

Report on the vaccination in the province of Bengal for the year ending 31st March 1874 / by J. Campbell Brown.

Contributors

Brown, J. Campbell.
Royal College of Physicians of London

Publication/Creation

Calcutta : Bengal Secretariat Press, 1874.

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REPORT

ON

VACCINATION

IN THE

PROVINCE OF BENGAL

FOR THE YEAR ENDING 31st MARCH

1874.



BY

J. CAMPBELL BROWN, Esq., C.B.,

Surgeon-General, Indian Medical Department.



Calcutta:

PRINTED AT THE BENGAL SECRETARIAT PRESS.

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REPORT

VACCINATION

PROVINCE OF BENGAL

FOR THE YEAR ENDING 31st MARCH

1874

J. GAMBRIEL BROWN, Esq. C.B.

Secretary to the Government of Bengal

Calcutta

PRINTED BY THE BENGAL GOVERNMENT PRESS

1874

FROM THE SURGEON-GENERAL, INDIAN MEDICAL DEPARTMENT,

TO THE SECRETARY TO THE GOVERNMENT OF BENGAL,

JUDICIAL DEPARTMENT.

Fort William, the 17th September 1874.

SIR,

I HAVE the honor to submit the reports and returns of vaccination in the provinces of Lower Bengal for the year ending 31st March 1874.

2. Agency.—The agency employed in vaccination during the year 1872-73 consisted of one

The agency employed during the years.

STATEMENT No. I.

CIRCLE.	1873-74.								1872-73.							
	Superintendent-General.	Superintendents.	Deputy Superintendents.	Native Superintendents.	Head Vaccinators.	Vaccinators.	Apprentices.	Ex-inoculators.	Superintendent-General.	Superintendents.	Deputy Superintendents.	Native Superintendents.	Head Vaccinators.	Vaccinators.	Ex-inoculators.	Apprentices.
Calcutta and Suburbs Metropolitan Circles...	1	...	2	...	6	21	...	...	1	...	3	...	6	21	...	...
Darjeeling Circle ...	...	...	1	...	13	78	24	...	...	1	...	...	12	78	...	24
Ranchoe ...	...	...	1	...	7	42	42	...	...	1	...	...	7	42	...	...
Sonthal Pergunnahs...	...	...	1	...	3	20	...	...	...	1	...	...	3	20	...	...
Eastern Bengal Circle	...	...	1	...	6	...	...	...	...	1	...	...	6	...	...	...
Dispensary vaccination	...	...	1	...	5	51	...	403	...	1	...	...	3	36	...	...
Total	1	4	7	3	33	412	66	403	1	4	8	3	28	376	472	24

superintendent-general, four superintendents, 11 deputy and native superintendents, 404 vaccinators, 24 apprentices, and 472 ex-inoculators. During the past year, viz. 1873-74, the staff has been increased by the addition of 38 vaccinators, 42 apprentices, and 21 ex-inoculators. The number of deputy superintendents in 1872-73 on the roll was eight, but in reality it was seven, as the third deputy superintendent under Dr. Charles, Babu

Causes of increase.

Bhoobun Mohun Mitter, had been appointed to the charge of the Eastern Bengal circle from October 1872. The increase in the regular paid agency was due to the sanction of 42 apprentices for the Darjeeling circle, to the entertainment of 17 additional vaccinators in the Eastern Bengal circle (which, by the way, has not yet been placed on its complete sanctioned footing), and to the employment of a larger number of vaccinators by municipalities and dispensaries. The increase in the unpaid agency is owing to the greater interest manifested by civil surgeons in vaccination, who have induced many inoculators to change their practice during the past year. The details of the establishment of each circle are shown in statement No. 1 in comparison with the preceding year.

3. Operations.—The number of persons vaccinated during the past season was 791,634,

Number of operations.

STATEMENT No. II.

CIRCLE.	Total number vaccinated.		RATIO PER CENT. OF SUCCESSFUL CASES.			
			In primary vaccination.		In secondary vaccination.	
	1873-74.	1872-73.	1873-74.	1872-73.	1873-74.	1872-73.
Calcutta and Suburbs	38,796	31,483	99.82	99.51	17.49	23.16
Metropolitan Circles	306,676	267,074	99.80	99.78	21.42	53.26
Darjeeling Circle	97,757	106,399	95.75	93.97	.....	.....
Ranchoe	37,411	36,518	99.81	95.29	.....	23.92
Sonthal Pergunnahs	15,039	11,071	95.19	95.09	85.45	80.00
Eastern Bengal Circle	78,491	47,549	99.44	99.73	60.25	29.72
Dispensary vaccination	217,464	187,312	79.12	89.33	67.93	61.13
Total	791,634	687,406	92.90	90.20	22.79	23.54

that the work accomplished during 1873-74 exceeds that of the previous year by 104,228.

Details of increase as compared with previous year.

Caution as regards the accuracy of the figures.

The sum total probably not excessive.

Number of operations per vaccinator.

Ratio of success.

This increase is shared by all the circles except Darjeeling, which shows a slight decrease. The particulars are as follows: increase, Calcutta and suburbs, 7,313; Metropolitan circles, 39,602; Ranchee, 893; Sonthal Pergunnahs, 3,968; Eastern Bengal circle, 30,942; and dispensary vaccinations, 30,152; total increase, 112,870; decrease, Darjeeling circle, 8,642; net increase, 104,228. This result is very satisfactory. The details of the operations of the different circles, with their results, are given in statement No. II. The returns of the vaccine circles are trustworthy, since they have been subjected to careful scrutiny by comparison with actual vaccinations by trustworthy officers. They amount to 573,170, or 72·3 per cent. of the whole. The dispensary vaccine returns are not so reliable as those of the circles, since much of this vaccination has not been inspected and verified as frequently and carefully as is desirable. The amount of check and supervision exercised over the work of dispensary vaccinators and ex-inoculators varied in the different districts, as will be noticed in my remarks under that head. There is one feature in dispensary vaccination which I will now notice, viz. the percentage of successful cases. In season 1872-73 the percentage of successful cases in dispensary vaccination was 89·33, whereas in the year under report it is 79·12, showing that greater pains were taken in the way of check and supervision to ascertain the truth. In addition to the 493 ex-inoculators who worked and submitted their returns, there were others who were also engaged in vaccination, but who never sent in any return. The unrepresented work of these additional men would more than compensate any exaggeration or inaccuracy in the returns of dispensary vaccination, and the figures given in the above statement may be accepted as very near the truth. But even taking the total number of operations at 791,634, I find it falls far short of the requirements of the province. The population being 68 millions, the birth-rate, at 30 per 1,000, would be 2,040,000, whereas the total number of vaccinations is 791,634, or a little more than one-third. It is, however, satisfactory to find that in this respect some progress has been made during the past year, since in season 1872-73 the number of vaccinations did not reach quite one-third of the birth-rate.

4. *Number of operations performed by each vaccinator.*—A glance at statement No. III

STATEMENT No. III.

CIRCLES.	Number of operations per man.	
	1873-74.	1872-73.
Metropolitan Circles	3,931	2,967
Sonthal Pergunnahs	2,506	1,845
Darjeeling Circle	2,327	2,474
Ranchee "	1,870	1,825
Calcutta and Suburbs	1,847	779
Eastern Bengal Circle	1,539	1,320

will show that the results of 1873-74 are exceedingly satisfactory, and indicate decided improvement in all the circles except Darjeeling, which exhibits a slight decrease. The work performed by each vaccinator in 1873-74, as compared with the preceding year, is more than double in Calcutta and suburbs, while the increase in the other circles varies from 45 to 964 for each man. The most marked improvement in Calcutta must be very gratifying to Dr. Charles and his superintendents, but unfortunately it does not indicate greater facility in, and fewer obstacles to, the work of vaccination in Calcutta in season 1873-74 as compared with 1872-73, because the increased work was due to greater activity in emigration. The inference to be drawn as regards vaccinations in the districts from the average increase in each man's work is that prejudices are subsiding and obstacles disappearing. In calculating the figures of the Metropolitan and Darjeeling circles respectively, 24 and 42 apprentices have not been taken into account. The average of the Metropolitan circles, as given by Dr. Gupta in his report, is 2,690, including the 25 apprentices.

5. *Number of successful operations.*—These are shown in detail in table A, and the ratios of success in primary and secondary operations are stated in statement No. II in contrast with those of 1872-73. Out of 766,297 primary cases 711,333, or 92·99 per cent., were successful, and out of 25,337 secondary or re-vaccinations only 5,716, or 22·79 per cent., were successful. The ratio of successful re-vaccinations is equal to that of last year, while the ratio of primary successful vaccination is less than that of the preceding year, viz. as 92·99 against 96·20. This decrease is due to the falling off in the ratio of primary successful cases in dispensary vaccination. The vaccine circles have more than fully maintained the high ratio of success. In the Calcutta, Metropolitan, and the Eastern Bengal circles, the ratio of success has always been high, viz. more than 99 per cent. in every 100. This result was first questioned by the late Commissioner of Dacca as regards the Eastern Bengal circle, and afterwards in last year's Government resolution. The grounds on which the results were doubted were not vouchsafed, and that being the case, I cannot categorically deal with the views held in that resolution. The result, viz. 99 successful operations in every 100, has been vouched for in Calcutta and the Metropolitan circles by officers of the highest integrity and honesty, viz. Dr. Charles, Dr. Powell, and others, in such tones as to render it difficult to doubt its accuracy, though no doubt the figure looks high.

6. *Sex of the vaccinated.*—The sex of those vaccinated was registered in 551,417 cases. Sex of those vaccinated.

STATEMENT No. IV.

CIRCLE.	1873-74.		1872-73.	
	Percentage of		Percentage of	
	Males.	Females.	Males.	Females.
Calcutta and Suburbs	54.7	45.3	53.9	46.1
Metropolitan Circles	53.4	46.6	52.0	48.0
Darjeeling Circle	53.6	46.4	53.9	46.1
Ranchee "	53.4	46.6	52.8	47.2
Sonthal Pergunnahs	51.2	48.8	53.9	46.1
Eastern Bengal Circle	51.4	48.6	49.3	50.7
Dispensary vaccination	57.7	42.3	57.5	42.5

Of these, 292,953 were males and 258,464 females, or 52.9 and 47.1 per cent. The percentages of the previous years were, 1872-73, 53.3 and 46.7; 1871-72, 54.2 and 45.8; 1870-71, 54.3 and 45.7; and 1869-70, 54.3 and 45.7. It is satisfactory to find that the returns of the past show a larger percentage of females than in any of the previous years. An

improvement in the ratio of females is evident in the Sonthal Pergunnahs. The ratio of females is lowest in dispensary vaccination and highest in the Eastern Bengal circle, in which there is an excess of males this year instead of females, as in 1872-73. The other circles are more consistent.

7. *Caste of the vaccinated.*—The caste of 551,417 persons was noted down under the heads of Christians, Hindus, Mussulmans, and other castes. The percentages falling under these heads are .1, 58.9, 35.9, and 5.1, against .3, 52.5, 39.7, and 7.5, respectively, of 1872-73. Caste of those vaccinated.

The following table gives the detail of each circle :—

STATEMENT No. V.

CIRCLE.	1873-74.				1872-73.			
	PERCENTAGE OF							
	Christians.	Hindus.	Mussulmans.	Other castes.	Christians.	Hindus.	Mussulmans.	Other castes.
Calcutta and Suburbs	2.5	69.7	27.8	...	2.6	68.9	28.5	...
Metropolitan Circles ... ..	.1	77.2	22.7	...	.2	63.4	36.4	...
Darjeeling Circle ... ..	.01	21.9	75.6	2.5	...	29.6	68.4	2.0
Ranchee " ... ..	.1	58.8	4.4	36.7	.4	33.4	2.5	63.7
Sonthal Pergunnahs ... ..	...	19.6	7.8	72.6	.2	19.8	4.0	76.0
Eastern Bengal Circle ... ..	.002	39.4	60.6	...	...	34.8	65.2	...
Dispensary vaccination	1.	61.6	26.8	10.6	.8	63.3	26.5	9.4

There has been a falling off in every caste excepting Hindus in the general return; but, taking the circles severally, we find, as might naturally be expected, the proportion of Christians in Calcutta to be much greater than in the districts. In the Metropolitan circles the proportion of Mussulmans has fallen from 36.4 to 22.7, and this is accounted for by the fact that Nuddea was the chief scene of operations in 1872-73, whereas in 1873-74 the circles worked in the 24-Pergunnahs, Hooghly, and Burdwan. The census report gives the proportion of Hindus to Mussulmans in the three above-named districts as follows:—24-Pergunnahs—Hindus, 30; Mussulmans, 38; Hooghly—Hindus 79; Mussulmans, 20.1; Burdwan—Hindus, 82; and Mussulmans, 17. The proportions of the different castes vaccinated by the Metropolitan circles as given in the table are therefore quite consistent with the figures of the census report. In the Darjeeling circle, Mussulmans exceed Hindus, and this corresponds fairly well with the census returns. In the Ranchee circle the proportion of Hindus vaccinated has this year risen from 33.4 to 58.8, and other castes have proportionally declined from 63.7 to 36.7. These figures are also consistent with the census returns, which give for Lohardugga, Hindus 60, other castes 34.3; and for Hazareebaugh, Hindus 83.9, other castes 6.5. In the Sonthal Pergunnahs, the Sonthals contributed to the larger majority of the subjects of vaccination. In the Eastern Bengal circle's vaccination the excess of Mussulmans is conspicuous, the ratio for the district being 56.7 per cent. Dispensary vaccination again shows a very marked predominance of Hindus. The large proportion of "other castes" is owing to the inclusion of the returns of Chota Nagpore. Comparison with the census returns.

Age of those vaccinated.

8. *Age of the vaccinated.*—The age of those vaccinated was entered in 551,417 persons. Of this, 34,155, or a little over 6 per cent., were under, and about 517,262, or about 94 per cent., over one year. The corresponding figures of the preceding year were 10 and 90; so there has been a diminution or falling off in the number of infant vaccinations. Statement No. VI shows the different circles in detail in comparison with

STATEMENT No. VI.

CIRCLE.	1873-74.		1872-73.	
	Percentage.			
	Under 1 year.	Above 1 year.	Under 1 year.	Above 1 year.
Calcutta and Suburbs	23.2	76.8	22.4	77.6
Metropolitan Circles	5.2	94.8	7.1	92.9
Darjeeling Circle	4.5	95.5	7.5	92.5
Ranchee "	4.6	95.4	12.7	87.3
Sonthal Pergunnahs	13.4	86.6	11.1	88.9
Eastern Bengal Circle	7.9	92.1	5.8	94.2
Dispensary vaccination	17.3	82.7	18.8	81.2

Comparison with previous years.

the previous season. There is an improvement in the Sonthal Pergunnahs and Eastern Bengal circles; a marked falling off in the Ranchee circle; and a slight falling in the Metropolitan and Darjeeling circles, and also in the dispensary vaccination. On this subject Dr. Gupta has made some sensible remarks, from which it appears that infant vaccination is far from being popular with the people. They judge of vaccination by their experience of inoculation, and are very much against the practice of vaccination of infants under one year. It is to be hoped that their prejudice on this score will disappear in time, and infant vaccination will become a general practice in this country as it is in England.

Cost of vaccination.

9. *Cost of vaccination.*—The budget grant for vaccination for the official year 1873-74 amounted to Rs. 99,800. The actual disbursements under this head amounted to Rs. 88,310-6-3. There was, as compared with the grant, a saving of Rs. 11,489-9-9. Table No. III shows the cost of the six circles in detail in comparison with the amount sanctioned for each. There is some saving in Calcutta under the head of contingencies and travelling allowance. The cost of the Metropolitan circles has risen from Rs. 31,797 in 1872-73 to Rs. 35,626 on account of the superintendent having drawn his salary and house-rent all the year round instead of six months as during the preceding year, though there is still a large saving from the budget estimate for this circle under the head of superintendent's salary and house-rent. There is some saving in the Darjeeling circle under the heads of the deputy superintendent, head vaccinators, vaccinators, and apprentices, and contingencies. The Ranchee and Sonthal Pergunnahs' circles show very little difference between the amount sanctioned and expended. There is a saving of about Rs. 3,000 in the Eastern Bengal circle in consequence of the full sanctioned establishment not having been employed.

Saving as compared with estimate.

Causes and details of savings.

On comparing the total expenditure of table A with that of the previous year, an increase

STATEMENT No. VII.

CIRCLE.	Average cost of each successful case.			
	1873-74.		1872-73.	
	A.	P.	A.	P.
Calcutta and Suburbs	8	0	10	1
Metropolitan Circles	1	10	1	10
Darjeeling Circle	3	0	2	10
Ranchee "	5	0	5	1
Sonthal Pergunnahs	2	11	4	1½
Eastern Bengal Circle	1	11	1	8
Dispensary vaccination	0	10	1	5
Average	2	0	2	5

Calcutta and suburbs.

returns of the several circles submitted by the superintendents.

10. *Calcutta and its suburbs.*—Since October 1872 there have been only two superintendents instead of three, and as Dr. Charles is of opinion that this arrangement has worked well, besides having considerably reduced the cost of vaccination, he recommends that the third superintendent be now permanently reduced. I entirely concur in his recommendation.

The total number vaccinated in Calcutta and its suburbs during the year 1873-74 was 38,796, against 31,483 in season 1872-73, showing an increase of 7,313. Of this increase only 194 belonged to the town, 477 to the suburbs, and the rest to the cooly depôts or non-resident population; the actual numbers in each were 6,817, 8,370, and 23,609 respectively.

Of the total number of operations performed, 41.7 per cent. were primary vaccinations, and 58.3 secondary or re-vaccinations. The proportions per cent. of primary and secondary vaccinations in town, suburbs, and cooly depôts were.—

Summary of results. Primary and secondary.

	Primary.	Secondary.
Town	76.2	23.8
Suburbs	97.9	2.1
Cooly Depôts	11.5	88.5

The proportions per cent. of primary and secondary cases among the town-people and the coolies are almost exactly the same as in the previous year, while among the suburban population the per cent. of primary cases has risen from 78.7 to 97.9, and that of secondary or re-vaccinations has fallen from 21.3 to 2.3. The percentage of primary as compared with secondary cases among the coolies is owing to the fact that all coolies passing through the depôts are vaccinated, and that the great majority of them have been already protected before either by inoculation, natural small-pox, or vaccination.

11. *Successful vaccinations.*—The number of persons successfully vaccinated during the past season was 20,152 out of 38,796, or 51.68 per cent., or a little more than half of total operations. The ratio between successful vaccinations and re-vaccinations was 4 to 1, or 80 and 20 per cent. The actual number of successful vaccinations and re-vaccinations were—

	Vaccinations.	Re-vaccinations.
Town	5,175	362
Suburbs	8,184	42
Cooly Depôts	2,779	352

Number of successful vaccinations.

Though the number of successful cases constitutes a little more than half of the total operations, still the success of primary vaccinations continues high, the ratio being 99.82 against 99.51 in the previous year. This result indicates most careful and painstaking work.

The average number vaccinated by each man was 1,847, against 779 in the previous season, or more than double. This is very satisfactory, and indicates a most marked improvement. The cost of each successful vaccination was eight annas, against ten annas and one pie. The reduction of cost is due partly to the greater number vaccinated, and partly to decreased expenditure from Rs. 11,561 of last year to Rs. 10,060.

Number of operations performed by each vaccinator, and reduction of cost.

12. Small-pox was more than usually active in Calcutta during the past year, though it never assumed an epidemic form. Case after case was imported into the city and required to be promptly dealt with. The infected persons gave the disease to others, but it never spread, owing either to the existing state of protection or owing to steps being taken to localize the cases. Only in three localities was there anything like an outbreak, viz. Bamun bazar, in Taltollah thana, Mudden Mohun Mitter's lane, and in Meteabruj. These were promptly arrested, and all unprotected persons, specially in Meteabruj, were vaccinated. The disease was present throughout the year, though no deaths occurred in September and October. The total mortality from the disease was 67, which was thus distributed: April, 8; May, June, and July, 5 each; August, 1; November, 1; December, 3; January, 9; February, 5; and March, 25. There is reason to believe that the largest mortality in the month of March was not wholly due to small-pox but also to some cases of measles which got mixed up with that disease. Dr. Charles may well congratulate himself at this small mortality in a populous city like Calcutta, and with such a shifting population. Besides this low mortality, he adduces another proof showing how greatly small-pox has declined of late years. Thirty years ago Dr. Duncan Stewart had a return prepared of patients who attended the eye infirmary on account of disease of the eye following small-pox from 26th January to 13th June 1844, showing that no less than 67 persons had thus suffered. Dr. Charles has got a similar return from the superintendent of the eye infirmary showing only two cases of sloughing of the cornea following small-pox among all the patients who attended the ophthalmic hospital from February to June of the present year. This year was chosen for comparison on account of the prevalence of small-pox. Another remarkable proof of the state of protection existing in Calcutta was afforded by the landing of 450 small-pox tainted pilgrims returned from Jeddah from the S. S. *Roma* on 19th March 1874. They were allowed to land before steps could be taken to put the ship in a state of quarantine. Only 95 of them could be traced, and they were all vaccinated and sent to their homes under police surveillance. The officers and crew, together with the coolies who went to work on board the *Roma*, were vaccinated, and the ship was disinfected. Though many of the pilgrims must have passed some days in Calcutta, yet not a single case of small-pox traceable to the *Roma* was heard of.

Small-pox in Calcutta.

Proofs of protection against small-pox existing in Calcutta.

