

Annual vaccination returns of the Province of Assam : with brief explanatory notes.

Contributors

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ANNUAL VACCINATION RETURNS

OF THE

PROVINCE OF ASSAM

FOR THE YEAR

1914-1915

WITH BRIEF EXPLANATORY NOTES

BY

COLONEL H. E. BANATVALA, I.M.S.,
SANITARY COMMISSIONER, ASSAM.



SHILLONG :

PRINTED AT THE ASSAM SECRETARIAT PRESS.

1915.

Price Twelve Annas.

[Price One Shilling

ANNUAL VACCINATION REPORT

1912

PROVINCE OF ALBERTA

HEALTH DEPARTMENT

1912

WESTERN CANADIAN MEDICAL ASSOCIATION

BY

COMMISSIONER OF HEALTH
ALBERTA

PRINTED AT THE ALBERTA GOVERNMENT PRESS
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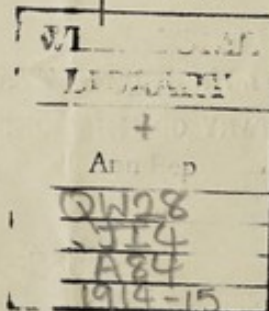
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FROM

THE HON'BLE COLONEL H. E. BANATVALA, I.M.S.,
SANITARY COMMISSIONER, ASSAM,

To

THE SECOND SECRETARY TO THE CHIEF COMMISSIONER
OF ASSAM.

Dated Shillong, the 8th June 1915.

SIR,

I HAVE the honour to forward herewith the Annual Vaccination Returns of the province of Assam for the year 1914-15, with brief explanatory notes.

I have the honour to be,

SIR,

Your most obedient servant,

H. E. BANATVALA, *Colonel, I.M.S.,*
Sanitary Commissioner, Assam.

Enclosures :—

- 1 Report.
- 1 Diagram.
- 7 Statements..

No. 322

100

The Hon. Governor of the State of New York,
Albany, N.Y.

NEW YORK, January 10, 1911.

Dear Sir:

11

I have the honor to forward herewith the Annual Report of the
of the State of New York for the year 1910-11, with brief explanatory notes.

I have the honor to be,

Sir,

Your most obedient servant,

W. B. BARRETT, Colonel, A.S.C.

Chief of Bureau, New York

Enclosure:—
1 Report
1 Digest
1 List of Officers

NOTES ON VACCINATION IN ASSAM FOR THE YEAR
1914-15.

1. *Introductory.*—I was in charge of the Department throughout the year. The office of the Deputy Sanitary Commissioner was held by Major T. O. McCombie Young, I.M.S., throughout the year, except for the period from 20th June 1914 to 18th September 1914 when Captain J. F. James, I.M.S., officiated for him.

Vaccination was carried on as usual throughout the province among a total population of 7,059,857 according to the Census of 1911.

2. *Vaccination agencies.*—Among the general population, vaccination was performed by 328 departmental vaccinators, and among the labour force of the tea estates by the garden Medical Officers; railway employes were vaccinated by the railway Medical Officers, and in jails the vaccination was performed by the Sub-Assistant Surgeons in medical charge. The average number of persons vaccinated by each vaccinator was 907 during the year under report, as compared with 914 in 1913-14.

3. *Total number of operations.*—The total number of operations performed during the year by all agencies was 320,016, of which 230,292 were primary operations and 89,724 were re-vaccinations, as compared with 333,649 in 1913-14, of which 301,241 were primary operations and 32,408 were re-vaccinations, showing a decrease of 16,633 operations. The decrease in the number of primary operations is regrettable. Possibly some part of it is more apparent than real and is due to the efforts which are being made to obtain more accurate returns from vaccinators, but a certain amount of it must be accepted as real and may be partly due to the relaxation in supervision caused by the withdrawal of the permanent Civil Surgeons for military duty and partly to the lack of attention which the work receives from many Civil Surgeons. Variations in the district returns are criticised in section 8.

The total performed by the different agencies at work is made up of the following items:—

297,647 by departmental vaccinators,
2,209 by the staff of dispensaries,
18,914 by tea-garden agencies,
1,041 by jail agencies, and
175 by railway Medical Officers.

4. *Deaths from small-pox.*—The ratio of deaths from small-pox during the year 1914 was 37 per mille of population, compared with 40 in 1913. The death-rate from small-pox was highest in the district of Kamrup where it was 2·03. The death-rate from small-pox in this district is higher than it has been since 1909-10, although the number of successful operations since that period shows an increase, and our vital statistics are not sufficiently accurate to enable us to decide whether the reason is an increase in the population and a resultant higher proportion of young persons of a susceptible age. In any case it is clear that greater activity in vaccination is required in this district. No doubt the large proportion of "Mahapurushias" in the population of the Barpeta subdivision tends to make the number of deaths from small-pox in Kamrup compare unfavourably with those in other districts. In Goalpara vaccination was carried on during the off-season to deal with a small-pox outbreak and extra vaccinators were entertained for this purpose. The diagram showing death-rates from small-pox and the protection afforded by successful vaccination is attached.

5. *Dispensary vaccination.*—Two thousand two hundred and nine vaccination operations were done by the dispensary staff, of which 1,580 were primary and 629 were re-vaccinations, as compared with 1,324 operations in 1913-14 with 1,005 primary and 319 re-vaccinations. These figures show an increase of 885 operations, *viz.*, 575 primary and 310 re-vaccinations, over those of the previous year.

6. *Percentage of successful operations.*—The percentage of success of the vaccination operations performed by all establishments combined was 96·22 for primary vaccinations and 68·69 for re-vaccinations, as compared with 98·41 and 78·15, respectively, in 1913-14.

The successful percentages in primary vaccinations and re-vaccinations in the case of vaccinators were 96·29 and 68·00, respectively, against 98·47 and 78·11, respectively, in 1913-14; in the case of dispensary staff 92·14 and 58·76, respectively, against 93·23 and 88·47, respectively, in 1913-14; and in the case of other agencies 95·47 and 79·80, respectively, against 97·17 and 71·89, respectively, in 1913-14.

The lower percentage of success during the year in question was undoubtedly due to the issue of lymph of a low grade of potency during the months of October and November, as the treatment to which it was subjected before use differed in no way from that of previous years. The question has received departmental attention, orders have been issued and steps will be taken to ensure that a more potent strain is available for use next autumn. The high percentage of success in re-vaccination operations in the districts of the Garo Hills, Sylhet, Naga Hills, Goalpara and Sibsagar requires investigation, and the attention of the Civil Surgeons concerned will be drawn to this.

7. *Different methods of vaccination.*—As in previous years glycerinated vaccine manufactured by the Shillong Vaccine Depot was exclusively used in all operations.

8. *Vaccination work in different districts.*—As compared with the records of the previous year, in the twelve districts and the Native State of Manipur, there was an appreciable increase of vaccinations in five, and a substantial decrease in four, while in the remaining four districts there was no change. In the district of Sibsagar there was an increase of 3,477 operations, probably owing to the presence of small-pox in this district. Vaccinators were instructed by the Civil Surgeon to visit all schools in their beats and a large number of unprotected school children were vaccinated. The accuracy of the vaccinators' returns received attention and four vaccinators in this district were dismissed for falsifying their returns.

An increase of 2,721 operations was reported from the district of Goalpara which was due to the performance of a number of vaccination operations during the recess period, a procedure which was rendered necessary by an outbreak of small-pox in certain thanas of this district. Although the district of the Lusbai Hills reported an increase of 2,040 operations, the record of work for the season was not satisfactory, as the percentage of success in primary operations was very low, *viz.*, 69.71. The Civil Surgeon will be asked to explain the cause of this unsatisfactory result. In this district the percentage of cases in which the results were not seen by vaccinators was as high as 20.63 in the case of primary vaccinations and 20.69 in re-vaccinations. This is due to slackness in supervision by the Sub-Inspector of Vaccination, who spent only 83 days on tour during the whole vaccination season.

