

## **Notes and statistics on vaccination in Burma.**

### **Contributors**

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NOTES AND STATISTICS  
ON  
VACCINATION IN BURMA

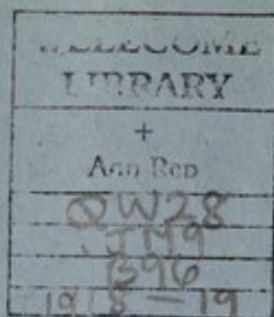
FOR THE YEAR 1918-19



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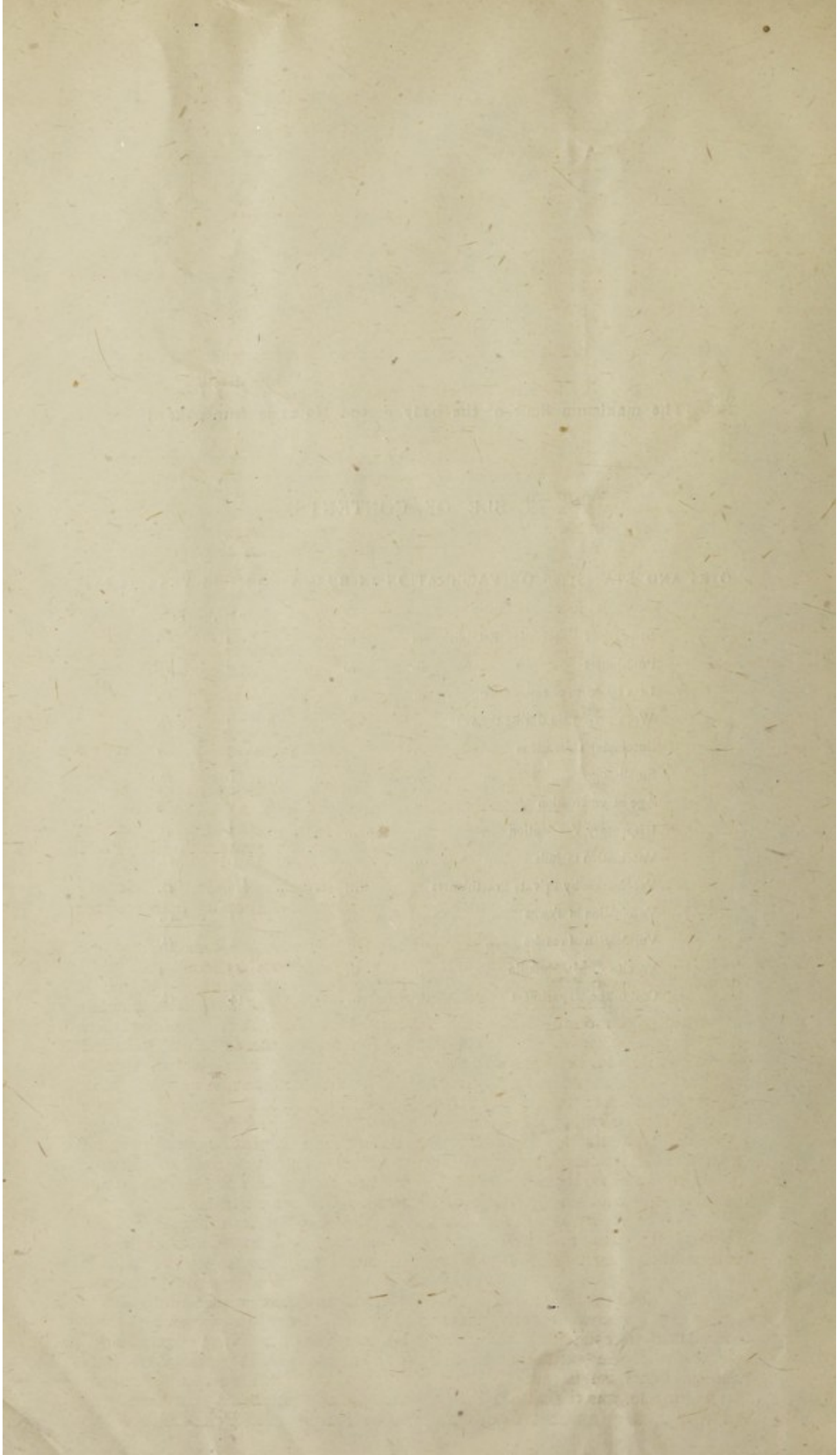
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# NOTES AND STATISTICS

## ON

# VACCINATION IN BURMA

### FOR THE YEAR 1918-19.

The vaccination establishment employed in the Province during 1918-19 was the following:— Statement II.

District Superintendents of Vaccination.	Inspecting Officers.			Vaccinators.
	Sub-Assistant Surgeons.	Supervisors of Vaccination.	Head Vaccinators.	
42	28	39	3	321

The staff was increased during the year under review by (a) one Assistant Surgeon at Yenangyaung and one Sub-Assistant Surgeon at Mawlamyainggyun, respectively who received an allowance from the Town Funds for supervising vaccination. (b) One additional Supervisor of Vaccination and six additional vaccinators in Myaungmya District to meet the requirements of the district in view of the proposed extension thereto of the Act for the prohibition of inoculation (1908). One permanent Vaccinator each was appointed for Mawlamyainggyun and Pyu towns, two for Bassein Municipality, and three for the Northern Shan States at the cost of State Funds. Two female Registrar-vaccinators in Rangoon Municipality who were not shown in the previous years' returns have been for the first time included in the returns for the year under report. There was a decrease of seven temporary vaccinators in Mergui Municipality (2), and District (5), following the cessation of the small-pox epidemic.

[NOTE.—There is an apparent decrease of one Vaccinator in the establishment of Akyab Municipality which employs two vaccinators, whereas through an error it was stated as three vaccinators in the report for 1917-18.]

2. *Punishments.*—Eight permanent vaccinators were dismissed, seven of them for neglect of duty or falsification of returns and travelling allowance bills, and one for collusion in the inoculation of small-pox. One temporary and six permanent vaccinators were removed from service for gross neglect, absence without leave, or other serious misconduct.

3. *Loss by Death or Resignation.*—The services of four Supervisors of Vaccination were lost to the department during the year, two by death, and two by resignation.

4. *Vaccination work performed in 1918-19.*—The total number of operations recorded in the year under review was 563,020 against 492,008 in 1917-18. Primary operations totalled 423,552, a decrease on the previous year's total of 5,865, and revaccinations 139,468 an increase of 76,877. A substantial increase in primary operations exceeding 1,000 cases was recorded in Rangoon City (1,571), and Insein (1,305), Hanthawaddy (1,280), Henzada (1,337), Amherst (1,364), Toungoo (1,811), Thaton (1,528), Mandalay (1,135), Pakokku (1,523) districts. A large decrease is observed in the return of primary operations for the Northern Shan States (5,293), Southern Shan States (3,569), Chin Hills (1,165), Thayetmyo (1,199), Shwebo (1,158), Upper Chindwin (1,085), Mergui (1,792), Akyab (1,492), Sandoway (1,059). Thirty districts showed an increase in revaccinations conspicuous among which are Rangoon Town District (27,777), Mandalay (16,601), Yamethin (23,868), Sagaing (3,214), Magwe (2,606), Myingyan (1,996), Ma-ubin (1,583), Myitkyina (1,269), Upper Chindwin (1,014). Statement I.

The falling-off in primary vaccination is largely to be explained by the prevalence of influenza throughout several months of 1918, and the dislocation of routine district work which it involved. In Mergui it was due to the cessation of the small-pox epidemic of 1917-18, and of the special efforts made to cope therewith. Both primary cases and revaccinations show a decrease in this district. The increased activity shown in many districts in performing both primary and revaccination is correlated with the presence or threat of small-pox, particularly in the early months of 1919. In the case of Yamethin the substantial increase in revaccinations, of which 23,992 were performed against 124 in 1917-18, was the issue of a very vigorous campaign, throughout the towns and villages most exposed to infection, which existed near Pynmana and in



neighbouring districts. It is disappointing to observe that in spite of these efforts there was a deficiency of 884 operations on the primary vaccination work of the previous year. A careful analysis of the previous ten years' returns indicates that, allowing for a normal death-rate among vaccinated children, a very large proportion of persons under ten years of age still remains unprotected by primary operation in this district.

Statement I.

5. *Successful Operations.*—Successful primary operations show an increase of 3,612 on 1917-18 and 7,103 on 1916-17. Successful revaccinations exceed those of 1917-18 by 50,902 and of 1916-17 by 26,517. The total of successful primary cases was 397,720 and of revaccinations 76,588. The percentages of recorded primary operations and revaccinations returned as successful were respectively 97·83 and 65·27, but the balance includes the unknown cases as well as the failures.

District returns, which show badly as compared with the previous years' output in the record of total primary or revaccinations performed, sometimes reestablish their credit when the number of successful operations come to be compared. Thus, the Northern Shan States, with a declared deficit on 1917-18 of 5,293 primary operations is able to show an increase of 1,703 successful operations as the result of improved inspection subsequent to operation. Other districts share in this satisfactory improvement, which in the aggregate raises the total of successful primary operations performed in the province to 3,612 over the return of 1917-18 and nearly double this figure above that of 1916-17 which fact must be set against the deficit for the year under review of 5,865 primary operations less than in the previous year. Certain districts which return an increased output of work show a still larger increase in successful operations. Thus Rangoon has 2,287, Hanthawaddy 1,335, Thatôn 1,836; Meiktila with an increase of 816 in primary operations, has an increase of 1,108, in successful cases. The deficiency shown by several districts in total primary operations performed is however enhanced by a still greater deficiency in successful primary operations. This is notably the case with Pyapôn District which returned 926 less operations and 1,272 less successful operations, and Shwebo with 1,158 fewer operations and 1,316 fewer successful. The position of the Southern Shan States is not improved by the comparison of total and successful primary operations. On the whole however and in view of the far-reaching effects of the influenza epidemic, it may be said that a decided increase in activity and improvement in inspection of operations has been shown in many districts, Military operations in the Upper Chindwin District and Chin Hills were important factors in reducing the vaccination output in the areas.

