Presidency		18	19	44	1,663	6,055	16,973	1,489,775	17,635	245,131	364,232	438,118	597,501	724,840	72.7	68.9	67.0	68.0		

Government of Madras

LOCAL & MUNICIPAL DEPARTMENT (LOCAL)

G.O. No. 1177 L., 12th September 1918

Vaccination

Reviewing the report on the working of the — department in the Madras Presidency during the year 1917-18.

READ—the following paper :—

Letter— from Major W. A. JUSTICE, M.B.C.M., D.P.H., I.M.S., Sanitary Commissioner for Madras.

To—the Secretary to Government, Local and Municipal Department.

Dated—the 19th August 1918.

No.—869-V.

ABSTRACT.—Submitting report on the working of the Vaccination department in the Madras Presidency for 1917-18.

Order—No. 1177 L., dated 12th September 1918.

The report on vaccination was due with the Government on the 1st July but was received only on the 23rd August. The Deputy Sanitary Commissioner explains that revised returns called for from the Deputy Inspector of Vaccination, Bhadrachalam, and Chairman, Municipal Council, Nellore, were received only on the 13th and 15th June 1918, but this explanation does not account for the further delay of two months and the Government must insist on punctuality.

2. The total number of vaccine operations performed during the year rose slightly, from 1,699,926 to 1,707,278, or by .43 per cent. The number of deaths from smallpox was 34,958 in 1917 as against 21,903 in 1916 : the increase occurred in all districts except Anantapur, Ganjam, Gōdāvari, Chittoor and Karnool. There were large increases in the number of operations performed in the districts of Coimbatore, Guntūr and Nellore; in these districts smallpox was epidemic in the year. In Vizagapatam, Salem, Ganjam, Chittoor and Gōdāvari, there were marked decreases in the number of operations and smaller decreases in Ramnad and Kistna, though in the two lastnamed districts and in Vizagapatam and Salem smallpox was prevalent. The decreases are attributed to vacancies in the staff of vaccinators which could not be filled up for want of suitable men and the poor quality of the work of the old set of vaccinators who knew that they would be replaced by qualified men at the introduction of the revised scheme sanctioned under G.O. No. 963 L., dated 4th July 1917. The suggestion of the Sanitary Commissioner that the compulsory provisions of the Madras Local Boards Act, 1884, should be extended further is commended to all district boards.

3. The municipalities, as a whole, showed an increase of 20,300 cases, or 11.6 per cent, as compared with the previous year. Madura and Cochin showed marked increases, while large decreases were noticed in Madras and Cocanada. The fall in Madras is in revaccinations and is apparently a continued reaction from the very high figures of 1915-16; in Cocanada it was apparently due to the action of the municipal council which reduced the minimum outturn required from the vaccinators. The vaccinators took advantage of the relaxation without improving the quality of their work and the council has been advised to replace them as soon as possible.

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End

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4. Re-vaccinations alone showed an increase of 56,303 or 25.7 per cent, distributed with local variations, over local fund areas, municipalities and cantonments. Large increases occurred in the districts of Malabar, Guntūr and Nellore and in the case of municipalities in Madura.

5. It is stated that, with a view to improve the technique of operation, special circulars were issued pointing out the need for using lymph promptly and the system of issuing tri-monthly supplies of lymph was extended to Madura. The reported percentage of success, however, fell again from 86.7 to 83.4 in the case of primary and secondary vaccination, and from 73.4 to 70.8 in the case of re-vaccination. Coimbatore and Gōdāvari again showed specially poor results. The causes for this were investigated by the Sanitary Commissioner and the Deputy Sanitary Commissioner and their recommendations for effecting an improvement are receiving attention. The total number of successful operations per mille of the population was returned at 31.2 for the Presidency as a whole, against 32.8 in the previous year.

Wherever the proportion of successful operations is low, complaints are made about the quality of the lymph. The Director of the King Institute has been requested by the Sanitary Commissioner to see if there is really any defect in the lymph supplied and to adopt such remedial measures as may be necessary. The Government will be glad to receive a report of the result of this investigation, since although much credit has not been given to complaints of this nature from vaccinators on whom, as a class, little reliance could be placed, there have been instances in which the complaints have been corroborated by better qualified operators. As under the new scheme vaccinators will have no verification work, the Sanitary Commissioner proposes to supply vaccine to all of them thrice a month, in order to keep them fully engaged throughout the month; it is hoped that this will have some effect in improving the percentage of successful operations. The Sanitary Commissioner and his deputies should give this subject their close attention in their tours and see that the instructions issued as to the period within which vaccine dispatched from the Institute should be used, are observed.

6. The average cost of each successful operation in the case of local fund vaccinations was As. 4-2, against As. 3-10 in the previous year, while in the case of municipal vaccinations the cost fell from As. 4-10 to As. 4-5. The cost was in excess of As. 6 in the districts of Cuddapah, Gōdāvari and The Nilgiris and in excess of As. 9 in the municipalities of Tirupati, Kodaikanal and Poddapuram.

7. The number of children under one year of age successfully vaccinated again fell from 588,937 to 550,393. The districts in which large decreases occurred were The Nilgiris, Kistna, Malabar and Bellary. Decreases also occurred in the municipalities of Bellary, Coonoor and Poddapuram. In Poddapuram, Adōni, Anantapur, Bellary, Chingleput, Coimbatore and Dharapuram, the number of children protected against smallpox constitutes a very small proportion of the number, which, according to the birth registers, should have been available for vaccination. The municipal councils concerned should insist on greater attention to the vaccination of children.

8. The Deputy Inspectors of Vaccination verified 66.8 per cent of the total number of primary and secondary vaccinations in all areas except cantonments and 39.4 per cent of the cases revaccinated. The District Medical and Sanitary Officers verified a small percentage of primary and secondary operations. In Bellary and Ramnad the total number of cases verified by them was less than one per cent of the total number of operations. The verification work done by sanitary assistants to the District Medical and Sanitary Officers was again inadequate; it was less than one per cent in Gōdāvari, Kistna, North Arcot and Tanjore—four out of the five districts in which sanitary assistants were employed. The Government desire to have the explanation of the officers responsible for this neglect of verification.

9. The general results of the year were on the whole unsatisfactory. Though there was a small increase in the total number of operations performed, there was a fall in the percentage of successful operations and in the number of children under one year of age successfully vaccinated. The reorganization of the vaccination staff with effect from the 1st of April 1918 has, it is hoped, enabled presidents of local boards to recruit vaccinators of a better class than those hitherto employed. The staff of

deputy inspectors has been strengthened and an additional Deputy Sanitary Commissioner joined duty towards the end of the year. The Government trust that, with an improved staff of vaccinators and more efficient supervision, the results in the current year will be more satisfactory.

(True extract)

R. A. GRAHAM,
Acting Secretary to Government.

To the Sanitary Commissioner.
" the Sanitary Engineer.
" the Surgeon-General.
" the Local and Municipal (Medical) Department.
" the Home (Sanitary) Department.
" the Revenue Department.
" the Assistant Quarter-master-General, 26th (Sanitary) Division, with C.L.
" the Director of Public Instruction.
" the Accountant-General.
" the President, Corporation of Madras.
" all Collectors.
" all Presidents of District Boards.
" all Chairmen of Municipal Councils.
Editors' Table.