A marked decrease is noticeable in the number of vaccination operations returned from the Garo Hills. As remarked in the last Triennial Report of Assam for the years 1911-1912, 1912-1913 and 1913-1914, the unusually large number of operations reported to have been performed during the season 1913-14 led me to doubt the accuracy of these statistics. On enquiry serious inaccuracies came to light. It appeared that the large number of vaccination operations, for which the Civil Surgeon had taken credit in his report, was incorrectly returned as such, the records having been falsified by the vaccinators with the object of increasing the apparent amount of work done by them. In this year's returns the very large number of vaccination operations claimed for each of the paid vaccinators in this sparsely-populated district, as compared with those performed in other districts of the province, requires further investigation. Certain of these vaccinators were dismissed and the Sub-Inspector at fault was reduced to a lower grade.

The Civil Surgeon, Cachar, says that the decrease of 3,396 operations as compared with the number reported to have been performed in the previous year, was due to stricter scrutiny of the returns and to diminished activity of the vaccinators. In this district two vaccinators were dismissed for falsifying their registers. The decrease of 8,784 operations in the Sylhet district is reported to be due to non-entertainment of vaccinators in the off-season, as there was no small-pox outbreak during the year under report. I am not satisfied with this explanation, and I consider that the diminution in the number of operations performed is largely due to the slackness of the Vaccination Inspecting Staff, as from the tour diaries of the Inspector and Sub-Inspectors in this district it appears that with the exception of one Sub-Inspector they spent more time at headquarters than on tour. A decrease of 1,941 operations in the district of Naga Hills has not been explained by the Civil Surgeon. The matter will be enquired into. I wish to place on record my appreciation of the vaccination work done in the district of Nowgong under the supervision of the Civil Surgeon, Lieutenant Charles Bancroft, I.S.M.D. During the last three years there has been a noticeable increase in the number of successful vaccinations performed, *viz.*, from 6,602 in 1912-13 to 12,494 in 1914-15, an increase in the number of operations inspected, *viz.*, from 2,524 to 8,680, and a diminution in the amount of travelling allowance drawn from Rs. 380-9 to Rs. 311-0-6 within the same period. This gratifying record has been achieved by the close personal attention and careful supervision of the Civil Surgeon.

The prejudices of "Mahapurushias" in the district of Kamrup are being gradually overcome. Eight thousand and nine hundred "Mahapurushias" were vaccinated during the year under report, against 8,895 in the previous year.

Two temporary vaccinators were entertained for six months in the North-East Frontier district. Their work was included in that of the district of Lakhimpur.

9. *Composition and strength of the Inspecting Staff.*—There was no change in the cadres of the Inspectors and the Sub-Inspectors of Vaccination during the year under report.

10. *Verification by the Inspecting Staff.*—Civil Surgeons and the Deputy Sanitary Commissioner inspected 4.28 per cent. of the primary and 4.05 of the re-vaccinations performed during the year, as compared with 5.50 and 2.71, respectively, of the previous year. The attention of Civil Surgeons was drawn during the year to the insufficient inspection of vaccination, but no improvement in this direction has been effected except in the districts of Cachar and Nowgong. The Civil Surgeons of Lakhimpur and Sylhet state that they find it difficult to do much touring owing to the pressure of work at headquarters, the former being the Superintendent of Medical School as well as Civil Surgeon. The absence of many of the permanent Civil Surgeons who have been recalled to military duty has doubtless proved a factor in preventing any improvement in this direction. The matter will again receive attention, and orders will be issued directing that in districts where the Civil Surgeon is unable to do the necessary amount of touring for this purpose, the duty must be assigned to supernumerary Assistant Surgeons when their services are available. The subordinate inspecting staff inspected 51.66 per cent. of the primary and 41.30 of the re-vaccinations, as compared with 51.44 and 42.87, respectively, of the previous year. More than 90 per cent. of primary operations was inspected in the districts of Cachar and Khasi and Jaintia Hills. The percentage of inspections in the districts of Kamrup and Sibsagar is only 17; in the Lushai Hills and in the Garo Hills the percentage of inspections is also very low, while the number of unknown results is high in the Lushai Hills and in the Khasi and Jaintia Hills. The attention of the Civil Surgeons concerned will be drawn to the default and an explanation asked.

The Deputy Sanitary Commissioner reported that the practice of retaining the Vaccination Inspecting Staff at headquarters for the preparation of returns and assisting in office work was being abused. I have called for returns regarding the number of days spent on tour by these officers during the vaccination season and these returns show that this abuse is very general, in spite of standing orders to the effect that during the vaccination season, the Inspecting Staff are not permitted to spend more than one week in the month at headquarters. In contravention of this order, it appears that many of these officers habitually spend more than half the month at headquarters. At subdivisional headquarters in some cases even greater laxity obtains, for example, out of the whole vaccination season the Sub-Inspector of the Sunamganj subdivision spent only 20 days on tour, according to the report submitted by the Civil Surgeon, on which no comment has been made by him.

The responsibility for permitting this slackness lies primarily with the Civil Surgeons concerned. Until the Vaccination Inspecting Staff is made to do the work for which it is employed, *viz.*, the inspection of vaccination and verification of the accuracy of the returns, energetic and honest work cannot be expected from the vaccinators. A case in which an Inspector of Vaccination failed to comply with the order limiting his stay at headquarters, after his duty in this respect had been pointed out by the Deputy Sanitary Commissioner, has received suitable punishment, and disciplinary action is being taken to deal with other officers, the amount of whose touring has been conspicuously deficient. Civil Surgeons will be reminded of their responsibility for seeing that the limitation of the stay at headquarters of the Vaccination Inspecting Staff to seven days per month during the vaccination season is strictly observed and, in future, monthly returns will be exacted from all districts showing the number of days spent on tour by each of the Vaccination Inspecting Staff. To prevent this abuse and also the practice of doing a number of long daily tours to and from headquarters, I propose to alter the order, so as to permit of only seven nights being spent at headquarters during the month.

The Deputy Sanitary Commissioner inspected 1,761 primary and 24 re-vaccinations in all plains districts and he found 93.92 per cent. and 83.33 per cent., respectively, to be successful.

11. *Vaccination in compulsory areas.*—There are 13 compulsory areas in the province in which 2,677 births and 481 deaths among infants under one year of age were recorded during the year 1914 and 1,478 infants were successfully vaccinated.

According to rough calculations, out of 2,196 infants available for vaccination, 1,478 or 67 per cent. were vaccinated, as compared with 78 per cent. of the previous year.

There is no adequate reason why such a large percentage of children should escape vaccination, and the low percentage shows the laxity with which in many towns the compulsory Act is administered. This defect is receiving close attention, and a more strict observance of the provisions of the Act is being insisted upon. A substantial improvement may be expected in towns where Sanitary Inspectors have been entrusted with the registration of births and deaths.

In the towns of Nowgong and Goalpara more than the theoretical number of children available were vaccinated, but the small excess is easily explained by the vaccination of older children who may have escaped notice in previous years and of children who may have been born elsewhere or whose birth may have escaped registration, and the figures show that vaccination has been energetically carried out in these towns as compared with those towns where the defect is considerable, *eg.*, Habiganj. Ninety-five per cent. of available infants were vaccinated in the town of Dibrugarh, in Dhubri 10 per cent., in Shillong 81 per cent., in Gauhati 71 per cent., in Jorhat 62 per cent., in Golaghat 58 per cent., in Sibsagar 49 per cent., in Tezpur 44 per cent., in Sylhet 40 per cent., in Silchar 32 per cent., and in Habiganj 16 per cent.

The preliminary notification for the extension of the Vaccination Act to the towns of Karimganj, Sunamganj and Maulvi Bazar has been published in the Gazette and the Act will probably be extended to these towns during the current year.