The reduction to the lowest possible limits of primary cases of which the result remains unknown is a measure of the thoroughness with which vaccination is organized and carried out in any district. The percentage of "unknown" results in primary vaccination was highest in the Northern Shan States (19·15), Chin Hills (14·81), Sandoway (13·42), Mergui (10·49). In the first two districts the system adopted does not admit of the same vaccinator returning to the villages where he operates, in Sandoway and Mergui the rural work is not yet well organized. It is of good omen that the "unknown" ratio in the Southern Shan States is as low as 4·58, for this explains to some extent the decrease in total primary operations—numbers having been sacrificed in favour of thoroughness. Of the known results 97·83 per cent. were reported successful. The unknown percentage in the provincial aggregate of primary cases was only 3·94. It is claimed that it was as low as "nil" in Tharrawaddy and Lower Chindwin Districts, 0·05 in Ruby Mines, 0·87 in Minbu, 0·90 in Magwe and 0·93 in Tavoy. The primary successful ratio in known cases was 97·83 per cent. for the Province, 100·00 per cent. in Rangoon and 99 per cent. and over in Hanthawaddy, Pegu, Pyapôn, Henzada, Tavoy, Ruby Mines, Myitkyina, Sagaing, Lower Chindwin, Magwe, Meiktila, and Kyauksè Districts, and the Chin Hills.

The ratio of persons successfully vaccinated to total population was 39·05 to 34·56 in 1917-18, and 36·28 in 1916-17. Many of the cases were however re-vaccinations.

6. *Small-pox.*—There was little small-pox in Burma during the first three months of the year 1918-19 and almost none in the last six months of 1918. Upper Burma was practically free throughout the year. From January to March 1919 the following areas had become badly infected with a considerable mortality, *viz.* Mandalay and Rangoon cities and Myingyan town and district. In these areas vaccination was pushed with the results noted in paragraph 4 above while neighbouring districts adopted a vigorous campaign in sympathy



with the affected areas. The severe epidemic in Mergui in 1917-18 stimulated the administration of the Tenasserim Division and its several districts to extraordinary efforts with very creditable results. All districts (except Mergui and Salween) showing a satisfactory increase in successful primary operations.

7. *Age at Vaccination.*—Successful primary operations at under one year totalled 120,613 in a population of over twelve millions, a little over one per cent.; whereas the child population at the close of the first year is estimated at 3·6 per cent. of the total population or about 441,000. At ages one to six years, 218,165 successful primary operations were performed; and divided evenly over the five years period this would mean the protection by vaccination each year of 43,633 of the survivors not protected in their first year. The mortality is however heavy at each year of this period, about 10 per cent. dying in the second year of life, 6 per cent. in the third, 5 per cent. in the fourth and rather under 3·5 per cent. in the sixth, while over 23 per cent. of the survivors of the first year die before they have completed the sixth year. Hence we have a population of from 100,000 to 150,000 passing unprotected into the age-period above six years, in which only 58,942 were vaccinated in 1918-19. The results of the activities of the Vaccination Department are, if the returns can be depended upon, encouraging, but there is still a large child population at all ages which remains unprotected. Efforts are being directed at reducing the age at vaccination to as low a figure as possible.

Statement I.

8. *Dispensary Vaccination.*—During 1918-19, 3,707 operations were performed in dispensaries against 2,787 in 1917-18; of these 2,066 were primary operations, with a percentage success of 98·49, and 1,641 re-vaccinations with a success ratio of 67·42. The largest number of vaccinations was performed in the Mandalay Division and in Myitkyina District, closely approached by the Irrawaddy Division and Myaungmya District.

Statement III.

9. *Vaccination in Jails.*—On an average jail population of 13,521, the number vaccinated during the year was 25,257—22,659 of which number were re-vaccinations.

10. *Private Practitioners.*—Reported 283 primary vaccinations with one hundred per cent. successes, and 627 re-vaccinations with about 60 per cent. successes.

11. *Vaccination in Towns.*—Against an estimated population of 20,177 infants who survived the first year of life, 22,128 successful primary operations at under one year of age were performed. The excess over estimated births was due to causes explained in previous reports—among which immigration and defective registration of births predominate. Towns in which a high proportion of surviving infants escaped vaccination in their first year of life were Kyaukpyu 55 out of 77, Thongwa 54 out of 234, Zigon 53 out of 137, Prome 118 out of 575, Ngathaingyaung 81 out of 163, Henzada 72 out of 449, Kyangin 113 out of 208, Mergui 98 out of 352, Salin 50 out of 163. Towns which vaccinated numbers much in excess of estimated survivors were Akyab, Pegu, Insein, Pyapon, Kyaiklat, Yamethin, Pynmana, Pyawbwe, Myingyan, Mandalay, Rangoon, Magwe, Yenangyaung, Thayetmyo and Pakokku.

Appendix B.

12. *Verification of Results.*—*Primary Vaccination.*—Out of 425,266 persons Civil Surgeons and Health Officers verified 58,170 or 13·68 per cent. against 12·60 per cent. in 1917-18; and Supervisors of Vaccination verified 203,960, or 47·96 per cent. against 53·55 per cent. in the previous year. The proportion verified out of 141,109 re-vaccinations by Civil Surgeons and Health Officers was 8·24 and by Supervisors of Vaccination 46·47—the corresponding ratios in 1917-18 were 7·42 and 46·52. The amount of verification work performed by both classes of officer was on the whole satisfactory, though there was a decrease in work performed by Supervisors of Vaccination. Civil Surgeons found 93·45 per cent. of primary cases and 62·87 per cent. of re-vaccinations inspected successful. Supervisors of Vaccination return a percentage success of 96·19 in primary cases verified, and of 58·35 in re-vaccinations.

Statement V.

As is usual the amount of verification work performed by different Civil Surgeons varied within wide limits. The Civil Surgeon, Lower Chindwin, heads the list with 5,434, and 47·94 per cent. of primary operations, followed by the Civil Surgeon, Myingyan, with 4,844 and 40·01 per cent. and the Civil Surgeon, Prome, with 3,558 and 29·92 per cent. Other District Superintendents of Vaccination who performed a very creditable amount of verification work between 2,000 and 3,500 each, and percentages of total operations between 15·46 and 36·40, were the Civil Surgeons of Magwe, Pegu, Ma-ubin, Tavoy, Thaton,



Pakòkku, Yamèthin. On the other hand the Civil Surgeon, Sagaing, only verified 790 primary cases, a percentage of 5.50, the Civil Surgeon, Mergui 127 and 2.10, the Civil Surgeon, Upper Chindwin 28 and 0.40. Special circumstances no doubt facilitated personal verification by Civil Surgeons in some cases, such as concentration of population in large towns, and special facilities for touring, while contrary factors are responsible for some of the low percentages of verification work obtained. Supervisors of Vaccination and other inspecting officers who returned a specially large percentage of verifications were those of Insein District (81.58), Pegu (78.69), Tavoy (77.11), Lower Chindwin (79.78), Thayetmyo (77.56), Kyaukse (90.28), Ruby Mines (94.32) and Myitkyina (81.24), the two last named on a very small total of primary operations. Supervisors of Vaccination returning a low output of verification work were those of Tharrawaddy (14.36 per cent.), Henzada (1.24 per cent.), Toungoo (6.93 per cent.).

13. *Vaccine Depot, Meiktila.*—The report received from the Director of the Depot is one of unusual interest, and shows that the year has been one of unexampled activity and productiveness at the Depot. Colonel Entrican's assiduity and resource have overcome many and grave obstacles to the maintenance of the supplies of lymph at a critical period, and I cannot express too highly my appreciation of the valuable service he has thereby rendered to the administration. By organizing fresh lines of supply of calves when the hire-system broke down, grappling efficiently with a serious outbreak of foot-and-mouth disease among the herd, and devising new methods of tubing and storing glycerinated lymph, he has not only been able to meet very large extra demands for lymph consequent on a widespread epidemic of small-pox, but has also produced a better output of lymph per calf, and a higher percentage of successful cases in districts where deterioration of lymph in transit had previously been responsible for an unsatisfactorily low success ratio.

Comparing the outturn and issue of lymph of the year under review with that of 1916-17, the year next in order of high productivity, the number of calves inoculated in 1918-19 was 523, an increase of 165 on the earlier year; the total yield of lymph was 471.5 ounces against 279 ounces; the average yield per calf was 423.5 grains against 365.5 grains; and the issues 755,923 doses against 726,424. The higher yield of lymph was due to a better class of calf secured under a new system of supply.

The monthly issues of lymph during January, February and March have almost doubled, seriously reducing the reserve stock, which at the close of the financial year was little more than a month's supply.

Serious difficulties experienced with the "producer" supplying the gas engine, with consequent inability to work the cold-storage plant, led to the purchase of an oil engine, which has been installed and will obviate in future the grave risk of loss of lymph in stock which this failure in motive power involved.

Owing to this purchase, and the extra cost of calves and of their feed during a period when fodder reached a very high price, the total expenditure on the depot exceeded that of 1917-18 by Rs. 5,367-15-9; but on the other hand the amount recouped by the sale of calves and lymph and paid into the Treasury exceeded the recoveries of the previous year by Rs. 3,449-14-9. A further sum of Rs. 775 representing expenditure in the previous year was owing to a delay in the office of the Accountant-General debited against the budget of the year under review. The nett expenditure in 1918-19 when these sums have been deducted from the total becomes Rs. 18,621-5-11 or only Rs. 143-1-0 more than in 1917-18. The larger output of lymph in the year under review, amounting to 89,130 doses reduces the cost per dose to 4.73 pies against 5.32 pies in 1917-18 and a saving has thereby been effected on the cost of lymph estimated at the previous year's rate per dose of Rs. 2,323-15-11.

14. *Cost of the Department.*—The total expenditure in 1918-19 was Rs. 2,27,709-4-11 which shows an increase on that for 1917-18 of Rs. 6,494-13-11. The average cost for each successful operation was for the Province Re. 0-7-8 against Re. 0-8-5 in the previous year.

Statement  
II:

C. E. WILLIAMS, M.D., D.P.H., D.T.M.,

Lieut.-Col., I.M.S.,

RANGOON, 27th May 1919.

Superintendent-General of Vaccination, Burma.



