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

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ANNUAL VACCINATION RETURNS

OF THE

PROVINCE OF ASSAM

FOR THE YEAR

1915-1916

WITH BRIEF EXPLANATORY NOTES



BY

MAJOR T. C. McCOMBIE YOUNG, I.M.S., SANITARY COMMISSIONER, ASSAM.





SHILLONG:

PRINTED AT THE ASSAM SECRETARIAT PRINTING OFFICE.



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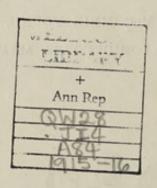
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FROM

MAJOR T. C. McCOMBIE YOUNG, M.D., D.P.H., I.M.S., SANITARY COMMISSIONER, ASSAM,

To

THE SECOND SECRETARY TO THE CHIEF COMMISSIONER OF ASSAM.

Dated Shillong, the 10th June 1916.

SIR,

I have the honour to submit herewith the Annual Vaccination Report of the Province of Assam for the year 1915-16, with brief explanatory notes.

I have the honour to be,

SIR,

Your most obedient Servant,

T. C. McCOMBIE YOUNG, Major, I.M.S.,

Sanitary Commissioner, Assam.

NOTES ON VACCINATION IN ASSAM FOR THE YEAR 1915-1916.

- 1. Introductory.—The charge of the Department was held by the Hon'ble Colonel H. E. Banatvala, I.M.s., from the beginning of the year to the end of the month of June and by me from July to the end of the year.
- 2. Vaccination agencies.—Vaccination was performed among the general population by 303 departmental vaccinators and on tea gardens by garden medical officers. Medical officers of jails, railways and of dispensaries in certain districts also performed vaccination operations within their respective jurisdictions. The average number of persons vaccinated by each vaccinator during the year was 961 against 907 of the preceding year.
- 3. Total number of operations.—The number of vaccination operations performed by all agencies in 1915-1916 was 312,398 as compared with 320,016 of the year 1914-1915, showing a decrease of 6,719 in the primary operations and 899 in revaccinations. The variations in district returns are noted in section 8 of this report. It is probable that this apparent decrease is due to greater strictness and better supervision leading to more accurate returns being obtained from one or two large districts in which it appears that falsification of returns had in the past been considerable.

The total performed by different agencies is shown as follows :-

- 291,107 by departmental vaccinators, 1,683 by the staff of dispensaries, 17,009 by tea garden agencies, 2,173 by jail and lunatic asylum agencies, and 426 by railway medical officers.
- 4. Deaths from small-pox.—The ratio of deaths from small-pox during the year 1915 was '58 per mille of population, against '37 in 1914. The highest rate, 3:10, was reported from the district of Kamrup. This district during the last five years has been reporting the highest rate of any district in the province and it plays a large part in maintaining the provincial small-pox mortality at a high level. The next highest rates, 1:22 and 1:07, were reported from the districts of Sibsagar and Goalpara, respectively. In these two districts, vaccination was pushed in the off-season to check an outbreak of small-pox. As a result of this measure, the revaccinations in the district of Sibsagar increased from 2,593 in 1914-15 to 7,894 in 1915-16, but no such increase is reported from Goalpara where the work has been unsatisfactory. The diagram showing death-rates from small-pox and the protection afforded by successful vaccination is attached.
- 5. Dispensary vaccination.—As compared with 2,219 persons in 1914-15, 1,683 persons were vaccinated in dispensaries in the districts of Nowgong, Naga Hills, Lushai Hills, Garo Hills and in the State of Manipur during the year.
- 6. Percentage of successful operations.—The percentage of success in the vaccination operations performed by the combined establishments was 96.63 for primary vaccinations and 62.29 for revaccinations, as compared with 96.22 and 68.69, respectively, in 1914-15.

The percentage of success in primary vaccinations and revaccinations in the case of vaccinators were 96.74 and 61.69, respectively, against 96.29 and 68.00, respectively, in 1914-15. In the case of the dispensary staff they were 94.31 and 70.13, respectively, against 92.14 and 58.76, respectively, in 1914-15; and in the case of other agencies they were 95.02 and 66.63, respectively, against 95.47 and 79.80, respectively, in 1914-15.

- 7. Different methods of vaccination.—As in previous years glycerinated vaccine manufactured by the Shillong Vaccine Depôt was exclusively used in all operations.
- 8. Vaccination work in different districts.—Out of twelve districts, and the Native State of Manipur, there was an increase in two districts, a decrease in four and in the remaining districts there was practically no change, as compared with the records of work of the year 1914-15. The increase of 4,586 cases of revaccinations in the district of Sibsagar was due to the continuance of vaccination in the off-season to deal with an outbreak of small-pox in the district. It appears that the district is not well protected, and proposals for increasing the number of vaccinators for next vaccination season are now under consideration. Two vaccinators in this district were dismissed, one for extorting fees to which he was not entitled, and the other for falsifying his returns. The increase of 2,764 operations in the district of Darrang is satisfactory and is due to the personal efforts of the Civil Surgeon, Major J. W. McCoy, I M.S. Besides the ordinary routine followed in carrying on vaccination the Civil