12. *Vaccine Depot.*—During the year under report only 517 447 capillary tubes were loaded, against 1,875,886 of the previous year, and 446,667 tubes were issued to Assam districts, 111,919 to Eastern Bengal districts and 109 to Bombay. This decrease is due to the discontinuance of the supply of lymph to the Eastern Bengal districts from the 1st September 1914, as, since the reconstitution of the province in 1912, this depôt had been supplying lymph to these districts. Three hundred and ninety-four calves were inoculated during the year, and the average cost of manufacturing lymph during the year was 4 01 pies per tube, excluding the cost of 1,800,000 capillary tubes which were purchased during the year. Of these only 55,000 were used, and the balance will last for about another two years. Including the price of tubes purchased, the average cost was 5 64 pies per tube.

Major L. B. Scott, I.M.S., was in charge of the depôt throughout the year.

13. *Cost of the Department.*—Including the charge on account of the Vaccine Depôt the total cost of the Department for the year 1914-15 was Rs. 62,169-9-0, as compared with Rs. 64,426-4-4 in the year 1913-14, showing a decrease of Rs. 2,256-11-4. The decrease is due to a smaller expenditure in the depôt on account of the discontinuance of supply of the lymph to Eastern Bengal districts. The district charges increased from Rs. 43,448-7-5 to Rs. 46,065-12-4, or Rs. 2,617-4-11 during the year under report.

The amount of travelling allowance drawn, *viz.*, Rs. 11,295-13-8, exceeds that of the previous year by Rs. 2,194-15-2, while the amount of inspection done is less by 12,644, which is a thoroughly unsatisfactory record of work in general. The district of Cachar is responsible for an increase of Rs. 1,200 over the travelling allowance of the previous year, while the number of inspections performed has increased by 250 only. It may be noted that the amount of travelling allowance drawn in this district even last year was sufficiently large to attract attention, and an explanation was asked from the Civil Surgeon, who reported that he considered the conduct of the Vaccination Inspecting Staff to have been unsatisfactory. Owing to the transfer of the Civil Surgeon during the working season, the matter appears to have escaped attention. A scrutiny of the travelling allowance bills of the Inspector and Sub-Inspector shows that this large amount has been drawn by the practice of doing daily tours of over 20 miles to and from headquarters which indicates that their tours have been made primarily with the object of drawing mileage and not for inspecting vaccination. The Sub-Inspector in this district is now under suspension pending the result of a criminal charge. A thorough enquiry into the vaccination arrangements in this district, in which the Deputy Sanitary Commissioner came across several cases of falsification of registers by vaccinators, will be ordered. In the district of Sylhet there has been since 1912-13 a progressive diminution in the number of vaccination operations inspected, the figures being 69,236 inspections in that year, as against 53,769 in the year under review, whereas the amount of travelling allowance drawn has increased by Rs. 419. This appears to indicate a diminution in the amount of supervision which is being exercised over the work of the

Vaccination Inspecting Staff in this district. As complete copies of tour diaries have not been submitted as ordered, no criticism of the details of the touring work can be made. An explanation will be demanded.

In Kamrup, only 8,543 vaccination operations were inspected, against 28,701 in 1913-14 and 35,105 in 1912-13, while the travelling allowance drawn is only some Rs. 43 less than in 1912-13. The inspection work in this district has suffered from the absence on sick leave of the permanent Inspector and the withdrawal of one Sub-Inspector to officiate elsewhere, but as tour diaries have not been submitted from this district, the disproportionate amount of travelling allowance drawn is not understood, and an explanation will be demanded.

In this department of the vaccination work also, greater attention should be given by Civil Surgeons to the manner in which the Inspectors or Sub-Inspectors of Vaccination do their touring, daily tours to and from district headquarters must be greatly curtailed. I propose that in future the travelling allowance bills of the Vaccination Inspecting Staff in districts where this practice appears to obtain must be submitted to me for countersignature before they are finally passed and I shall issue orders that not more than seven nights may be spent at headquarters during the month as already noted.

Of the total expenditure of Rs. 62,169-9-0 during the year 1914-15, Rs. 39,282-2-5 were paid from Provincial revenues, Rs. 20,456-1-6 from local funds, Rs. 1,254-11-1 from municipal funds and Rs. 1,176-10-0 were contributed by the Manipur State. The average cost of each successful case of vaccination was Re. 0-3-7, as compared with Re. 0-3-4 of the previous year, an increase which is due to the diminished output of lymph which makes the production proportionally more costly.

14. *General.*—The total number of primary vaccinations performed in tea estates during the year was 16,800 and re-vaccinations 2,144, the percentages of successes being 96.06 and 85.95, respectively. Four hundred and forty-one primary operations and 600 re-vaccinations were performed in jails, the percentages of success being 76.19 and 62.16, respectively. One hundred and six primary operations and 69 re-vaccinations were performed by railway agencies, the percentages of successes being 82.07 and 42.42, respectively.

In conclusion, I wish to urge the prime necessity of greater attention being paid to the details of district vaccination by Civil Surgeons if any substantial improvement in the defects noted in this report is to be attained. The comments I have made in this report show the details to which attention is required.

During the year, circulars have been issued calling attention to the need for greater care in inspection and for verification of the accuracy of entries in vaccinators' registers. The practice of inspecting the arms of a number of vaccinated children and recording this number as vaccination operations inspected, is of no value to the department, as however badly vaccination is being performed, and however inaccurate may be the returns, a certain number of children can always be produced to satisfy an inspecting officer who works on this system, which is, I regret to say, only too prevalent. In some districts, returns are being falsified for want of this supervision.

Sufficient control is not exercised over the work of the Inspectors and Sub-Inspectors, the claims of the Civil Surgeon's office are being permitted to overrule those of the inspection of vaccination and a sufficient number of case inspections is not in all cases exacted from them.

The method upon which the tours of the Inspecting Staff are carried out is not sufficiently supervised. The working of the Vaccination Act in areas of compulsory vaccination does not invariably receive the attention from Civil Surgeons that they as the District Superintendents of Vaccinations should give to it. The procedure laid down by the Act is largely in abeyance and the prescribed forms have not been used.