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## A.—VACCINATION

STATEMENT NO. 1.—Showing the particulars of Vaccination in the

No.	Districts.	Population of districts according to 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 VACCINATION.				
					Males.	Females.	Total.		Total.	Successful.	Un-known.		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)		
<b>ARAKAN DIVISION.</b>													
1	Akyab ...	629,943	103	11	9,849	8,483	18,332	1,667	18,421	3,700	9,121	15,305	703
2	Hill Tracts, Northern Arakan ...	22,284	15	2	471	381	855	477	778	6	215	748	12
3	Kyaukpadaung ...	184,916	42	6	3,473	3,282	6,755	1,118	6,622	648	3,880	5,995	179
4	Sandoway ...	102,863	27	4	2,488	2,255	4,743	1,178	3,221	243	1,350	2,022	613
	<b>Total</b> ...	<b>839,986</b>	<b>87</b>	<b>23</b>	<b>16,381</b>	<b>14,394</b>	<b>30,775</b>	<b>1,336</b>	<b>27,518</b>	<b>4,597</b>	<b>14,266</b>	<b>24,900</b>	<b>1,407</b>
<b>PROU DIVISION.</b>													
5	Rangoon ...	928,218	10,476	17	41,981	5,667	47,648	2,749	8,198*	4,922	2,487	7,790	467
6	Insein ...	166,245	189	6	5,536	5,227	10,763	2,040	11,280	3,420	6,228	10,288	315
7	Hanthawaddy ...	323,559	196	8	7,574	6,624	14,198	1,775	12,377	1,574	6,243	11,810	548
8	Pegu ...	370,416	91	8	7,513	7,842	15,355	1,919	13,444	4,522	6,230	12,650	608
9	Tharrawaddy ...	493,290	151	8	11,032	11,914	22,946	2,883	11,568	8,250	12,905	20,373	854
10	Prome ...	378,871	130	12	6,936	6,443	13,379	1,022	11,892	3,654	6,167	10,571	554
	<b>Total</b> ...	<b>2,678,737</b>	<b>166</b>	<b>59</b>	<b>80,072</b>	<b>41,330</b>	<b>121,402</b>	<b>3,099</b>	<b>78,061</b>	<b>25,912</b>	<b>41,020</b>	<b>74,290</b>	<b>2,492</b>
<b>IRRAWADDY DIVISION.</b>													
11	Mawlaik ...	303,073	185	9	10,225	11,022	21,247	2,250	16,555	3,264	7,202	15,318	771
12	Pyawb ...	186,815	119	6	5,123	6,354	11,477	1,735	8,612	1,615	6,469	7,208	315
13	Bassien ...	440,983	107	11	10,531	10,510	21,041	1,922	19,522	2,777	9,268	18,268	782
14	Heuzada ...	537,357	187	14	12,343	13,100	25,443	1,817	21,321	7,054	14,220	23,074	1,117
15	Myaungmya ...	354,852	187	15	9,940	9,745	19,685	786	16,522	1,407	8,462	10,357	368
	<b>Total</b> ...	<b>1,669,480</b>	<b>139</b>	<b>55</b>	<b>44,062</b>	<b>44,831</b>	<b>88,893</b>	<b>1,260</b>	<b>80,465</b>	<b>16,220</b>	<b>42,881</b>	<b>75,595</b>	<b>2,692</b>
<b>TENASSERIM DIVISION.</b>													
16	Amherst ...	367,918	52	10	11,051	9,301	20,352	2,026	18,792	3,082	11,314	17,750	744
17	Tavoy ...	135,283	25	6	3,822	3,626	7,448	1,243	6,205*	8,631	3,287	6,128	58
18	Mergal ...	111,434	11	6	2,354	2,566	4,920	1,087	6,041	767	2,614	5,106	334
19	Tongoo ...	351,076	87	10	7,836	7,543	15,379	1,320	14,616*	2,225	7,354	18,290	415
20	Thaon ...	425,975	58	7	7,878	7,791	15,669	2,223	14,894	2,554	8,765	15,961	338
21	Salween ...	45,633	17	2	1,334	845	2,179	1,000	1,460	41	486	1,411	...
	<b>Total</b> ...	<b>1,429,294</b>	<b>40</b>	<b>41</b>	<b>31,916</b>	<b>33,431</b>	<b>70,347</b>	<b>1,716</b>	<b>61,993</b>	<b>13,470</b>	<b>32,607</b>	<b>58,300</b>	<b>2,420</b>
<b>MANDALAY DIVISION.</b>													
22	Mandalay ...	340,770	161	20	17,420	13,291	30,711	1,542	14,982*	7,209	5,126	12,560	221
23	Bhamo ...	107,211	15	4	2,492	1,709	4,201	4,000	3,111	327	1,423	2,329	174
24	Katha ...	193,193	28	4	2,511	2,491	5,002	1,251	4,482	350	2,050	4,239	173
25	Ruby Hines ...	100,435	18	3	14,169	1,220	15,389	78	2,149	1,156	865	2,154	1
26	Myittha ...	86,577	8	2	2,252	1,629	3,881	1,291	2,280	271	1,122	2,103	189
27	Putao ...	31,000	3	...	118	88	196	...	106	3	55	170	10
	<b>Total</b> ...	<b>863,969</b>	<b>21</b>	<b>33</b>	<b>26,364</b>	<b>17,607</b>	<b>46,009</b>	<b>1,904</b>	<b>25,206</b>	<b>9,222</b>	<b>11,311</b>	<b>24,079</b>	<b>738</b>
<b>SAGAING DIVISION.</b>													
28	Shwebo ...	265,361	62	8	6,063	6,249	12,312	1,620	11,662	2,610	7,912	11,270	306
29	Sagaing ...	312,111	171	7	10,592	12,780	23,372	3,528	14,363	5,559	7,508	14,080	253
30	Lower Chindwin ...	316,176	91	6	6,069	6,162	12,231	2,120	11,275*	7,145	3,282	11,232	...
31	Upper Chindwin ...	170,623	11	6	4,611	4,071	8,682	1,455	6,963	1,128	4,627	6,963	170
	<b>Total</b> ...	<b>1,064,271</b>	<b>44</b>	<b>27</b>	<b>27,115</b>	<b>31,482</b>	<b>68,097</b>	<b>2,170</b>	<b>44,323</b>	<b>17,498</b>	<b>23,519</b>	<b>43,345</b>	<b>659</b>
<b>MAGWE DIVISION.</b>													
32	Thayetmyo ...	345,375	52	8	5,265	5,250	10,515	1,340	9,702*	2,984	5,128	9,014	335
33	Fakko I ...	436,180	44	10	11,061	11,175	22,236	2,221	11,581	6,972	8,125	18,340	372
34	Mihon ...	365,539	80	7	3,314	3,988	7,302	1,129	7,734	3,155	3,787	7,569	67
35	Magwe ...	309,526	98	8	7,187	7,627	14,814	1,833	11,929*	6,106	6,929	11,736	108
	<b>Total</b> ...	<b>1,397,600</b>	<b>60</b>	<b>33</b>	<b>27,827</b>	<b>28,040</b>	<b>65,366</b>	<b>1,684</b>	<b>45,968</b>	<b>18,217</b>	<b>22,028</b>	<b>44,659</b>	<b>1,402</b>
<b>MEIKTILA DIVISION.</b>													
36	Meiktila ...	280,562	122	5	4,620	4,806	9,426	1,849	8,412	1,576	5,900	8,009	173
37	Yamethin ...	306,379	74	7	19,144	16,271	35,415	5,039	11,423	4,460	5,505	15,565	715
38	Kyaukse ...	141,425	111	3	2,262	2,208	4,470	1,523	4,419*	3,411	540	4,026	183
39	Myingyan ...	339,258	105	7	7,185	7,129	14,314	2,045	15,107	3,247	6,049	10,978	307
	<b>Total</b> ...	<b>1,107,624</b>	<b>108</b>	<b>22</b>	<b>33,211</b>	<b>30,514</b>	<b>63,725</b>	<b>2,697</b>	<b>46,161</b>	<b>13,274</b>	<b>18,984</b>	<b>33,598</b>	<b>1,653</b>
<b>SHAN STATES.</b>													
40	Northern Shan States ...	453,952	32	13	4,237	3,804	8,041	619	7,965	912	4,966	5,883	1,437
41	Southern Shan States ...	500,203	32	11	7,388	6,560	13,948	1,263	12,330	908	7,672	12,127	611
	<b>Total</b> ...	<b>1,359,154</b>	<b>25</b>	<b>24</b>	<b>11,625</b>	<b>10,364</b>	<b>21,989</b>	<b>2,082</b>	<b>20,294</b>	<b>1,820</b>	<b>12,638</b>	<b>18,010</b>	<b>2,048</b>
<b>CHIN HILLS.</b>													
42	Chin Hills ...	119,566	15	2	927	611	1,538	780	1,512*	134	531	1,243	224
	<b>GRAND TOTAL</b> ...	<b>19,146,237</b>	<b>51</b>	<b>319</b>	<b>303,777</b>	<b>235,894</b>	<b>539,671</b>	<b>1,761</b>	<b>421,542</b>	<b>130,613</b>	<b>218,165</b>	<b>397,720</b>	<b>16,664</b>

NOTE.—This statement does not include the figures for Dispensary  
 \* Secondary operations  
 † Work done by other  
 ‡ Including the area



DEPARTMENT.

Province of Burma during the year 1918-19 (Paragraphs 4, 5 and 7).