13. *Inoculation in Calcutta.*—Dr. Charles reports that one bold adventurer, who had never been an inoculator by profession, infringed the law and inoculated some six or seven children in a small bustee in No. 11, Free School street. He was arrested, tried before a magistrate, and sentenced to the full penalty of three months' rigorous imprisonment. In connection with this case, Dr. Charles points out the defect of the law against inoculation, inasmuch as the parents who allow their children to be inoculated are not liable to any penalty, and if they conceal the fact there is none to give evidence against the inoculator, who may escape punishment, and thus infringe the law with impunity.

Inoculation in Calcutta.

14. *Proposal to extend the vaccinated area round Calcutta.*—Dr. Charles proposes that the districts of Midnapore, Bankoora, Beerbhoom, and Jessore, which have not yet been provided with vaccination, be added to the Metropolitan circles with a fourth deputy superintendent, and four circles of subordinate establishment equal to the strength of the Dacca vaccine circle. In two out of the four districts, viz. in Midnapore and Bankoora, a self-supporting system of vaccination by the agency of the local ex-inoculators is under trial,

Proposal to extend the Metropolitan circles.

and if the plan succeeds the result would be gratifying, with very little cost to the State. As for the district of Jessore, the superintendent of the Metropolitan circles is prepared to undertake it with his existing establishment, and I have strongly recommended his proposal. Beerbhoom has not yet been provided for, and small-pox rages there every year: something ought to be done for that district. The civil surgeon will be asked to try and induce inoculators to change their practice, and to vaccinate in their old beats under check and supervision to be provided by Government. Dr. Charles's scheme is very sensible, but I cannot recommend its adoption in these times of financial pressure. If the self-supporting plans now under trial in Midnapore and Bankoora do not succeed, I will not hesitate to support his scheme on the advent of better times than the present.

Superintendents.

15. Dr. Charles brings to notice the zeal and industry of his superintendents. I have much pleasure in supporting his commendations of these hard-working servants of Government. The presidency vaccine establishment have done very good work, and the result is highly creditable to Dr. Charles and his superintendents.

Metropolitan circles.

16. *The Metropolitan circles.*—Dr. Gupta held the superintendence of these circles throughout the year. The establishment continued the same in strength as in the previous year, and no changes of any importance occurred during the past year.

Two rates of pay.

17. During the non-working months, from April to August, the vaccinators got leave to visit their homes, and when thus unemployed received two-thirds, and the apprentices one-half, of their salaries. It was only natural that this reduction of pay coming into force for the first time would produce some discontent; the vaccinators will gradually get reconciled to it. The two rates of pay, viz. *employed* and *unemployed*, exist in all the other circles, and there is no reason why an exception should be made in the case of the Metropolitan circles.

Plan of operations.

18. A sensible plan of operations was prepared by Dr. Gupta and submitted to Government for approval. The scheme being approved of, due preparations were made to carry out the programme. I am glad to observe that the civil authorities were kept informed of all actual or intended operations, and their advice and assistance were sought. This was as it should be. The plan of supplying each gang of vaccinators with a little box containing some of the common medicines was excellent, and it proved very useful and of great service to the men when they worked in the malarious villages of Hooghly and Burdwan.

19. Definite areas were assigned to the three circles: the first circle were employed chiefly in the north half of the 24-Pergunnahs, the second in the Hooghly, and the third chiefly in the Burdwan district. Sickness somewhat interfered with the season's work, especially in the Hooghly and Burdwan districts. Dr. Gupta has minutely described the operations of the three circles. In places that were vaccinated a second time, a new obstacle was encountered, viz. difficulty in procuring vaccinifers, i.e. vaccinated children to supply lymph from their arms. It was not, however, so bad as in other districts and provinces, and it is to be hoped that the prejudices of the people will in time entirely disappear. Another obstacle mentioned by Dr. Gupta was the illegal practice of inoculation in the eastern parts of the 24-Pergunnahs on an extensive scale. It is what may be termed a preventible difficulty, since it might have been prevented altogether if the police had been a little more vigilant. The practice of inoculation gave rise to small-pox, which assumed an epidemic form in thana Kullaroah. A large party of vaccinators had to be kept at work from April to the end of July before the disease could be completely arrested.

Number of operations and their results.

20. The total number of operations was 306,662, and of primary successful cases 305,968. To this must be added 4,855 successful vaccinations out of 4,859 performed by municipal vaccinators, as described in paragraph 20 of Dr. Gupta's report, and 5,540 successful vaccinations (out of 5,813) performed in Burdwan, Hooghly, Howrah, and Serampore by the local municipal vaccinators. Excluding 9,468 done in the Beerbhoom and Bankoora districts, we will then have a grand total of 316,865 successful vaccinations, which, among a population of 7,539,278, gives a percentage of 4.07. This must exceed the birth-rate, taking 30 per 1,000 per annum. It is very satisfactory to observe that the amount of work accomplished last year has more than fully sustained the hope I expressed in the previous report.

Degree of protection afforded.

Dr. Gupta gives an approximate estimate of the degree of protection which has been afforded to the areas undertaken during the last season. He promises to give the results of a vaccine census of the same area, which is now being collected, in next year's report. The high standard of success has been fully maintained. The percentage of successful cases is 99.80, and Dr. Gupta's inspection has verified its reality within .05, it being 99.75 from the table of his inspection. This result is highly satisfactory, and leaves nothing to be desired. It is due to the invariable adoption of the arm-to-arm system of vaccination, and to scrupulous care in operating and in selecting good virus. Each vaccinator, including the 24 apprentices, performed 2,690 operations, against 2,967 in 1872-73. The decrease is more apparent than real, because, in calculating the average of last year the 24 apprentices were not taken into account. The total cost of these circles has risen from Rs. 31,797 of last year to Rs. 35,626, owing to the superintendent having drawn his pay and house-rent all the year round instead of only six months, as during 1872-73; but

Ratio of success.

notwithstanding this increase, the average cost of each successful case was one anna and ten pie, against the same last year. This was due to the considerable increase in the number of operations. Dr. Gupta and his deputy superintendents worked very hard during the season. They moved about constantly, and inspected the operations very frequently and closely. They saw 88 per cent. of the cases, which is highly creditable, and bespeaks much energy and zeal on their part. It is gratifying to observe that vaccination is becoming more and more popular every year. Many wealthy and high caste people, who had rejected the prophylactic before, yielded in the course of the last season. It is also satisfactory to find that inoculators are coming round and changing their practice, for if the whole country is to be ever thoroughly vaccinated, it must be done by the agency of ex-inoculators, and not by costly establishments maintained by the State.

Cost of each case.

Vaccination becoming more popular.

21. A reference to the sketch map will show that of the five districts comprised in the Metropolitan circles, Nuddea has been once thoroughly protected, most of the 24-Pergunnahs and Hooghly have been gone over twice, and Burdwan has been almost done, except portions of sudder thana Burdwan, Kotulpore and Sonamukkee, the two last being lately transferred from Bankoora.

22. *Small-pox.*—Only 19 reports of small-pox were received during the year, against 23 in 1872-73, out of which four proved to be varicella or chicken-pox. The details furnished by Dr. Gupta in paragraph 19 are interesting, and prove how in vaccination we have got a powerful means to localize outbreaks of small-pox and thus prevent it from spreading. The disease was traced to inoculation in two out of the 15 reports, in six to contact with small-pox, and in the rest the origin could not be traced. The localities where outbreaks occurred have now been specified. Of the 15 outbreaks, eight occurred in the Burdwan district, six in the 24-Pergunnahs, and one in Nuddea.

Small-pox.

23. *Municipal Vaccination.*—It is very satisfactory to notice that 21 municipalities and four private individuals, all within the area of the Metropolitan circles, employed vaccinators and paid for their services.

24. Dr. Gupta reports very favorably of his deputy superintendents and of the whole establishment. The Metropolitan circles have done excellent work in the past season, and the result is very creditable to Dr. Gupta and his assistants.

Deputy Superintendents and establishment.

25. *Darjeeling Circle.*—The establishment underwent several changes during the year. Assistant Surgeon Taruck Nath Gangooly, deputy superintendent of vaccination, went on leave, and Native Superintendent Tagumal Hossain was appointed to officiate in his place. In 1872-73 the establishment consisted of one superintendent, one deputy superintendent, and 42 vaccinators. This year the strength of the circle was increased by the sanction of 42 apprentices and three inspectors by Bengal Government letter No. 4066 of 18th October. But the letter reached Dr. Lidderdale after he had made every arrangement for the season's work, and after the native superintendents had taken up their fields of operation. He could not get suitable men to fill up the total number of apprentices sanctioned, 27 being the highest number he had at any time. As for inspectors, he says he could not procure any at the rate of pay given. He complains of some difficulty in getting suitable men to recruit as vaccinators. Inoculators of the weaver caste and low class Mussulmans were the only two classes who came forward. Dr. Lidderdale wants Brahmins and high caste men, and I quite concur in the wisdom of his choice. He experienced greater difficulties in procuring local native superintendents, and expresses a wish to indent upon, and draw from, the Presidency and Metropolitan circles. Dr. Charles and Dr. Gupta will be asked if they can spare any men for the Darjeeling circle. But I am still of opinion that Dr. Lidderdale should try and appoint local men and not import strangers, however well-trained they may be, since these latter will labour under very great disadvantages. The post of one vaccinator supported by the Promotho-Nath fund of Nattore was abolished during the year. The reason is not stated. Besides the regular establishment paid by Government, four vaccinators worked in Julpigoree, a gang of them in Mynagoree, 11 in Purneah, six vaccinators belonging to the Dinagoree Rajbaree, several ex-inoculators in Bogra and in other districts.

Darjeeling circle.

Changes in establishment.

26. The work of the season was impeded through the carelessness and misconduct of several vaccinators and native superintendents, as well as by the opposition of the ex-inoculators. The superintendent was obliged to dismiss those men and to appoint others in their places. As regards the ex-inoculators, Dr. Lidderdale points out very prominently that they should not be allowed to work except under check and supervision. I entirely concur in this remark, though at the same time I am of opinion that with proper check and supervision we can safely make use of them in vaccinating the country with very little cost. In one or two districts this system is under trial, and if it prove successful, the system may be very advantageously extended to others. The Rajbaree gang of six vaccinators, maintained by the manager of the Dinagoree Ranee's estate, Baboo Kisto Mohun Sing, have done great injury to the cause of vaccination by practising inferior vaccination without any definite plan as to area, method, or supervision. Dr. Lidderdale had repeatedly pointed out to the manager, through the district magistrate, the absolute necessity of methodical working and supervision over his

Obstacles.

Conduct of the manager of Dinagepore Rance's estate.

gang. This year he pointed out an area where the gang was to work, so that he might inspect them twice during the season. In spite of this the gang worked as far away as possible from the defined area, and the manager sent the returns to Dr. Lidderdale in the month of April, when the season was over, and when he could not possibly inspect and verify the cases. This marked inattention to instructions on the part of the manager seems to call for the notice of Government.

Operations.

27. The total number of operations performed by the Darjeeling circle was 97,757, against 106,399 in 1872-73, showing a decrease of 8,642; and successful vaccinations 94,128, against 100,695—decrease, 6,567.

If to this number be added the operations performed by other agencies, namely municipal vaccinators, the Rajbaree gang, and ex-inoculators, then the grand total will be 116,160. Now the population of the eight districts included in this vaccine circle is 8½ millions, which will give, at 30 per 1,000, 255,000 births annually. The successful vaccinations amount only to 116,160, or somewhat less than half, showing that the work performed falls considerably short of what would appear to be theoretically necessary. Dr. Lidderdale has carefully described the working of all the gangs in the eight districts comprised in the Darjeeling circle. The average number worked by each vaccinator is 2,327·5 persons, against 2,474·39 in the previous year. Some of the gangs, as Rajshahye and Rungpore, gave 4,545 and 3,788, which is very satisfactory. The percentage of success was 95·72, against 93·37 in the previous year, and Dr. Lidderdale's inspection has more than verified it, it being 98·06 according to his table of inspection.

Cost.

The cost of establishment was Rs. 17,827, giving 3 annas for each successful case, against two annas and ten pie last year.

The amount, as well as the quality of the work of the different gangs, varied much, as will be seen from Dr. Lidderdale's report.

Prohibition of inoculation in Bogra.

28. In the district of Bogra, which has hitherto been free from inoculation, two inoculators practised inoculation, and thereby diffused small-pox over two different thanas. And from the fact that fewer ex-inoculators came forward this year for vaccine lymph, Dr. Lidderdale suspects that most of them practised their old art. The birth-rate of Bogra is a little over 20,000, and the number vaccinated this year by the Government establishment amounted to 18,477, and by municipal vaccinators to 5,143, making a total of 23,620, which exceeds the birth-rate. I quite concur with Dr. Lidderdale that a clear case has been made out for extending the Act prohibiting inoculation into Bogra.

Small-pox.

It is satisfactory to find that small-pox was on the decrease during the past year.

Wherever the disease appeared it could be traced to the baneful practice of inoculation, which, I fear, still prevails largely in several districts.

Inoculators are, however, coming round and learning vaccination. Dr. Lidderdale very rightly took as many of them as he could get as apprentices.

In Purneah, thirty-five inoculators received purwannahs from the magistrate to practise vaccination. Only one furnished any return of his work to the civil surgeon. With some supervision, the system might be worked very successfully to protect the whole district.

Superintendence.

29. Dr. Lidderdale's inspections have been conducted with the same zeal and energy which have always characterized his work. He has verified nearly 30,000 cases, or somewhat less than one-third of the total number of operations. He complains his time is much taken up in verifying the cases, and the system of inspection enjoined upon him leaves him little leisure to exercise more control over all his gangs and to see the district authorities. I am still of opinion that a little inspection done very carefully and closely is far better than much hurried and rambling inspection, and I cannot concede that it is so very arduous and fatiguing after all, or that it is so much opposed by the people as to render inspection impossible. Dr. Lidderdale is in error when he says that this system of close inspection has fallen into disuse in the Metropolitan circles; on the contrary he will find that the number of verified cases was 51,000 in 1872-73, and about 48,000 this year.

Deputy Superintendent.

The deputy superintendent did not verify many cases, as he was chiefly employed in looking after the vaccination of Dinagepore. He is reported to have been active and attentive to his duty.

Future plan of operations.

30. Dr. Lidderdale is of opinion that "it would be much better to take up one zillah, forbid inoculation there, and employ all the vaccinators in it till it was completed, leaving an organized staff behind to carry on the work of protecting the annual increment of the population." Dr. Francis entirely agrees with him, and recommends the adoption of his plan. The staff of the Darjeeling circle, comprising eight districts and containing 8½ millions of people, had been hitherto inadequate. Forty-two apprentices and three inspectors were sanctioned last year. If Dr. Lidderdale can fill up all the vacancies and bring up the establishment to its full strength, then he may be allowed to bring his circle under the operation of the first principle laid down in my previous reports. He will be asked to choose one district and to concentrate his whole establishment in it, leaving a flying gang to cope with outbreaks of small-pox.

31. I am sure Dr. Charles if asked will be glad to supply Dr. Lidderdale with a number of copies of his Bengali pamphlet on vaccination, and also give him permission to translate the other brochure on popular information regarding small-pox, inoculation, and vaccination into Nepalese.

32. *The Darjeeling hills as a source of lymph supply.*—Last year Dr. Charles proposed that an effort should be made to make the Darjeeling hills a source of lymph supply, like Kumaon and Ghurhwal in the North-West. The proposal was referred to Dr. Lidderdale for report. He now points out that the differences between the two places are so great that there can be no comparison between them. Kumaon and Ghurhwal have a much larger population, the people live in higher abtitudes, the climate is much colder than in the Darjeeling hills. Again, inoculation is prohibited in the former, while in the latter it is forbidden only within the limits of Darjeeling. The number of vaccinators on duty in Darjeeling is only three, while the number must be greatly larger in Kumaon and Ghurhwal. The last two difficulties, viz. inoculation and smaller number of vaccinators on duty, can be easily got over, but the others, viz. a meagre population and lower elevation, are beyond our control, and seem to be insuperable. Lymph supply.

33. *Ranchee circle.*—The same establishment, consisting of one superintendent, three head and 20 ordinary vaccinators, continued in 1873-74 as in previous years. In addition to this agency paid by Government, 120 ex-inoculators carried on vaccination in the Chota Nagpore division, and submitted returns of their work, viz. 37 in Lohardugga, 29 in Manbhoom, 24 in Singbhoom, and 30 in Hazareebagh. Eight native Christian vaccinators and a great many apprentices were also engaged in vaccination. The municipality of Ranchee employed one vaccinator for four months. The civil surgeons and their assistants also performed some vaccinations. Ranchee circle.

34. The total number of operations performed by the Government establishment amounted to 37,411, against 36,518 in season 1872-73, showing an increase of 993; the number of successful cases was 35,177, against 35,206: decrease, 29. The average number performed by each vaccinator was 1,870. The quality of vaccination attained last year has been nearly maintained, viz. 97.49, against 97.77. The slight decline is accounted for by a larger number of hot-weather vaccinations, viz. 1,578, against 525 in 1872-73. The total cost of the establishment was Rs. 11,008, giving five annas for each successful case, against five and six-tenths' annas in the previous year. The work of the additional agency not paid by Government amounted to 66,291, as detailed partly in table No. V and partly in Dr. Wood's report. The results of the whole of these operations were not ascertained. The percentages of those that were ascertained was 87.85 in Manbhoom, 97.35 in Singbhoom, 99.53 of the work of the apprentices; but taking 80 per cent. as the average ratio of success, we would have 53,084 successful cases, which, when added to the 35,177 successful operations performed by the Government establishment, would make a grand total of 88,151. Now the birth-rate of the Chota Nagpore division at 30 per 1,000, in a population of 3,450,023 would be 103,500. The successful vaccinations, therefore, amount to more than four-fifths of the figure which would appear to be necessary. Last year it was only one-half, and it is very satisfactory to note that it has this year risen to more than four-fifths. Operations.

35. A definite area continuous with that protected before was selected, viz. two thanas in Lohardugga and three adjoining thanas in Hazareebagh. The establishment was divided into three gangs and placed under the three head vaccinators, and set to work in the thanas apportioned to each. Four of these thanas have been pretty well vaccinated, while of the fifth about one-third has been done. The high caste men, like mahajuns and Kaisthus of large villages, still refuse to take vaccination. No active opposition was offered. Prejudices against vaccination are gradually disappearing. Systematic proceeding.

36. As the three parties worked in adjoining thanas, the Superintendent could easily pass from one gang to another and inspect their work. One party was visited twice, and the remaining two parties three times during the season. Dr. Wood travelled over 657 miles. It is satisfactory to observe that the superintendent exhibited greater energy and zeal this year than he had done in the previous season.

The table* of inspection has not been received with the report, which, by the way, was submitted very late (16th August). Dr. Wood reports that efforts were made to get persons to be vaccinated in more than one point; but the instrument employed was the needle, and rarely the lancet. I cannot understand why needles should be preferred to lancets. There was not much difficulty experienced for lymph, as it had been preserved throughout the non-working season on account of small-pox. Result of inspection.

37. Inoculation has been prohibited by law within the Chota Nagpore division, and rendered penal. The law was not infringed in Manbhoom or Singbhoom, but two inoculators were convicted in Lohardugga and three in Hazareebagh. Native Superintendent Mahomed Ishak greatly exerted himself in hunting up the offending inoculators, for which he deserves credit. Two hundred and fifty persons were inoculated in Hazareebagh and 100 Small-pox.

* The table has just been received. Dr. Wood inspected 7,807 cases, of which 9579 were successful.

in Lohardugga. The number of deaths from small-pox in the circle during the past year was 667, of which 338 were reported from Hazareebagh, 201 from Lohardugga, 95 from Manbhoom, and 33 from Singbhoom. The mortality was much larger this year than in the previous one, and the disease prevailed to a greater extent.

Ex-inoculators.

38. Vaccination by the agency of ex-inoculators in the Chota Nagpore division has now become an institution, more especially in the districts of Manbhoom and Singbhoom, as will be seen from the abstract reports of the civil surgeons of those districts. Dr. Wood has given in his report a summary of the proceedings of the ex-inoculators in his circle. In Manbhoom six Hindustani vaccinators and 23 ex-inoculators worked in 295 villages, and vaccinated 15,150 cases, of which Mr. Wilson, the civil surgeon, verified 12,213. Out of the number verified, 9,775, or 87.85 per cent., were successful.

In Singbhoom 24 ex-inoculators were engaged in vaccination, and worked in 291 villages. The number operated was 17,777, of which 16,722 are said to have been successful and 455 unsuccessful, though Mr. Manook inspected only 541 cases. Thirty converted inoculators worked in Hazareebagh and vaccinated 10,132 persons, of whom 9,320, or 93.21 per cent., are said to have been successful, and 37 men vaccinated 26,804 persons in the district of Lohardugga, and 14,021, or 97.90, successfully. No check* or supervision was exercised over the operations of these men, and the figures are not very reliable. Three Christian Coles learnt vaccination and operated on 2,307 persons. Five others also worked, but submitted no return. A great many apprentices, exact number not given, were attached to the circle. Though they received no allowance, they worked remarkably well, as they had the prospect of being appointed as vaccinators whenever vacancies occurred. The native superintendents are reported to have taken more pains and trouble for them than for the establishment. They vaccinated 17,922 persons, of whom 17,667, or 99.53, were successful. I concur with Dr. Wood's remark that these apprentices should receive some subsistence allowance.

Eastern Bengal circle.

39. *Eastern Bengal circle, establishment.*—The establishment sanctioned for this circle consists of one superintendent, six head vaccinators, and 72 vaccinators. The actual establishment employed in 1872-73 was one superintendent, three head vaccinators, and 36 vaccinators, while during the past year two head vaccinators and 15 vaccinators have been added to the staff. For the want of a sufficient number of hands the strength of the circle has not yet been brought up to its full complement. The superintendent got two head-men and one good vaccinator from the staff of the Metropolitan circles. During the non-working season the 18 extra vaccinators of the previous year were discharged. The plan of employing extra men was introduced by Dr. Charles, and forms a reserve from which vaccinators are to be recruited. Baboo Bhoobun Mohun Mitter thinks the reserve of extra vaccinators will in time prove very useful. The permanent vaccinators were employed in taking the vaccine census and in writing up registers during the non-working months. Those who had been taken from Calcutta got two months' leave to visit their homes.