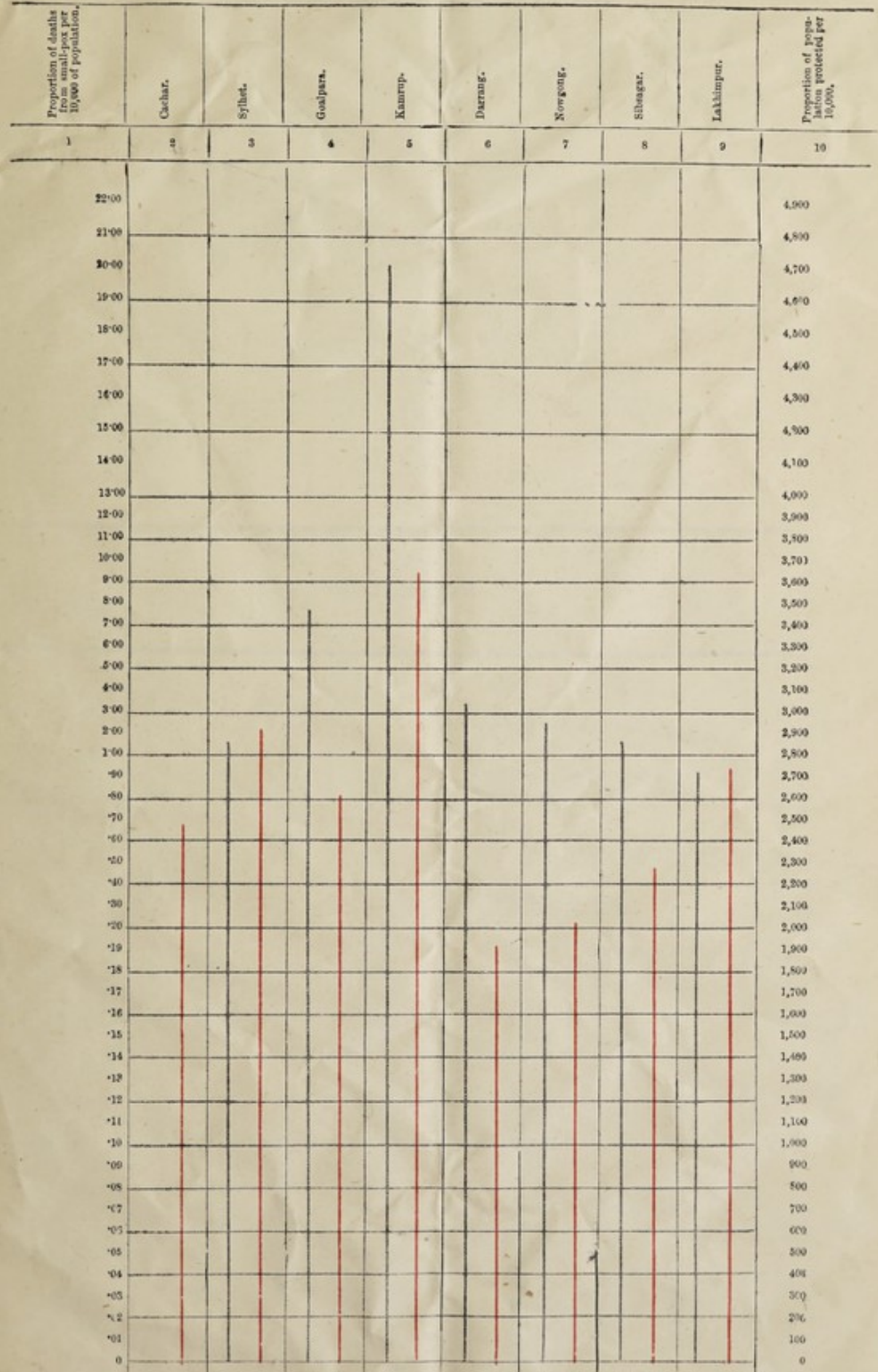
The delay in the submission of this report is due to the late receipt of many district returns, and to their statistical inaccuracy due to carelessness in preparation which necessitated recalculations and frequent references. The district reports which were due on May 1st were received in this office as noted below :—

| | | | | | |
|------------------------------------|-----|-----|-----|-----|-----------|
| Kamrup and Nowgong | ... | ... | ... | ... | May 10th. |
| Lushai Hills | ... | ... | ... | ... | " 13th. |
| Darrang | ... | ... | ... | ... | " 14th. |
| Cachar and Khasi and Jaintia Hills | ... | ... | ... | ... | " 17th. |
| Lakhimpur | ... | ... | ... | ... | " 19th. |
| Sylhet and Sibsagar | ... | ... | ... | ... | " 22nd. |
| Goalpara | ... | ... | ... | ... | " 24th. |

The question of the abolition of the practice of employing licensed vaccinators in certain districts, to which reference was made in the Triennial Report, has been considered, and it appears that the system is quite unsuited to Assam. A report on this subject will be submitted to Government in due course.

H. E. BANATVALA, *Colonel, I.M.S.*,
Sanitary Commissioner, Assam.

The following diagram illustrates the death-rates from small-pox in each district side by side with the proportion of the population protected against the disease by vaccination during the seven years 1908-1909 to 1914-1915.



Note.—Black lines indicate death-rates from small-pox.
Red lines indicate the proportion of population protected by vaccination.

Statement No. 1 - Classes and Grades of Products

| Class | Grade | 1911 | | | 1912 | | | Total |
|-------|-------|----------|-------|------------|----------|-------|------------|-------|
| | | Quantity | Value | Percentage | Quantity | Value | Percentage | |
| Wool | Wool | 100 | 100 | 100 | 100 | 100 | 100 | |
| | Wool | 100 | 100 | 100 | 100 | 100 | 100 | |
| Hides | Hides | 100 | 100 | 100 | 100 | 100 | 100 | |
| | Hides | 100 | 100 | 100 | 100 | 100 | 100 | |
| Fur | Fur | 100 | 100 | 100 | 100 | 100 | 100 | |
| | Fur | 100 | 100 | 100 | 100 | 100 | 100 | |

STATEMENTS.

| Class | Grade | 1911 | | | 1912 | | | Total |
|-------|-------|----------|-------|------------|----------|-------|------------|-------|
| | | Quantity | Value | Percentage | Quantity | Value | Percentage | |
| Wool | Wool | 100 | 100 | 100 | 100 | 100 | 100 | |
| | Wool | 100 | 100 | 100 | 100 | 100 | 100 | |
| Hides | Hides | 100 | 100 | 100 | 100 | 100 | 100 | |
| | Hides | 100 | 100 | 100 | 100 | 100 | 100 | |
| Fur | Fur | 100 | 100 | 100 | 100 | 100 | 100 | |
| | Fur | 100 | 100 | 100 | 100 | 100 | 100 | |

| Class | Grade | 1911 | | | 1912 | | | Total |
|-------|-------|----------|-------|------------|----------|-------|------------|-------|
| | | Quantity | Value | Percentage | Quantity | Value | Percentage | |
| Wool | Wool | 100 | 100 | 100 | 100 | 100 | 100 | |
| | Wool | 100 | 100 | 100 | 100 | 100 | 100 | |
| Hides | Hides | 100 | 100 | 100 | 100 | 100 | 100 | |
| | Hides | 100 | 100 | 100 | 100 | 100 | 100 | |
| Fur | Fur | 100 | 100 | 100 | 100 | 100 | 100 | |
| | Fur | 100 | 100 | 100 | 100 | 100 | 100 | |

DEPARTMENT.

the Province of Assam during the year 1914-15.