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.		No.
Total.	Successful.	Unknown.	Primary.	Re-vaccination.		Primary.	Re-vaccination.	No.	Ratio per 1,000.	No.	Ratio per 1,000.	
(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)
1,908	589	315	97'35	30'97	19'59	4'28	16'51	18,847	34'63	95	'18	1
177	183	6	97'65	30'70	39'85	1'54	3'39	805	36'20	...	...	4
133	80	10	94'61	40'24	32'85	2'74	5'48	8,597	46'49	86	'46	3
859	101	114	77'08	13'03	25'81	13'42	12'82	3,548	34'51	14	'14	4
3,157	908	445	94'11	33'48	30'37	5'11	14'10	31,237	37'90	195	'24	
39,451	18,792	11,405	100'00	67'00	90'63	4'97	28'91	17,843	59'62	115	'39	5
1,043	207	61	98'65	31'26	42'09	2'78	5'85	5,704	32'22	13	'05	6
1,351	330	148	99'58	46'11	37'21	5'20	7'55	10,028	80'15	8	'03	7
1,369	336	127	99'48	61'91	30'49	4'97	27'21	12,615	36'28	32	'08	8
1,378	74	339	90'73	75'60	49'88	22'96	22'96	12,442	44'87	7	'02	9
490	168	381	98'29	79'43	29'60	3'22	67'35	12,032	34'40	4	'01	10
46,332	21,698	12,921	97'67	64'94	40'31	3'17	27'73	82,405	39'74	179	'09	
3,889	1,321	845	98'27	39'60	54'53	4'71	14'01	14,981	49'11	13	'04	11
1,863	374	275	98'99	33'77	33'07	5'08	16'75	7,159	27'94	22	'09	12
1,589	322	419	97'37	73'83	43'27	4'27	26'36	15,902	38'20	44	'10	13
452	145	112	99'29	47'90	44'75	4'59	31'64	19,703	37'01	8	'02	14
623	607	59	98'61	81'66	30'23	1'91	6'27	7,972	23'81	20	'09	15
3,088	3,306	1,438	96'49	45'60	42'26	4'54	10'53	65,779	35'19	117	'06	
1,570	405	325	98'35	39'11	49'35	3'98	14'33	17,462	47'41	48	'13	16
933	524	281	99'31	64'53	49'15	'93	12'97	6,011	44'45	9	'01	17
3,779	1,719	781	95'65	57'84	61'70	10'49	10'67	5,573	63'60	47	'15	18
558	174	69	98'33	35'65	40'35	2'83	12'87	11,742	33'45	21	'08	19
985	439	216	96'61	61'03	34'29	4'94	23'10	10,509	24'70	69	'16	20
719	305	...	96'64	42'43	36'82	...	...	1,574	40'21	...	...	21
8,494	3,666	1,412	98'21	50'35	43'28	4'02	16'62	53,342	37'23	187	'14	
17,876	12,202	213	98'71	69'09	75'72	1'70	1'19	13,181	38'68	65	'18	22
589	411	189	96'82	34'03	30'05	5'09	14'51	2,342	21'72	...	...	23
520	45	355	98'94	15'98	21'72	3'86	49'04	6,961	35'12	...	...	24
40	23	...	99'35	67'60	21'44	'05	...	2,402	29'87	...	...	25
1,301	669	409	99'15	61'98	83'33	6'97	17'25	1,753	30'49	...	...	26
...	...	...	91'40	...	5'43	5'10	...	...	...	...	...	27
20,325	13,350	1,006	98'48	67'95	43'32	2'93	4'63	26,296	31'62	...	...	
1,300	861	2'9	98'38	73'24	34'04	1'77	16'08	11,773	38'04	71	'21	28
10,509	6,111	648	99'29	83'68	71'10	1'27	6'29	18,547	69'43	21	'07	29
1,486	1,109	...	99'56	74'18	39'25	...	...	11,841	36'60	9	'03	30
1,237	897	263	97'16	85'93	43'37	2'45	19'30	8,707	51'03	...	...	31
14,311	10,913	1,990	98'90	82'58	46'88	1'26	7'62	60,569	43'77	101	'10	
671	694	25	96'00	73'44	29'10	8'64	2'68	9,817	37'63	2	'01	32
4,685	708	669	98'04	17'44	39'09	4'97	12'60	17,068	50'12	12	'03	33
169	156	18	98'72	84'00	29'15	'87	10'71	5,180	30'99	5	'01	34
2,776	1,572	138	99'21	80'89	37'02	'90	4'07	15,288	40'08	3	'01	35
8,619	3,100	821	98'04	39'78	36'33	2'99	9'53	47,943	37'39	20	'02	
1,133	783	116	99'63	77'48	31'32	2'11	17'62	7,910	28'25	19	'07	36
28,502	16,598	3,131	98'57	76'13	88'63	6'26	9'13	11,016	36'85	12	'04	37
351	226	40	99'16	72'67	30'07	3'75	11'40	4,920	31'79	9	'16	38
2,207	1,410	431	95'48	73'89	81'03	5'01	19'53	19,973	28'18	17	'04	39
27,789	19,022	3,278	97'25	76'38	45'68	4'80	10'36	38,819	31'06	67	'06	
536	418	115	90'70	96'21	13'67	19'48	21'48	5,855	12'32	...	...	40
803	206	102	95'39	42'23	13'81	4'58	19'70	19,505	31'67	...	...	41
1,339	704	217	98'81	62'76	13'77	9'83	16'21	25,169	18'61	...	...	
26	16	5	99'61	76'19	10'67	14'61	19'23	1,310	15'14	...	...	42
189,418	76,888	22,153	97'63	65'67	39'05	3'94	16'87	421,020	34'72	919	'09	

Vaccination which are shown separately in Statement III. included. agencies included. and population of the Pakokku Chin Hills.



## APPENDICES.

## Summary.

(1)	Total number of persons vaccinated.		Total number of operations performed.		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 vaccinations per 1,000 of population.	Total cost of Department.	Average cost of each successful case.
	(2) Primary.	(3) Re-vaccination.	(4) Primary.	(5) Re-vaccination.	(6) Primary.	(7) Re-vaccination.	(8) Vaccinators employed.	(9) Persons vaccinated by each vaccinator.	(10) Under one year.	(11) One year and under six years.			
By special staff (Statement I).	422,899	138,740	423,948	138,740	97.83	65.96	319	1,761	120,462	218,066	38.99	Rs. 2,27,709	Rs. 0 7 8
By dispensary staff (Statement III).	2,063	1,641	2,065	1,641	98.49	67.49	...	...	832	834	*21	...	...
By other agencies, if any.	304	728	304	728	99.67	69.54	...	...	161	100	*06	...	...
Total ...	425,266	141,109	426,316	141,109	97.83	65.30	319	1,761	120,945	218,999	39.26	...	...



EXHIBIT

STATE OF NEW YORK

IN SENATE

JANUARY 1, 1900

REPORT

OF THE

COMMISSIONERS OF THE LAND OFFICE

IN RESPONSE TO A RESOLUTION PASSED BY THE SENATE

ON APRIL 1, 1899

RELATIVE TO THE

LANDS BELONGING TO THE STATE

AND TO THE

LANDS BELONGING TO THE

INDIAN TRIBES

AND TO THE

LANDS BELONGING TO THE

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## A.—VACCINATION

## STATEMENT NO. II.—Showing the cost of the Department in the

No.	Districts.	European supervising officers.	EXPENDITURE.								Total pay of establishment.	
			Pay.	Supervising officers.	Pay.	Vaccinators.	Pay.	Clerks.	Pay.	Peons, etc.		Pay.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
			Rs. A. P.		Rs. A. P.		Rs. A. P.		Rs. A. P.		Rs. A. P.	Rs. A. P.
<b>ARAKAN DIVISION.</b>												
1	Akyab	2	577 8 0	11	3,384 3 8							3,961 11 8
2	Hill Tracts, Northern Arakan			2	815 2 0							815 2 0
3	Kyaukpyn	1	850 0 0	6	3,740 0 0							4,590 0 0
4	Sandoway	1	825 0 0	4	958 0 0							1,783 0 0
	Total	4	2,002 8 0	23	6,833 5 8							8,835 13 8
<b>PAGO DIVISION.</b>												
5	Rangoon	1(a)		17(a)	470 0 0	1	1,200 0 0	4	672 0 0			2,342 0 0
6	Insein	3	1,850 0 0	6	3,561 4 8							5,411 4 8
7	Hanthawaddy	3	954 13 5	8	3,892 0 0							4,846 13 5
8	Pegu	2	1,349 15 10	8	3,968 1 0							5,318 0 10
9	Tharrawaddy	6	961 3 7	8	2,258 8 0							3,220 11 7
10	Prome	1	1,200 0 0	12	3,933 0 0							5,133 0 0
	Total	15	6,118 0 10	59	17,937 13 8	1	1,200 0 0	4	672 0 0			23,927 14 6
<b>INRAWADDY DIVISION.</b>												
11	Ma-ubin	3	1,440 0 0	9	2,319 8 6							3,759 8 6
12	Pyanon	3	840 0 0	6	1,914 2 4							2,754 2 4
13	Bassein	2	840 0 0	11	3,810 0 0							4,650 0 0
14	Henzada	3	200 0 0	14	4,247 5 11							4,447 5 11
15	Myaungmya	5	800 0 0	15	2,634 8 6							3,434 8 6
	Total	16	4,160 0 0	55	14,936 9 3							19,096 9 3
<b>TENASSERIM DIVISION.</b>												
16	Amherst	4	1,440 0 0	10	3,191 14 5							4,631 14 5
17	Tavoy	1	834 10 10	6	1,911 1 5							2,745 11 5
18	Mergal	1	900 0 0	6	3,075 0 11							3,975 0 11
19	Toungoo	2	280 0 0	10	2,919 9 0							3,199 9 0
20	Thaton	1	500 0 0	7	2,154 2 1							2,654 2 1
21	Salween			2	474 4 7							484 4 7
	Total	9	4,384 10 10	41	13,857 0 6							17,041 11 2
<b>MANDALAY DIVISION.</b>												
22	Mandalay	1	600 0 0	20	7,321 12 2							7,921 12 2
23	Rhomo			4	1,330 8 3							1,330 8 3
24	Katha	1	600 0 0	4	1,591 15 5							2,191 15 5
25	Ruby Mines	1	1,600 0 0	3	1,235 0 0							2,835 0 0
26	Mitkyina			2	922 11 11							922 11 11
27	Putao											
	Total	3	2,760 0 0	29	11,940 2 9							14,700 2 9
<b>SAGAING DIVISION.</b>												
28	Sowebo	1	600 0 0	8	2,234 6 8							2,834 6 8
29	Sagaing	1	500 0 0	7	2,677 3 6							3,177 3 6
30	Lower Chindwin	1	1,510 0 0	6	2,420 15 6							3,930 15 6
31	Upper Chindwin	1	642 13 5	6	2,036 2 4							2,678 15 6
	Total	4	3,312 13 2	27	9,367 11 8							12,679 11 8
<b>MAGWE DIVISION.</b>												
32	Thayetmyo	2	1,200 0 0	8	2,692 1 1							3,892 1 1
33	Pakokku	1	1,200 0 0	1	3,123 4 2					1	174 4 7	4,497 8 10
34	Minbu	2	72 0 0	7	2,001 11 2							2,773 11 2
35	Magwe	3	1,079 3 8	8	2,534 0 6							3,613 3 8
	Total	3	4,119 3 8	23	10,851 1 0					1	174 4 7	15,044 9 3
<b>MEIKTILA DIVISION.</b>												
36	Meiktila	1	527 12 6	6	1,475 13 4							2,002 16 0
37	Yanethin	2	1,070 0 0	7	3,096 11 3							4,166 11 3
38	Kyaukse	1	940 0 0	3	1,045 0 4							1,985 0 4
39	Myingyan	3	500 0 0	7	1,921 15 11							2,421 15 11
	Total	7	2,467 12 6	23	6,542 8 6							9,009 8 6
<b>SHAN STATES.</b>												
40	Northern Shan States	1	440 0 0	13	4,002 10 5							4,442 10 5
41	Southern Shan States	5	2,419 10 10	11	4,866 12 5					2	1,477 0 0	6,788 12 5
	Total	6	2,859 10 10	24	8,868 23 0					2	1,477 0 0	10,393 23 0
42	Chin Hills			8	752 0 0							752 0 0
43	Meiktila Vaccine Depot	1	1,800 0 0	1	1,920 0 0	1	1,075 4 8	2	2,000 0 0			5,795 4 8
44	Office of the S.G.V., Burma											
	<b>GRAND TOTAL</b>	1	1,800 0 0	73	85,204 11 4	321	101,219 15 9	3	3,000 0 0	7	3,323 5 0	143,748 0 1

\* The average cost in this column is calculated on the total number of successful

(a) No share of pay and allowances of 1 Superintendent of Vaccination, 2 Female Registrar Vaccinators and 16 Assistant Registrar Vaccinators

† This amount represents stipendiary allowance

‡ Includes twenty-eight Sub-Assistant Surgeons



DEPARTMENT.