Surgeon arranged the collection of children from neighbouring villages in convenient centres where they were vaccinated under his personal supervision. At the close of the vaccination season four refractory villages in this district, which had refused vaccination for years, are reported to have been vaccinated through the influence of the Deputy Commissioner. The increase in the district of Nowgong has been maintained and the work of the last season shows an advance of 252 operations over the record of the preceding year. In this district during the last 5 years the protected ratio has risen from 27.9 in 1910-11 per 1,000 to 44.5 per 1,000 in 1915-16 and the deaths from small-pox have fallen from 1,013 in 1910-11 to 55 in 1915-16. The satisfactory result has been attained by the administrative ability of the Civil Surgeon Lieutenant C. Bancroft, I.S.M.D., aided by official pressure tactfully exercised by the Deputy Commissioner. The fall of 5,571 operations in the district of Kamrup is due to a reduction in the staff of vaccinators. In this district both paid and licensed vaccinators have been entertained. The Civil Surgeon finding the work of certain of the licensed vaccinators to be unsatisfactory dismissed 14 of them. Seven paid vaccinators were discharged for submitting false returns and some of them could not be replaced. The returns of the year under report although smaller in total are probably more accurate than those submitted in former years and the above decrease is really an index of the attention given to district vaccination by Assistant Surgeon Nalini Prasad Neogi, the Officiating Civil Surgeon. Nine thousand two hundred and twenty Mahapurushias were vaccinated during the year, as compared with 8,900 in the previous year. The decrease of 4,659 operations in the district of Khasi and Jainti Hills is not satisfactory. The decrease is reported to be due to the grant of leave to one vaccinator, while another was unable to work for a month on account of the prevalence of cholera in his circle, from which disease he subsequently died. I do not consider this explanation to be satisfactory and the matter is receiving departmental attention. The decrease of 1,591 operations in the district of Galpara is due to bad work by the Inspector and the Sub-Inspector of Vaccination. Both of these have been reported to be lazy and disobedient by the Civil Surgeon and suitable action is being taken. In Sylhet better work has been done in the supervision of district vaccination, large numbers of unprotected persons have been vaccinated in newly constituted compulsory areas, while there has been a decrease in the amount of travelling allowance drawn, and an increase in the amount of inspection done by the inspecting staff. The work done by the vaccination staff in the district of Lakhimpur shows a decrease of 3,693 operations as compared with that of the preceding year. The decrease is stated to be due to the fact that a permanent vaccinator was ill for two months in the vaccination season and could not do any work, and two temporary paid vaccinators had to be dismissed on account of their work being unsatisfactory. A decrease in the number of vaccination operations performed in the Lushai, Naga and Garo Hills districts shows that the Officiating Civil Surgeons of these districts must give more attention to their district vaccination than they have done. The Civil Surgeon, Lushai Hills, did not despatch his Vaccination Report which should have reached this office on May 1st, until May 17th and it was received in Shillong on 24th May thereby entailing delay in the submission of this report to Government. Departmental action is being taken to deal with this delay. The return for the North-East Frontier district where two temporary vaccinators were appointed last season, has not yet been received.

- 9. Composition and strength of the inspecting staff.—There was no change during the year in the strength of the cadre of the subordinate inspecting staff.
- 10. Verification by the inspecting staff.—During the year 7.32 and 7.93 per cent. of the primary operations and revaccinations respectively, were inspected by Civil Surgeons, as compared with 4.28 and 4.05, respectively, in 1914-15. The percentage of inspections in the case of the subordinate inspecting staff was 53.16 and 51.65, respectively, against 51.66 and 41.30 respectively, in the preceding year. During the year the tour diaries and travelling allowance bills of the inspecting staff in Sylhet, Cachar and Kamrup have been forwarded to this office for scrutiny, with the result that the departmental orders limiting their stay at headquarters and prescribing the amount of work done by them, have been followed. In contrast with this I find that in other districts these orders have been largely ignored, and consequently this system of check will now be extended to all districts.
- 11. Vaccination in compulsory areas.—During the year the Bengal vaccination Act V of 1880 was extended to the towns of Karimganj, Sunamganj and Maulvi Bazar and the Inperial Act, XIII of 1880, was extended to the town of Barpeta. In 17 compulsory areas, 3,716 births and 710 deaths among children under 1 year of age

were recorded in 1915 and 1,474 children were successfully vaccinated. According to this rough calculation the proportion of 49.03 per cent. of the available children in these areas was protected against small-pox as compared with 67 per cent. in the previous year.

Ninely-one per cent. of the available children were vaccinated in the town of Goalpara, in Nowgong 87 per cent., in Dhubri and Golaghat 75 per cent., in Gauhati 74 per cent., in Jorhat 68 per cent., in Dibrugarh 62 per cent., in Sibsagar 55 per cent., in Silchar 49 per cent., in Shillong 42 per cent., in Sunamganj 38 per cent., in Tezpur 35 per cent., in Barpeta 32 per cent., in Maulvi Bazar 29 per cent., in Karimganj 24 per cent., in Habiganj 14 per cent., and in Sylhet 7 per cent. These figures do not, however, represent the totals of primary vaccination operations on children over 1 year of age. It depends upon the closeness of the administration of the Act by the Civil Surgeon of the district what number of children are allowed to complete their first year of life without vaccination. The machinery of the Act is now administered with sufficient efficiency to ensure that few, if any, of these children eventually escape vaccination, but steps are being taken to complete the vaccination of the towns in which it is in default. In the town of Sylhet only 23 children out of an available total of 321 have been vaccinated; this is a poor record of work.