| 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 five years. | | Average annual number of deaths from small-pox during previous five years. | |
|-------------------------------|--------------------|----------|-----------------|-------------|----------|---|-----------------|--|---|-----------------|--|------------------|--|------------------|
| Successful. | | | Total. | Successful. | Unknown. | Primary. | Re-vaccination. | | Primary. | Re-vaccination. | Number. | Ratio per 1,000. | Number. | Ratio per 1,000. |
| Over one and under six years. | Total of all ages. | Unknown. | | | | | | | | | | | | |
| 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| 10,557 | 13,334 | 120 | 2,806 | 1,809 | 142 | 96.88 | 67.90 | 30.44 | .86 | 5.06 | 16,786 | 33.74 | 6 | .01 |
| 64,670 | 91,512 | ... | 10,920 | 6,697 | ... | 96.94 | 61.32 | 40.63 | ... | ... | 103,409 | 41.82 | 885 | .35 |
| 1,760 | 2,230 | ... | 182 | 158 | ... | 97.97 | 86.81 | ... | ... | ... | 8,181 | 34.79 | 35 | .14 |
| 2,495 | 6,300 | 44 | 3,601 | 1,613 | 196 | 99.16 | 47.37 | 33.65 | 6.87 | 5.44 | ... | ... | ... | ... |
| 2,614 | 4,235 | 81 | 126 | 103 | 6 | 97.35 | 85.83 | 28.99 | 1.82 | 4.76 | 4,943 | 33.03 | ... | ... |
| 2,161 | 2,564 | 956 | 431 | 153 | 128 | 69.71 | 50.49 | 29.79 | 20.63 | 29.69 | 2,610 | 28.61 | ... | ... |
| 82,497 | 117,945 | 1,201 | 17,884 | 10,375 | 472 | 96.25 | 59.58 | 37.93 | .16 | 2.63 | 135,929 | 39.44 | 926 | .26 |
| 1,760 | 2,230 | ... | 182 | 158 | ... | 97.97 | 86.81 | ... | ... | ... | ... | ... | ... | ... |
| 77 | 342 | ... | 400 | 181 | 7 | 96.61 | 46.05 | 40.24 | ... | 1.77 | 22,383 | 37.26 | 312 | .51 |
| 10,550 | 20,022 | 220 | 4,571 | 3,628 | 144 | 92.38 | 81.95 | ... | 1.00 | 3.15 | ... | ... | ... | ... |
| 16,899 | 29,574 | 37 | 6,268 | 4,004 | 69 | 96.94 | 64.59 | 60.16 | .12 | 1.10 | 34,679 | 51.92 | 760 | 1.13 |
| 3,550 | 6,394 | 3 | 323 | 206 | ... | 97.75 | 63.77 | ... | .04 | ... | ... | ... | ... | ... |
| 7,760 | 11,454 | 31 | 915 | 638 | 11 | 93.54 | 70.57 | 32.04 | .25 | 1.20 | 9,978 | 26.44 | 247 | .65 |
| 6,845 | 12,087 | ... | 80 | 15 | ... | 99.45 | 18.75 | 39.86 | ... | ... | 7,899 | 26.01 | 452 | 1.48 |
| 8,959 | 15,987 | 12 | 2,593 | 2,090 | 6 | 97.86 | 80.78 | 26.18 | .07 | .23 | 18,839 | 27.29 | 153 | .22 |
| 5,646 | 8,705 | 51 | 133 | 89 | 14 | 95.30 | 74.79 | 29.81 | .55 | 10.52 | 14,314 | 30.51 | 18 | .03 |
| 3,955 | 5,185 | 4 | 3 | 3 | ... | 97.79 | 100 | ... | .07 | ... | ... | ... | ... | ... |
| 1,183 | 6,707 | 76 | 2,717 | 2,617 | 20 | 96.99 | 97.03 | 58.66 | 1.08 | .70 | 15,731 | 98.97 | 17 | .10 |
| 47,369 | 84,856 | 207 | 13,106 | 9,634 | 127 | 96.82 | 74.23 | 39.76 | .23 | .96 | 123,823 | 37.89 | 1,959 | .59 |
| 18,055 | 31,601 | 227 | 4,897 | 3,837 | 144 | 94.28 | 80.72 | ... | .67 | 2.94 | ... | ... | ... | ... |
| 461 | 12,595 | 915 | 213 | 135 | 39 | 98.08 | 78.16 | 36.77 | 6.65 | 18.30 | 11,503 | 33.22 | ... | ... |
| 130,327 | 215,896 | 2,323 | 31,203 | 20,145 | 638 | 96.58 | 65.90 | 38.72 | 1.03 | 2.04 | ... | ... | ... | ... |
| 19,815 | 33,831 | 227 | 5,079 | 3,995 | 144 | 94.52 | 80.95 | ... | .63 | 2.83 | 271,255 | 38.42 | 2,885 | .40 |
| 150,142 | 249,227 | 2,550 | 36,282 | 24,140 | 782 | 96.29 | 68.00 | ... | .97 | 2.15 | ... | ... | ... | ... |
| 797 | 1,430 | 28 | 629 | 362 | 13 | 92.14 | 58.76 | ... | 1.77 | 2.06 | 1,815 | ... | ... | ... |
| 47 | 87 | ... | 69 | 28 | 3 | 82.07 | 42.42 | ... | ... | 4.54 | 67 | ... | ... | ... |
| 6,737 | 16,119 | 20 | 2,144 | 1,824 | 22 | 96.06 | 85.95 | ... | .12 | 1.02 | 9,739 | ... | ... | ... |
| ... | 336 | ... | 600 | 373 | ... | 76.19 | 62.16 | ... | ... | ... | 500 | ... | ... | ... |
| 157,723 | 267,199 | 2,598 | 39,724 | 26,727 | 8.0 | 96.22 | 68.69 | 41.63 | .92 | 2.06 | 283,376 | 40.13 | 2,835 | .40 |

mary.

| Percentage of successful cases in which results were known. | | Average number of persons vaccinated by each vaccinator. | | Number of children successfully vaccinated. | | Ratio of successful vaccination p.r 1,000 of population. | Total cost of Department. | Average cost of each successful case. |
|---|------------------|--|--|---|--------------------------|--|---------------------------|---------------------------------------|
| Primary. | Re-vaccinations. | Vaccinators employed. | Persons vaccinated by each vaccinator. | Under one year. | One and under six years. | | | |
| 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 96.29 | 68.00 | 323 | 907 | 62,957 | 150,142 | 38.72 | Rs. a. p. 62,169 9 0 | Rs. a. p. 0 3 7 |
| 92.14 | 58.76 | ... | ... | 304 | 797 | ... | ... | ... |
| 95.47 | 78.80 | ... | ... | 6,946 | 6,784 | ... | ... | ... |
| 96.22 | 68.69 | 323 | 907 | 70,207 | 157,723 | 41.63 | 62,169 9 0 | 0 3 7 |

Statement No. II—Showing the cost of Vaccination in

| No. | District. | Expn | | | | | | | | | | | | |
|-----|--------------------------------|---------------------------------------|-------------------------------------|----------------------------|-------------------------------|-----------------|--------------------|-----------------------------|-----------|-----------|-----------|-----------|-----------|-------------|
| | | European supervising officer. Pay. | Native supervising officer. Pay. | Field vaccinators. Pay. | Licensed vaccinators. Pay. | Clerks. Pay. | Fees, etc. Pay. | Total pay of establishment. | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| | | Rs. a. p. | Rs. a. p. | Rs. a. p. | Rs. a. p. | Rs. a. p. | 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 | Cochar | ... | 2 | 816 0 0 | 18 | 1,667 11 2 | ... | ... | ... | ... | ... | ... | ... | 2,383 11 2 |
| 2 | Sylhet | ... | 6 | 2,179 1 6 | 80 | 6,553 8 2 | 3 | ... | ... | ... | ... | ... | ... | 8,732 9 8 |
| 3 | Khasi and Jaintia Hills | ... | 2 | 660 0 0 | 9 | 1,728 0 0 | ... | ... | ... | ... | ... | ... | ... | 2,388 0 0 |
| 4 | Naga Hills | ... | 1 | 500 0 0 | 5 | 840 0 0 | ... | ... | ... | ... | ... | ... | ... | 1,340 0 0 |
| 5 | Lushai Hills | ... | 1 | 530 0 0 | 5 | 695 13 9 | ... | ... | ... | ... | ... | ... | ... | 831 13 9 |
| 6 | Goalpara | ... | 2 | 902 8 8 | 2 | 432 12 0 | 29 | ... | ... | ... | ... | ... | ... | 1,335 4 8 |
| 7 | Kamrup | ... | 4 | 1,169 7 5 | 46 | 2,975 11 1 | 28 | ... | ... | ... | ... | ... | ... | 4,145 2 6 |
| 8 | Darrang | ... | 3 | 833 0 0 | 21 | 1,656 0 0 | ... | ... | ... | ... | ... | ... | ... | 2,489 0 0 |
| 9 | Nowgong | ... | 2 | 787 14 4 | 16 | 1,232 9 4 | ... | ... | ... | ... | ... | ... | ... | 2,000 7 8 |
| 10 | Sibsagar | ... | 3 | 956 0 0 | 23 | 1,563 8 1 | ... | ... | ... | ... | 1 | 96 0 0 | ... | 2,555 8 1 |
| 11 | Lakhimpur | ... | 2 | 509 0 0 | 16 | 1,440 0 0 | 14 | ... | ... | ... | ... | ... | ... | 2,349 0 0 |
| 12 | Garo Hills | ... | 1 | 380 10 10 | 6 | 642 0 0 | ... | ... | ... | ... | ... | ... | ... | 1,022 10 10 |
| 13 | Manipur State | ... | 1 | 240 0 0 | 9 | 600 0 0 | ... | ... | ... | ... | ... | ... | ... | 840 0 0 |
| | Total of Districts | ... | 29 | 10,450 10 9 | 236 | 21,007 9 7 | 72 | ... | ... | ... | 1 | 96 0 0 | ... | 32,214 4 4 |
| | Shillong Vaccine Deptt | 1 | 600 0 0 | 1 | 1,950 0 0 | 12 | 2,000 14 5 | ... | ... | ... | ... | ... | ... | 4,540 14 5 |
| | Total for the Province | 1 | 600 0 0 | 30 | 12,400 10 9 | 268 | 23,728 8 0 | 72 | ... | ... | ... | 1 | 96 0 0 | 36,855 2 9 |