Province of Burma during the year 1918-19 (Paragraphs 1 and 14).

Travelling allowance.	Contingen- cies.	Total cost.	PAID FROM					Total.	Number of all success- ful vaccinations and re-vaccinations.	Average cost of each successful case.*	No.
			Imperial Funds.	Provincial Funds.	Local Funds.	Municipali- ties.	Native States.				
(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)
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.	
2,388 13 7	83 12 0	6,491 4 2	.....	.....	5,518 6 7	915 13 8	.....	6,434 4 3	15,894	0 6 6	1
156 3 6	.....	1,321 3 6	.....	1,321 5 6	.....	.....	.....	1,221 5 6	8-6	1 6 1	2
1,853 6 0	36 14 0	3,723 4 0	.....	.....	2,878 13 0	241 7 0	.....	3,720 4 0	6,075	0 9 10	3
745 14 2	.....	2,526 14 2	.....	.....	2,406 11 2	120 0 0	.....	2,526 14 2	5,653	0 15 3	4
4,896 4 3	120 10 0	13,992 11 11	.....	1,221 5 6	11,901 1 5	1,877 4 8	.....	13,992 11 11	25,508	0 8 9	
217 11 0	6,213 7 6	8,728 2 0	.....	420 0 0	.....	8,303 2 5	.....	8,723 2 5	28,914	0 5 5	5
2,075 7 6	86 7 0	8,906 8 2	.....	.....	7,861 8 6	734 15 8	.....	8,595 3 2	11,991	0 12 1	6
2,318 1 6	175 13 0	7,416 11 11	.....	.....	6,929 14 11	616 13 0	.....	7,545 11 11	14,576	0 9 5	7
8,308 2 8	216 9 6	8,937 13 7	.....	.....	8,018 12 7	924 0 0	.....	8,937 12 7	14,616	0 10 7	8
1,793 2 3	1 0 0 0	3,119 13 1	.....	.....	4,483 13 10	160 0 0	.....	4,119 13 10	21,614	0 3 10	9
1,785 11 0	.....	6,891 11 0	.....	.....	5,434 11 0	1,457 0 0	.....	6,891 11 0	10,837	0 10 2	10
12,894 3 6	6,768 4 1	45,875 6 11	.....	420 0 0	22,679 7 10	14,575 15 1	.....	45,875 6 11	95,338	0 7 8	
2,362 14 5	.....	6,052 6 11	.....	.....	5,406 0 11	637 6 0	.....	6,042 6 11	16,639	0 8 10	11
1,947 10 9	.....	3,801 13 1	.....	.....	3,241 13 1	560 0 0	.....	3,801 13 1	8,215	0 7 5	12
1,754 6 0	.....	6,431 6 0	.....	.....	4,619 6 0	1,814 0 0	.....	6,433 6 0	19,050	0 5 8	13
2,053 0 0	.....	6,582 3 11	.....	.....	5,668 3 2	884 3 8	.....	6,552 3 11	23,822	0 4 8	14
3,431 3 0	187 8 0	6,423 4 0	.....	.....	3,255 7 0	764 12 7	.....	6,019 4 0	11,144	0 8 8	15
9,137 2 8	187 8 0	28,878 3 11	.....	.....	23,792 14 8	5,086 5 8	.....	28,878 3 11	78,901	0 6 10	
2,220 8 6	139 1 6	7,092 8 5	.....	.....	5,825 15 2	1,263 9 3	.....	7,088 8 5	18,155	0 6 2	16
1,851 4 0	144 0 0	4,711 0 3	.....	.....	4,174 0 3	537 0 0	.....	4,711 0 3	6,650	0 11 5	17
2,129 7 3	.....	4,103 8 2	.....	.....	4,156 8 2	620 0 0	.....	4,156 8 2	6,875	0 11 11	18
1,486 5 9	84 15 4	4,720 14 1	.....	.....	3,553 9 1	1,162 5 0	.....	4,715 14 1	14,170	0 5 4	19
2,300 9 0	99 6 0	3,454 1 1	.....	.....	3,041 1 1	383 0 0	.....	3,424 1 1	14,300	0 5 1	20
892 6 6	.....	836 11 1	.....	729 11 1	597 0 0	.....	.....	836 11 1	1,716	0 7 10	21
10,360 9 0	488 6 1	27,890 11 1	.....	219 11 1	23,516 1 9	4,115 14 3	.....	27,890 11 1	61,806	0 7 3	
1,668 10 6	147 5 6	3,191 13 2	.....	3,562 15 7	.....	5,628 12 7	.....	3,191 13 2	24,752	0 5 11	22
6 0 8 0	4 15 9	1,946 0 4	.....	1,727 0 0	.....	219 0 0	.....	1,946 0 4	3,240	0 9 7	23
880 9 6	.....	2,940 8 11	.....	2,940 8 11	.....	.....	.....	2,940 8 11	3,904	0 9 6	24
1,272 3 2	.....	4,067 3 2	.....	3,451 3 2	.....	.....	616 0 0	4,067 3 2	2,157	1 14 2	25
452 10 3	.....	1,434 9 2	.....	1,434 9 2	.....	.....	.....	1,434 9 2	2,712	0 8 3	26
.....	.....	.....	.....	.....	.....	.....	.....	.....	170	.....	27
4,327 9 5	102 5 3	19,180 1 5	.....	12,716 4 10	.....	6,317 12 7	616 0 0	19,180 1 5	37,455	0 8 2	
1,504 9 0	.....	4,638 15 8	.....	4,339 8 5	.....	299 7 3	.....	4,638 15 8	12,131	0 6 1	28
1,500 0 0	.....	4,667 3 0	.....	4,423 7 2	.....	243 11 10	.....	4,667 3 0	2,121	0 3 4	29
1,994 10 2	.....	4,341 9 7	.....	3,901 9 7	.....	430 0 0	.....	4,341 9 7	15,411	0 5 7	30
1,108 5 6	.....	4,377 5 0	.....	4,377 5 0	.....	.....	.....	4,377 5 0	7,490	0 9 6	31
5,297 8 8	.....	18,005 1 3	.....	17,101 14 2	.....	903 3 1	.....	18,005 1 3	54,164	0 5 4	
1,891 9 0	24 8 0	5,928 2 1	.....	.....	5,028 2 1	900 0 0	.....	5,928 2 1	8,708	0 9 9	32
2,339 14 0	.....	5,827 6 10	.....	6,337 6 10	.....	860 0 0	.....	5,827 6 10	17,048	0 6 6	33
199 4 6	9 3 6	3,530 3 2	.....	2,830 7 10	.....	721 11 4	.....	3,530 3 2	7,508	0 7 4	34
1,425 14 0	.....	4,339 2 2	.....	3,438 2 2	.....	1,101 0 0	.....	4,339 2 2	13,335	0 5 5	35
6,116 9 6	33 11 6	10,894 11 3	.....	12,784 0 10	5,083 2 1	3,089 11 4	.....	10,894 11 3	47,760	0 7 0	
1,300 15 0	7 8 0	3,322 0 4	.....	2,994 8 4	.....	267 8 0	.....	3,322 0 4	5,797	0 6 0	36
1,001 8 6	.....	4,608 8 9	.....	3,999 12 6	.....	605 7 9	.....	4,608 8 9	27,153	0 2 9	37
814 8 5	.....	3,739 8 6	.....	2,739 8 6	.....	.....	.....	3,739 8 6	4,202	0 10 5	38
692 15 0	.....	3,474 14 11	.....	2,890 15 11	.....	583 15 0	.....	3,474 14 11	13,368	0 4 6	39
1,106 15 0	7 8 0	14,124 11 8	.....	13,567 13 3	.....	1,536 14 8	.....	14,124 11 8	38,590	0 4 4	
2,460 0 6	66 4 3	5,967 18 2	.....	3,216 0 0	.....	.....	8,751 15 2	6,957 15 2	5,276	1 1 9	40
2,110 7 0	54 11 11	10,913 10 7	.....	8,919 5 2	.....	.....	2,000 5 5	10,115 10 7	13,433	0 14 1	41
4,500 7 6	120 0 2	17,086 9 9	.....	12,134 5 2	.....	.....	8,752 4 7	17,086 9 9	18,769	0 15 4	
927 7 0	.....	979 7 0	.....	979 7 0	.....	.....	.....	979 7 0	1,299	0 13 1	42
517 1 0	19,083 0 8	10,395 5 11	.....	20,396 5 11	.....	.....	.....	20,396 5 11	.....	.....	43
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	44
68 084 13 6	30,926 7 4	2,27,709 4 11	.....	90,361 3 9	95,239 12 1	34,540 0 6	6,368 4 7	2,27,709 4 11	4,78,578	0 7 8	

vaccinations and re-vaccinations by the special staff only of Rangoon Municipality have been included in the cost. Out of 17, only one Vaccinator employed in Cantonment was paid by Government, given to Apprentice Vaccinators, receiving Vaccination allowance.