Strength of establishment.

40. In 1873-74 five head vaccinators and 51 vaccinators took the field. Besides the Government establishment, six municipal vaccinators also worked. The work performed by the Eastern Bengal circle amounted to 78,550, of which 78,413 were primary, 78 secondary, and 59 repetition cases. Of the primary, 77,970 were successful, giving a percentage of 99.44 (which the superintendent nearly verified), which is very satisfactory. If to this number be added the work of the municipal vaccinators employed in the Dacca district, there would be a grand total of 80,599 successful vaccinations. The population of the Dacca district is 1,852,993, and the birth-rate at 30 per 1,000 will amount to 34,805. The number of successful vaccinations is much more than double. I am therefore of opinion that the Act prohibiting inoculation might very safely be extended to the Dacca district. Each vaccinator performed 1,539 against 1,320 in 1872-73, and the cost of each successful case is one anna eleven pie against one anna and eight pie. Surgeon K. P. Gupta, the superintendent of the Metropolitan circles, was again deputed during the past season to inspect and report on the working of the circle. He reported very favorably of the plan of operations, of the quality of vaccination, and of the energy and zeal of the superintendent.

Operations.

Cost.

Plan of operations.

41. A definite area continuous with the work of the previous years was taken up, and operations were conducted on a systematic plan. Four entire thanas and portions of two thanas in the Dacca district, and one thana, namely, Goalundo, in the Fureedpore district, have been pretty thoroughly vaccinated; a few villages belonging to other but contiguous thanas were also visited. Sickness interfered somewhat with the work in all the thanas, more especially in Manickgunge and Jaffergunge; and in consequence of this some villages could not be protected, while others were only partially done. Vaccination being a novelty with the people of the interior of the district, a good deal of prejudice and opposition was encountered by the vaccinators. In many places the vaccinators failed to make any impression on the people till they received the aid and support of influential men. The Deputy Magistrate of Manickgunge, Baboo Poorno Chunder Ghose, and two influential natives,

* Since writing the above a statement has been received showing that 4,721 cases in all were inspected with a percentage of success of 81.39.

rendered great assistance and facilitated the work. They seem to deserve honorable mention, as suggested by the superintendent.

42. Baboo Bhoobun Mohun Mitter was on inspection tour from 15th October to 24th May, and visited each gang four or six times. He verified upwards of 21,000 cases, comparing the names with the registers, and inspected village after village in a systematic plan. He has submitted a table of his inspection, which makes the percentage of success to be 99.11, while in the general return it is 99.44. The superintendent again advocates the extension of Act IV (B. C.) of 1865 to the Dacca district. As the number of successful vaccinations is already more than double the birth-rate of the district, even with an incomplete establishment, I am decidedly of opinion, as before stated, that the provisions of the Act may be safely extended to Dacca. The measure would give an impulse to vaccination in Eastern Bengal. Baboo Bhoobun Mohun Mitter reports favourably of his establishment, and mentions the name of head vaccinator Judoo Nath Chowdry as deserving of especial commendation. The superintendent has worked very hard, and performed his duties with great zeal and judgment, which entitles him to the favourable notice of Government.

Inspection.

Establishment.

43. *The Sonthal Pergunnahs.*—Assistant Surgeon Kali Krishna Ghose has submitted an exhaustive report of the proceedings of this circle for the seventh year of its existence. The establishment of one deputy superintendent and six vaccinators underwent no change during the past year. Besides the agency paid by Government, 59 inoculators were also engaged in vaccination.

44. The work performed by the establishment amounted to 15,039, against 11,071 in the previous year. The number of successful cases was 14,456, against 10,490, showing an increase of 3,968 operations and 3,966 successful cases. The percentage of success was 96.15, against 95.08, a rise by 1.07 over the result of the previous year. Each vaccinator operated on an average 2,506, against 1,845. The cost of each successful case was reduced from four annas one and one-fifth pie to two annas 11.9 pie. These results are very satisfactory, and highly creditable to the deputy superintendent and his men. The area protected in previous years was extended during the past season. One party of four vaccinators worked in the Pakour sub-division and visited 163 villages; the other party, consisting of two men, carried on operations in the Rajmehal sub-division in a systematic way, protecting village after village. Unfortunately the occurrence of small-pox in Godda and other places interfered with the regular work, and vaccination was now performed by this party in a desultory fashion in order to arrest the spread of the disease wherever it appeared.

Operations.

Result.

Cost.

45. Baboo Kali Krishna Ghose conducted his inspection with great zeal and enthusiasm, examining village after village till the month of January, when small-pox broke out in the sub-division of Godda, where his presence was required. He verified 10,938 cases, or 72.7 per cent. of the total number vaccinated. The percentage of successful cases inspected was 96.21, while in the general return it was 96.15, so that he has more than verified its correctness.

Deputy
Superintendent.

46. Small-pox was more than usually prevalent during the past year in this district. The disease first broke out in January 1873, and began to spread widely from April. From April to September 14 villages in the sub-division of Rajmehal, besides Rajmehal itself, and one village in Pakour, were affected. The number persons of affected with the disease is reported to have been 159, of whom 73 died. Thirty-four of these deaths occurred in one village—Polashon—inhabited by Feroizee Mahomedans, who concealed the outbreak as long as they could. In eleven of the infected places vaccination was practised, and an attempt made to localize the disease. On account of the great heat vaccination did not take so well, giving a success of 42.5 per cent.

Small-pox.

From October to March 15 villages in the Rajmehal sub-divisions were affected, in which 107 persons were attacked, with 37 deaths. In ten of these villages vaccination was introduced, and the disease partially checked and arrested. The occurrence of the disease in the sub-division of Godda has been already noticed. The work of inoculators in the Sonthal Pergunnahs has been described by the civil surgeon in his dispensary report.

47. Baboo Kali Krishna Bose has performed his duties with great tact, zeal, and enthusiasm, and his small staff of six vaccinators have worked remarkably well.

48. *Dispensary vaccination.*—All vaccinations performed by vaccinators attached to dispensaries and paid by Government, by vaccinators employed and paid by municipalities, or by unpaid ex-inoculators, are classed under this head. By statements Nos. I and II, I have shown that a larger number of vaccinators and ex-inoculators was employed, and consequently a greater amount of work was accomplished, in 1873-74 than in the preceding year. The quality and character of the work varied, however, very much in the different districts, according to the training of the men and the amount of check and supervision exercised over them.

Dispensary
vaccination.

49. Table No. V gives the particulars of dispensary vaccination in detail, and a careful abstract has been prepared of the reports of civil surgeons. I shall take a glance at the results. The work done within the municipality of Burdwan was much better in every respect than in 1872-73, for which Dr. French deserves credit. In Bankoora, Mr. Conolly deserves

great credit for having induced a greater number of inoculators to engage in vaccination. They vaccinated a large number, but the quality of the vaccination could not have been unexceptionable, as some of the vaccinated persons are reported to have had small-pox within a period varying from three months to one year. In Beerbhoom the work performed by the Government vaccinator was rather small. In Midnapore the work has fallen off, and Dr. Mathews could not exercise any supervision over the ex-inoculators. The withholding of the retaining fee at the instance of the magistrate was, in my opinion, most unfortunate. The men could not be expected to work so well for nothing as they did when they received some allowance. As, however, it has been taken away, it may not be thought advisable to give it back. It is a doubtful point, which perhaps His Honor the Lieutenant-Governor may himself decide. As the time of the civil surgeon is much taken up with the extra work on account of the prevalence of fever in this district, I would recommend the appointment of one or two vaccine inspectors. The work of the municipal vaccinators of Hooghly, Howrah, and Serampore was considerable in amount and good in quality. Several municipalities in the 24-Pergunnahs and Nuddea applied for and obtained vaccinators from the staff of the Metropolitan circles. The work was supervised by the local medical officers, and also by the officers of the vaccine establishment, and it was found to be good. Jessore has made much progress under Dr. Hutcheson, who employed a larger number of vaccinators and of converted inoculators to carry on vaccination. Great improvement is visible in the district of Moorshedabad, where the amount of work underwent considerable increase. No vaccination was performed in Dinagepore, and a trifling amount in Malda. Rajshahye exhibits considerable improvement. There should be vaccinators attached to the Rajshahye sudder dispensary. Dr. Ghose introduced dispensary vaccination in Rungpore last year with great success, for which he deserves credit. The work in Bogra by municipal vaccinators has increased, but the converted inoculators either did not vaccinate at all, or, if they did, they have furnished no returns. Vaccination in Pubna was a miserable failure from bad lymph; it was somewhat better in the Serajgunge sub-division. The Orissa districts show somewhat better results than before. The amount of vaccination performed in the town of Dacca under Dr. Wise's supervision was pretty considerable, with more than average success. In Fureedpore the work was good in quantity, and considerably in excess of that done in 1872-73. Dr. Bensley has succeeded in getting a larger number of vaccinations done in Backergunge, but the ratio of success was not very high. In Mymensingh vaccination was much impeded by the frequent failure of lymph-supply, and the amount is consequently less than in the previous year. In Sylhet, on the other hand, the work was more than double of that in 1872-73. Dr. Monteath succeeded in getting some good work done in Cachar. Chittagong shows better results, for which Dr. Meadows deserves credit. Vaccination is gaining ground in the district, and the people are beginning to appreciate its benefits. The work performed in Noakholly was considerably in excess of that in 1872-73. A few inoculators were converted by Mr. Dutt. Tipperah shows better results this year. The province of Assam has made considerable progress in vaccination, which is shared more or less by every district. At the request of the commissioner the Government sanctioned the appointment of one inspector and two vaccinators for Gowhatty. In addition to these, Dr. Russell, the civil surgeon, instructed 55 inoculators, who carried on vaccination in the district, and protected large numbers of the people. The employment of extra vaccinators for the season was also sanctioned for other districts. The total number of vaccinations performed in Eastern Bengal and Assam during the past year is more than double of that in 1872-73. In Patna the amount of work was considerable, and carefully supervised by Dr. Smith and his assistants. In the year 1872-73 the Dinapore vaccinator had done shamefully little work; and in 1873-74 he did only 28 cases more than in the preceding season, with less than average success. Dr. R. Macleod has fully maintained the progress made in Gya in the preceding years. In the Arrah district vaccination was performed assiduously in all the dispensaries. Dr. Harvey of Buxar deserves great credit for pushing on the work of vaccination by the agency of 51 converted inoculators. Notwithstanding the famine, the number of vaccinations in Tirhoot was pretty numerous, and performed at several centres. In the Sarun district a new centre has been formed in Hutwa, and the total number of operations has increased. In Chumparun, on the other hand, the work has fallen off on account of the famine; Dr. Cullen, however, deserves credit for having induced many inoculators to change their practice. In Monghyr a large number of vaccinations was performed by the agency of converted inoculators, whose number increased considerably during the year. I quite agree with Dr. Purves that the Government grant for vaccination should be increased for the sake of giving encouragement to the men. The work has fallen off in Bhagulpore, owing probably to the famine, and also, it is said, to the absence of small-pox. Many who will not accept vaccination when no small-pox is present willingly receive it when that disease appears. Dr. Baillie inspected some of the work only, as his time was occupied by famine matters. More supervision over the work of the converted inoculators is necessary in Monghyr and Bhagulpore. Vaccination is still very backward in Purneah, though it is a good sign that 35 inoculators changed their practice during the year. In Julpigoree a few vaccinations were performed by the dispensary establishments. No return was received from Darjeeling. Vaccination in the

Chota Nagpore division has been already described. The amount of inspection accomplished by Mr. Manook in Manbhoom contrasts favourably with the trifling number in Singbhoom, and the total absence of it in Lohardugga and Hazareebagh.

50. The year 1873-74 was remarkable for the great prevalence of small-pox. The disease was not absent from any district, while it assumed an epidemic form in several localities. In Calcutta small-pox was present all the year, and caused a total reported mortality of 67. There was very little small-pox within the Metropolitan circles. In Bankoora and Beerbhoom the disease prevailed severely, and caused a large mortality. Small-pox was more or less severe in Jessore, Moorshedabad, Cuttack, Pooree, Noakholly, Goalpara, Nowgong, Arrah, Sarun, Chumparun, Monghyr, Hazareebagh, Sonthal Pergunnahs, and other districts. There is no doubt that 1873-74 was a year of small-pox. The usual cause which lights up small-pox is always present in Bengal, namely the baneful practice of inoculation without any rule or restriction. But this alone could not account for the unusual prevalence of small-pox during the last year. There must have been other causes at work. What those causes are, have not yet been ascertained. Some atmospheric conditions are believed to exercise much influence over small-pox. Atmospheric changes are above human control, but we should endeavour to reduce to a minimum the chances of small-pox spreading. This can be effected by thorough and systematic vaccination, and by putting a stop to the baneful practice of inoculation. Dr. Charles has brought out fully the benefits which thorough and systematic vaccination confers on a community. Though case after case of small-pox was imported into the city, the spark was soon extinguished. I am indebted to Surgeon-Major J. M. Coates, M.D., Officiating Sanitary Commissioner for Bengal, for the Table No. VII appended to this report, showing the number of deaths from small-pox reported monthly from each district in Bengal during the past year 1873-74.

Small-pox.

51. *Inoculation.*—The reports of the civil surgeons show that inoculation is still largely practised all over Lower Bengal. In and around some civil stations it had been discontinued, but in the interior it is still practised without any check or restraint. But no information regarding the mortality direct and indirect of the practice has been furnished by any of the civil surgeons. Inoculation, though prohibited in Calcutta, was practised surreptitiously, but the inoculator was soon caught and punished. In the 24-Pergunnahs it was extensively practised, and there too the men were punished. It was practised in three districts where it was supposed the inoculators had given it up, as in the Sonthal Pergunnahs, the Chota Nagpore division, Bhagulpore, &c.

Inoculation.

52. *Instruction of inoculators.*—It is satisfactory to find that a greater number of inoculators were induced in the past year to change their practice and to undergo instruction in vaccination. This was notably the case in the districts of Bankoora, Midnapore, Jessore, Gowhatty, Patna, Chumparun, Monghyr, and Bhagulpore, in the Chota Nagpore division, and Sonthal Pergunnahs. Some allowance ought to be granted to these men while under instruction.

Instruction of inoculators.

53. *Protection from small-pox.*—The "Vaccine Census," taken by superintendents of circles and by civil surgeons, and included in their reports, have been embodied in Table No. VI. A glance at the figures will show that the proportion of inoculated among the adult population varies between 70 and 95, and among the juvenile population from 11 to 50; while the ratio of vaccinated in the former is from two to about 20, and in the latter it varies from 12 to 60. The proportion of unprotected persons is rather considerable, varying from about two in jail to 30. But as the figures belong to different districts and to different classes of people living under various circumstances, no general conclusions can at present be drawn from them.

Vaccine census.

54. On the whole the past vaccine season has been very successful, and has amply fulfilled my hope that year by year vaccination will progress until it has eventually entirely displaced the pernicious practice of inoculation.

I have the honor to be,

SIR,

Your most obedient servant,

J. CAMPBELL BROWN,

Surgeon-General, Indian Medical Department.

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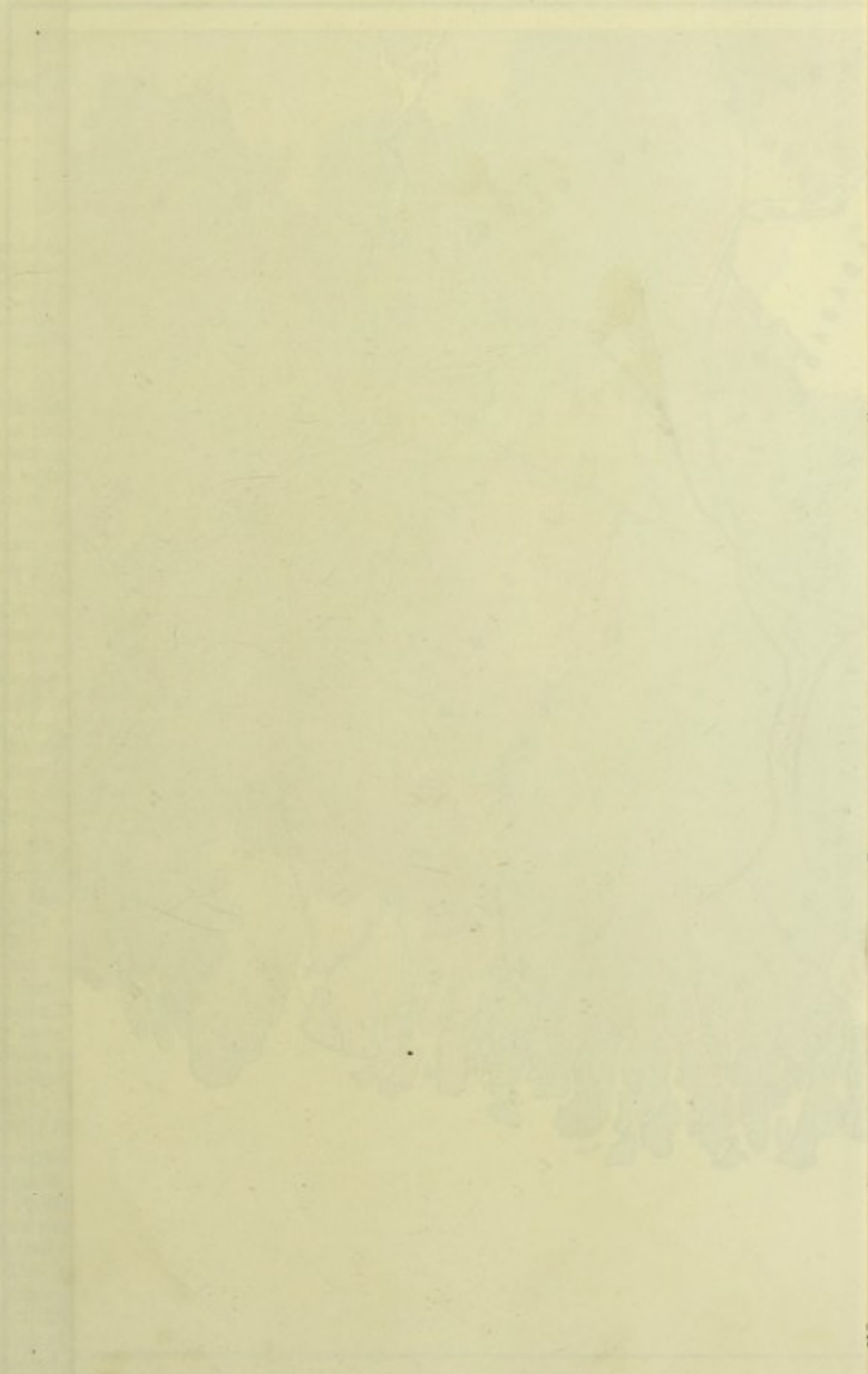


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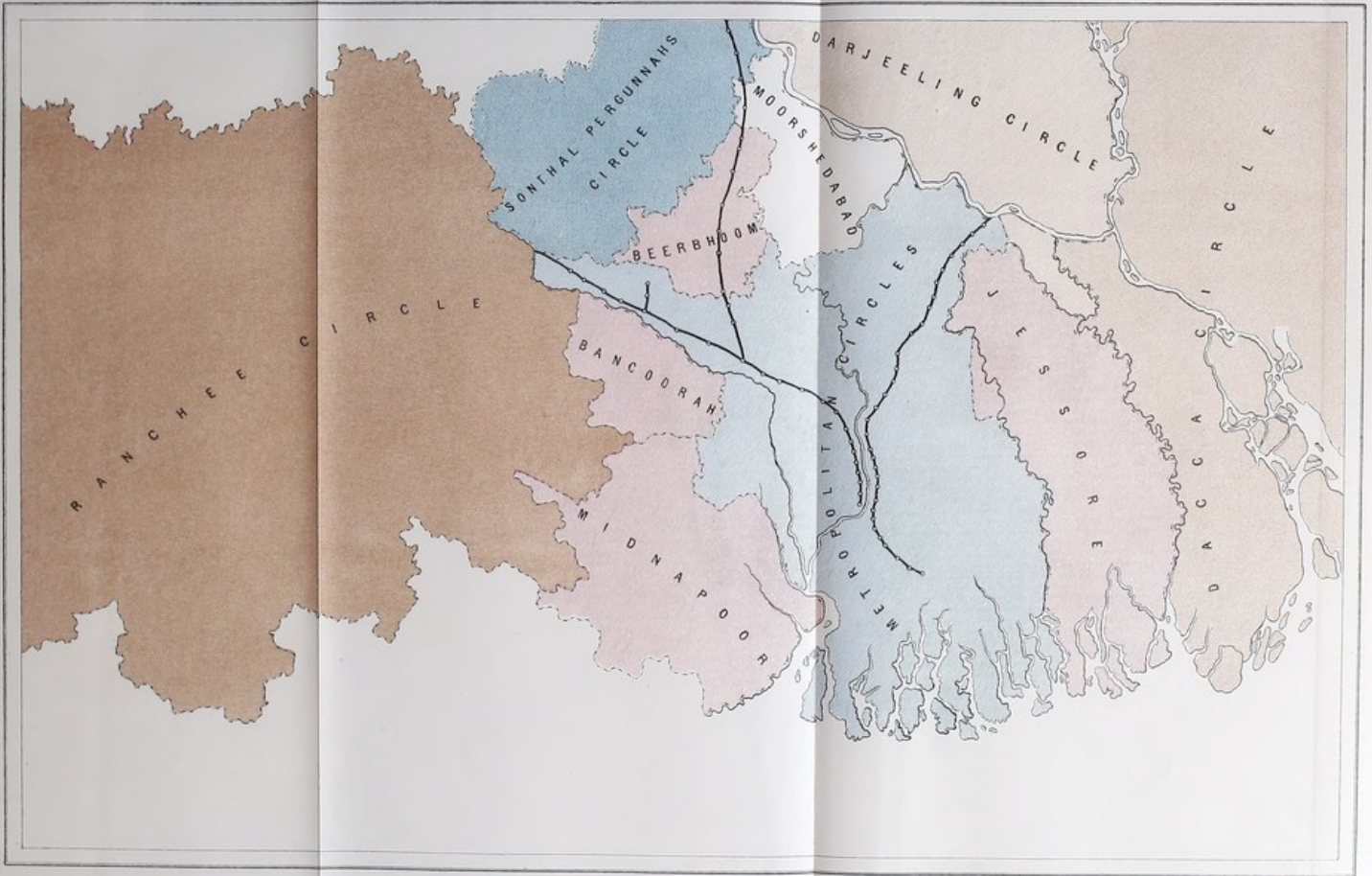
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MAP SHEWING EXISTING CIRCLES OF VACCINATION IN THEIR RELATION TO THE METROPOLITAN CIRCLES.
IN THE DISTRICTS SHADED PINK IT IS NOW PROPOSED TO SUPPLY VACCINATION



Lithographed in Colors at the Surveyor General's Office, Calcutta, November 1874.