Note.—The average cost of each successful vaccination as shown in column 27 has been calculated on the

the Province of Assam during the year 1914-15.

| ditto. | | | | Paid from | | | | | | | Number of all successful vaccinations and re-vaccinations. | Average cost of each successful case. |
|-----------------------|----------------|----------------------|-------------|----------------|------------------|-------------|-----------------|---------------|-------------|-----------|--|---------------------------------------|
| Travelling allowance. | Contingencies. | | Total cost. | Imperial Fund. | Provincial Fund. | Local Fund. | Municipalities. | Native State. | Total. | | | |
| | Cost of lymph. | Other contingencies. | | | | | | | | | | |
| 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | |
| Rs. s. p. | Rs. s. p. | Rs. s. p. | Rs. s. p. | Rs. s. p. | Rs. s. p. | Rs. s. p. | Rs. s. p. | Rs. s. p. | Rs. s. p. | Rs. s. p. | Rs. s. p. | |
| 2,515 9 6 | ... | 101 8 0 | 5,000 7 8 | ... | 2,383 11 9 | 2,524 11 11 | 92 0 0 | ... | 5,000 7 8 | 15,143 | 0 5 3 | |
| 2,850 13 8 | ... | 680 10 11 | 12,273 2 8 | ... | 4,719 1 11 | 2,879 7 3 | 174 9 1 | ... | 12,273 2 8 | 100,297 | 0 1 11 | |
| 561 9 0 | ... | 15 0 0 | 3,304 9 0 | ... | 3,112 9 0 | ... | 192 0 0 | ... | 3,304 9 0 | 7,913 | 0 6 8 | |
| 479 15 0 | ... | ... | 1,619 15 0 | ... | 1,619 15 0 | ... | ... | ... | 1,619 15 0 | 4,338 | 0 5 11 | |
| 288 0 0 | ... | 9 6 0 | 1,129 8 0 | ... | 1,129 3 9 | ... | ... | ... | 1,129 8 0 | 2,717 | 0 6 7 | |
| 675 9 3 | ... | 615 0 0 | 2,625 13 11 | ... | 1,489 13 5 | 1,070 0 6 | 66 0 0 | ... | 2,625 13 11 | 24,173 | 0 1 8 | |
| 795 1 3 | ... | 218 14 1 | 5,159 1 10 | ... | 1,828 13 11 | 3,069 3 11 | 321 0 0 | ... | 5,159 1 10 | 40,178 | 0 2 0 | |
| 446 14 0 | ... | ... | 2,935 14 0 | ... | 1,279 14 0 | 1,476 0 0 | 180 0 0 | ... | 2,935 14 0 | 12,009 | 0 3 10 | |
| 311 9 6 | ... | 30 0 0 | 2,342 1 2 | ... | 1,075 13 4 | 1,217 1 10 | 60 2 0 | ... | 2,342 1 2 | 12,162 | ... | |
| 607 1 0 | ... | 90 0 0 | 3,312 9 1 | ... | 1,713 1 0 | 1,509 8 1 | ... | ... | 3,312 9 1 | 18,077 | 0 2 11 | |
| 862 0 0 | ... | 420 0 0 | 3,021 0 0 | ... | 1,762 0 0 | 1,580 0 0 | 180 0 0 | ... | 3,021 0 0 | 13,962 | 0 4 1 | |
| 501 11 6 | ... | 29 14 4 | 1,564 4 8 | ... | 1,564 4 8 | ... | ... | ... | 1,564 4 8 | 9,324 | 0 2 8 | |
| .. | 315 0 0 | 51 10 0 | 1,176 10 0 | ... | ... | ... | ... | 1,176 10 0 | 1,176 10 0 | 12,731 | 0 1 6 | |
| 11,205 13 8 | 315 0 0 | 2,240 10 4 | 46,065 12 4 | ... | 23,178 5 9 | 20,466 1 6 | 1,254 11 1 | 1,176 10 0 | 46,065 12 4 | 273,307 | 0 2 8 | |
| ... | .. | 11,462 14 3 | 16,163 12 8 | ... | 16,163 12 8 | ... | ... | ... | 16,163 12 8 | ... | ... | |
| 11,205 13 8 | 315 0 0 | 13,703 8 7 | 62,169 9 0 | ... | 29,282 2 5 | 20,466 1 6 | 1,254 11 1 | 1,176 10 0 | 62,169 9 0 | 273,307 | 0 3 7 | |

Total number of successful vaccinations and re-vaccinations performed by the Special Department only.

Statement No. III—Showing Dispensary Vaccination

| District. | Number of dispensaries in each district to which a vaccinator is attached. | Average number of vaccinators attached to dispensaries during the season. | Total number of persons vaccinated. | Average number of persons vaccinated by each vaccinator. | Primary vaccination. | | | | |
|-------------------------|--|---|-------------------------------------|--|----------------------|-----------------|-------------------------------|--------------------|-----------|
| | | | | | Total. | Successful. | | | Un-known. |
| | | | | | | Under one year. | Over one and under six years. | Total of all ages. | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Cachar ... | ... | ... | 17 | ... | 2 | ... | ... | 2 | ... |
| Sylhet ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Khasi and Jaintia Hills | ... | ... | 306 | ... | 70 | 5 | 49 | 54 | 16 |
| Naga Hills | ... | ... | 276 | ... | 204 | 86 | 64 | 176 | 4 |
| Lushai " | ... | ... | 979 | ... | 716 | 23 | 371 | 636 | 7 |
| Goalpara | ... | ... | 17 | ... | 7 | 1 | 3 | 7 | ... |
| Kamrup ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Darrang ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Nowgong | ... | ... | 416 | ... | 387 | 39 | 271 | 366 | ... |
| Sibsagar | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Lakhimpur | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Garo Hills | ... | ... | 47 | ... | 43 | 8 | 33 | 41 | 1 |
| Manipur State | ... | ... | 151 | ... | 151 | 142 | 6 | 148 | ... |
| Total ... | ... | ... | 2,209 | ... | 1,580 | 304 | 797 | 1,430 | 28 |

Comparative Statement No. IV—Showing the number of persons primarily vaccinated, in each of the under-

| Establishment. | Persons | | | | | | | |
|----------------------|---------------|-----------------------------------|---------------|-----------------------------------|---------------|-----------------------------------|---------------|-----------------------------------|
| | Total number. | Number suc-cess-fully vaccinated. | Total number. | Number suc-cess-fully vaccinated. | Total number. | Number suc-cess-fully vaccinated. | Total number. | Number suc-cess-fully vaccinated. |
| | Year ending | | | | | | | |
| | 1905-06. | 1906-07. | 1907-08. | 1908-09. | 1909-10. | 1910-11. | 1911-12. | 1912-13. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| Government ... | 43,036 | 40,857 | 27,714 | 29,119 | 39,432 | 38,531 | 39,838 | 29,078 |
| Dispensaries ... | 24,943 | 24,297 | 23,319 | 22,614 | 15,664 | 15,294 | 3,160 | 2,990 |
| Municipal ... | 2,058 | 1,977 | 2,748 | 2,735 | 3,299 | 3,262 | 3,513 | 3,098 |
| Local Funds ... | 153,252 | 148,926 | 165,182 | 162,257 | 146,694 | 142,534 | 150,917 | 149,433 |
| Licensed vaccinators | 19,580 | 19,487 | 37,704 | 37,562 | 25,072 | 24,874 | 31,084 | 30,929 |
| Apprentices ... | 4,391 | 4,359 | 10,857 | 7,756 | 3,812 | 3,801 | 5,010 | 4,920 |
| Native States ... | 16,339 | 14,252 | 15,527 | 14,281 | 14,247 | 12,150 | 13,303 | 11,100 |
| Total ... | 263,649 | 254,155 | 283,051 | 276,354 | 248,220 | 240,416 | 246,824 | 241,548 |