12. Vaccine Depôt.—The number of capillary tubes loaded during the year 1915-16 was 497,692 as compared with 547,447 in the year 1914-15. The decrease is due to the fact that in the latter year lymph was supplied to the Eastern Bengal districts for a certain portion of that year. 356 calves were inoculated during the year and lymph was taken from 285; the lymph of the remaining 71 was rejected as unsuitable. The average number of tubes filled per calf was 1,746 as compared with 1,684 in 1914-15.

Failures in the October supply of lymph were as usual reported from some districts and it appears almost certain that this is caused by too early an issue of the lymph which is rendered inert by exposure to heat before use. Arrangements are being made to prevent this.

13. Cost of the Department.—Including the charges of the Vaccine Depôt the total amount of expenditure on vaccination in 1915-16 was Rs. 51,441-10-9 as compared with Rs. 62,169-9-0 in 1914-15. The decrease of Rs. 10,727-14-3 is due to decreased expenditure in the Vaccine Depôt consequent on the discontinuance of the supply of lymph to the Eastern Bengal districts and to reduced expenditure under the head travelling allowance as the result of closer supervision. The amount of travelling allowance drawn in Cachar where certain abuses had been prevalent, has been reduced by Rs. 1,422 as compared with last year, by transferring the Inspector of Vaccination elsewhere, dismissing the Sub-Inspector, and checking the travelling allowance bills in this office. The report of the Khasi and Jaintia Hills shows an unsatisfactory increase in the travelling allowance drawn, along with other deficiencies of work, and the district work will receive my attention.

Of the total expenditure of Rs. 51,441-10-9 during the year, Rs. 28,320-2-9 were paid from Provincial Revenues, Rs. 29,457-7-2 from Local Funds, Rs. 1,501-9-10 from Municipal Funds and Rs. 1,162-7-0 were contributed by the State of Manipur. The average cost of each successful vaccination during the year was annas three and pie one against annas three and pies seven in 1914-15.

14. General.—During the year 14,821 primary vaccinations and 2,188 revaccinations were performed in tea estates in the plains districts and their percentages of success were 96.51 and 74.75, respectively. The Civil Surgeon, Lakhimpur, suggests that a charge should be made for lymph supplied to tea estates as the number of operations returned by them is very small compared with the amount of lymph supplied, and he suggests that a charge will lead to more economical use of the lymph. It is possible that the real defect lies mainly in the non-receipt of returns in regard to vaccination. Further consideration of this suggestion will follow on the receipt of information as to the total amount of lymph supplied to tea estates and a comparison of this total with that of the operations reported. One hundred and seventy-seven primary vaccinations and 249 revaccinations were reported to have been performed within railway limits by railway medical officers and their percentages of success were 83 43 and 60.09, respectively. Eight hundred and twenty-six primary operations and 1,347 revaccinations were performed in Jails and in the Lunatic Asylum at Tezpur by the medical officers of these institutions and their percentages of success were 70.01 and 54.73, respectively.

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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 1909-1910 to 1915-1916.

	15-1916.							,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
Proportion of deaths from small-pox per 10,000 of population.	Occhar.	Sylbet.	Goalpara	Каштире	Darrang.	Nowgong.	Sibtagar.	Lakhimpur.	Preportion of popu- latton predected per 16,000,
1	1	3		5	6	7	8	9	10
33'00							1		6,000
32.00							1		5,960
31-00	-			1					5,800
30-00			-	-	-		-		4,700
29°00 28°00	-								5,600
27-00									5,500
20'00									5,400
25'00	-		354						5,200
24:00		-				-	-		5,100
23-00									5,000
21:00									4,900
20-00									4,700
19:00			-	-					4,600
18:00									4,500
17:00									4,400
16:00									4,900
14:00									4,100
13:00		-							4,000
12-00					-		1		3,900
11:00	-		1	-					3,800
10:00									3,703
9-00 8-00									3,600
7-00									2,400
6:00					1		-		3,300
5-00			-						3,200
4:00									3,100
3:00		1				1			2,900
2·00 1·00									2,800
100							-		2,700
-80						+	+		2,600
*70	1	1		4	-		-	1	2,500
-50									2,000
'40						1			2,510
-30									2,100
120									2,000
19									1,900
10				-					1,700
17									1,000
-15							-		1,560
*14	-	-						-	1,400 .
-13							-		1,300
12									1,100
11 -									1,000
100						-	-		900
108	1		-		-	-	-		100
-07 -									760
*05									UCO Silve
104 -									500 40%
-05 -							-		160
-12									246
*00 -					-				100
0 -			1		-			-	0
		-	-					Part of the last o	

STATEMENTS.