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1. *Submission*.—I HAVE the honor to submit the sixth annual report of vaccination carried on at the Presidency. Submission.

In presenting it, I do so with the fullest confidence that it represents a great amount of most useful work done in the department of preventive medicine.

This large oriental city, after having been for years a perfect hot-bed for small-pox to run riot in, has at last been reduced to a state of comparative protection through the agency of the vaccine establishment.

For many years much money was spent with little apparent effect; and as year by year I have now to record a sustained successful combat against the disease, I venture to express the hope that the Government will view with satisfaction that the liberal policy which it adopted towards the vaccine establishment at the instigation of my predecessors has been crowned by the richest fruits.

The success thus obtained in Calcutta, though important in itself, is doubly valuable when regarded from a broader point of view. When so much has been achieved in notoriously the worst part of Bengal, success in other parts is reduced to a certainty. A consideration that the money spent on vaccination in Calcutta has so completely secured the wished-for results may well be accepted as a guarantee that carefully-planned schemes for extending vaccination to other parts of Bengal not yet provided for will, in like manner, save the people from the ravages of small-pox.

2. *Superintendents*.—Since October 1872 there have been only two superintendents instead of three working in Calcutta and the suburbs. I have had no cause to regret the reduction in the supervising establishment, and the measure has worked well. Both of the superintendents are thoroughly trained officers, and perform their duties to my entire satisfaction. They have cheerfully discharged the extra duties devolving on them, and though their work has been very hard, they have kept abreast of it and held the vaccinators well in hand. I have much pleasure in bringing the names of Baboos Kally Dass Bose and Kassy Chunder Dutt to the favourable notice of Government in recognition of the excellent service they have rendered to the state during the past twelve months. Both of them are zealous servants of Government, and have most efficiently discharged their duties during the year. At present the number of superintendents remain nominally at three, while only two are employed. I have no hesitation in recommending that the extra superintendent be permanently reduced. Superintendents.

3. *Numbers vaccinated*.—The numbers vaccinated during the past twelve months have been very great, and show an increase of 7,313 over last year. The last year showed an increase of 10,948 over the previous one. As pointed out before, these large numbers do not indicate extra work done among the permanent residents, but are in great measure due to an increased activity in emigration. The actual figures are 38,796, against 31,483 in the season 1872-73. The increase in numbers to be placed to the credit of the non-resident persons vaccinated amounts to 8,501. Among the permanently-resident population there has also been an increase of 671 successful cases. This does not represent an annual progressive advance in the working of the establishment, but is in great measure due to spasmodic efforts to overtake unprotected persons dependent more or less directly on His Majesty the ex-King of Oude. Numbers vaccinated.

As reported in 1871, most of his dependents have been previously vaccinated. Since then, however, they have steadily refused to have vaccination practised among them, and this year, owing to small-pox breaking out in the neighbourhood, more than ordinary pressure could be brought on them, and the arrears of previous years have now been overtaken and led to the increase in this year's outturn of work. The extra work, though sufficiently important in Cause of increase over 1872-73.

itself, would have been more satisfactory had it taken place in the usual course of the routine duties of the establishment.

The increase among the permanent residents, as divided between the town and suburbs, consisted in 194 for the town and 477 in the suburbs. The actual numbers vaccinated in the town amounted to 5,182 after deducting the cases in which the result was not known and cases of re-vaccination. The corresponding figures for the previous year were 5,011.

In the part of Calcutta lying under the jurisdiction of the suburban municipality, 8,195 persons were vaccinated for the first time as compared to 7,728 during the previous twelve months.

Character and success of the vaccination.

4. *Character and success of the vaccination.*—As usual, the character of the vaccination has been high class. The appearance of the vesicles at each stage of their course has been in every way satisfactory, and all the vaccination done may be safely assumed as having conferred the largest amount of protection obtainable from the use of the prophylactic. During my inspection I have rarely had occasion to find fault, and have habitually met with great attention to minute points of detail laid down for the guidance of the vaccinators. I attribute much of the high standard of excellence to the successful working of the grade of head vaccinators, who supervise at every turn the operations of the vaccinators.

During the past season in the town 5,165 persons were successfully vaccinated, giving a ratio of 99·67 per cent. of successful cases, after having excluded cases of re-vaccination and those in which the result following on the vaccination could not be ascertained. The similar ratio during the preceding twelve months was 99·20.

In the suburbs 8,184 persons were successfully vaccinated, giving a ratio of 99·86 on the total number vaccinated, last year's ratio being 99·72. As already brought forward, I attach little importance to the apparent improvement.

Humanized animal virus.

5. *Humanized animal virus.*—In my previous annual reports it was stated that one of the stocks of lymph at present in use in Calcutta was procured direct from the cow. This stock had reached its 202nd transmission through man on the 31st March 1874.

This virus remains perfect in every way, though it has been kept alive through three hot weathers and rains.

Small-pox in Calcutta.

6. *Small-pox in Calcutta.*—The past season has been one in which small-pox has been rather more than usually active, importation after importation of the disease having taken place and having required to be promptly dealt with.

Throughout the whole year we have had small-pox in Calcutta, though in two months of it no deaths took place from the disease.

In April the deaths amounted to eight, and in May, June, and July five deaths were registered in each month. In August one death took place, while none occurred in September or October. One death took place in November, three in December, and nine in January. The mortality declined in February to five, but again increased in March, when 25 deaths were reported. These figures may be accepted as substantially correct, though, if wishing for extreme exactness, the number of deaths in March may be regarded as overstated, owing to an epidemic of measles having assisted to swell the mortality actually due to small-pox. This error is a trivial one, and in no way affects the value of the deductions to be drawn from the figures taken as a whole. That we are now passing through a season which before vaccination controlled the disease in Calcutta would have been one in which the sacrifice of human life would have been immense, allows of no room for doubt. What would have been an epidemic year now hardly admits of being with justice designated as such.

Besides isolated cases which were met with over both the town and suburbs of Calcutta, which did not spread either owing to the state of protection already existing in the neighbourhood, or owing to steps being taken to supply any deficiency found to exist in the following instances, small-pox gained a more or less firm footing before the materials capable of sustaining it were used up. At Bamun Bagan, in the Taltullah thana, in January and February last six or seven cases occurred. The disease singled out individuals who in former years had refused vaccination, and after having, in consequence of active vaccination, left the neighbourhood for a whole month, returned in the person of a *purdah neshin* who had escaped the inquiries of the vaccinators. Between the 9th of February and 28th March ten cases of small-pox came to notice in Muddun Mitter's Lane and its immediate neighbourhood. The first of these was an imported case in the person of a hawker of vegetables; among these only three Calcutta children were attacked, aged three and five years, and one of 15, who had been vaccinated at the age of two and had the disease in a modified form. The other seven were adults, most of whom belonged to the Hooghly or Burdwan districts, and were not thus in the strictest sense Calcutta people, though residing more or less permanently in the place.

In the suburbs the disease was introduced by a man from the Ghazeeapore district, who communicated it to a woman in the middle of January living at Metiabruj. Both this woman and her child died of the disease, but very active measures were at once adopted, and proved successful in preventing the disease from spreading, though the neighbourhood was a very dangerous one for such a spark to fall in.

To any one watching the progress of small-pox, it always affords matter for surprise how unerringly any weak point is pounced upon by the disease. In the Manicktollah suburb in

Simlah road there are two houses within fifty yards of one another into which the vaccinators have been unable to effect an entrance. The rest of the neighbourhood has been thoroughly vaccinated, and there has not been a single case of small-pox near it. In the one house small-pox broke out in the last week in February, and in the other one a month later. At the first point it ran through eight children, ranging up to 14 years of age, in the other five children, the eldest of whom was nearly eighteen. In the first house a marked instance of how vaccination protects was brought very closely home to those whose family was being ravaged by the disease. The only child that escaped was one which had been caught last year and vaccinated.

This local outbreak was simply allowed to burn itself out, and we had full confidence in the absolute safety which years of hard work had secured to those around.

7. *Sequela of small-pox.*—One of the tests made use of by my predecessors to display the ravages made by small-pox in Calcutta consisted in showing in a tabular form the mischief done to the eyes of those who had been attacked with the disease and who were forced to apply to the Eye Infirmary for relief.

Exactly thirty years ago such a document was published by Dr. Duncan Stewart. I subjoin precisely similar tables for the corresponding period of 1874 as those prepared by Dr. Duncan Stewart in 1844.

Sequela of
small-pox.

Return of out-patients who have attended at the Eye Infirmary on account of disease of the eyes following small-pox from 26th February to 13th June 1844.

DISEASES—	Number of cases.
Ulcer of the cornea	21
Obstruction of the nasal duct	2
Chronic ophthalmia	10
Slough of the cornea	17
Interstitial abscess of the cornea	4
Opacity of the cornea	8
Prolapsus iridis	3
Pus in the anterior chamber	1
Total	66

Return of house-patients who have been admitted into the Eye Infirmary on account of disease of the eyes following small-pox.

DISEASES—	Number of cases.
Prolapsus iridis	1
Slough of the cornea	2
Interstitial abscess of the cornea	2
Ulcer of the cornea	1
Total	6

CALCUTTA,
The 13th June 1844.

C. C. EGERTON,
Surgeon to the Eye Infirmary.

Return of out-patients who have attended at the Eye Infirmary on account of disease of the eyes following small-pox from 26th February to 13th June 1874.

DISEASES—	Number of cases.
Ulcer of the cornea	1*
Obstruction of the nasal duct ... ..	...
Chronic ophthalmia ... ..	...
Slough of the cornea	1
Interstitial abscess of the cornea ... ..	...
Opacity of the cornea ... ..	...
Prolapsus iridis ... ..	...
Pus in the anterior chamber ... ..	...
Total	2

* One other case of sloughing cornea was seen by me, but the child had small-pox at Midnapore and not in Calcutta.

Return of House patients who have been admitted to the Eye Infirmary on account of disease of the eyes following small-pox.—Nil.

The 14th June 1874.

H. CAYLEY,
Superintendent of Eye Infirmary.

It must be remembered that the table published in 1844 includes a period following closely on a season during which small-pox was unusually prevalent, and does not by any means represent fairly a state of things existing in Calcutta from month to month as an average condition. In this sense the comparison might in most years be open to the objection that an exactly similar state of matters was not being fairly compared. This year, however, the end of the third decennial period falls in at a time when small-pox has been more than usually rife in Calcutta; and I have therefore purposely seized on the present occasion as one singularly well fitted for the comparison I wish to make.

The fact that within a certain period in 1844 so many persons were obliged to present themselves to the Eye Infirmary for relief in consequence of damages caused by small-pox, while within the same period in 1874 the ravages of small-pox as displayed in the same way are represented by simple blank forms, is a fact so significant in itself that no comment is required on it.

The circumstance taken by itself would be most valuable, but read in connection with the many proofs I have brought forward showing how completely the vaccine establishment has been able to keep this dreaded disease under control, its value is much enhanced.

Small-pox on board S. S. *Roma*.

8. *Infected pilgrims landed from S. S. "Roma."*—On the 19th March the S. S. *Roma* arrived in this port from Jedda with pilgrims on board. Small-pox had broken out among them and several had died at sea, while there was still one of the pilgrims labouring under small-pox when the vessel arrived at Calcutta. Before steps could be taken to put the ship in safety, some 450 of the tainted pilgrims came on shore. Strict search was made for them, and all that could be collected were vaccinated. In this way ninety-five of these pilgrims were vaccinated and sent to their homes under police surveillance, with the view of any cases of the disease which might break out afterwards being brought to notice and provided for to protect the community from danger.

The officers and crew were vaccinated along with the few pilgrims remaining on board, and the ship was thoroughly disinfected. The precaution was also taken of having the coolies who went on board to work examined by a vaccinator daily to prevent any one going on this service who had not received some form of protection from small-pox.

The Italian crew had all previously been well vaccinated, some of them had been re-vaccinated several times. Many of them, however, proved themselves susceptible to the contagion of small-pox by their vaccination running an unmodified course. None of them got small-pox.

Many of the tainted pilgrims must have passed some days in Calcutta, but partly owing to the protected state of the city, and partly owing to the prompt measures that were adopted, I have been unable to hear of a single case of small-pox traceable to the *Roma*. What, under other circumstances, might have led to a calamity of vast proportions, has apparently passed over without leaving a single trace on the health of Calcutta.

Inoculation in Calcutta.

9. *Inoculation in Calcutta.*—Since the Act prohibiting inoculation was passed in Calcutta in 1865, the law has not been broken till this year. Isolated instances of intention to inoculate have come to my notice. In each instance, however, after a kindly assurance that the law could not be infringed without my coming to hear of it, and an intimation that after such a warning no mercy need be expected by intending offenders, no inoculation has taken place. This year, however, an adventurous impostor made up his mind to try the effect of law-breaking.

He was a man who had followed different occupations, but he seems usually to have oscilated between acting as a coachman and as a groom. His age was forty-five, and he was a man of very considerable intelligence, being able to talk fluently and impress his auditors. He singled out a very ignorant little community located at No. 11, Free School Street, and boldly commenced operations in the heart of the part of the town inhabited by European residents. He made friends with a poor superstitious woman, and after professing himself skilled in palmistry, pointed out lines in the hand of her child, betokening the immediate advent of small-pox in a severe form. After working on her fears he suggested inoculation as a ready way of getting out of the impending difficulty, and forthwith carried his advice into effect by inoculating the child. With this beginning he found little difficulty in being allowed to inoculate other six or seven children in the neighbourhood.

It came out very clearly that the people had no wish for inoculation, but were enticed into it by his false representations. After this he singled out other small ignorant localities, and preached the advantages of inoculation, and while some days were lost in

finding out who was to take the initiative in arresting him, he inculcated open resistance to the law. Before he had time to carry his designs further into execution he was tried before a magistrate and sentenced to the full penalty of confinement with hard labour for three calendar months.

Before moving for a prosecution I satisfied myself that this man was not a professional inoculator, and that he had not been driven into breaking the law by the loss of his hereditary occupation. The man's name was Oodeen Bahalia, and sufficiently points him out as deserving of no sympathy while inoculating in Calcutta, even had the investigation not shown that he was deserving of special punishment.

It is most unlikely that recourse will have to be made sufficiently often to this law in Calcutta to render it advisable to have the Act amended; but in case any emergency may arise in other districts, it may perhaps not be out of place for me to put on record that the Act, as it at present stands, is not an easy one to work. While conducting the prosecution with the law officers of Government it appeared—

1st.—That it was not the business of any particular officer to take the initiative.

2nd.—That even when undoubted inoculation had taken place, it was nowhere distinctly laid down that the parents or guardians were responsible in any way, or could be punished under the Act.

In the present instance, as I had no intention of having the poor misguided parents punished, it did not signify much; but under many circumstances this omission would simply constitute the Act a dead letter, and render it impossible to work its provision. Any good detective can bring evidence into court of children having been inoculated, and he can also bring the inoculator before the magistrate; but to connect the two together would in most cases prove an impossibility. The parents of the child have only to remain silent or give false evidence, and the prosecution falls through. An inoculator is a priest of the goddess Shitolla, and under her special protection. The parent of any child giving evidence against an inoculator brings down the vengeance of this deity on the household, and her victims die of small-pox. Under these circumstances it can be easily foreseen how little evidence would be forthcoming.

Were it clearly laid down that any parents or guardians inoculating a child were punishable, in most cases a conviction would be easy; and in the event of an inoculator escaping, owing to the impossibility of procuring direct evidence, an individual could be singled out from an inoculating community and punished as a warning to the others. In the case in point every effort to secure evidence failed till Mr. Wauchope, the Commissioner of Police, himself took the matter personally into his own hands.

10. *Proposal to extend the vaccinated area round Calcutta.*—This large metropolis is directly influenced by the districts round about. When they are overrun with small-pox, Calcutta suffers. We are never safe while our neighbours are in danger. As the result of previous strong recommendations, Government sanctioned a vaccine establishment in the Metropolitan circles to throw a protective cordon of five millions of persons comparatively free from small-pox round Calcutta. The success of this measure has surpassed my most sanguine expectations. I still, however, feel most strongly that enough in this direction has not been done, and that I have not yet placed Calcutta in a position of safety. I beg to impress this fact on the attention of Government, and to ask that provision should be made for extending this cordon by sanctioning an establishment for vaccinating four unprotected districts immediately beyond those already provided with the prophylactic.

I have had a map prepared showing the relation of existing circles of vaccination to Calcutta, and append it to this report. By reference to the map it becomes evident at a glance that Calcutta is surrounded by a large tract of country in which vaccine establishments are at work. With the exception of five districts, the others round Calcutta are all included in existing vaccine circles. I propose that four of these districts, coloured pink on the map, should now be provided with a vaccine establishment and included within the Metropolitan circles.

These four districts, Midnapore, Bankoora, Beerbhoom, and Jessore, are for the present specially those it is desirable to provide with vaccination, as sending small-pox cases to Calcutta. The fifth, Moorshedabad, is expressly left out, as it does not belong to the group of districts which naturally fall within the Metropolitan circles. Moorshedabad must wait to be provided for till the time arrives when the Sonthal Pergunnahs circle of vaccination can be united to the Darjeeling circle, and made to include all the districts under the Commissioners of Bhagulpore and Rajshahye.

It is premature as yet to attempt to fix a permanent strength for the Metropolitan circles after these four districts have been added to them. If a fourth deputy superintendent were added, and the strength of the subordinate establishment of the three existing circles, as well as that of the proposed additional one, were raised to the same strength as that sanctioned for Dacca, a close approximation would be made to the requirements of the case. The districts shaded pink in the map, constituting dangerous spots to Calcutta amid a large tract where vaccination has already been provided, appeal forcibly to the eye when represented in such a way.

Defects in the Act prohibiting inoculation.

Proposal to extend the vaccinated area round Calcutta.

It is impossible for me to express in a more vivid form the mistake it would be to leave such small unprotected localities for small-pox to keep itself up unchecked by vaccination, and month by month be carried into Calcutta and into the surrounding districts for which vaccine establishments have been provided. Small-pox thus spread about costs the Government heavy sums to stamp out; and not only so but, as frequently pointed out before, a vaccinated tract of country only receives relative, and not absolute, immunity from small-pox, and each vaccinated person who takes the disease after having been vaccinated naturally shakes the confidence of the community among whom it occurs in the efficacy of the prophylactic.

A few years hence all of those included within the vaccine circles will have had sufficient reason afforded to them to believe in the value of the protection they receive, and any stray instances of small-pox after the protection afforded by vaccination will produce little effect on their minds. After they have been witness to the comparative immunity from small-pox of a well vaccinated population, they will listen to reason and appreciate at their true worth any cases in which vaccination falls short of what they expected.

For the present, while vaccination is on its trial among ignorant millions, I conceive it to be the duty of all to arrange as far as possible that its shortcomings shall be kept out of sight. One point of importance to secure this end is so to arrange that no unprotected spots remain in the centre of vaccine circles.

For the above reasons, as well as for the protection of Calcutta, I beg to urge that nothing should be allowed to stand in the way of providing vaccination for the four districts which stand out conspicuously for their want of vaccination, while being surrounded on every side by other districts which hem them in by a population for which vaccination has been provided.

*Memorandum by H. B. BUCKLE, Esq., Deputy Surgeon-General, Presidency Circle,
(No. 10, dated Fort William, the 17th June 1874.)*

FORWARDS the annual returns and report of the Presidency Vaccination Department for the year 1873-74, submitted by the Superintendent-General of Vaccination.