VACCINATION.

in the Province of Assam during the year 1914-15.

| Re-vaccination. | | | Percentage of successful cases in which the results were known. | | Percentage of unknown cases to total cases. | |
|-----------------|-------------|----------|---|-----------------|---|-----------------|
| Total. | Successful. | Unknown. | Primary. | Re-vaccination. | Primary. | Re-vaccination. |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| 15 | 1 | ... | 100 | 6.66 | ... | ... |
| ... | ... | ... | ... | ... | ... | ... |
| 236 | 141 | ... | 100 | 69.74 | 22.85 | ... |
| 72 | 58 | 1 | 88 | 81.69 | 1.96 | 1.39 |
| 263 | 128 | 12 | 89.70 | 50.99 | .97 | 4.56 |
| 10 | 5 | ... | 100 | 50.00 | ... | ... |
| ... | ... | ... | ... | ... | ... | ... |
| ... | ... | ... | ... | ... | ... | ... |
| 29 | 26 | ... | 94.57 | 89.65 | ... | ... |
| ... | ... | ... | ... | ... | ... | ... |
| ... | ... | ... | ... | ... | ... | ... |
| 4 | 3 | ... | 97.62 | 75.00 | 2.33 | ... |
| ... | ... | ... | 98.01 | ... | ... | ... |
| 629 | 362 | 13 | 92.14 | 58.76 | 1.77 | 2.06 |

and the number of those persons who were successfully vaccinated in the Province of Assam mentioned official years.

primarily vaccinated.

| Total number. | Number success-fully vaccinated. | Total number. | Number success-fully vaccinated. | Total number. | Number success-fully vaccinated. | Total number. | Number success-fully vaccinated. | Total number. | Number success-fully vaccinated. | Total number. | Number success-fully vaccinated. |
|---------------|----------------------------------|---------------|----------------------------------|---------------|----------------------------------|---------------|----------------------------------|---------------|----------------------------------|---------------|----------------------------------|
| 31st March. | | | | | | | | | | | |
| 1909-10. | | 1910-11. | | 1911-12. | | 1912-13. | | 1913-14. | | 1914-15. | |
| 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| 31,212 | 30,128 | 25,926 | 23,580 | 24,950 | 24,146 | 30,139 | 28,502 | 33,014 | 31,655 | 23,384 | 20,649 |
| 2,818 | 2,474 | 2,549 | 2,128 | 1,464 | 1,390 | 1,036 | 937 | 1,035 | 900 | 1,580 | 1,430 |
| 2,909 | 2,182 | 2,347 | 2,237 | 3,262 | 3,023 | 3,517 | 3,093 | 2,897 | 2,835 | 2,828 | 2,684 |
| 147,644 | 142,315 | 161,234 | 154,616 | 179,887 | 176,566 | 179,380 | 176,043 | 179,040 | 176,991 | 169,629 | 163,948 |
| 39,645 | 38,285 | 31,811 | 29,902 | 37,963 | 37,231 | 45,790 | 44,335 | 44,537 | 42,623 | 34,560 | 32,706 |
| 5,187 | 5,102 | 4,682 | 4,563 | 16,762 | 16,411 | 13,069 | 12,542 | 15,329 | 15,007 | 17,208 | 16,645 |
| 13,316 | 10,166 | 13,358 | 11,612 | 13,193 | 11,756 | 13,656 | 11,521 | 13,626 | 12,343 | 13,756 | 12,595 |
| 212,131 | 230,652 | 241,507 | 228,638 | 277,481 | 270,523 | 287,178 | 278,274 | 289,448 | 293,274 | 262,945 | 250,657 |

Statement No. V—Showing particulars of Vaccination verified by Inspecting Officers for the year 1914-15.

| District. | 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 successes reported by vaccinators. | |
|-----------------------------|-------------------------------------|-----------------|---|-----------------|---|-----------------|---|-----------------|---|-----------------|--|-----------------|---|-----------------|--|-----------------|
| | | | By Deputy Sanitary Commissioners or Civil Surgeons. | | By Native Superintendents or other inspecting officers. | | By Deputy Sanitary Commissioners or Civil Surgeons. | | By Native Superintendents or other inspecting officers. | | By Deputy Sanitary Commissioners or Civil Surgeons. | | By Native Superintendents or other inspecting officers. | | | |
| | Primary. | Re-vaccination. | Primary. | Re-vaccination. | Primary. | Re-vaccination. | Primary. | Re-vaccination. | Primary. | Re-vaccination. | Primary. | Re-vaccination. | Primary. | Re-vaccination. | Primary. | Re-vaccination. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| Cachar ... | 13,885 | 2,821 | 2,723 | 355 | 13,240 | 1,433 | 10.61 | 12.58 | 95.42 | 50.79 | 98.94 | 69.34 | 91.43 | 57.39 | 96.88 | 67.60 |
| Sylhet ... | 96,671 | 11,102 | 1,788 | 72 | 40,815 | 3,554 | 1.83 | 6.4 | 51.43 | 35.61 | 97.61 | 58.67 | 95.83 | 58.37 | 96.07 | 61.74 |
| Khasi and Jaintia Hills ... | 6,467 | 3,837 | 695 | 212 | 6,021 | 1,976 | 10.74 | 5.32 | 93.10 | 51.49 | 97.55 | 93.29 | 93.64 | 61.33 | 90.16 | 47.37 |
| Naga Hills ... | 4,635 | 198 | 172 | 3 | 2,218 | 42 | 3.71 | 1.32 | 47.81 | 21.21 | 70.74 | ... | 94.86 | 64.29 | 97.35 | 85.83 |
| Lushai ... | 5,350 | 694 | 340 | 33 | 1,594 | 163 | 6.35 | 4.75 | 29.79 | 23.48 | 73.43 | 24.24 | 74.03 | 50.91 | 69.71 | 50.49 |
| Goalpara ... | 22,253 | 4,981 | 1,174 | 258 | 17,619 | 3,614 | 6.27 | 11.20 | 79.17 | 72.55 | 92.50 | 76.88 | 93.07 | 78.59 | 92.45 | 79.03 |
| Kamrup ... | 37,988 | 6,591 | 155 | ... | 6,561 | 1,982 | 41 | ... | 17.09 | 39.07 | 96.36 | ... | 92.47 | 56.96 | 97.08 | 64.55 |
| Darrang ... | 12,276 | 915 | 829 | 10 | 5,282 | 229 | 6.75 | 1.99 | 45.47 | 25.02 | 93.25 | 30.00 | 92.14 | 55.45 | 93.54 | 70.67 |
| Newgong ... | 12,540 | 109 | 1,403 | 46 | 8,028 | 62 | 11.18 | 42.23 | 69.89 | 47.70 | 98.25 | 25.42 | 97.96 | 28.07 | 19.45 | 18.75 |
| Sibsagar ... | 16,348 | 2,993 | 1,678 | 143 | 2,829 | 1,329 | 6.59 | 6.51 | 17.91 | 47.39 | 95.35 | 69.19 | 85.93 | 74.09 | 97.86 | 80.75 |
| Lakhimpur ... | 14,491 | 136 | 109 | 1 | 10,595 | 97 | 75 | 73 | 75.97 | 71.32 | 92.16 | 100 | 98.33 | 78.35 | 98.21 | 75.49 |
| Garo Hills ... | 7,634 | 2,721 | 663 | 64 | 1,450 | 318 | 6.56 | 2.35 | 20.61 | 11.69 | 62.42 | 46.57 | 56.21 | 35.23 | 96.99 | 97.03 |
| Manipur State ... | 13,997 | 213 | 334 | ... | 9,177 | 167 | 2.40 | ... | 65.99 | 73.79 | 91.91 | ... | 98.03 | 76.43 | 98.08 | 78.16 |
| Total ... | 262,943 | 36,911 | 11,263 | 1,697 | 133,836 | 15,246 | 4.28 | 4.05 | 51.66 | 41.36 | 89.9 | 69.08 | 90.96 | 69.73 | 96.20 | 69.09 |