VACCINE

Statement No. I-Showing particulars of Vaccination in

-		79	2 [rė I	-		1	4		
No.	District.	Population of district according to the census of 1911,	Average population per square mile.	Average number of vaccinators employed throughout the season.		number of pr vaccinated.	TRODS	Average number of persons vaccin- ated by each vaccinator.	Total.	Dader one year.
1	2	3	4	5		e		7	8	9
1	SURMA VALLEY AND HILL DISTRICTS. Cachar By raid vaccinators	497,463	139	10	Male.	Female.	Total.	007	12,840	1.049
2	Sylhet By paid vaccinators	2,472,671	458	18 81	8,282 57,346	6,794 52,284	15,076 109,630	837 1,353	99,922	1,042 7,692
	Khasi and Jaintia Hills By paid vaccin- ators.		40	9	2,673	2,972	5,645	627	4,445	1,189
5	Naga HillsBy paid vaccinators Lushai HillsBy paid vaccinators	149.623 91,204	48 12	5	2,185 2,832	1,950 2,325	4,135 5,157	827 1.031	3,863 4,897	747
	Total of Surma Valley and Hill Districts.	3,446,030	136	118	73,318	66,325	139,643	1,183	125,967	10,711
	Assam Valley Districts.									
6 7 8 9 10	Goalpara By paid vaccinators By licensed vaccinators By licensed vaccinators By licensed vaccinators By paid vaccinators Nowgong By paid vaccinators Sibsagar By paid vaccinators	600,643 667,828 377,314 303,596 690,299	151 { 173 { 110 79 138	2 26 48 12 16 16 26	435 13,292 18,170 2,650 8,504 6,639 14,220	223 11,750 14,945 2,138 7,266 5,705 11,983	657 25,042 33,115 4,788 15,770 12,344 26,203	328 963 690 399 986 771 1,008	307 20,585 29,797 4,700 12,869 12,059 18,309	234 8,140 6,193 1,527 1,018 3,386 4,177
11 12	Lakhimpur By paid vaccinators By licensed vaccinators By paid vaccinators	468,989 158,936	103 { 50	14 10 6	4,310 1,434 4,584	3,903 1,287 4,043	8,213 2,721 8,627	587 272 1,437	7,910 2,719 7,458	1,115 192 4,232
	Total of Assam Valley Districts. By paid vaccinators By licensed vaccinators	3,267,605	118	128	56,862 17,376	48,067 15,175	32.551	819 678	88,709 28,004	20,355 9,859
13	Manipur By paid vaccinators	346,222	41	9	7,410	6,574	13,984	1,554	13,974	
	(By paid vaccinators)		-	255	137,590	120,966	258,556	1,014	228,650	
1	cine Depart-{ By ticensed vaccinators }	7,059,857	115	48	17,376	15,175	32,551	678	28,004	9,859
	ment. [Total]		1	303	154,966	236,141	291,107	961	256,654	53,024
	Total Dispensaries						1,683		1,095	260
	Total Railways				301	125	426		177	7
9	Total tea gardens by garden agencies				8,841	8,168	17,009		14,821	6,856
	Total Jails and Lunatic Asylum				2,043	130	2,173		826	
	Grand total	7,059,857	115	303	166,151	144,564	312,398	961	273,573	60,147

Sum

		Total number of p	ersons vaccinated.	. Total number of operations perform			
	1	Primary.	Re-vaccinations,	Primary.	Re-vaccinations,		
1	1	2	3	4	5		
By special staff (Statement I) By dispensary staff (Statement III) By other agencies—tea garden, Railway and Jail agencies	:::	256,654 1,095 15,824	34,453 588 3,784	256,654 1,095 15,824	34,453 588 3,784		
Total		273,573	33,825	273,573	38,825		

DEPARTMENT.

the Province of Assam during the year 1915-16.