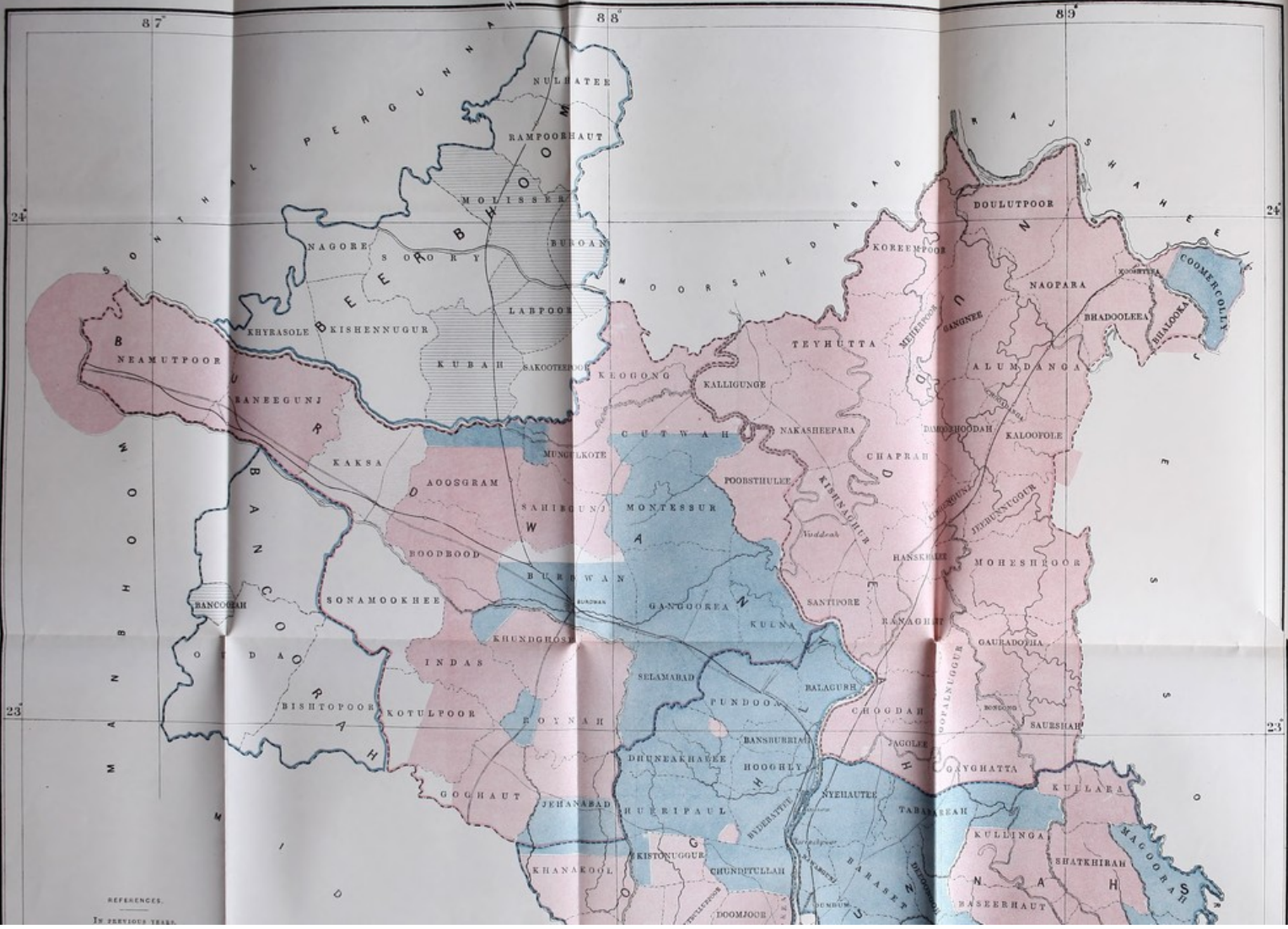
The working of the establishment and the practical results demonstrated by the small number of cases of small-pox treated, and of deaths from that disease in the populous city of Calcutta and its suburbs, and which can only be ascribed to the thorough manner in which protection by means of vaccination has been given, is most satisfactory.

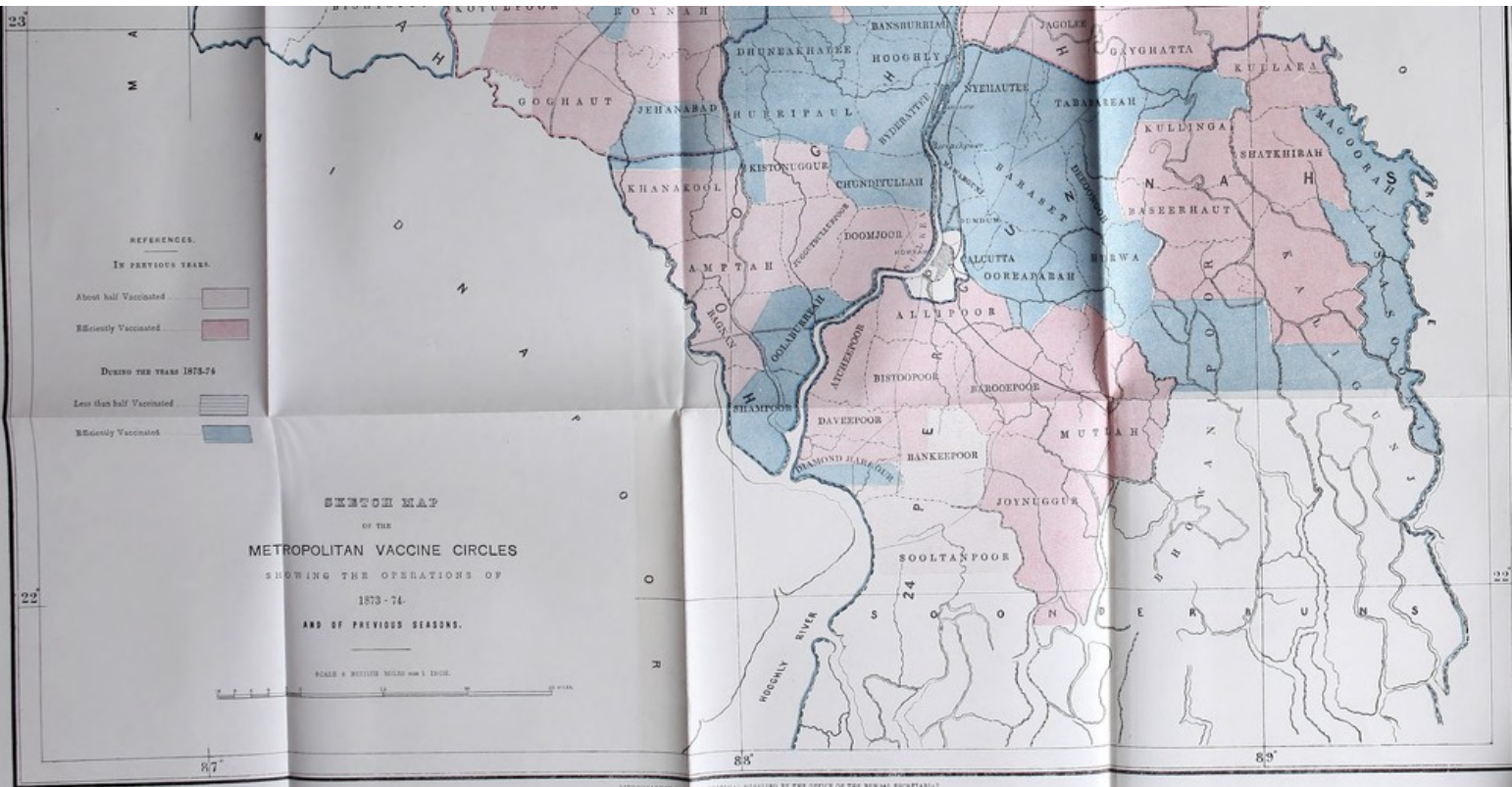
With reference to Dr. Charles's proposal for extending the area of vaccination round Calcutta, he recommends that Midnapore should be included in the vaccinating circles. At present a scheme of vaccinating by the local inoculators who have been instructed in vaccination is under trial; the magistrate and the civil surgeon are very sanguine of success.

In forwarding the vaccine report of the Superintendent of Vaccination, Metropolitan circle, attention was requested to Dr. Mathew's report for the year 1872-73, and it is suggested that further inquiry should be made as to how the system has answered this year before putting a stop to it and introducing another. A great point would be gained if it were possible to encourage and develop a local scheme of vaccination in a district rather than the more forced one of vaccination by a special agency. The real difference is in the thorough supervision and inspection of the work that is provided for in the latter; but surely it would be possible to provide for this in a system like that in practice in the Midnapore district.

This office memorandum No. 9L,
dated 3rd June.

Bengal Vaccination Report for 1872-73.





REPRODUCED FROM THE ORIGINAL OFFICED BY THE OFFICE OF THE SURVEY GENERAL
 AND BY THE SURVEYOR GENERAL'S OFFICE, CALCUTTA, SEPTEMBER 1878.

Sixth Annual Report of the Metropolitan Circles of Vaccination for the year ending 31st March 1874, by SURGEON K. P. GUPTA, M.B., Superintendent.

1. *Establishment.*—There has been little or no change in the establishment. The circles have been under my superintendence throughout the year under report. The three deputy superintendents remain unchanged. The head and ordinary vaccinators have continued at their posts; only a few new men were entertained to supply certain vacancies in the last grade of vaccinators and apprentices. Establishment.

2. *Employment of vaccinators during the recess.*—In accordance with instructions received from the authorities, the vaccinators were granted leave from April to August to visit their homes, a few being kept within call for emergency. The head and ordinary vaccinators received two-thirds, and the apprentices one-half, of their salaries during the non-working months. This reduction of pay came into operation for the first time in April 1873, and caused some degree of discontent. When small-pox broke out in some places during the recess, vaccinators were sent to stamp out the disease, and while thus actively employed they received full pay. Employment of vaccinators during the recess.

3. *Plan of work for the season 1873-74.*—The following plan of work was drawn up and submitted to Government through the usual channel:— Plan of work for the season.

The 1st Metropolitan circle was to be employed in revisiting the northern half of the 24-Pergunnahs, detaching one gang to thana Coomercolly, in the north of Nuddea; the 2nd circle to be engaged in going over the Hooghly district a second time; and the 3rd circle to undertake one thana in Hooghly and several adjoining thanas in the Burdwan district, detaching one gang to thanas Oolooberiah and Shampore to complete the re-vaccination of the west bank of the Hooghly, which had been undertaken in the previous season. The scheme was approved of, and preparations were accordingly made to carry it out.

4. *Preparation.*—In the beginning of September some vaccinators were sent out to take a survey of the country to be undertaken, and also to prepare the minds of the people, and thus pave the way. The Commissioners of the Presidency and Burdwan divisions were at the same time requested to ask the district magistrates, and through them the sub-divisional officers, to take an interest in vaccination and to aid the vaccinators. Mr. Peacock, the Magistrate of the 24-Pergunnahs, very kindly issued instructions to the sub-divisional officers of Dum-Dum, Barrackpore, and Busseerhat to give every possible assistance to the vaccinators. Similar assistance was afforded by the Magistrates of Nuddea, Burdwan, Hooghly, and Howrah. Constant communication was kept up with the civil authorities, and on all important occasions they were consulted. Preparation.

In anticipation of the Surgeon-General's instructions, I indented for and obtained a small supply of common medicines for the use of the establishment. Each gang of vaccinators was provided with a little box containing quinine, chlorodyne, ammonia, jalap, ipecacuanha, laudanum, &c., with instructions how to use them. The three deputy superintendents were also similarly supplied, and the superintendent took a box of medicines with him for his own use and for distribution among the sick poor who would come to his tent and apply for medical advice.

5. *Actual commencement or starting.*—About the middle of September the vaccinators, accompanied by vaccinifers, left Calcutta for their several destinations. Thus the 3rd circle men went to the Burdwan district and established virus at a central place, from which vaccinated children were supplied to adjoining thanas. The 2nd circle men similarly established virus at a central place in the Hooghly district. The 1st circle were somewhat tardy in commencing operations, as they did not establish virus in the 24-Pergunnahs as well as in Coomercolly before the beginning of October. In every case the virus was first examined by the deputy superintendents and head vaccinators with a view to ascertain that it was really good before the vaccinators were allowed to vaccinate many children from it. And the same care was taken throughout the season to keep up a supply of good and genuine virus. By the middle of October, when the Doorga Poojah was over, all the gangs were in full working order. Actual start.

6. *Mode of employment.*—As usual, the vaccinators were employed in gangs consisting of seven or eight vaccinators and two apprentices under a head vaccinator. One or more thanas were assigned to each gang, and the whole force was concentrated; thus the 1st circle were Mode of employment.

chiefly employed in the north half of 24-Pergunnahs, the 2nd in the Hooghly, and the 3rd in the Burdwan districts. The gangs were further sub-divided into parties of two or three men, who took charge of different portions of a thana under the supervision of a head vaccinator.

1st Metropolitan circle.

7. *The 1st Metropolitan circle.*—To the deputy superintendent of this circle, 1st Grade Assistant Surgeon Ramsoonder Ghose, were assigned the following thanas, viz. Dum-Dum, Newabgunge, Nyehatty, Tababeriah, Kullinga, Degunga, Hurwa and Kalligunge, in the 24-Pergunnahs, to be re-vaccinated; and thana Coomercolly, in Nuddea, to be vaccinated for the first time. One gang was deputed to vaccinate the last-named thana, which they completed by the middle of January, when it became necessary to provide fresh work for them. In consultation with Mr. Peacock, the Magistrate of the 24-Pergunnahs, thanas Shatkhira, Assasoonce, Kalligunge, and Bhowanipore, were added to the above list.

Difficulties experienced.

The gangs that worked in the north half of the 24-Pergunnahs experienced great difficulties. The thanas which were allotted to them had been once, and some twice, vaccinated before, and in consequence the subjects requiring protection were all children of very tender age—one, two, or three years. The parents of such young children were very reluctant to allow them to be vaccinated, because inoculation was seldom or never practised on children under five or six years; and even when they did consent to the vaccination of their children, they flatly refused to allow any of the vaccinated children to be taken to neighbouring villages to supply virus. Great coaxing, persuasion, and, with poor people, bribing, were necessary to get over this last difficulty.

Prevalence of fever.

Another difficulty was the great prevalence of fever during the months of October and November. Many children were laid up with fever, who, in consequence, had to be left unprotected. In December the fever abated, and the work progressed favourably till February. By that time the vaccinators had finished thanas Nyehatty, Newabgunge, Dum-Dum, Ooriapara, and gone over to thanas Tababeriah, Baraset, Degunga, Hurwa, and Shatkhira.

Inoculation.

When they had proceeded to the last-named thanas they met a formidable difficulty, viz. inoculation on an extensive scale. It would appear that the police did not know anything of the illegal practice, though, as I understand, it was being carried on very near to some stations. Deputy Superintendent of Vaccination, Baboo Ramsoonder Ghose, discovered this in the course of his tour, and lost no time in communicating with the sub-divisional officers of Baraset, Basseerhat, and Shatkhira. Baboo Ishwar Chunder Mitter, Deputy Magistrate of Basseerhat, adopted prompt measures, and put an immediate stop to the illegal practice within his jurisdiction. The Joint-Magistrate of Baraset, Mr. Porter, also punished the inoculators and stopped the practice in his sub-division. The Deputy Magistrate of Shatkhira, it would seem, did not show much promptitude in checking the noxious and illegal practice. When the matter was brought to my notice, I wrote immediately to the district magistrate, begging him to put a stop to inoculation at once. In the month of March the deputy superintendent reported that the illegal practice had been stopped, except in thanas Kullarowa, Shatkhira, and Assasoonce. I have since (April 1874) heard that some inoculators were fined afterwards by the deputy magistrate of Shatkhira. The inoculators were the only parties that were punished by fines or short imprisonment, while the parents of the inoculated children escaped altogether. In my opinion both parties should be punished, and the punishment should be not merely nominal fines, but also imprisonment as well, considering the serious nature of the crime.

The difficulties enumerated above would satisfactorily account for a slight falling off in the work of the 1st Metropolitan circle. The number vaccinated by this circle this year is 80,621, against 83,807 of the previous season. The area of the country assigned to this circle is 1,105 square miles, and population 807,423. The number of villages visited is 1,524, and the number vaccinated, as stated before, is 80,621, of whom the deputy superintendent has inspected 61,203, or 75.91 per cent.

Degree of protection afforded by 1st circle.

The degree of protection afforded to the thanas visited by the first circle.—Thana Coomercolly, in the north of Nuddea, has been thoroughly vaccinated, excepting seven villages that absolutely refused to take vaccination. In the 24-Pergunnahs the following thanas have been pretty thoroughly re-vaccinated, viz. Nyehatty, Newabgunge, Ariandoho, Dum-Dum, Aryaparrah, Hurwa, Baraset and Degunga, with certain exceptions specified below. Five villages of thana Dum-Dum absolutely refused to take vaccination, and also six villages in Newabgunge, as well as the sudder bazar of Barrackpore, consisting of up-country Beharees, who are against vaccination as well as inoculation. A few children of the bazar have, however, been vaccinated, and an impression made on them. This bazar is a source of danger to the cantonment, and will continue to be so as long as they are permitted to remain unprotected. Ten villages of Degunga remained to be done as the season expired. Thanas Kullinga, Shatkhira, Magoorah and Assasoonce, which had been only partially vaccinated in 1870-71, have been nearly done during the last season. About two-thirds of thana Tababeriah has been protected by vaccination, and one-third by inoculation. Thanas Sonarpore, Pertabnugger, and Kalligunge, have been partially re-vaccinated. Inoculation was

practised more or less in most of the north-eastern thanas of the 24-Pergunnahs, and gave rise to small-pox, which is still (May 1874) going on. The vaccinators are still at work in those places, doing their best to stamp out the outbreaks.

8. *The 2nd Metropolitan circle.*—To the deputy superintendent of this circle, 1st Grade Assistant Surgeon Buddy Nath Brummo, were assigned the following thanas in the Hooghly district to be gone over a second time, viz. Dhunniakhally, Pundooah, Bansberiah, Hooghly, Buddyabattee, Hurripal, Chunditollah, and Kistonugger. The gang that worked in thana Dhunniakhally suffered very severely from fever, from the headman to the peon. Three first class vaccinators completely broke down and left the place. The other gangs working in thanas Pundooah, Bansberiah, and Hooghly, did not suffer much so long as they worked within those thanas, but when they proceeded to Hurripaul and Chunditollah they too began to suffer severely from fever. Some of the vaccinators became so ill that they had to be sent home. In this manner every gang was deprived of the services of two or three first class vaccinators. As fever was very prevalent at that time in the Hooghly district, the vaccinators suffered as much as the villagers. If it were not for the daily use of quinine, with which they were plentifully supplied, the vaccinators would not have been able to work at all. The great prevalence of fever among the vaccinators and the people interfered considerably with the work of this circle. The total number vaccinated by them has fallen short by upwards of 16,000, and the decrease is sufficiently accounted for by several causes. The first and principal was the great prevalence of fever among the vaccinators and also among the people; secondly, the thanas assigned to this circle were once vaccinated before, and consequently the number of subjects requiring protection were not very large; thirdly, the deputation of a gang of vaccinators to Bankoora to stamp out small-pox at the very height of the season. These three causes would satisfactorily account for the decrease of work done by the 2nd circle. The vaccinators of this circle have, however, done their best. One gang, under head vaccinator Chunder Mohun Gangooly, deserves great credit for having succeeded in vaccinating several villages in thana Chunditollah that had refused to take it four years ago. The Mookerjee family of Jonye, who are great zemindars, and who also belong to the highest order of Coolin Brahmins, refused to take vaccination when thana Chunditollah was first undertaken in 1869-70. In consequence several villages round about Jonye followed suit and did not take. This year Deputy Superintendent Baboo Buddy Nath Brummo got an educated gentleman, Baboo Wooma Churn Mitter, of Buxa, near Jonye, and others, to use their influence with the Mookerjee Baboos, and vaccinator Ramgopal Mitter besieged them with his constant importunities. The consequence was that after three months' persistent efforts the vaccinators succeeded in bringing them round. When this was known, all the surrounding villages quietly followed their example and accepted vaccination.

2nd Metropolitan circle.

The area of the country assigned to the 2nd circle is 688 square miles, with a population of 658,081, or, taking the vaccinated villages situated in some adjoining thanas, the population would amount to 660,000. The vaccinators visited 1,282 villages and vaccinated 57,937 persons, of whom the deputy superintendent inspected 42,307, or 73.19 per cent.

Area.

Degree of protection afforded.—The degree of protection afforded by the 2nd circle to the thanas that had been assigned to them is as follows:—Thanas Pundooah, Bansberiah, and Hooghly, have been thoroughly protected a second time, excepting a few Mahomedan families at village Pundooah. Thanas Dhunniakhally, Hurripal, Chunditollah, and Buddyabattee, have been re-vaccinated, excepting the portions indicated in the accompanying sketch map. Some of these portions have, however, been protected by three barber vaccinators, who practise the art on their own account. The 2nd circle vaccinators have also vaccinated in 28 villages in the Burdwan district and 18 villages in the Howrah district.

Degree of protection afforded by 2nd circle.

The 3rd Metropolitan circle.—To the deputy superintendent of this circle, 1st Grade Assistant Surgeon Jadub Chunder Ghose, Rai Bahadoor, were assigned the following thanas, viz. Bullaghur in Hooghly, Culna, Gangooriah, Montessur, Burdwan and portions of Cutwa, Selimabad, Khundghose and Roynah in the Burdwan district, and thanas Oolooberiah and Shampore in Howrah.

3rd circle.

In the month of July small-pox was reported from thana Aousgram, in Burdwan, when a gang under head vaccinator Romanath Ghosal was at once sent to stamp out the outbreak. This was in a manner the commencement of the last season in the district of Burdwan. During the months of August and September the gang vaccinated nearly all the unprotected villages in thana Aousgram, and also a few unprotected ones in thana Munglecote, though there still remain a few villages in both the thanas to be yet protected. In the month of October the gang proceeded to thana Cutwa to vaccinate its southern half, which had been left unprotected in season 1871-72. After doing Cutwa they came southward into thana Montessur. Three years ago an attempt was made to vaccinate this last thana, but without success. Head vaccinator Romanath Ghosal, and first class vaccinator Woomesh Chunder Chuckerbutty, deserve great credit for having this year successfully vaccinated Montessur and all the surrounding villages.