Statement No. VI—Showing the number of Vaccinations performed in Municipal towns on children under one year of age during the year 1914-15.

| District. | Town. | Number of births during the year 1914. | Number of deaths amongst children under one year during the year 1914. | Number of successful vaccination on children under one year during the year ending 31st March 1915. | Date of extension of Vaccination Act to town. |
|-----------------------|---|--|--|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
| Cachar | Silchar | 187 | 29 | 51 | 21st January 1892. |
| Sylhet | Sylhet | 399 | 91 | 123 | 1st October 1882. |
| | Habiganj | 120 | 19 | 16 | 11th December 1913. |
| Khasi & Jaintia Hills | Shillong | 264 | 50 | 175 | 21st June 1895. |
| | Total of Surma Valley and Hill Districts. | 970 | 189 | 365 | |
| Goalpara | Dhubri | 147 | 22 | 113 | 13th February 1891. |
| | Goalpara | 149 | 25 | 144 | 12th November 1890. |
| Kamrup | Gauhati | 275 | 53 | 159 | August 1882. |
| Darrang | Tezpur | 133 | 25 | 48 | 22nd May 1907. |
| Nowgong | Nowgong | 162 | 38 | 134 | 7th April 1897. |
| Sibsagar | Sibsagar | 165 | 18 | 72 | 21st January 1892. |
| | Jorhat | 224 | 50 | 108 | 12th April 1892. |
| | Golaghat | 113 | 15 | 57 | 24th March 1892. |
| Lakhimpur | Dibrugarh | 339 | 46 | 278 | September 1883. |
| | Total of Assam Valley Districts. | 1,707 | 292 | 1,113 | |
| | Total for the Province. | 2,677 | 481 | 1,478 | |

Statement No. VII—Showing, side by side, the ratio per 1,000 of population of deaths

| District. | 1905-06. | | 1906-07. | | 1907-08. | | 1908-09. | |
|--------------------------------|---------------------------------|-----------------------------------|---------------------------------|-----------------------------------|---------------------------------|-----------------------------------|---------------------------------|-----------------------------------|
| | Ratio of deaths from small-pox. | Number of successful vaccination. | Ratio of deaths from small-pox. | Number of successful vaccination. | Ratio of deaths from small-pox. | Number of successful vaccination. | Ratio of deaths from small-pox. | Number of successful vaccination. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| Cachar | ·01 | 18,519 | ·01 | 18,640 | ·001 | 15,563 | ·01 | 13,533 |
| Sylhet | ·008 | 110,363 | ·02 | 108,268 | ·09 | 82,033 | ·08 | 83,817 |
| Khasi and Jaintia Hills | ... | 6,776 | ... | 5,018 | ·08 | 13,179 | ·43 | 21,272 |
| Naga Hills | ... | 5,932 | ·009 | 5,535 | ·02 | 6,557 | ... | 4,777 |
| Lushai | ... | 2,320 | ... | 1,994 | ·01 | 3,517 | ... | 3,585 |
| Goalpara | ·15 | 18,010 | 1·22 | 17,989 | ·67 | 16,922 | ·34 | 21,876 |
| Kamrup | 3·17 | 21,911 | 3·34 | 20,365 | 3·45 | 31,695 | 2·40 | 31,024 |
| Darrang | 1·32 | 12,545 | 1·79 | 12,141 | 4·19 | 9,526 | 2·77 | 9,028 |
| Nowgong | ·03 | 11,869 | ·09 | 7,769 | ·35 | 7,139 | 2·44 | 5,483 |
| Sibsagar | ·14 | 23,466 | ·06 | 25,727 | ·63 | 20,295 | ·85 | 21,814 |
| Lakhimpur | ·04 | 14,927 | ·36 | 16,712 | ·74 | 15,409 | ·15 | 14,613 |
| Garo Hills | ... | 15,830 | ·007 | 15,126 | ... | 16,826 | ... | 14,851 |
| Manipur State | ... | 14,517 | ... | 15,310 | ... | 12,162 | ... | 11,370 |
| Total | ·41 | 180,945 | ·55 | 219,321 | ·78 | 252,518 | ·64 | 257,042 |

from small-pox and the number of successful vaccination during the ten years ending 1914-15.

| 1909-10. | | 1910-11. | | 1911-12. | | 1912-13. | | 1913-14. | | 1914-15. | |
|---------------------------------|-----------------------------------|---------------------------------|-----------------------------------|---------------------------------|-----------------------------------|---------------------------------|-----------------------------------|---------------------------------|-----------------------------------|---------------------------------|-----------------------------------|
| Ratio of deaths from small-pox. | Number of successful vaccination. | Ratio of deaths from small-pox. | Number of successful vaccination. | Ratio of deaths from small-pox. | Number of successful vaccination. | Ratio of deaths from small-pox. | Number of successful vaccination. | Ratio of deaths from small-pox. | Number of successful vaccination. | Ratio of deaths from small-pox. | Number of successful vaccination. |
| 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| ·02 | 15,177 | ·03 | 15,635 | ·02 | 16,641 | ·008 | 16,992 | ·006 | 19,596 | ... | 15,146 |
| ·07 | 79,768 | ·07 | 83,189 | ·38 | 108,987 | ·99 | 132,022 | ·47 | 113,226 | ·14 | 100,597 |
| ·59 | 8,815 | ·04 | 5,026 | ·004 | 7,369 | ·13 | 10,740 | ·35 | 9,128 | ·64 | 8,108 |
| ... | 5,335 | ... | 4,518 | ... | 4,836 | ... | 5,119 | ... | 6,363 | ... | 4,572 |
| ... | 2,738 | ... | 2,799 | ... | 3,121 | ... | 3,123 | ... | 3,027 | ... | 3,481 |
| ·83 | 26,561 | ·28 | 19,065 | ·44 | 23,151 | ·69 | 19,731 | ·59 | 23,408 | ·78 | 24,185 |
| 1·07 | 27,111 | ·58 | 25,016 | 1·21 | 39,178 | 1·89 | 39,978 | 1·02 | 42,323 | 2·03 | 40,178 |
| 1·22 | 6,778 | ·30 | 10,036 | ·56 | 10,606 | ·50 | 10,964 | ·82 | 11,598 | ·36 | 12,093 |
| 3·49 | 4,523 | 3·05 | 7,456 | ·44 | 8,469 | ·95 | 6,602 | ·43 | 12,946 | ·24 | 12,494 |
| ·57 | 19,084 | ·19 | 21,689 | ·16 | 18,490 | ·09 | 18,298 | ·14 | 18,768 | ·18 | 18,077 |
| ·08 | 14,688 | ·05 | 14,470 | ... | 14,119 | ·006 | 14,063 | ·07 | 14,227 | ·09 | 13,982 |
| ·09 | 17,120 | ·15 | 13,219 | ·01 | 15,161 | ·19 | 12,338 | ·84 | 22,813 | ·60 | 9,368 |
| ... | 10,429 | ... | 12,082 | ... | 12,025 | ... | 11,678 | ... | 12,498 | .. | 12,879 |
| ·47 | 238,127 | ·28 | 233,590 | ·35 | 282,153 | ·67 | 301,648 | ·40 | 309,831 | ·37 | 275,159 |