vaccination.			Re	vaccination		Percentage fol cases in	e of success-	cinated	known	age of un-	per of person	S SUCCESS	number	annual of deaths
Successfu	1.					results we	re known.	Illy vac	tota	cases.	fully vaccina ing previous i		during	previous pears.
Over one and under six years.	Total of all ages.	Uchnown.	Total.	Successful,	Unknown.	Primary.	Re-wacefundion.	Persons successfully vaccinal per 1,000 of population.	Prinary.	Re-vaceination.	Number,	Ratio per 1,000.	Number.	Eatlo per 1,000.
10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
V	ar	10	m I				1			1				
9,200 70,962	12,247 98,208	167 32	2,236 9,708	1,394 4,634	95	96-63 98-31	65*11 47:73	27·42 41·59	1.30	4.24	16,779 107,575		5 910	*01
2,315	4,365	5	1,200	598	24	98-31	50.85	21.11	.11	2.00	8,024	34:13	15	.06
2,137 3,245	3,271 3,286	131 363	272 260	176 145	5 31	87·64 72·47	65°91 63°31	23-03 37-61	3·39 7·41	1.80 11.92	4,776 - 2,692			
87,859	121,377	698	13,676	6,947	155	96-89	51-37	\$7.23	-55	1-13	139,846	40.58	930	-26
- Harris	-					1 11/2		1 0 10	-					-
61 10,429 19,909	301 19,540 28,005	1 111 106	\$50 4,457 3,318	160 3,235 1,774	53 276 111	98-36 95-43 96-34	53:83 77:37 54:31	38.68	{ ·32 ·53 (·35	15·14 6·19 3·34	21,906		336	-55
2,676 8,460 7,211 10,393	4.622 11,989 11,966 17,606	137 2 120	88 2,901 285 7,894	49 1,574 206 5,207	8 200 678	98.52 94.16 99.24 96.79	61:25 58:27 72:28 72:15	\$52.48 \$5.94 \$60.09 \$3.04	1:06 -01 -65	9-09 -06 	37,333 11,041 9,420 18,810	29:25 31:02	959 195 283 129	1.43 -51 -93 -18
5,481 2,329 2,626	7,518 2,6:4 6,853	29 8 275	303 2 1,169	139 1 964	124	95:39 96:79 95:47	45.87 50.00 92.24	} 21·92 49·21	{ ·36 ·29 3·68	10-60	} 14,172 14,317	50-21 90-08	22 22	-04 -13
54,141	84,843	670	16,220	10,024	1,166	96:36	66-65	38:23	75	7.18	126,999	38:86	1,916	-59
15,434	12,966	907	10	3,285	284	99-22	60·00	37:47	6.49	6.24	12,009	34-68		
142,867	219,186	2,275	29,906	16,979	1,321	96.82	59:39	2	C .99	4:41	7	02 03		
15,434	26,786	128	4,547	3,285	284	96.09	77-05	37.71	45	6.24	278,854	39-49	2,876	.40
158,301	245,972	2,403	34,453	20,264	1,605	96:74	61.69)	93	4.66				
638	945	93	588	364	69	94:31	70:13	-:	8:49	11.73	1,622			
47	141	8	249	131	31	83-43	60-09		4.52	12.45	83			
6,890	14,266	40	2,188	1,587	65	96.51	74:75		*27	2-97	11,983			
1	565	19	1,347	728	17	70.01	54.73		2.30	1.26	517			
165,877	261,889	2,563	38,825	23,074	1,787	96.63	62-29	41.51	-53	4.60	293,089	41.21	2,876	-40

mary.

Percentage of cases in white were k		vaccinat	her of persons ed by each nator.	Number of successfully		Ratio of one- ces dul vac- cination per	Total cost of Department,	Average cost of each su-cessful
Primary.	Re-vaccina-	Vaccinators employed,	Persons vacei- nated by each vaccinator.	Under one year.	One and under six years.	1,000 of pe- pulation.	To be consisted	case,
6	7		9	10	11	12	15	14
96- 74 94-31 95-02	61·69 70·13 66·63	303	961	53,024 260 6,863	158,301 638 6,938	37-71	Rs. a. p. 51,441 10 9	Rs. a. 0 3
96.63	62:29	303	961	60,147	165,877	41.21	51,441 10 9	0 3

														Esp
No.	District.	European supervising officer.	Psy.	Native supervising officer,	Pay.	Paid vaccinators.	Fay.	Licensed vaccinators,	Pur.	Clerks.	Pay.	Peons, etc.	Pay.	Total pay of establishment,
1	2			5	6	7	8	9	10	n	12	13	14	15
			Be. a. p.		Re. a. p.		Re. n. p.		Bs. s. p.		Rs. a. p.		Rs. a. p.	Rs. a. p
1	Cachar			2	941 8 2	18	1,737 10 11			***				2,670 8
2	Sylhet			7	2,201 6 1	81	6,540 6 2						***	8,741 12 3
3	Khasi and Jaintia Hills	***		2	689 8 2	9	1,728 0 0	***		-			***	2,417 8
	Naga Hills			1	300 0 0	8	817 5 4	***	***					1,117 5
8	Lushai Rills			1	226 4 10	5	516 0 0	***						742 4 1
6	Goalpara	***		2	731 9 7	2	486 0 0	26					***	J,217 9
7	Kamrup			3	1,081 6 4	48	8,566 18 11	12						4,598 4
8	Darrang	***		2	789 0 0	16	1,823 15 7	***-			***	***		2,611 15
9	Nowgong			2	805 9 3	16	1,271 9 1			***		***		2,077 2
10	Sibsagar			3	1,040 0 0	26	1,942 14 10			***	***		***	2,982 14 1
11	Lakhimpur			2	900 0 0	14	1,440 0 0	10	***		***	***		2,340 0
12	Garo Hills			1	183 2 6	6	677 13 7			***		***	***	960 15
13	Manipur State			1	260 0 0	9	600 0 0		-	***				840 0
	Total of Districts			28	10,179 6 11	255	23,147 8 8	48	-			-	1	33,836 15
-	Shillong Vaccine Depôt	1	600 0 0	1	1,980 0 0	12	1,703 3 5	-	-				-	4,982 3
	Total for the Province	1	600 0 0	29	12,159 6 11	267	24,849 11 0	48				-		37,609 2

Nora,-The average cost of each successful vaccination as shown in solumn 27 has been calculated on the

the Province of Assam during the year 1915-16.