## B.—DISPENSARY

STATEMENT No. III.—Showing Dispensary Vaccination in the

No.	Districts.	Number of dispensaries in each district in 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.
(1)	(2)	(3)	(4)	(5)	(6)	(7)
<b>ARAKAN DIVISION.</b>						
1	Akyab	1	1	2	2	2
2	Hill Tracts, Northern Arakan	1	1	95	95	95
3	Kyaukpadaung	1	1	6	6	6
4	Sandoway	1	1			
	<b>Total</b>			<b>103</b>		<b>61</b>
<b>PROU DIVISION.</b>						
5	Rangoon	1	1			
6	Insein	1	1			
7	Hanthawaddy	1	1	813	813	280
8	Pegu	1	1			
9	Tharrawaddy	1	1	251	251	288
10	Prome	1	1			
	<b>Total</b>			<b>664</b>		<b>608</b>
<b>INRAWADDY DIVISION.</b>						
11	Ma-ubin	1	1	41	41	9
12	P'ya-p'lon	1	1			
13	Bassein	1	1	809	809	79
14	Henzada	1	1	66	66	16
15	Nyaungmya	1	1	809	809	285*
	<b>Total</b>			<b>775</b>		<b>389</b>
<b>TENASSERIM DIVISION.</b>						
16	Amherst	1	1	106	106	106
17	Tavoy	1	1			
18	Mergui	1	1	4	4	3
19	Toungoo	1	1			
20	Thaon	1	1	4	4	4
21	Salween	1	1			
	<b>Total</b>			<b>114</b>		<b>113</b>
<b>MANDALAY DIVISION.</b>						
22	Mandalay	1	1	307	307	135
23	Bhamo	1	1			
24	Katha	1	1	457	457	254
25	Ruby Mines	1	1			
26	Nyaung-U	1	1	789	789	193
27	Putao	1	1			
	<b>Total</b>			<b>1,553</b>		<b>619</b>
<b>SAGAING DIVISION.</b>						
28	Shwebo	1	1	80	80	30
29	Sagaing	1	1	19	19	11
30	Lower Chindwin	1	1			
31	Upper Chindwin	1	1	130	130	129
	<b>Total</b>			<b>179</b>		<b>140</b>
<b>MAGWE DIVISION.</b>						
32	Thayetmyo	1	1			
33	Pakokko	1	1	83	83	83
34	Minbu	1	1			
35	Magwe	1	1	19	19	23
	<b>Total</b>			<b>83</b>		<b>83</b>
<b>MEIKTILA DIVISION.</b>						
36	Meiktila	1	1	103	103	42
37	Yamethin	1	1			
38	Kyaukse	1	1			
39	Myingyan	1	1			
	<b>Total</b>			<b>103</b>		<b>42</b>
<b>SHAN STATES.</b>						
40	Northern Shan States	1	1			
41	Southern Shan States	1	1	278	278	179
	<b>Total</b>			<b>278</b>		<b>179</b>
42	Chin Hills	1	1	4	4	5*
	<b>GRAND TOTAL</b>			<b>3,704</b>		<b>2,065</b>

\* Includes secondary



VACCINATION.

Province of Burma for the year 1918-19 (Paragraph 8).

PRIMARY VACCINATION.			RE-VACCINATION.				PERCENTAGE OF SUCCESSFUL CASES IN WHICH THE RESULTS WERE KNOWN.		PERCENTAGE OF UNKNOWN CASES TO TOTAL CASES.		No.	
Successful.			Unknown.	Total.	Successful.	Unknown.	Primary.	Re-vaccination.	Primary.	Re-vaccination.		
Under one year.	One and under six years.	Total of all ages.									(11)	(12)
...	...	...	...	...	...	...	...	...	...	...	...	1
35	12	43	6	41	20	2	100.00	87.50	11.11	4.88	...	2
...	...	4	...	1	...	...	80.00	...	...	...	...	3
...	...	...	...	...	...	...	...	...	...	...	...	4
90	14	48	6	42	20	2	87.27	50.00	9.84	4.75	...	5
...	...	...	...	...	...	...	...	...	...	...	...	6
66	126	272	8	33	24	9	100.00	100.00	2.86	27.27	...	6
...	...	...	...	...	...	...	...	...	...	...	...	7
26	123	157	68	23	12	8	95.19	90.00	29.82	34.78	...	8
...	...	...	...	...	...	...	...	...	...	...	...	9
...	...	...	...	...	...	...	...	...	...	...	...	10
91	2.4	4.9	76	56	85	17	99.81	99.81	14.96	30.85	...	11
...	...	...	...	...	...	...	...	...	...	...	...	12
...	1	7	2	32	4	28	100.00	100.000	22.22	87.50	...	13
...	...	79	...	230	76	154	100.00	100.00	...	66.66	...	14
...	...	...	16	50	3	46	...	75.00	10.00	92.00	...	15
23	98	267	1	112	63	4	96.24	58.23	4.0	8.57	...	16
...	...	...	...	...	...	...	...	...	...	...	...	17
83	99	323	19	424	116	282	97.29	79.94	5.41	54.72	...	18
...	...	...	...	...	...	...	...	...	...	...	...	19
65	14	90	12	...	...	...	95.74	...	11.32	...	...	20
...	...	...	...	...	...	...	...	...	...	...	...	21
3	...	3	...	1	...	...	100.00	...	...	...	...	22
...	...	...	...	...	...	...	...	...	...	...	...	23
...	9	4	...	...	...	...	100.00	...	...	...	...	24
...	...	...	...	...	...	...	...	...	...	...	...	25
69	16	97	12	1	...	...	98.94	...	10.12	...	...	26
...	...	...	...	...	...	...	...	...	...	...	...	27
83	26	134	...	173	75	51	99.26	61.98	...	29.55	...	28
...	...	...	136	173	29	144	100.00	10.00	47.89	85.24	...	29
18	95	148	...	...	...	...	...	...	...	...	...	30
...	...	...	4	576	337	40	99.17	62.87	2.07	6.94	...	31
23	49	183	...	...	...	...	...	...	...	...	...	32
...	...	...	...	...	...	...	...	...	...	...	...	33
74	209	470	110	921	441	235	99.53	64.29	22.68	26.52	...	34
...	...	...	...	...	...	...	...	...	...	...	...	35
3	14	18	2	10	...	1	100.00	...	10.00	10.00	...	36
...	9	11	...	8	...	5	100.00	89.33	...	26.00	...	37
...	...	...	...	...	...	...	...	...	...	...	...	38
...	...	...	...	...	...	...	...	...	...	...	...	39
...	112	128	...	1	...	...	99.52	...	...	...	...	40
...	...	...	...	...	...	...	...	...	...	...	...	41
13	133	157	2	19	6	3	99.37	81.75	1.25	15.79	...	42
...	...	...	...	...	...	...	...	...	...	...	...	43
...	...	...	...	...	...	...	...	...	...	...	...	44
...	16	83	...	...	...	...	100.00	...	...	...	...	45
...	...	...	...	19	4	15	...	100.00	...	78.16	...	46
...	...	...	...	...	...	...	...	...	...	...	...	47
17	16	33	...	19	4	16	100.00	100.00	...	78.95	...	48
...	...	...	...	...	...	...	...	...	...	...	...	49
6	18	28	13	60	33	10	95.55	87.50	30.96	33.33	...	50
...	...	...	...	...	...	...	...	...	...	...	...	51
...	...	...	...	...	...	...	...	...	...	...	...	52
...	...	...	...	...	...	...	...	...	...	...	...	53
...	...	...	...	...	...	...	...	...	...	...	...	54
6	18	28	13	60	33	20	95.55	87.50	30.96	33.33	...	55
...	...	...	...	...	...	...	...	...	...	...	...	56
...	...	...	...	...	...	...	...	...	...	...	...	57
...	...	...	...	...	...	...	...	...	...	...	...	58
...	...	...	...	...	...	...	...	...	...	...	...	59
...	...	...	...	...	...	...	...	...	...	...	...	60
11	42	175	4	99	72	9	100.00	80.00	2.93	9.09	...	61
...	...	...	...	...	...	...	...	...	...	...	...	62
11	49	176	4	99	72	9	100.00	80.00	2.23	9.09	...	63
...	...	...	...	...	...	...	...	...	...	...	...	64
...	...	...	...	...	...	...	...	...	...	...	...	65
...	1	4	...	...	...	...	100.00	...	...	...	...	66
...	...	...	...	...	...	...	...	...	...	...	...	67
...	...	...	...	...	...	...	...	...	...	...	...	68
...	...	...	...	...	...	...	...	...	...	...	...	69
...	...	...	...	...	...	...	...	...	...	...	...	70
383	834	1,764	272	1,641	747	623	98.49	67.42	19.18	32.48	...	71

Operations.



COMPARATIVE STATEMENT NO. IV.—Showing the number of persons primarily vaccinated  
Burma in each of the under

Establishments.	PERSONS PRIMARILY 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.
	1908-10.		1910-11.		1911-12.		1912-13.		1913-14.	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Government	178,234	177,619	143,841	132,535	106,142	158,906	184,794	174,075	171,608	168,633
Municipal	45,673	44,057	37,145	32,308	44,023	40,089	55,714	51,375	33,058	31,476
Local Funds	112,135	90,744	134,649	142,461	193,961	180,646	185,833	171,057	210,401	198,887
Native States	10,081	6,881	13,177	10,463	11,367	9,194	8,683	7,516	6,926	5,761
Dispensary	5,475	4,304	8,288	7,304	5,765	5,431	5,365	5,513	3,373	3,077
Other Agencies	...	...	...	...	...	...	...	...	...	...
<b>ARMY.</b>										
Europeans	63	58	102	63	47	40	63	59	69	64
Natives	306	269	190	153	338	335	464	393	255	234
Total	351,872	323,630	356,078	325,185	431,704	333,914	424,015	393,793	423,800	392,111