Another gang under head vaccinator Troylukho Nath Chuckerbutty commenced operations in sudder thana Burdwan, but they were soon laid up with fever and became almost useless. The men became so much dispirited that it was cruel and useless to keep them there any longer, so I ordered their removal to Khundghose and Roynah, as about a third part of the former and a fifth of the latter thana had remained over from last year. The health of the vaccinators improved by the change, and they were able to do some work. They vaccinated nearly all the unprotected villages, and were about to undertake some other thana when they were ordered to proceed to Beerbhoom to stamp out small-pox which had been raging there for some time. They visited 77 villages situated in four thanas, and vaccinated 9,211 persons in the Beerbhoom district, notwithstanding all opposition from the people, and without any assistance whatever from the district authorities.

A third gang, under head vaccinator Woomesh Chunder Mookerjee, vaccinated in thanas Culna, Gangoor, and a portion of Montessur. In the first-named thana there were several *khas* villages, *i.e.* villages devoted to the worship of Shitollah, the goddess of small-pox, and opposed to both vaccination and inoculation. Woomesh Chunder's gang deserve much credit for having succeeded in vaccinating nearly all of them, though there still remain some houses and families that have not yet accepted vaccination.

A fourth gang, under head vaccinator Tarruck Chunder Chatterjee, commenced in thana Selimabad, where they suffered dreadfully from fever; their peon died, and one or two vaccinators deserted through fear. These and other untoward circumstances interfered with the thorough vaccination of the thana, for which I had to make arrangements with the 2nd circle. From Selimabad the gang proceeded to thana Jehanabad, where they vaccinated nearly all the unprotected villages in its southern portion. A few still remain to be done. They also vaccinated some villages in the adjoining thana of Khanacool.

A fifth gang, under first class vaccinator Ram Chunder Nusker, got thana Bullaghur, in Hooghly, which they completely vaccinated in three months. To provide fresh work for this gang I communicated with the Magistrate of 24-Pergunnahs, and eventually sent them to thana Diamond Harbour. Meantime the gang crossed the river Hooghly and vaccinated some villages in thanas Chogdah and Ranaghat, in the Nuddea district.

A sixth gang, under first class vaccinator Koylash Chunder Mitter, took thanas Oolaberiah and Shampore, in the Howrah district.

Area of 3rd circle.

The area of the country undertaken by the 3rd circle is 1,333 square miles, and population 862,038. The vaccinators visited 1,844 villages and vaccinated 168,118 persons, of whom the deputy superintendent inspected 119,366, or 71.0 per cent.

Degree of protection afforded by 3rd circle.

Degree of protection afforded by the 3rd circle.—Of the thanas undertaken by the 3rd circle, Bullaghur, Culna, Cutwa, Montessur, Selimabad, and Roynah, have been thoroughly vaccinated; Gangoor and Jehanabad have been protected, with the exception of a few villages; Burdwan about three-fourths done; Khundghose almost done; Diamond Harbour about three-fourths done; thanas Oolaberiah and Shampore have been gone over a second time, excepting about a fourth part of each.

Number vaccinated by the three circles.

10. Number vaccinated.

CIRCLES.	PRIMARY VACCINATION.				RE-VACCINATION.				Grand total.	Percentage of success, excluding unknowns.	
	Total.	Result.			Total.	Result.				Primary vaccination.	Re-vaccination.
		Successful.	Unsuccessful, including doubtful.	Unknown.		Successful.	Unsuccessful, including doubtful.	Unknown.			
1st Circle	80,609	80,463	136	10	12	3	9	...	80,621	99.83	25
2nd "	57,937	57,711	187	39	...	...	...	...	57,937	99.67	...
3rd "	168,116	167,791	277	48	2	...	2	...	168,118	99.83	...
Total	306,662	305,968	699	97	14	3	11	...	306,676	99.80	21.42

Results.

The total number of successful vaccinations are 305,968: to this add the number of municipal vaccinations, we have a grand total of 310,989; exclude 9,468 vaccinations done in Beerbhoom and Bankoora, we have a net total of 301,521. The population of the five districts comprised in the Metropolitan circles is 7,539,278; so we have vaccinated 3.9 per cent., which is more than the requisite theoretical percentage, taking 30 births per 1,000 per annum. The cost of each successful vaccination is one anna and nine pie, against the same amount in the previous season.

Cost of each successful case.

11. *Comparison of present and past years.*—The work performed during the present and past years is shown in the following table :—

Comparison of present with past four years.

CIRCLES.	1869-70.			1870-71.			1871-72.			1872-73.			1873-74.		
	Area in square miles.	Number of villages.	Number of successful operations.	Area in square miles.	Number of villages.	Number of successful operations.	Area in square miles.	Number of villages.	Number of successful operations.	Area in square miles.	Number of villages.	Number of successful operations.	Area in square miles.	Number of villages.	Number of successful operations.
1st Circle ...	816	772	33,453	864	507	26,930	960	267	28,501	925	1,085	83,807	1,146	1,524	86,466
2nd ..	800	926	53,139	720	773	30,840	531	266	17,396	1,079	946	74,066	688	1,282	67,711
3rd ..	453	477	68,433	925	905	81,860	720	440	45,697	1,097	1,185	168,638	1,333	1,844	167,791
Total ...	2,071	2,175	155,315	2,509	2,185	159,630	2,211	973	90,994	3,101	3,216	267,111	3,126	4,650	305,908

It will be observed that though the 1st and 2nd circles show decrease of work, yet the grand total shows an increase of about 39,565. This increase is due wholly and solely to the 3rd circle. Baboo Jadub Chunder Ghose has again placed his circle first in the list. There are several causes which would account for his excessive good fortune over his colleagues. *First*, the thanas where his men worked were either not vaccinated at all, or very imperfectly done five or six years before. *Second*, on the whole there was less sickness this year among his vaccinators than in the previous season, though two of his gangs working in Burdwan suffered terribly. *Third*, the formation of a sixth gang, by taking one or two vaccinators from the other gangs, also contributed to the increase of work. But making every possible allowance for favourable circumstances, it cannot be denied that Baboo Jadub Chunder and his men could not attain the first place year after year without extraordinary labour.

12. *Supervision by the deputy superintendents.*—During the six working months from October to March the deputy superintendents remain constantly out and supervise the work of the vaccinators. They pass from one gang to another, looking closely after each man's work, and pointing out any defects and correcting them. Every vaccinator is fully conscious that he is closely watched, and that if he were to become lazy or perfunctory in doing his work he is sure to be detected and punished. This healthy dread keeps the vaccinators in good order. The close supervision exercised by the deputy superintendents serves another purpose, viz. it ensures a high standard and quality of work. The great success of the Metropolitan, in common with the Presidency and Dacca circles, is due to close supervision by the superintendent, deputy superintendents, and head vaccinators. Without this the vaccinators might become careless, and would not take sufficient care and trouble to select none but good virus.

Supervision of deputy superintendents.

Deputy Superintendents.—The deputy superintendents have, as usual, worked very hard and given great satisfaction. In the previous report I commended their services in general, but singled out 1st Grade Assistant Surgeon Jadub Chunder Ghose for special praise, in the hope that his services might receive some public recognition. I am glad to be able to report that my hope has been fulfilled. His Excellency the Viceroy and Governor-General has since conferred on Baboo Jadub Chunder Ghose the title of Rai Bahadoor as a personal distinction. The other two deputy superintendents have also served for twenty-seven years with great zeal and ability, and deserve well of Government. I hope their services may some day receive similar recognition.

Deputy Superintendents.

13. *Tours of the superintendent.*—As small-pox had broken out in several places in the months of August and September, and as vaccinators were out vaccinating and stamping out the disease, I commenced my inspection from September. During that month I inspected in thanas Alipore and Ariadoho in the 24-Pergunnahs, and also in thanas Aousgram and Munglecote in the Burdwan district. In October I inspected a few villages in thanas Newabgunge and Nychatty, in the 24-Pergunnahs, and a few villages in thana Oolaberiah, and then proceeded to thana Bullagur, and from thence to Culna. From Culna I returned to Calcutta. In the beginning of November I again went to thana Ariadoho, and inspected a number of villages: then proceeded to thanas Hooghly, Bansberiah, and Pundooah. These were flying visits paid to most of the gangs to see that genuine virus had been established, and the work fairly started, before proceeding to inspect the Eastern Bengal vaccine circle. On the 17th November I proceeded to Goalundo and carefully inspected the work of the above circle up to 4th December. A special report of my annual visit to the Dacca circle has long been submitted. On my way back I inspected rather hurriedly in thana Coomercolly, as I had not taken my tent with me. After returning to Calcutta and disposing off all arrears in office work, I went out to carefully inspect in thanas Nychatty, Newabgunge,

Superintendent's tours of inspection.

Baraset, Dum-Dum, and Ooriaparah. In the first week of January I again proceeded to Coomercolly, as my first visit to that thana had been very short and hurried. After returning to Calcutta I went down again to thanas Oolaberiah and Shampore, and inspected the vaccine operations there; came back and started on a long tour, beginning with thana Culna, passed on to thana Selimabad. Leaving Selimabad I proceeded to thanas Dhunniakhally and Hurripaul, in the Hooghly district; crossed the Damoodur, and went over to the southern portion of thana Jehanabad, in the Burdwan district. From thana Jehanabad came back to Hurripaul, and thence to Buddybatee and Chunditollah. After resting for two or three days, started again for the Burdwan district. This time I inspected in thanas Gangoor and Montessur. From Montessur I returned to Calcutta at the end of March, when the season expired. I regret I had no time left to go to the extreme north and east of the 24-Pergunnahs, but Deputy Superintendent Ramsoonder Ghose has thoroughly inspected all the thanas in that portion of the district. With the exception of the gang deputed to Beerbhoom, I visited every gang twice, and some three times, during the season. The Beerbhoom gang was inspected by Deputy Superintendent Jadub Chunder Ghose.

Number inspected
by superintendent.

The number inspected by me during the season is 47,165, against 51,368 in the previous season, showing a decrease of 4,203. There are several causes for this falling off, the first and principal being that the three circles were scattered in three districts, whereas in the previous season the first and second circles worked near each other in Nuddea. Then, again, in season 1872-73 the first two circles got virgin soil, as it were, where vaccination had never been done before, and consequently the numbers vaccinated, as well as inspected, were larger. I lost much time in travelling from one circle to another, as the details given above will show. I inspected 614 villages, situated in twenty-five different thanas, exclusive of the Dacca circle. The result of my inspection is shown in the following table:—

	Vaccinated in four points, of which there were successful					Vaccinated in two points, of which there were successful			Doubtful.	Sore arms.	Compared with register.	Total.	Absent.	Grand total.
	4	3	2	1	Failed	2	1	Failed						
Seen after 16th day	8,621	148	47	10	10	83	1	1	5	6	8,032	8,032	907	9,839
.. 13th to 16th ..	27,588	507	151	49	36	271	20	2	13	8	28,649	28,649	3,323	31,972
.. 9th to 12th ..	4,209	81	21	12	6	41	1	1	...	...	4,439	4,439	156	4,595
.. 5th to 8th ..	3,855	128	61	14	12	47	6	...	1	1	4,225	4,225	186	4,411
.. 1st to 4th ..	905	7	2	...	...	5	...	...	...	...	920	920	40	960
	45,339	871	282	85	64	447	28	4	30	15	47,165	47,165	4,612	51,777

It will be observed that the greatest number was inspected between the 13th and 16th day. I endeavoured to see as many fresh cases as possible; and even when the cases inspected were old, minute and careful inquiries were made before entering them as successful in my inspection memos.

Excluding the 920 cases seen from 1st to 4th day, we have, number vaccinated, 46,245; number of points, 182,145; cases successful, 46,132; points successful, 181,881; percentage of successful cases, 99.75; percentage of successful points, 99.85.

Amount of
inspection.

14. *Amount of inspection.*—The three deputy superintendents inspected 222,876, so between us we have inspected 270,041 out of 306,676, which gives 88.05 per cent of cases inspected. This ought to be a sure and certain guarantee of the correctness of the figures. If any doubt is entertained, our registers for the last six years are open to inspection and for comparison with the actual number of persons vaccinated. Let the registers be taken to villages and compared by anybody with the number of people vaccinated, and then let the results be put down and the percentage struck out.

Attitude of the
people.

15. *Attitude of the people.*—After another year's experience I can affirm that vaccination has made no inconsiderable progress. Many houses and families that had formerly refused to take it have come round; but the people have some peculiar notions regarding the proper age when children ought to be vaccinated. They judge of vaccination by their experience of inoculation. As inoculation is seldom practised on children under five years, on account of its risk and danger, so they conclude that very young children should not be vaccinated. Then, again, there are many circumstances which prohibit the practice of inoculation, such as births, deaths, pregnancy, &c., and they think vaccination should not also be done under such circumstances. If these objections are successfully removed, and the parents allow their young children to be vaccinated, another and a still greater difficulty presents itself. To supply virus vaccinated children are taken from one village to another; and if the children are of tender age, say one, two, or three years, their parents are very unwilling to allow them to be taken for the purpose of giving virus. This difficulty was most felt in those thanas that were vaccinated a second time, and it was sometimes so great that the work was at a standstill. It was principally for this reason that thanas Oolaberiah and Shampore could not be finished.

In places which were vaccinated for the first time, there was a good deal of opposition at first, such as Jonye and its surrounding villages in thana Chunditollah, the *khas* villages in thana Culna and thana Montessur in the Burdwan district. In Jonye the vaccinators succeeded after three months; and in Montessur the Brahmin vaccinators worked on the prejudices of the *sudra* zemindar by laying *huttya*, and thereby bringing Baboo Parbuttychurn Roy round, to whom all the neighbouring villages looked up.

16. *Instruction of inoculators.*—I am glad to be able to report that something has been done to further this cause. As mentioned in last year's report, there are on the staff of the Metropolitan vaccine establishment 18 vaccinators who formerly practised inoculation. Besides these, we have had the following accessions to their number. One Niloomul Acherjee, inoculator of Khurdah, came to my office and requested permission for himself and two sons to practise vaccination with a view to retain his old clients. Their knowledge and ability were thoroughly tested, and being found pretty satisfactory, they were permitted to vaccinate under the immediate supervision of head vaccinator Kadarnath Ghose, who worked in thana Newabgunge. I inspected their work, and remarked it was pretty good. The inoculators told me they would not take service, but learn the work and then practise on their own account. I said that was exactly the intention of Government, and they seemed very much pleased. But they were soon disappointed. They vaccinated among their old clients, and then demanded their usual fee, which the people refused point blank, saying they could have got their children vaccinated for nothing by Government vaccinators, and why should they pay them. This suggests a serious reflection, viz. how far we are acting rightly in giving gratuitous vaccination, and thereby training the people to wrong notions and ideas. Another inoculator—Konuck Chunder Chuckerbutty—was wiser than Niloomul, and accepted service. He has learnt the work thoroughly, and become a good vaccinator. At the end of the season he was granted a certificate, and his services were dispensed with in order to enable him to practise vaccination on his own account and charge his usual fees. He has since been vaccinating in small-pox infected places, and he complains that the people are not willing to pay him any fees. A third inoculator was entertained as an apprentice. Deputy Superintendent Ramsoonder Ghose, while inspecting in thana Shatkhirra, came across a gang of ex-inoculators who were practising vaccination on their own account, but as they were not properly trained he induced them to work under the supervision of our departmental men. So long as the baboo was with the vaccinators, the gang remained with our men, but the moment he turned his back they went away and took to irregular and independent practice. Six of them, however, have since returned, and are undergoing a course of instruction by the deputy superintendent of the 1st Metropolitan circle. As regards fee, I understand the Shatkhirra ex-inoculators found no difficulty in getting their dues from the people. Inoculators are impatient of control, and quite averse to supervision. An inoculator came to me from the Hooghly district and wanted employment. He was told first to learn the work; he said, "no," and went away. I am afraid many ex-inoculators are doing incalculable harm by practising spurious vaccination, and thereby bringing it into disfavour and discredit. This was found to be the case in thana Kotulpore (Burdwan), and thana Diamond Harbour in the previous season. Head vaccinator Hem Chunder Chuckerbutty and his gang, who were deputed to Bankoora this year to stamp out small-pox, have reported to this office that the ex-inoculators of that district were vaccinating large numbers, but they were no vaccinations at all. He reported the matter to the Magistrate, who said he could not do anything, as the men had been certified to by the civil medical officer. Civil surgeons should be very careful in granting certificates, and the certificates should be in both English and Bengali, so that the villagers might be able to read them and understand their meaning or purport. They should further not be transferable, otherwise they will be handed from father to son, or to any other person who may not have the necessary qualifications of a vaccinator.

Instruction of inoculators.

19. *Reports of small-pox.*—Nineteen reports of the outbreaks of small-pox have been received from the 1st April 1873 to 31st March 1874. In four the disease was found to be chicken-pox, and in 15 small-pox. In the 15 outbreaks of small-pox reported, 20 villages were affected, and 223 persons were ascertained to have been attacked: of these 49 died and 174 recovered. In all of the 20 villages affected, vaccinations were performed round the infected persons; and the spread of the disease was arrested. Seven of the villages were protected wholly or partially by vaccination and 13 by inoculation. In two of the 15 reports of small-pox received the disease was traced to the practice of inoculation, in seven cases to contact with small-pox, and in six cases the origin of the disease could not be discovered.

Small-pox.

Of the 15 outbreaks of small-pox reported, eight occurred in the district of Burdwan, affecting two villages in thana Raneegunge, two in thana Aousgram, one in thana Cutwa, two in thana Culna, two in thana Montessur, and one in thana Mungleecote. Six outbreaks took place in the district of 24-Pergunnahs, affecting two villages in thana Newabgunge, one in thana Alipore, one in thana Dum-Dum, and five in thanas Tababeriah, Shatkhirra, and Basseerhat, where inoculation, though rendered penal by law,

was extensively carried on during the past season. And one report only came from the district of Nuddea, the outbreak occurring at a village in thana Meharpore.

20. *Municipal vaccination.*—The following table shows the number of municipalities supplied with vaccinators, and the period during which the men were employed.

Municipal vaccination.

Number.	NAMES OF MUNICIPALITIES.	PRIMARY VACCINATION.				RE-VACCINATION.				Grand total.	Percentage of success in primary vaccination, excluding unknown from the total.	REMARKS.
		Result.				Result.						
		Total.	Successful.	Unsuccessful, including doubtful.	Unknown.	Total.	Successful.	Unsuccessful, including doubtful.	Unknown.			
1	Baraset	25	25	...	...	...	...	...	25	100	
2	Basseerhat	144	139	3	2	...	...	...	144	96.52	
3	Kadohatty and Bagjulla Unions	...	...	...	...	...	...	...	...	...	Departmental men did the work.
4	Goberdangah	590	586	3	1	...	...	...	590	99.32	Ditto ditto.
5	Kooshtea ... ..	...	...	...	...	...	...	...	...	...	Ditto ditto.
6	Nyehatty ... ..	...	...	...	...	...	...	...	...	...	Ditto ditto.
7	Coomercolly ... ..	...	...	...	...	...	...	...	...	...	Ditto ditto.
8	Newabgunge and Agurparrah	...	...	...	...	...	...	...	...	...
9	Kishnaghur	394	386	1	7	...	...	...	394	97.74	
10	Ranaghat	157	156	1	1	1	...	...	158	99.36	
11	Burnugger	168	168	...	...	...	...	...	168	100	
12	Santipore	128	128	...	...	...	...	...	128	100	
13	Meharpore	370	369	1	18	6	12	...	388	97.73		
14	Chogdah	22	22	...	...	...	...	...	22	100	
15	Jaguli	4	4	...	...	...	...	...	4	100	
16	Moheshpore	162	162	...	...	...	...	...	162	100	
17	North Suburban Township	167	166	1	...	...	...	...	167	99.40	
18	South ditto ditto	311	311	...	128	39	89	...	439	100		
19	Barreepore	147	145	2	...	...	...	...	147	98.63	
20	Joyngger	651	647	4	...	...	...	...	651	98.15	
21	Burdwan	455	449	6	16	12	4	...	471	98.68		
<i>Private Individuals.</i>												
	Kishnagar Rajah's estate ...	163	161	...	2	...	...	...	163	100	
	Goberdangah minor's estate ...	861	861	...	...	...	...	...	861	100	
	Nursing Sirdar of Narail ... }	...	...	...	...	...	...	...	...	...	Departmental men did the work.
	Jureep Mundle of Chyetal ... }	...	...	...	...	...	...	...	...	...
	Total	4,859	4,825	22	12	163	58	165	5,922	...		

Number of vaccinators employed by municipalities.

The work of some of the municipal vaccinators was inspected by myself and the deputy superintendents, and that of the rest by civil surgeons and medical officers under whom they worked.

Number.	NAMES OF MUNICIPALITIES.	Number of vaccinators and period for which they were employed.	REMARKS.
			<i>Part shown in the table below and part of—</i>
1	Baraset	1 for 2 months	Work included in the general returns.
2	Basseerhat	1 for 2 "	Ditto ditto.
3	Kadohatty and Bagjulla Unions	1 for 2 "	Ditto ditto.
4	Goberdangah	1 for 2 "	Ditto ditto.
5	Kooshtea	1 for 1 "	Ditto ditto.
6	Nyehatty	1 for 2 "	Ditto ditto.
7	Coomercolly	3 for 1 "	Ditto ditto.
8	Newabgunge and Agurparrah	1 for 3 "	Ditto ditto.
9	Kishnaghur	1 for 3 "	
10	Ranaghat	1 for 2 "	
11	Burnugger	1 for 1 "	
12	Santipore	1 for 1 "	
13	Meharpore	1 for 1 "	
14	Chogdah and } Unions	1 for 1 "	
15	Jaguli }	1 for 1 "	
16	Moheshpore	1 for 1 "	
17	North Suburban Township...	1 for 2 "	
18	South ditto ditto	1 for 6 "	
19	Barreepore	1 for 2 "	
20	Joyngger	1 for 2 "	
<i>Private Individuals.</i>			
1	Kishnaghur Rajah's estate ..	1 for 2 "	
2	Goberdangah minor's estate ...	1 for 1 "	
3	Nursing Sirdar of Narail ... }	1 for 1 "	
4	Jureep Mundle of Chyetal ... }		

21. *Character of vaccination.*—A high standard and quality of vaccination was uniformly maintained throughout the last season. The percentage of successful cases continues high, viz. 99·8, and my inspection has almost fully confirmed and verified it. In every case direct arm-to-arm vaccination was practised; no other method was employed.