diture.		FAMILY		-137	W In the	107.	Paid from			vacelma-	ul case.
Travelling allowance.	Cost of lymph.	Other, coutingonties.	Total cost.	Imperial Fund.	Provincial Pund.	Local Fund.	Municipalities.	Native State.	Total,	Number of all successful tions and re-vaccinations,	Average cost of each successful case,
16	17	18	19	20	21	23	23	24	25	26	27
Re. a. p. 1,092 10 0 2,851 3 6 1,195 15 0 441 12 0 888 4 0 427 15 0 830 0 9 894 4 0 209 4 9 537 15 0 751 14 6 619 3 6	Re. c. p.	Re. a. p. 94 15 6 233 15 11 10 14 0 55 7 8 72 1 6 171 8 0 10 8 0 30 0 0 55 14 0 400 8 0 10 0 0 14 7 0	Rs. a. p. 3,608 12 7 11,226 15 8 3,624 5 2 1,559 1 4 1,188 0 6 1,717 10 1 5,009 13 0 3,016 11 7 2,408 7 1 3,616 11 10 3,492 0 6 1,490 2 7 1,163 7 0	Ra, a, p.	Es. a. p. 1,683 8 2 3,132 15 9 8,432 5 2 1,559 1 4 1,186 0 6 1,133 14 4 1,182 13 4 1,182 13 0 1,100 14 3 1,673 13 0 1,620 12 6 1,490 2 7	Rs, a, p, 2,125 4 5 7,830 15 1 536 11 9 3,487 11 11 1,700 15 7 1,934 3 7 1,512 14 10 0	Re. a. p. 60 0 0 263 0 10 192 0 0 45 0 0 419 3 9 180 0 0 32 5 3 130 0 0 180 0 0	Bs. s. p.	Rs. a. p. 5,805 12 7 11,225 15 8 3,624 5 2 1,659 1 4 1,186 0 6 1,717 10 1 5,699 13 0 3,016 11 7 2,405 7 1 3,616 11 10 3,422 6 6 1,409 2 7 1,163 7 0	13,641 102,842 4,063 3,447 3,451 28,236 35,050 13,563 12,172 22,613 10,282 7,828 12,974	E4. a, p. 0 4 6 0 1 9 0 11 0 0 7 3 0 5 6 0 1 3 0 2 3 0 3 6 0 3 1 0 9 7 0 5 5 0 3 0 0 1 8
8,630 6 0	368 0 0	1,200 8 7	43,465 8 11 7,576 1 10	1004	20,344 0 11 7,976 1 10	20,407 7 2	1,801 9 10	1,162 7 0	43,465 8 11 7,976 1 10	200,236	0 2 7
8,600 6 0	808 0 0	4,804 2 0	81,441 10 p		28,320 2 0	20,467 7 2	1,501 9 10	1,162 7 0		266,236	0 3 1

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

Statement No. III-Showing Dispensary Vaccination

		ries in a vac-	of vaccina- dispensacies	ons vac-	persons ecinator.		I	rimary vacc	ination.	
District.		dispensaries to which a nehed.	er of to dis	of persons	er of	1		Successfu	1.	
District.	The state of the s	Number of disperence of disperence of the control o	Average number tors attached to during the season.	Total number cinated.	Average number of persons vaccinated by each vaccinator.	Total.	Under one year.	Over one and under six years.	Total of all ages.	Un- known.
1		2	3	4	5	6	7	8	9	10
Cachar							l			
Sylhet						***				
Khasi and Jaintia H	[ills									
Naga Hills				428		371	51	256	347	8
Lushai ,,			***	276		243	9	187	196	29
Goalpara							***			
Kamrup				•••	***	***			***	***
Darrang				240		238		160	235	
Nowgong	***	***		1000	***		68	100		3
Sibsagar Lakhimpur		***								
Garo Hills		***		619		123	12	35	47	58
Manipur State				120		120	120		120	
Total				1,683		1,095	260	638	945	93

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

								Person
Establishment,	Total number.	Number speces.	Total number.	Number success.	Total number,	Number success- fully vaccinated.	Total number.	Number successifally vaccinated.
								Year endin
	1906	1-07.	1900	7-08-	1900	3-00-	19	09-10-
. 1	2	3		5	6	7	8	9
Government	 27,714	29,119	39,432	38,531	39,838	39,078	31,212	30,128
Dispensaries	 23,319	22,614	15,664	15,294	3,160	2,990	2,818	2,474
Municipal	 2,748	2,735	3,299	3,262	3,513	3,098	2,309	2,182
Local Funds	 165,182	162,257	146,694	142,534	150,917	149,433	147,644	142,315
Licensed vaccinators	 37,704	87,562	25,072	24,874	31,084	30,929	39,645	38,285
Apprentices	 10,857	7,756	3,812	3,801	5,010	4,920	5,187	5,102
Native States	 15,527	14,281	14,247	12,150	13,302	11,100	13,316	10,166
Total	 283,051	276,354	248,220	240,416	246,824	241,548	242,131	230,652

VACCINATION.

in the Province of Assam during the year 1915-16.

347	Re-vaccination			ccessful cases in ts were known.	Percentage of unknown cases to total cases.			
Total.	Successful.	Unknown.	Primary.	Re-vaccination.	Primary.	Re-vaccination		
11	12	13	14	16	16	17		
 57 83 2 496	49 12 1 1	4	94·00 91·58 100·	92·45 36·36	 1.26 47.15	7-01		
588	364	69	94-31	70.13	8-49	11:78		

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

primarily v	raccinated.										
Total number.	Number successfully vaccinated.	Total number.	Number success- fully racelusted.	Total number.	Number specen- fully vaccinated.	Total number.	Number mocess- fully vaccinated,	Total number.	Number success- fully vaccinated.	Total number.	Number successi- fully ractinated.