STATEMENT NO. V.—Showing particulars of Vaccination verified

No.	Districts.	TOTAL NUMBER INSPECTED					
		TOTAL NUMBER OF PERSONS VACCINATED.		By Deputy Sanitary Commissioners or Civil Surgeons.		By Supervisors or other Inspecting Officers.	
		Primary.	Re-vaccinations.	Primary.	Re-vaccinations.	Primary.	Re-vaccinations.
		(3)	(4)	(5)	(6)	(7)	(8)
1	Akyab	16,424	1,903	342	19	4,797	1,345
2	Hill Tracts Northern Arakan	780	177	38	13	...	...
3	Kyaukpadaung	6,676	234	877	...	5,036	87
4	Sandoway	2,929	890	415	84	2,420	610
5	Rangoon	8,197	23,451	717	609	7,079	24,191
6	Insein	11,211	1,043	1,726	164	9,235	842
7	Hanthawaddy	19,517	1,914	1,006	307	7,811	650
8	Pegu	13,446	1,709	3,136	416	10,580	713
9	Tharrawaddy	21,716	1,401	1,031	...	8,129	7
10	Prome	11,832	490	8,538	9	2,015	184
11	Maubho	16,267	8,911	2,830	929	8,155	1,542
12	Pyawb	8,612	1,815	1,380	35	4,810	1,442
13	Bassein	19,631	1,819	675	183	8,030	740
14	Heizada	25,407	502	2,062	77	811	8
15	Myaungmya	11,179	1,005	1,369	4	5,693	431
16	Amherst	18,825	1,670	980	35	9,449	1,171
17	Tavoy	6,225	953	2,165	14	4,050	646
18	Mergui	6,044	3,760	127	168	2,990	1,611
19	Toungoo	14,641	838	869	3	1,014	114
20	Thatun	14,648	985	2,434	97	6,002	116
21	Saiween	1,480	711	81	28	...	...
22	Mandalay	13,101	18,047	303	...	7,676	895
23	Bhamo	2,111	889	802	431	184	178
24	Katha	4,766	693	524	30	3,024	17
25	Ruby Mines	2,169	40	1,309	19	2,207	38
26	Myittha	2,473	2,077	461	159	2,049	1,927
27	Putao	106	...	90	...	...	...
28	Shwebo	11,642	1,310	434	...	6,422	552
29	Sagaing	14,374	10,317	790	147	9,994	4,516
30	Lower Chindwin	11,326	1,495	5,434	471	9,044	673
31	Upper Chindwin	7,054	1,208	38	...	2,403	27
32	Thayetmyo	9,745	971	518	38	7,658	530
33	Pakokku	17,511	4,638	3,010	898	6,643	830
34	Mienbo	7,734	163	1,323	2	4,724	32
35	Magwe	11,938	2,795	8,240	212	4,630	830
36	Meiktila	8,254	1,303	884	3	5,478	619
37	Yamethin	11,423	23,992	2,650	5,322	7,507	6,584
38	Kyaukse	4,908	391	1,439	41	3,808	49
39	Myingyan	12,107	2,207	4,814	616	7,070	830
40	Northern Shan States	7,565	535	1,363	...	...	...
41	Southern Shan States	1,514	902	340	82	8,214	230
42	Chin Hills	1,616	26	110	...	...	...
<b>GRAND TOTAL</b>		<b>425,266</b>	<b>141,109</b>	<b>83,170</b>	<b>11,633</b>	<b>205,260</b>	<b>65,567</b>



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

BILEY 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.	Establishments.
1914-15.		1915-16.		1916-17.		1917-18.		1918-19.		
(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	
166,653	150,189	149,908	139,601	158,431	144,836	155,824	143,538	145,541	133,337	Government.
83,006	80,815	82,795	81,123	83,123	84,760	83,500	80,983	87,200	85,269	Municipal.
192,408	178,416	193,488	184,015	213,420	200,113	227,468	212,064	231,214	216,462	Local Funds.
2,944	2,172	2,890	2,308	10,291	10,025	11,186	7,153	7,854	7,319	Native States.
1,704	1,509	2,849	2,535	2,899	2,320	1,523	1,307	2,063	1,764	Dispensary.
7,544	6,879	7,841	5,520	2,314	878	705	402	804	803	Other Agencies.
										ARMY.
42	30	25	25	10	10	12	11	24	23	Europeans.
253	174	655	513	577	512	415	346	483	431	Natives.
404,853	367,184	395,471	368,565	423,165	393,459	430,634	395,772	425,772	399,938	Total.

by Inspecting Officers during the year 1918-19 (Paragraph 12).

PERCENTAGE OF INSPECTIONS TO TOTAL NUMBER VACCINATED				PERCENTAGE OF CASES FOUND SUCCESSFUL OF TOTAL NUMBER INSPECTED				PERCENTAGE OF SUCCESS REPORTED BY VACCINATORS.		No.
By Deputy Sanitary Commissioner or Civil Surgeons.		By Supervisors or other Inspecting Officers.		By Deputy Sanitary Commissioner or Civil Surgeons.		By Supervisors or other Inspecting Officers.		Primary.	Re-vaccinations.	
Primary.	Re-vaccinations.	Primary.	Re-vaccinations.	Primary.	Re-vaccinations.	Primary.	Re-vaccinations.			Primary.
(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
1.47	1.00	8.21	70.49	89.02	86.52	95.25	59.11	97.85	86.97	1
4.87	7.34	...	...	97.37	78.92	...	...	9.65	80.70	2
13.34	...	75.58	38.84	95.10	...	91.42	82.67	94.51	46.86	3
10.41	9.41	67.19	67.19	91.73	91.52	82.80	27.54	77.08	13.03	4
8.75	1.81	88.46	28.67	99.85	51.91	99.17	54.49	100.00	67.00	5
19.26	10.72	81.88	32.72	99.30	47.56	99.73	26.71	94.65	31.25	6
8.75	10.84	88.97	22.60	94.91	88.16	99.47	42.77	97.54	45.11	7
23.47	13.77	78.63	41.51	95.81	42.55	86.53	40.86	99.08	61.94	8
4.95	...	14.35	8.50	99.71	...	99.01	100.00	96.73	75.69	9
29.22	1.81	24.91	37.55	86.01	101.00	89.23	84.21	100.00	79.43	10
15.46	21.95	49.81	40.15	93.60	42.00	97.07	86.41	88.27	8.80	11
14.86	1.88	65.91	55.87	97.54	77.11	97.31	29.02	89.99	91.77	12
3.18	10.08	40.85	40.68	99.46	59.74	90.61	80.41	97.37	72.82	13
8.21	5.38	1.24	1.59	91.64	61.45	97.11	100.00	94.29	47.91	14
12.40	7.40	80.45	42.81	91.16	...	91.17	63.81	91.63	81.76	15
5.08	2.42	50.11	74.29	95.58	72.78	97.45	21.18	98.35	50.11	16
36.40	1.60	77.11	69.24	91.38	57.14	94.88	61.00	99.34	61.63	17
2.10	2.85	40.4	40.61	95.6	25.91	91.60	44.68	96.36	57.34	18
5.94	5.4	6.91	2.41	94.59	66.67	99.51	48.25	94.38	85.56	19
16.97	10.97	40.96	20.96	91.83	65.67	99.33	49.74	93.61	61.00	20
5.55	3.29	...	...	91.11	1.79	...	...	96.64	49.42	21
2.69	...	58.63	4.96	90.32	...	97.17	51.30	94.71	69.09	22
28.78	48.18	8.49	13.69	91.40	63.41	91.67	51.86	96.32	54.08	23
10.99	5.63	63.46	2.74	96.76	71.86	67.93	53.03	98.44	16.88	24
63.10	47.60	91.33	45.00	79.4	47.37	94.33	61.11	99.33	57.50	25
18.76	7.23	81.4	92.78	96.91	50.00	92.63	45.31	99.15	61.26	26
46.92	...	...	...	78.99	...	...	...	96.64	49.42	27
4.57	...	54.97	60.14	94.14	...	98.54	78.08	98.88	74.92	28
4.80	1.42	69.25	44.06	96.30	70.75	98.65	84.71	99.29	83.96	29
47.94	31.31	79.78	68.89	94.32	70.91	94.10	70.79	99.86	74.18	30
40	...	88.92	2.81	6.61	...	91.60	55.56	97.11	85.93	31
6.26	8.91	7.56	51.58	10.0	100.00	95.95	49.43	96.00	73.44	32
17.14	19.11	37.81	47.67	98.11	90.04	97.74	13.37	92.01	17.44	33
17.11	1.19	61.08	19.05	99.3	...	99.3	87.53	98.72	84.00	34
27.14	7.34	37.56	31.48	94.15	60.38	97.15	60.23	99.21	69.39	35
10.69	7.21	81.01	47.87	99.31	100.00	99.38	75.44	99.3	77.45	36
21.20	23.02	85.72	21.61	96.15	74.17	96.45	89.89	98.37	76.13	37
31.12	11.68	90.24	11.97	99.86	100.00	90.41	57.14	99.16	72.67	38
40.01	97.81	65.93	37.61	64.64	93.02	91.62	78.43	91.45	79.39	39
24.75	...	...	...	76.56	...	...	...	90.70	96.91	40
2.08	5.76	61.00	26.50	100.00	42.31	98.57	77.82	95.39	42.21	41
7.26	...	...	...	95.15	...	...	...	99.61	76.19	42
15.68	8.21	47.96	49.47	91.45	62.87	96.19	68.85	97.83	65.27	43



## APPENDIX A.

Statement showing the ratio per 10,000 successfully vaccinated and the mortality from small-pox by quinquennial periods for Lower Burma only.

Official year.	Ratio per 10,000 successfully vaccinated.	Quinquennial mean.	Calendar year.	Ratio per 10,000 of mortality from small-pox.	Quinquennial mean.
(1)	(2)	(3)	(4)	(5)	(6)
1909-04	840.74	800.90	1909	2.88	6.58
1901-06	818.68		1901	2.18	
1905-06	874.98		1905	10.48	
1906-07	887.65		1906	14.09	
1907-08	891.95		1907	2.87	
1908-09	889.84	828.99	1908	1.89	5.25
1909-10	800.97		1909	1.57	
1910-11	888.91		1910	3.27	
1911-12	898.08		1911	2.18	
1912-13	860.86		1912	2.61	
1913-14	830.81	874.77	1913	2.87	1.11
1914-15	832.06		1914	.39	
1915-16	860.44		1915	.88	
1916-17	404.88		1916	1.06	
1917-18	829.20		1917	.89	
1918-19	422.28	...	1918	.76	