22. *Vaccine census.*—In accordance with instructions received from the Surgeon-General, an attempt was made to collect vaccine census. For this purpose village pathsalas, vernacular and Anglo-vernacular schools, and jails, were applied to for the information. I myself took down the figures of some schools which I happened to inspect. The rest were taken down by the deputy superintendents and vaccinators. For the information regarding jails I am indebted to the courtesy of the civil surgeons of Burdwan, Hooghly, Howrah, and Kishnaghur.

Table showing the amount of protection enjoyed by the people.

	Class of people among whom the information was collected.		
	Anglo-vernacular and vernacular schools.	Kishnaghur, Hooghly, and Burdwan jails.	Total.
Total number examined	8,301	3,383	11,684
Number vaccinated	6,068	413	6,481
Percentage of vaccination	73·09	12·20	55·46
Number inoculated	604	2,633	3,237
Percentage of inoculated	7·27	77·83	27·70
Number that had small-pox	614	320	934
Percentage of persons protected by small-pox	7·39	9·45	7·99
Number unprotected	1,015	17	1,032
Percentage of unprotected	17·0	·53	8·83

Conclusions deducible from the above table.—The census was collected by the vaccinators while they were engaged in carrying on vaccination, and consequently they could not devote much time to it. It will be observed that it is the juvenile population of schools and pathsalas that have furnished the above table, and, as might have been expected, the percentage of vaccination is greater among them than among the adult population, 73·09 against 12·20. The returns from the different jails give a fair idea of the degree of protection that exists among the lower class adult population. It gives 77·83 per cent. of inoculated and 12·20 vaccinated. In next year's report I will be able to furnish considerable information on this subject. During the recess three or four gangs will be employed in collecting "vaccine census."

23. *Behaviour of the establishment.*—The whole establishment of head vaccinators, ordinary vaccinators of all grades, and apprentices, have worked very hard, despite sickness, much ignorant opposition, and several other untoward circumstances, and given great satisfaction.

The office establishment have performed their duties satisfactorily.

CALCUTTA,
The 22nd May 1874.

Memorandum by H. B. BUCKLE, Esq., Deputy Surgeon-General, Presidency Circle, (No. 8L, dated Fort William, the 23rd May 1874.)

FORWARDS the annual report and returns of the Metropolitan vaccine circles for the year ending the 31st March 1874, submitted by Surgeon K. P. Gupta, Superintendent of Vaccination, Metropolitan Circles.

Primary vaccination	306,662	The result of the operations of the past year is stated on the margin; the usual high average of successful cases is fully maintained. In statement No. III the establishment and cost of maintenance is given. This amounts to Rs. 35,626-15-1, and makes the cost of each successful case of vaccination one anna nine pies per head.
Re-vaccinated	14	
Total number vaccinated	306,676	Mr. Gupta notices 19 reports of outbreaks of small-pox in his circle, of which four proved to be measles. There have been outbreaks more or less severe during the past year in the 24-Perunnahs, in the Nuddea, Burdwan, and Beerbhoom districts, also a severe outbreak in the Bankoora district, and reports of local outbreaks have been received from the majority of the districts in the Presidency circle of medical inspection. Gangs of vaccinators are, under these circumstances, despatched, and the disease is, as it is the fashion to term it, "stamped out." The actual fact must, though, be accepted with some reservation; as although every endeavour is made to concentrate action, and by vaccinating round infected villages to localize and
Results—successful primary	3,035,965	
" re-vaccinated	3	
Total successful cases	3,035,968	
Unsuccessful and doubtful (Primary and unknown)	697	
{ Re-vaccinated	11	
Total unsuccessful	708	
Percentage of successful cases, primary	99·80	
Percentage of re-vaccinated	21·42	

Small-pox.

prevent the spread of the disease, this occupies some time, during which disease is extending and considerable loss of life taking place.

Instruction of
inoculators.

With reference to Mr. Gupta's remarks on the instruction of inoculators, the same necessity as in all vaccination operations for a really efficient supervising and controlling agency exists. The protective influence of vaccination depending so completely on the care with which the operation is performed and the selection of proper lymph, cannot be left to be carried out by any agency except it is under thorough control, and the work inspected by competent and trustworthy officers.

If this can be arranged, a system similar to that in practice in the Midnapore district might probably answer. There the vaccinators are ex-inoculators, and receive a *purwanah* from the magistrate granting them permission to vaccinate in the villages named on the document. The privilege is jealously guarded; all outsiders, both inoculators and vaccinators, are warned off as interlopers, the men holding the *purwanahs* looking to remunerate themselves by fees. In the first instance these men received a retaining fee of a few rupees monthly from Government; during the last year this has not been given, and the magistrate doubts if there is any necessity for continuing it. The supervising and controlling agency rests with the civil surgeon, and depends very much on the time he can personally devote to the duty, visiting and testing the work of the vaccinators in the district, and the trustworthiness of the more educated vaccinators he entertains for the purpose of inspecting the work of the men at the different villages.

It seems possible that some system of the kind indicated might be developed, while to vaccinate the population of a country by establishments maintained for that purpose appears, after the first opposition to the measure has been overcome, likely to limit the extent to which vaccination ought to be carried out, and to prevent its becoming at any period either self-supporting or generally accepted by the community at large.

SKETCH MAP
OF
DARJEELING CIRCLE
OF
VACCINATION
1874.

Scale 10 Miles = 1 Inch.



88°

oDarjeeling

oRizieri

oJulpigofli

oTintan

oKiaKengungo

oPurnea

oKintakud

oDiragopore

oKungpore

oCooch Behar

W E S T E R N D O O R S

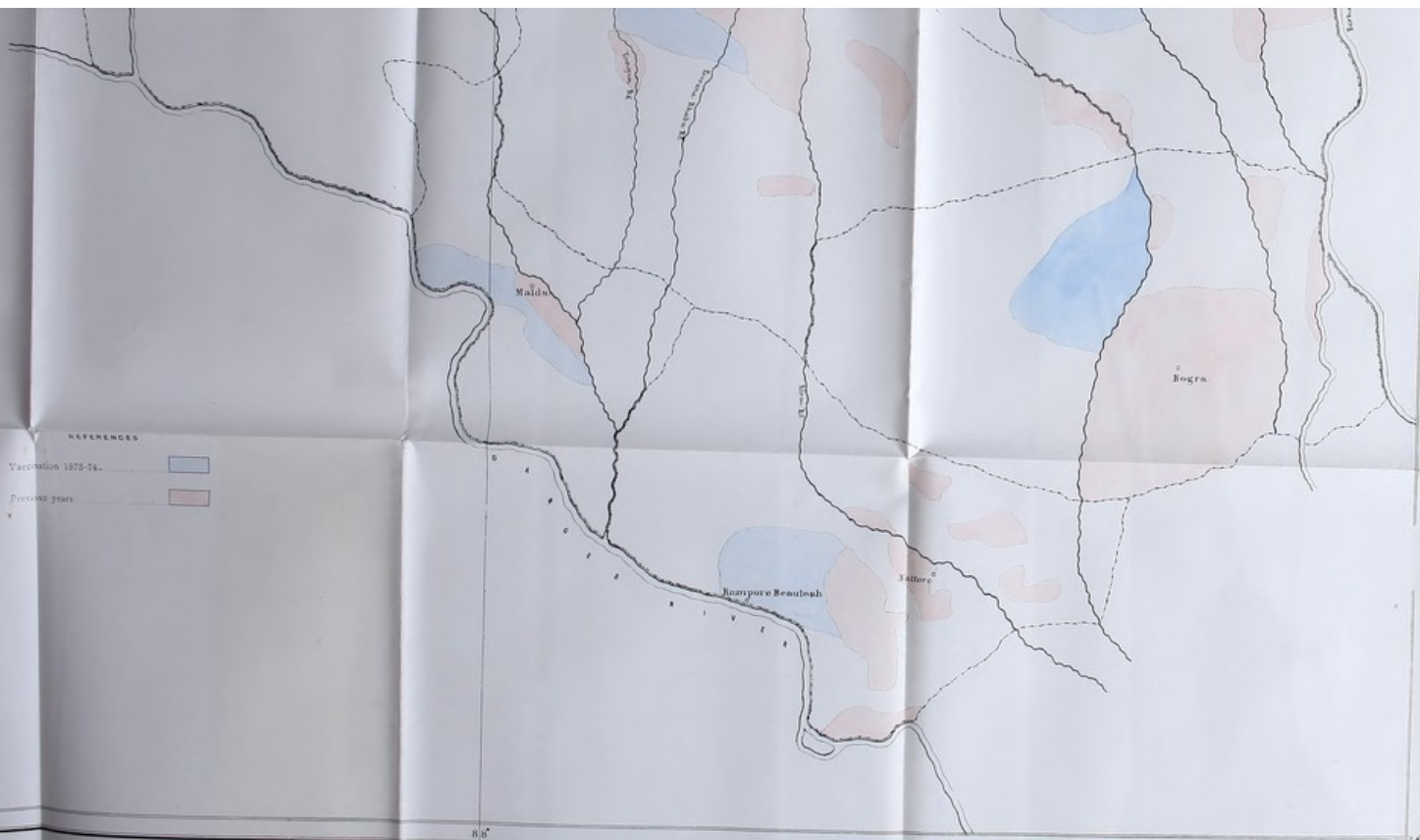
oBum

oKishoree



REFERENCES

- Vaccination 1873-74.
- Previous years.



Subgraphical of the Revenue Survey's Office, Calcutta, November 1874.

*Eighth Annual Report of the Darjeeling Circle of Vaccination, by SURGEON-MAJOR
R. LIDDERDALE, M.D., Superintendent.*

2. *Establishment.*—The vaccine establishment paid by Government in 1872-73 consisted of one superintendent, one deputy superintendent, seven native superintendents, and 42 vaccinators. Bengal Government letter No. 4066, of 18th October 1873, sanctioned an increase of 42 apprentices and three inspectors, but the number of vacancies for apprentices could not be entirely filled up, and no inspector could be procured at the rate of pay given. The highest number of apprentices at any time was 27, 12 being absorbed in the department as vaccinators from vaccinators being dismissed or incapacitated by sickness. Establishment.

The Government letter reached me after the native superintendents and their gangs had taken up their fields of operation for the season. In several instances the native superintendents were so far removed from sudder stations as to prevent them being able to obtain suitable men as apprentices. The old inoculator class was drawn on as much as possible, three being procured in Julpigoree, six in Purneah, and four in Maldah, but none consented to be instructed in other districts. Changes during the year.

Deputy Superintendent Taroknath Gangooly went on leave, and Native Superintendent Tujumul Hosein was appointed to officiate for him.

The wisdom of the appointment of a man trained for the work and taking an interest in it has as yet been fully sustained.

The attachment of vaccinators to dispensaries had a very bad effect on their conduct; they there learned the whole details of vaccination as formerly carried on in these institutions, and many of them apparently resolved that as this plan had been long in use and seemed to have given satisfaction to civil surgeons, that they would adopt it. This was especially noticeable in Maldah, where service unfortunately was given to an old dispensary vaccinator, who seemed to have devoted much time and trouble to teaching the younger vaccinators all it was desirable they should have left unlearned. This unfortunate order is happily now no longer enforced, but the evils which have followed it will take some time to get rid of. It has greatly delayed getting together an efficient vaccine establishment for this circle, as will be further shown below. Evil effects of appointing vaccinators to dispensaries.

There is great difficulty in obtaining suitable men to recruit as vaccinators. Men of two classes only generally come forward—old inoculators of the weaver caste, and low class Mussalmans. I have been on the look out for Brahmins and men of good caste, but as yet with no great success. Difficulties in recruiting.

It would be a great advantage to recruit locally for the grade of native superintendent, as pointed out in Surgeon-General's letter No. 617 of 27th August 1873, paragraph 30; and this I have kept steadily in view, picking out one or two of the most deserving vaccinators to fill vacancies as they occurred, but the result has been in several instances sadly disappointing, and even good class vaccinators in Rajshahye and Bogra will not take double pay and come as native superintendents to the sub-terai districts, such as Julpigoree or Purneah, on account of the bad character of the climate and the absence of all people of similar castes to themselves with whom they can live when on duty in the interior of districts. So hardly pressed was I at the beginning of the season for native superintendents, that I had to put an old inoculator into that grade in Julpigoree. The appointment could not be called a success, but I had ample evidence during a very searching inspection that the man had been trying to do his best. There are now two vacancies in the grade of native superintendent in this circle, and I would submit that it would be advisable to detail head vaccinators from either the Metropolitan or Presidency circles to fill them before next working season. As they have been trained entirely to arm-to-arm vaccination, their services would be most valuable in introducing it into districts where the people hold out against it.

The Promothonath Fund of Nattore, which formerly supported a vaccinator, ceased to do so early in the season,—a matter to me of regret, as the vaccinator had done excellent work for some years.

3. *Darjeeling Hills.*—The full complement of vaccinators could not be kept up here during the season from my inability to procure a fit man to train and from one requiring to be dismissed. He was a brother of the vaccinator attached to the dispensary, and no amount of teaching or trouble would induce him to work properly. His brother had so long been allowed to follow his own devices under a busy civil surgeon, that my constant inspections were looked upon as inquisitorial and vexatious, and my demand for good vesicles from which I might take lymph stoutly resisted. The dispensary vaccinator's evil example has, Vaccination in the Darjeeling hills.

however ceased to exist, as it was found that in November and December he was absent on the plea of vaccinating, while really attending to building contracts on tea gardens, and his services were dispensed with. I have now succeeded in getting two Brahmins, keeping only one Lepcha; and although the work has improved in quality, the Bengalis are very ill-suited physically for mountain work and the exposure incidental to it. They profess also to live in great terror of the hill people, and cannot believe that when passing through forests they must not necessarily encounter tigers. I intend to give them a fair trial, and if possible raise the standard of vaccination, which has always been low in these hills, partly from the dress and habits of the people, and partly from carelessness in the performance of the operation and in the selection of lymph. There has been a good deal of opposition to vaccination lately among the Nepalese, and in one or two instances among the Bhooteahs. Some Nepalese had no hesitation in stating that they intended to send for an inoculator at their own convenience and be inoculated. Opposition from this class arises, too, in another way; those who work in gangs on tea gardens are under sirdars, who object to having their coolies vaccinated, as the coolies like to have two or three days' leave when suffering from the vaccine fever, and the sirdars lose allowances (*sirdari*) when they are absent.

Opposition among
Nepalese.

I have tried to get native doctors in charge of tea gardens to operate during December and January, when labour is light, but one of them confessed to me that last cold weather he had protected one person, while a Government vaccinator succeeded in vaccinating about 80 on a neighbouring garden, where no cooly had ever been vaccinated before. The absence of small-pox from these hills for so long—the result of constant watching for the appearance of the first case, and instantly isolating it, and the creation of a barrier to its progress from the south by a large protected belt of country from the Mahanuddy to the Teesta in the plains—has brought about a feeling of indifference to a disease of which the Nepalese have a great dread.

One case was introduced in May 1873 to Lebong, in the neighbourhood of Darjeeling. It was isolated in the jungle, and all the coolies in the garden where it appeared gladly accepted vaccination, and no other case followed.

Julpigoree.

4. *Julpigoree*.—The operations in this district were in excess of those of the previous season, although the oldest vaccinator of the gang left in the middle of the work on account of his wife becoming insane. They were limited in another way, as last season the recommendation of the Surgeon-General, directing that sudder thanas should be protected, first conveyed in paragraph 27 of his letter No. 583, dated 23rd August 1872, to the Secretary to the Government of Bengal, which came too late to be acted upon in the season 1872-73, was carried out in 1873-74. Much of the Fukeergunge thana had, however, been done before; and to render it quite complete the ground was gone over a second time, which always seriously reduces the number of operations. The Teesta, too, cut the area into two parts, so that lymph had to be transferred across it, which was a serious check to work until thoroughly re-established. Arm-to-arm vaccination was generally carried on, and opposition not often encountered in the Fukeergunge jurisdiction, except to the protection of young children. The absence of a village system in Julpigoree renders it difficult to state how many villages were visited by the vaccinators, as the number of villages, mouzahs, or townships in the census report is given as twelve which I suppose to mean talooks; but out of a population of 54,466, 6,135 were successfully vaccinated. Each vaccinator operated on 1791.5 persons. The four apprentices attached to the district protected 2,110 persons. More than five times the annual birth-rate of the area taken up was therefore protected, and two-thirds of that of the whole district, by the Government establishment. There were also four ex-inoculators at work, who return 2,418 as successfully operated on, and a gang in Mynagori, who sent in no returns. With some further organization of ex-inoculators, and arrangements for the inspection of their operations, it would be perfectly safe, as it is most desirable, to introduce Act IV (B.C.) of 1865 into this district.

Number of
operations.

Purneah district.

5. *Purneah*.—The outpost of Elooabari, in the Kaliagunge thana, the most populous one in the district, was the area in which operations were begun. This was the place which the native superintendent and gang left the previous season, as they could not succeed in vaccinating the people; but as it was the home of many inoculators, I thought it better not to abandon the attempt and appear beaten. Success followed the efforts of the establishment, but the number protected by each vaccinator was only 1,208.33. The population is almost entirely Mussalman, of a very low stamp, and intensely suspicious of all my proceedings. I am glad to record that a zemindar, Mahomed Ashie, of Boluncha, gave assistance to the vaccinators. Operations were also extended into other parts of the thana, into villages which had been left from former years, and the whole of Kaliagunge is now a fairly protected area, except the most southern outpost, Gysal, where several ex-inoculators were at work, following, as usual, their own irregular method. The number successfully vaccinated by the Government establishment, which includes those done by apprentices, was 7,345. Eleven ex-inoculators submitted returns, giving a result of 1,466 successfully vaccinated; but many more were at work than sent in returns. The number of villages protected during the season was 407.

Number of
operations.

Dinagore district.

6. *Dinagore*.—The operations were again less than in the previous year from idleness, carelessness, and misconduct of the native superintendent and the men working under

him, and from the determined opposition arising to vaccination from the proceedings of a gang of vaccinators kept by the rajbari, and by other ex-inoculators working on their own account. Vaccination not being a novelty in this district, it was my wish to introduce the arm-to-arm system; but I believe the opposition of the vaccinators to it was equal to that of the people. It requires constant and daily attention to duty, whereas lymph dried on ivory slips can be carried about and applied at the convenience of the vaccinator. As the native superintendent, though in every way qualified for his duty as far as knowledge was concerned, was found quite untrustworthy, the deputy superintendent was detailed in December to look after the district, and only from his exertions was anything accomplished. His services, which were often urgently required in other districts, were thus lost to me. He pushed on arm-to-arm vaccination as much as possible. One vaccinator tried to excite mutiny in the gang against it, so much so that out of one native superintendent and six vaccinators in November I was obliged to discharge all but one vaccinator before the end of March.

In the western portion of Rajarampore, which is the thana all round the town of Dinagepore, I found that ex-inoculators had been working last year with this result, that the people generally stated to me that "vaccination was a very bad thing, attended with severe fever and followed by sores lasting five, six, and seven months, incapacitating the sufferers for all agricultural labour." This story had been told in every village and at every hat in the neighbourhood, and was the first salutation given to a vaccinator when he arrived at a village. This has followed by permitting vaccination to be carried on by imperfectly instructed men independent of all supervision, as I have had occasion to point out in other reports. It is now necessary, if vaccination is not to come to a standstill in this district, that no ex-inoculator who will not submit to supervision be permitted to practise, and that the proceedings of the rajbari gang be at once put a stop to. It is my painful duty to bring this matter forward again. It was my belief that the manager of the Dinagepore Ranee's estates was acting in good faith in getting together a number of vaccinators, and failure followed their misconduct. Since last season I have again had to correspond with the magistrate of the district on the subject, and I thought that it had been made sufficiently plain to Baboo Khetro Mohun Sing the necessity of supervision over his gang. I pointed out an area in which it might work, where I could have conducted an inspection twice during last season. I was, therefore, astonished to find that after all the correspondence and trouble I had taken to put the gang on a useful footing, that the manager sent me the returns for all the season in April when he must have known that my inspection for the season was over, and his vaccinators were reported as having worked in several jurisdictions as far removed as possible from the one desired by me. I beg, therefore, that this man's conduct be brought especially to the notice of the Government, and that he be no longer permitted to show such grave disrespect to a public servant as he has shown to me. The conduct of his gang of vaccinators has been attended by serious abuses, which should authoritatively be put a stop to at once. From a petition made to me by one of them, I am induced to believe that the rajbari has never given a rupee to one of its vaccinators.

The Rajbari gang.

As long as such a state of matters is allowed to continue, it is idle to expect the Government men, restricted as to pay and prevented taking any money from the people, to perform their duty in a satisfactory manner.

The rajbari gang returned 6,403 successful cases out of 6,926, which, excluding those unknown, gives a percentage of success of 92.99, which I have no doubt is absurdly untrue.

The whole of the Rajarampore thana, west of the Atrai river, has now been gone over by the Government men. Two hundred and twenty-three villages were protected during the season by them.