Slst March.

191	0-11-	1911-	12.	191	2-13-	1913-1	4.	191	4-15.	191	-16.
10	11	19	13	14	15	16	17	18	19	20	91
25.926	23,580	24,950	24,146	30,130	28,802	\$3,014	31,655	23,384	20,649	21,309	18,765
2,549	2,128	1,464	1,390	1,036	937	1,005	900	1,580	1,439	1,095	945
2,347	2,237	3,262	3,023	3,517	3,093	2,897	2,865	2,828	2,684	5,575	5,389
161,234	154,616	179,887	176,566	179,380	176,043	179,040	176,981	169,629	163,948	173,757	168,724
31,811	29,902	37,963	37,231	45,790	44,336	44,537	43,523	34,560	32,706	25,697	24,562
4,682	4,563	16,762	16,411	13,669	13,542	15,329	15,007	17,208	16,645	16,342	15,966
13,358	11,612	13,193	11,756	13,656	11,521	13,626	12,343	13,756	12,595	13,974	12,966
241,907	228,638	277,481	270,523	287,178	278,274	289,448	283,274	262,945	250,657	257,749	246,917

Statement No. V-Showing particulars of Vaccination verified by Inspecting Officers for the year 1915-16.

De la constitución de la constit	100					mber inspe	Percentage of inspection to total number vaccinated				Percentage of cases found successful to total number inspected				reported		
District.	Tetal number of persons vaccinateds		By Deputy : Sanilary Commissioners or Civil Surgeons,		By Natire Superin- tendents or other laspecting officers.		Dy Deputy Sanifacy Commissioners of Civil Surgeons.		By Native Superin- tendents or other impecting officers.		By Deesty Sanitary Commissioners or Civil Sargeons.		By Native Superin- tendents or other Inspecting officers,		Percentage of uncesses reported by wacefastors.		
		Primary.	Re-vaceination.	Primary.	Re-racelnation.	Primary.	Re-vaccination.	Primary.	Le-vaccination.	Primary.	Re-vaccination.	Primary.	Re-vaceination.	Primary.	Re-vaccination.	Primary.	Re-vaccination.
1		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Cachar		12,840	2,236	463	19	8,140	199	3-50	184	63-39	8-50	97-83	10.53	96-17	44-19	96-63	65-11
Sylhet		\$9,923	9,708	8,976	1,272	58,707	6,018	8-98	13:10	2 5 100	61-90	. 0000	71:46	100		100	1.4
Khati and Jaintia Hills	***	4,445	1,200	436	82	3,209	1,047	9-58	6'83	72-19	87:25	130000	52:58	97-81	42.70	98-31	50-85
Naga Hitle	***	4,234	329	803	5	2,113	75	11.88	1'52	50-14	22-79	81-27	***	81.87	72-00	87-64	65-91
Lushai	-	8,140	203	212	6	1,440	48	4:51	2:04	29-19	16-37	63-09	33-33	76 88	52-08	72-47	63-31
Goalpara	***	20,892	4,507	2,982	80	9,097	4,8:7	10:82	1.85	40-41	100	03-50	61-7	91-85	76'84	95-45	75-81
Kamrup	-	34,497	3,406	654	152	12,237	1,798	1-53	.11	33-66	88-73	90-25	100	90-69	49-33	96-64	55-66
Darrang	***	11,800	2,901	1,196	835	6,118	945	8:74	11:20	47-54	32-57	92-10	5470	91.84	47-18	94:16	58-97
Nowgong	***	12,297	287	631	33	8,802	95	5-60	10-50	60-69	33-10	28:30	70-06	05*49	83-70	99-24	72-28
Sheagar	100	18,209	7,894	941	510	11,513	2,473	5:13	6146	61/52	31-31	98-83	80-86	83-00	72-54	96-70	78-15
Lakhimpur	441	10,629	205	305	30	10,620	117	3-44	0.83	100-	35-20	98-63	66-67	97-93	48-72	05-75	45-90
Garo Hills		7,581	1,685	617	250	2,198	480	8-53	15-55	15-90	25-52	89-95	61-30	78-79	65-00	95-67	93-34
Manipur State		14,004	10	1,460		8,526		10-35		60-48		14-36		89-07		00-23	80-00
Total		207,740	35,041	18,878	2,782	137,036	18,100	7-33	7-93	\$3-16	51-63	92-60	60-93	90-50	58-47	90-74	61-60

Statement No. VI-Showing the number of Vaccinations performed in Municipal towns on children under one year of age during the year 1915-16.