## APPENDIX B.

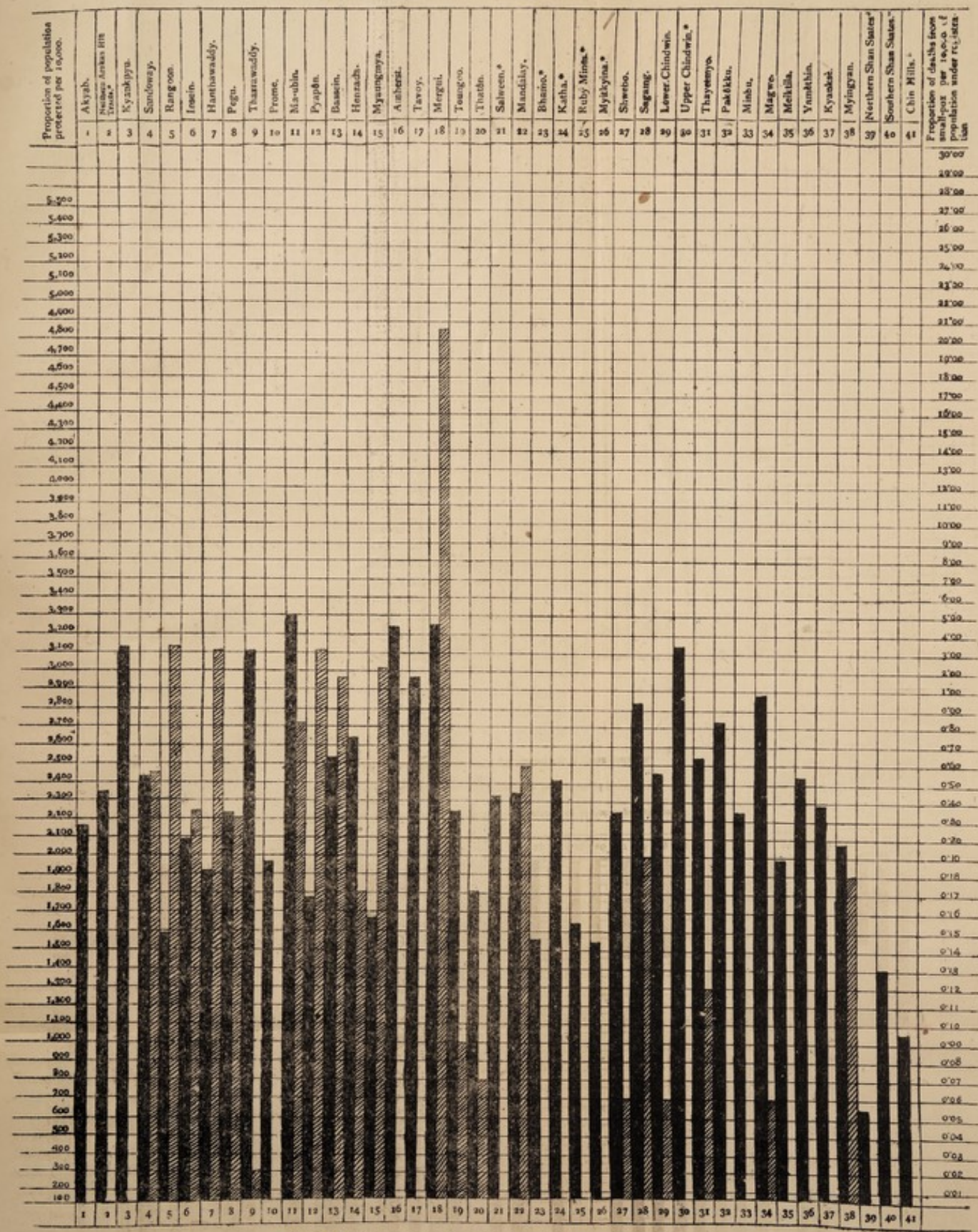
Statement showing the number of vaccinations performed in Municipal towns and notified areas (to which Vaccination Act has been extended) on children under one year of age (Paragraph 11).

Towns.	Number of births during the year 1918-19.	Number of deaths among children under one year during the year 1918-19.	Number of successful operations on children under one year during the year ending 31st March 1919.	Date of extension of Vaccination Act into towns.
(1)	(2)	(3)	(4)	(5)
Akyab	675	198	535	August 1883.
Kyaukpadaung	83	6	22	April 1891.
Sandoway	89	20	65	September 1890.
Rangoon	6,188	2,107	4,981	April 1884.
Insein	241	58	233	14th March 1912.
Syriam	213	68	153	23th January 1912.
Thongwa	277	43	180	3rd March 1914.
Pegu	631	121	604	March 1893.
Nyaung-U	245	85	201	22th March 1910.
Thabeik	241	61	188	October 1897.
Zigun	190	53	84	11th May 1914.
Letpadaung	215	53	68	January 1897.
Gyohingyauk	253	178	146	February 1897.
Mintha	81	22	33	11th May 1914.
Nanailin	114	25	88	11th May 1914.
Prome	631	116	457	June 1890.
Shwedaung	275	91	155	12th September 1917.
Paung-oh	375	154	181	August 1890.
Ma-abin	194	41	163	October 1891.
Yandoon	226	39	177	January 1892.
Dawson	165	35	111	9th July 1899.
Pyawb	166	31	102	November 1901.
Kyaukse	207	64	115	18th December 1904.
Bassein	1,024	391	652	September 1888.
Ngathonggyaung	274	61	227	February 1890.
Henzada	685	176	377	January 1889.
Myanaung	212	52	122	July 1889.
Kyaukse	147	44	103	August 1894.
Myaungmya	271	72	176	June 1891.
Wakema	1,443	280	1,122	27th April 1907.
Moulmein	143	71	104	August 1883.
Kawkaik	952	221	739	17th September 1914.
Tavoy	438	105	234	December 1889.
Mergui	329	77	137	October 1891.
Thabon	145	31	79	October 1891.
Kyaukse	605	160	378	March 1897.
Toungoo	181	33	102	May 1889.
Shwepyithar	5,742	2,441	3,915	January 1890.
Mandalay	297	130	175	August 1891.
Ma-my	198	35	69	October 1912.
Bhomo	227	125	165	28th October 1894.
Shweto	201	105	245	June 1894.
Sogaing	368	103	245	April 1894.
Manya	207	125	295	March 1893.
Thayemye	190	79	200	May 1899.
Allanmye	255	119	445	May 1901.
Pakokka	206	45	180	April 1892.
Minha	253	90	118	March 1896.
Salin	231	100	189	March 1896.
Magwe	233	125	121	10th March 1918.
Taungdwingyi	184	71	117	February 1893.
Yenangyaung	214	106	137	10th March 1913.
Meiktila	273	155	237	June 1904.
Yamethin	391	201	478	February 1892.
Pyawbwe	185	68	94	November 1891.
Kyaukse	228	68	94	May 1912.
Myingyan	440	143	458	May 1894.
				September 1891.
Total	80,377	10,800	23,128	



APPENDIX C.

Diagram showing the Proportion of Population protected during the seven official years from 1912-13 to 1918-19 and the Deaths from Small-pox during the calendar year 1918 in districts where registration is in force.



Indicates proportion of population protected per 10,000 of population.

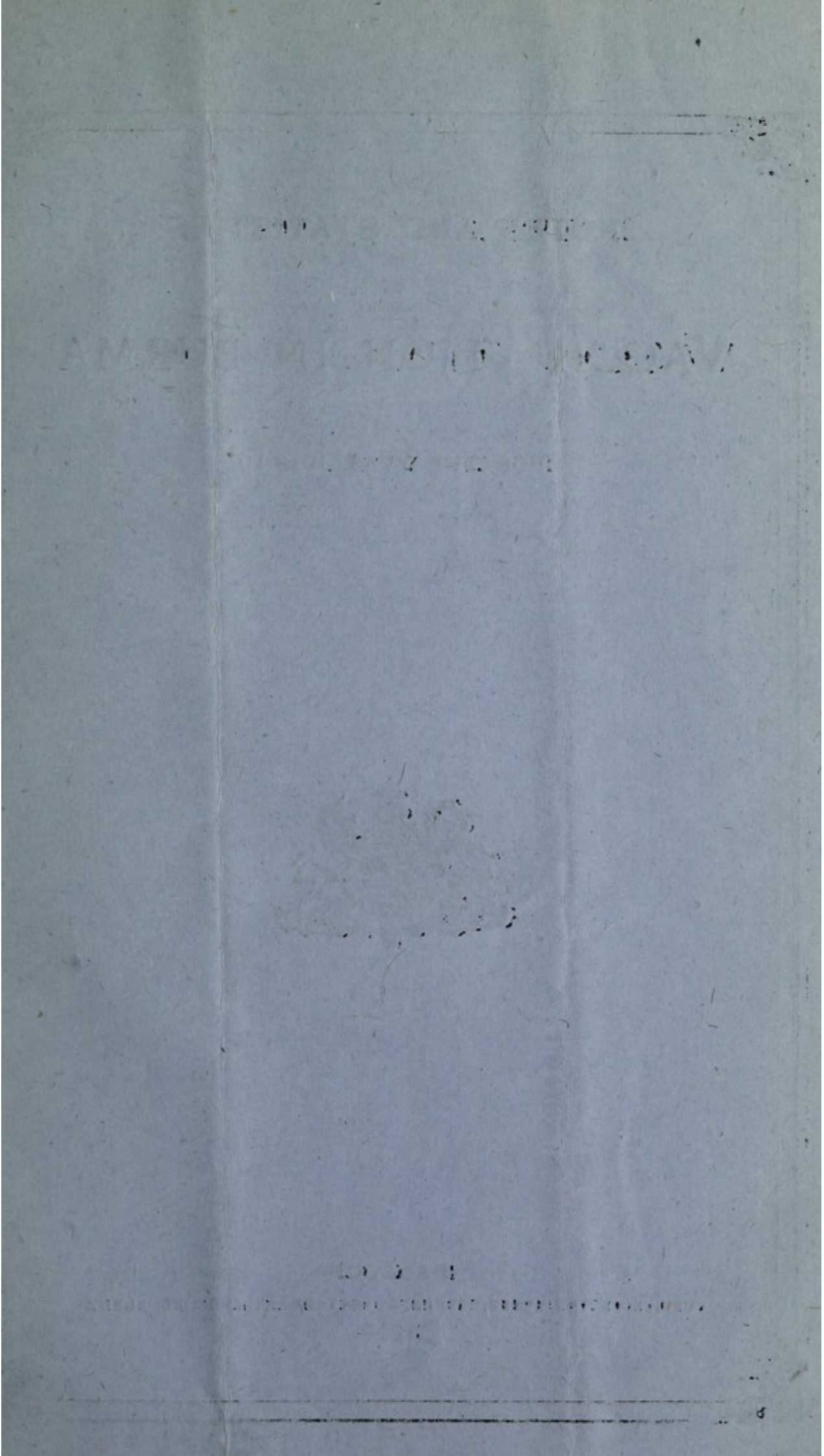
Indicates ratio of deaths from Small-pox per 10,000 of population.

\* Registration of vital statistics is not carried out in these districts.











NOTES AND STATISTICS  
ON  
VACCINATION IN BURMA

FOR THE YEAR 1918-19



RANGOON  
OFFICE OF THE SUPERINTENDENT, GOVERNMENT PRINTING, BURMA  
1919