District.			Town.		Number of births during the year 1915.	Number of deaths amongst children under one year during the year 1915.	Number of encessful vacel- nation on children under one year during the year ending Sist March 1986.	Date of extension of Vaccination Act to town.			
THAT	1		2		3			•			
Cachar	10		Silchar		196	29	82	21st January 1892.			
		r	Sylhet	,	413	91	23	1st October 1882.			
			Habiganj		143	46	14	11th December 1913.			
Sylhet		{	Sunamganj		88	30	22	17th September 1915.			
		1	Karimganj		53	8	11	17th June 1915.			
		1	Maulvi Bazar		92	19	91	2nd July 1915.			
Khasi &	Jaintia	Hills	Shillong		348	23	137	21st June 1895.			
		12 A	Total of Surma ley and Hill tricts.		1,332	246	310	The stands			
elst.		1	Dhubri		132	17	87	13th February 1891.			
Goalpara		[Goalpara		187	25	147	12th November 1890.			
-		(Gauhati		305	55	184	August 1882.			
Kamrup		{	Barpeta		606	177	136	29th October 1915,			
Darrang		***	Tezpur		177	33	51	22nd May 1907.			
Nowgong			Nowgong		193	29	144	7th April 1897.			
		r	Sibsagar		165	26	77	21st January 1892.			
Sibsagar	*	}	Jorhat		164	41	84	12th April 1892.			
		L	Golaghat		80	13	50	24th March 1892.			
Lakhimpt	ır		Dibrugarh		375	48	204	September 1883.			
			Total of As Valley Distr	sam icts.	2,384	464	1,164				
			Total for the P	rov-	3,716	710	1,474				

			19	06-07.	11	007-08.	1	1908-09.	1909-10.		
Di	strict.		Easts of deaths from small-pox.	Number of successful vaccination,	Ratio of deaths from small-pox.	Number of rescentul vaccination.	Ratio of deaths from small-pox.	Number of successful vaccination.	Eatio of deaths from small-pox.	Number of successful vaccination,	
	1:		2	3	4		0	7	8	9	
Cachar			-01	18,640	*004	15,563	-01	13,533	.02	15,177	
Sylhet			-02	108,268	-09	82,038	.08	83,817	.07	79,768	
Khasi and Jaintis	Hills	W	83	5,018	-08	13,179	-43	21,272	-59	8,81	
Naga Hills			-009	5,535	-02	8,557	3,00	4,777		5,338	
Lushai "		1		1,694	-01	3,517	1	3,585		2,73	
Goalpara			1.22	17,989	-67	16,922	-34	21,875	-83	26,56	
Kamrup	-0.00 en		3.34	29,365	3.45	31,695	2.40	31,024	1.07	27,11	
Darrang	- Coll we	- 4	1.79	12,141	4:19	9,226	2.77	9,028	1.22	6,77	
Nowgong			.69	7,769	.35	7,139	2.44	5,483	3-49	4,52	
Sibsagar			.06	25,727	-63	20,295	-85	21,814	-57	19,08	
Lakhimpur	***		-36	16,712	.74	15,409	-15	14,613	.08	14,688	
Garo Hills			-007	15,126		16,826		14,851	-09	17,120	
Manipur State				15,310	1118	12,152		11,370		10,42	
	Total	aut.	*55	279,321	•78	252,518	-64	257,042	-47	238,13	
	sall appropriate	Date	(8)	85	ALL	-11	9 6	MC No. 1		Darwig .	
										2002002	
								Not less		Citanese .	

Labeling ... Transport

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from small-pox and the number of successful vaccination during the ten years ending 1915-16.

1	1910-11. 1911-19.		1911-19.	1	912-13.		1913-14.		1914-15.	1915-16-		
Ratio of deaths from small-pox.	Sumber of successful vaccination. Ratio of deaths from small-pox.		Number of successful vaccination.	Ratio of deaths from small-pox,	Number of encountal vaccination,	Eatio of deaths from small-pox.	Number of successful vaccination.	Ratio of deaths from small-pox.	Number of successful vaccination,	Batto of deaths from	Number of successful vaccination,	
10	11	18	13	14	15	16	17	18	19	20	11	
.03	15,635	-002	16,641	-008	16,992	-006	19,596		15,146	*008	13,641	
.07	83,189	-38	108,987	-99	132,022	.47	113,226	.14	100,597	-06	102,842	
*04	5,026	-004	7,369	·13	10,740	-35	9,128	*64	8,108	.02	4,963	
	4,518		4,836		5,119		6,363		4,572		3,843	
	2,799		3,121		3,123		3,027	***	3,481	-02	3,639	
.28	19,065	-44	23,151	-69	19,731	-59	23,408	*78	24,185	1.07	23,236	
.58	25,006	1.21	39,178	1.89	39,978	1.02	42,323	2.03	40,178	3-10	35,050	
.30	10,036	.56	10,606	.20	10,964	-82	11,508	.36	12,092	-61	13,563	
3.05	7,456	-44	8,469	.95	6,602	.43	12,946	-24	12,494	-25	12,408	
.19	21,089	·16	18,490	-09	19,298	14	18,768	.18	18,077	1.22	22,813	
-05	14,470		14,119	-006	14,063	-07	14,227	-09	13,982	*06	10,282	
.15	13,219	-01	15,161	-09	12,338	-84	22,813	•60	9,368	-39	8,171	
	12,082		12,025		11,678		12,498		12,879		13,094	
28	233,590	-35	282,153	:67	301,648	•40	309,831	-37	275,159	.28	267,545	

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