Amount of protection afforded.

7. *Rungpore*.—Thana Molung, with an area of 150 square miles, and 748 persons per square mile, was the scene chosen for the operations of the vaccinators during the cold season of 1873-74. From an outbreak of small-pox, for the suppression of which too few apprentices were available, the vaccinators had to be removed, so that the area was not completed. However, 295 villages were protected, each vaccinator operating on 3,788.33 persons, a very satisfactory number, which would have been greater if two men had not been sick for some time, one of them so seriously that he had to retire to his home after having been given short leave to recruit.

Rungpore district.

Protection afforded.

Thana Molung abuts along its northern boundary on Nisbetgunge, which had been visited in previous years; the protected area is so being extended outwards from the sudder thana, according to Dr. Brown's recommendation.

The method of working was very simple. The men were arranged along the north side of the thana, and to each, allotted a certain breadth of country from east to west. He proceeded southwards, passing by no village in the area given. Having visited Molung twice during my tour, and travelled over the area and verified the returns in 126 villages, I could find none which had been passed over.

Method of working.

Rather more than a third of the birth-rate of this great district is annually vaccinated. Only one inoculator, old and past all work, came forward for instruction, and suitable apprentices could not be got.

There was very little small-pox during the hot weather of 1873 in Rungpore.

Small-pox in Rungpore.

Bogra district.

8. *Bogra*.—The full number of operations has been kept up in Bogra, 18,477, against 16,469 the year before, and this, too, after a very bad start at the beginning of the season, from the first supply of lymph sent down having been lost in the port, causing a delay of several weeks, and from the later work being irregular over the Adumdighi thana, where a severe outbreak of small-pox threatened from inoculation by one man only, and from the sickness of two old experienced vaccinators, one having got cholera and recovered, and the other breaking down under chronic fever. Each man operated on 3,079·5 persons.

The birth-rate of the whole district is little over 20,000 annually, which would have been reached by the six Government vaccinators alone but for the circumstances mentioned above. Except in November, when the vaccinators were not quite in hand under a new native superintendent—the son of a dispensary vaccinator, of course trying to fall back on his father's method—the work of the district was excellent. I made a point on account of native superintendent Tujummul Hossein's promotion to officiate as deputy superintendent to visit Bogra twice during my tour, which I had never been able to accomplish before, and showed the men that there was to be no decline from other years; and on my second visit I was much pleased with every thing. The ratio of success was quite up to 98·36 per cent.

Several of the instructed inoculators again came forward for instruments and lymph, but I am sorry to say they have submitted no returns.

The introduction
of Act IV of 1865,
recommended.

There was a municipal vaccinator for Bogra and one for Sherepore, so that the birth-rate must now be more than overtaken, and the introduction of Act IV (B.C.) of 1865 made most advisable.

Two inoculators have again appeared in the field—one spreading small-pox over Adumdighi, the other over outpost Dhonant—of Seryakandi.

From fewer of them having come forward for vaccine lymph this year than usual, and from their having again begun the practice of variolation, which had been in abeyance for several years, I feel sure that they will never be convinced that the Government is in earnest about vaccination until it forbids inoculation by law; and a clear case has been, I submit, made for the introduction of the Act, as in 1871-72 and in 1872-73 the successful vaccinations exceeded the birth-rate; and this I feel sure will be the case when the work of the municipal vaccinators is added to that done by the men in Government pay in 1873-74.

Khetlal thana was the area where vaccination was begun in November. It extends over 118 square miles, has a population of 38,632, or only 327 persons per square mile, being the least populous of any thana in Bogra. It was completed by the end of January, and a number of villages which had been removed into the Shibgunge jurisdiction were also completely protected, and the thana of Adumdighi begun. The work in it had, however, to be scattered, as an inoculator had spread small-pox into many villages. There was some opposition here created by a man calling himself a vaccinator, who had been at work for some time going about and discrediting the operations of the Government men when they came into his vicinity. The native superintendent reports that after seeing what he did he could not find a case of true vaccination.

This man's history is unknown to me, as he had never received instruction from the vaccine establishment; and where he got lymph is as much a puzzle to me as where the rajbari vaccinators of Dinagepore obtained their supply. There are 223 villages in Khetlal, out of which I verified the returns in 182.

There were 12,836 people vaccinated in Khetlal out of a population of 38,632, nearly a third, showing how little protection is afforded to them by inoculators.

Four hundred and thirty-five villages were protected in the season.

Protected area in
Bogra.

The protected area in Bogra now consists of thana Bogra, thana Shibgunge, and thana Khetlal, with a population of 314,808, or nearly half that of the whole district.

Rajshahye district.

9. *Rajshahye*.—A little vaccination had to be carried on in Rajshahye from May to September to keep small-pox in check, but the number of operations declined in the hot weather of 1873 to 827, against 3,859 in 1872, which is very gratifying. This, with the absence of a vaccinator formerly paid by the Promothonath Fund of Nattore, has reduced the number largely from the previous year. There were several other reasons for this: as the illness of one of the vaccinators; the sparser population of the area taken up—Beauleah; the sudder thana, parts of which had often been visited by vaccinators before, but was finished according to the Surgeon-General's recommendation. There was stiff opposition for a time on the part of some silk-spinning munduls and villagers employed in making *goor*, but it was got over after keeping the work a good deal back. It did not arise, so far as I learned, from any caste or religious feeling; it was prompted by economic reasons, the owners of silk filatures objecting to their spinners being absent from their work while being vaccinated or suffering from vaccine fever. The headmen of villages where sugar-cane was much cultivated put in similar pleas.

Number
vaccinated.

The number of persons vaccinated was 22,727, or 4,545·4 per man, showing that there was no neglect of duty on the part of the establishment.

The whole of thana Beauleah was gone over, and can now be added to thana Pooteah and outpost Aranee of Belmariah, which is a continuous protected area.

A few villages remaining over in outpost Doorgapore, of Pooteah, from last season were protected, and the work carried on into thana Charchat, which I hope to take up next season.

The villagers who objected to vaccination had equally rejected inoculation. I found a large tract of country to the north of Rampore Beaulah, in which the inoculators on their arrival had always been put off till a more convenient season, which certainly had not come about in five and twenty or thirty years, old, grey-headed people, and the majority of the adults, requiring protection.

The population of Rajshahye is 1,310,729. The Government establishment consists of one native superintendent and five vaccinators.

Population ;
vaccine staff.

The native superintendent desires one additional vaccinator to be added to his gang to make it equal in number to those of the other five districts. It is most advisable that this should be done.

The municipality of Rampore Beaulah and that of Nattore supported one vaccinator each. Their returns will be submitted by the civil surgeon. I took occasion, when at Nattore, to see some of the vaccinators' work, and being dissatisfied with it reported the matter to the deputy magistrate, who in reply informed me that shortly after my visit the vaccinator had been sentenced to four months' rigorous imprisonment for "lurking house-trespass by night." This is most unfortunate, and it will retard vaccination in Nattore, that the vaccinator should be looked upon as a person who may bring the information about families which he gets when doing his work into use for carrying on intrigues.

10. *Maldah*.—There was a small decrease in the number of operations in Maldah from the neglect of the native superintendent in the early part of the season on the plea of sickness. Much of his work was as easy to get at and inspect as if it had been in the Calcutta Botanical Gardens and he residing at Howrah. The communication by water is as easy, yet he visited two vaccinators in Bolahat only once in six weeks.

Maldah district.

Maldah is one of the districts which I can visit only once yearly: my supervision of the gang is therefore very imperfect. For this reason I last year deputed the deputy superintendent, Baboo Taroknath Gangooly, to remain with it for some time, get it into good working order, and above everything introduce as much as possible arm-to-arm vaccination. That he did anything I could not discover, as at my inspection in December I found matters worse than last season. An old dispensary vaccinator had indoctrinated the others into every device for the production of bad vaccination and every possible excuse for it. He and the brother of a native doctor had to be got rid of before things could be placed on a better footing, as they repudiated all responsibility in the result of their operations, holding that the persons operated on were responsible.

Had I not been tied down by a system of inspection inapplicable to the organization of my circle, I should have myself remained in Maldah for a month and brought about a better system of working; but that was impossible under my present orders.

A check was given in February to the work by a man said to be vaccinating on his own account, who spread most alarming reports about Government vaccination. He told the villagers, among other things, that every male whose name was entered in the village roll as vaccinated would in time coming be taken by the Government for service as a soldier. This was too flattering not to meet with a ready acceptance.

The number of villages protected was 269. Each vaccinator operated on 1,523·5 persons.

Number protected.

11. *Number and character of the operations*.—There is a large decrease in the total number of operations in 1873-74 of 8,642 from the season before, but this again arises from vaccination to suppress small-pox having been practised only in 4,976 cases in the hot weather of 1873 against 13,935 in that of 1872. This steady decline of hot weather vaccination indicates that the operations of the department are being followed by a great diminution of small-pox in this circle. Notwithstanding the withdrawal of the vaccinator paid by the Promothonath Fund, who had 3,063 operations to his credit in 1872-73, the cold weather operations of 1873-74 were 317 in excess of the year before. Considering the unsettled state of the country on account of scarcity of food prevailing in all the districts of my circle, this is satisfactory. The vaccinators being away from their homes felt the pinch very severely.

Number and
character of the
operations.

I beg the favour of your bringing the special cause of the decrease in the season's operations to the notice of the Surgeon-General, as it seemed to have been overlooked in his letter submitting the vaccine returns of 1872-73 to the Bengal Government. It is creditable to the department that less vaccination in the hot season has been required during three successive years to keep small-pox in check.

Each vaccinator operated on 2,327·5 persons. The percentage of success was 95·72.

Each successful case cost 2 annas and 11 pie.

Percentage of
success.
Cost of each
successful case.

Omitting Julpigoree, where the village system differs from that of the rest of the circle, 1,838 villages were protected.

A rough sketch map is attached. If I could get a skeleton map of the circle prepared by the Survey Department, showing the district and thana boundaries, I could submit a much more accurate and satisfactory map of the work done.

In addition to these 97,757 persons operated on by the Government vaccinators, the apprentices, when undergoing instruction or suppressing small-pox, vaccinated 5,745 persons, with a percentage of success of 95·42.

Work done by
apprentices.

Ex-inoculators
work.

Fifteen ex-inoculators also submitted returns of 4,062 operations, with a percentage of success of 95.61, which however is unreliable. Many ex-inoculators I know were at work, but sent in no returns, some from inability to write them. Out of the returns I got a few more taken down by word of mouth, with all details of caste, sex, and age of course wanting.

To the above sums may be added 6,926 operations by the Dinagepore rajbari vaccinators, making a grand total for the Darjeeling circle of 114,499, less than half the birth-rate.

Sex, caste, and age
of those vaccinated.

Table showing the percentage of sex, age, and caste in the 97,757 persons vaccinated by the Government vaccinators.

Male	...	53.64	Christian	...	0.007
Female	...	46.35	Hindoo	...	21.85
Under one year	...	4.53	Mussulman	...	75.58
Above one year	...	95.45	Other castes	...	2.54

Inspection by
superintendent.

12. *Inspection of the superintendent and deputy superintendent.*—My cold weather inspection tour began on the 1st November and ended on the 5th April. Every day during this time I either marched or inspected. My inspection was, as last year, conducted as ordered by the Surgeon-General in his letter No. 583 of 23rd August 1872 to the Secretary to the Government of Bengal. The plan adopted was that introduced by Mr. Powell into the Metropolitan circles, and which seems from the last report to have already fallen into disuse there. In the subjoined table no case is entered which was not compared with the entry in the village return.

From the arrangement of the different gangs, so that one could be reached as quickly as possible from the other and no time uselessly lost in marching, I have been able to verify a much greater number of cases than the year before, or than is ever probable I shall be able to do again as new areas of operation lie more out of the direct routes of travel.

The method adopted is no doubt a good one in circles differently organized, but under the imperfect arrangements of the Darjeeling circle I find my usefulness much crippled by it. I again desire to place on record that as long as it is in use I can never hope to bring about the results that it is my desire to do. A maximum of 5,000 verified cases is as much as should be required until the gangs are concentrated in one zillah and the superintendent lives with his men. To enable me to show a well-filled table, I was obliged to leave Maldah at a time when it was very necessary I should have remained there a month, during which period I should most likely not have verified more than 500 or 1,000 cases, and the table below been consequently a meagre one.

Under Mr. Powell's plan I find that I must inspect from sunrise to sunset every available day, after which the work of the office has to be got through at night. This after eight or ten hours out in the sun is not likely to be very efficiently done. Then again, the superintendent is cut off from almost all personal communication with the civil officers of districts, which is a serious evil. During three years in which operations have been carried on in Purneah, I have never yet had time to visit the civil station, and I have not yet even seen one of the magistrates. Lately the magistrate wrote saying he wished to see me about the instruction and employment of inoculators, but it is hard to say when I shall find time, under the present system to meet him. Under it the superintendent, instead of being an administrative, is turned into a statistical officer.

The plan, too, is greatly objected to by many of the villagers; so much so, that it is often after great delay and much forbearance that cases are produced. The people in one village in Maldah treated me with the greatest insolence, and it took me from 11 o'clock in the day till 3 to verify about fifty cases. This is not a position in which a public servant should be placed.

It is a mistake to suppose that the inhabitants of many parts of this circle are quiet and peaceful; they are prepared to resort to violence on very slight provocation. I had to abandon the inspection of one village in Rungpore after being detained in it two hours. It is necessary, if this plan of inspection is to be continued, that magistrates be instructed to direct the rural police to assist in collecting the people, which they often refuse to do, though they are warned the day before of my coming and the object of my visit. Many chowkidars after receiving notice absent themselves, and women also are sent off to other places to be out of the way.

Inspection return

Inspection Return for 1873-74 of Superintendent.

	Vaccination in two points, of which were successful.			Doubtful.	Compared with register.	Total.	Absent.	Grand Total.
	2	1	Failed.					
Seen after 16th day ...	19,551	1,155	108	13	20,827	20,827	1,336	22,163
" from 13th to 16th day ...	2,627	134	31	19	2,811	2,811	104	2,915
" " 9th to 12th " ...	2,110	189	75	48	2,422	2,422	47	2,469
" " 5th to 8th " ...	1,812	265	182	73	2,332	2,332	55	2,387
" " 1st to 4th " ...					1,362	1,362	31	1,393
	26,100	1,743	396	153	29,754	29,754	1,573	31,327

The percentage of success in prisons was for the year 95.72.

The percentage of success according to the above inspection table is 98.06, giving a difference of 2.34. As the inspection of the largest numbers takes place in those districts, such as Rajshahye and Bogra, where the work is of the highest quality, a slightly better result is brought out than really obtains for the whole circle.

The deputy superintendent being chiefly employed in looking after the vaccination of Dinagepore during the seasons, did not verify returns to such an extent as otherwise would have been the case. He was active and attentive to his duty.

13. *Distribution of vaccinators.*—The vaccinators were distributed in all sudder thanas, except Purneah, which had not been completed in former years, and in those districts in which this was the case thanas adjoining the sudder ones were taken up so as to make the protected area continuous. This is the greatest amount of concentration permitted me, and distributes forty-two vaccinators over an area of 19,862 square miles among a population of 8,559,690.

I am still of opinion that it would be much better to take up one zillah, forbid inoculation there, and employ all the vaccinators in it till it was completed, leaving an organized staff behind to carry on the work of protecting the annual increment of the population.

14. *Instruction of vaccinators.*—This is a matter which has always been carried on with great difficulty, and chiefly done orally. I have, however, obtained a sufficient number of copies of Dr. Pearson's book translated into Bengali. Every vaccinator and apprentice has been put in possession of one, from which I anticipate the best results. More are required to give away to ex-inoculators.

I believe Dr. Charles has also had a small book of instructions for vaccinators translated into Bengali. I should be glad to have a number of copies of it, too, as I believe the great secret of successful vaccination—doing it from arm-to-arm—will there be particularly dwelt upon.

This pamphlet, giving popular information on small-pox, inoculation, and vaccination, if translated into Bengali, would be most useful if distributed to zemindars and influential heads of villages before beginning vaccination.

I should like to be permitted to have it translated into the Nepalese language. A sufficient number of copies could be turned out of the Misson Press here for about Rs. 100.

15. *Small-pox and inoculation.*—Small-pox was again on the decrease during the hot months of 1873, Rungpore being remarkably free from it; but in Rajshahye and Julpigoree, it existed from May to September. It was present in Dinagepore, Julpigoree, Bogra, and Maldah, during the cold season of 1873-74. I have the police returns of small-pox in Rungpore, Bogra, and Julpigoree for the year—in all 420 cases with fifty deaths.

It was reported from the other districts, but returns were not afforded me.

In every instance in which the early cases could be discovered the disease was traced to the baneful practice of inoculation. This is not to be wondered at, as it is so carelessly done as to be a source of little protection but of great danger to the people. During my inspection in Rungpore I found that 140 persons remained unprotected in one village where an inoculator had been at work in May. He had not been interfered with, as the police knew nothing of his operations. Variolation as practised in the Darjeeling circle is not accompanied by isolation of the affected or any form of quarantine. It is not done in several villages simultaneously, and no precautions are ever taken to prevent the disease spreading. The inoculators know that there is a vaccine establishment whose business it is to do this, while they, as soon as the loss of life grows serious, abscond to their own homes.

The amount of protection may be judged of from the results brought out this year by the vaccine establishment in thana Khetlal, of Bogra. The population is 38,632, and the number who were vaccinated 12,836. This thana had been twice visited by vaccinators before, whose operations are omitted, as they did not all come under my observation. One-third of the whole population was therefore left quite unprotected by inoculators. This is not a solitary instance, but I bring it forward as its truth was thoroughly ascertained by me. Many places are in as bad or a worse state. Inoculators having now found out that variolation is not forbidden by law, are carrying it on in Rajshahye and Rungpore as actively as ever. After having fallen out of use in Bogra for some years, it was practised in two places in the district last cold season, and in Patgram and Juliporee. A Rajbungshi and a Mussulman as a firm have established themselves as practitioners, and defy all vaccination. They produced in the hot months of 1873 an outbreak of small-pox, 158 cases, of which 17 died. As 250 operations per annum are the most I have ever heard credited to any inoculator, the two may be supposed to have protected 500 persons, followed by 158 cases of small-pox and 17 deaths, which is a pretty high average of suffering and death for the protection afforded. The deputy superintendent, Baboo Taroknath Gangooly, was deputed to the scene of this outbreak, but seemed to have effected nothing, as on my visiting it in March I found the above firm had been at work as before close to the thana. The police tried to stop them and send them in to learn vaccination; the zemindari amlah did the same; but Amasoo and Sookoor were masters of the situation. I visited Amasoo's village, but he would not come and see me. One person had died in it from communicated small-pox just before my arrival. These men are not only obstinate in refusing to learn

Percentage of success.

Distribution of vaccinators.

Instruction of vaccinators.

Small-pox and inoculation.

Amount of protection afforded.

Inoculators.

vaccination, but they have spread reports that all vaccinated persons die, so that the villagers who have been told this are prepared to resist it by violence. This attitude of the people, however, is by no means general.

Fifteen inoculators of Julpigoree, Purneah, and Maldah, were brought on the establishment as apprentices and instructed as vaccinators. They all belong to the weaver class, of whom a large number live in the north of Purneah, spreading themselves all over northern Bengal when pursuing their calling.

Ex-inoculators.

The magistrate of Purneah granted purwanahs to thirty-five inoculators to practise vaccination, but of the proceedings of most of them nothing is known. Mr Peachy mentions in his report, which he has been good enough to communicate to me, that one man sent in a return of what he had done. These men resorted to the magistrate of the district, as they knew they would not get certificates of proficiency from me until I was satisfied they knew their work, and would insist on inspecting it and taking returns. I have had correspondence with Mr. Kemble on this subject, and he seems desirous of giving me every assistance, so that these men may be made efficient vaccinators. With such a number, each one performing 1,500 operations, the birth-rate of Purneah would yearly be exceeded.

Inspector of inoculators required.

The want of an inspector of inoculators was severely felt during the season, as no one would, at the rate of pay granted, undertake the work, which is one of constant travelling and exposure for half the year. If three suitable men are obtainable at the Presidency, I trust they may be ordered up in September, or at latest October, as I see no present prospect of getting men in my circle. The pay granted for a man who has for so many months to pay for food and lodging every night away from his home is too small to attract trustworthy men.

Apprentices.

The plan of paying 42 apprentices while under instruction is a most admirable measure, from which I have the highest hopes as soon as it is brought into full working. The order reached me too late last year to enable me to get the full number, or to pick out the best men. I had to take almost any one who came forward. Native superintendents will be instructed during the recess season to look out for promising men.

Darjeeling hills as a lymph depot for Bengal.

16. *Darjeeling hills as a source of lymph supply for Bengal.*—It was proposed by the Superintendent-General of Vaccination in Bengal, in his last report, that on account of the many disappointments which followed the use of lymph collected in Calcutta towards the end of the rainy season, when it was wanted for distribution for the cold season's operations, that supplies should be issued from the Darjeeling hills instead. Dr. Charles thought that at similar elevations in these hills lymph could be procured of as good quality as in Kumaon and Gurhwal. I have no doubt that he was correct in this opinion, as I have found that good lymph can be produced at high altitudes, when there are subjects for the purpose. Unfortunately for this proposal the high elevations in British Sikkim are not inhabited, but are kept as Government forest preserves, almost all the population, except in the immediate neighbourhood of the station of Darjeeling, living at elevations lower than 5,000 feet. The majority may be said to live at about 3,000 feet in close, damp, and hot valleys, unfavourable to the production of a good vesicle. The entire area in the hill territory in the Darjeeling district is 960 square miles, with a population of 46,727, or 49 persons to the square mile. More than half of these are Nepalese, who are chiefly employed working in gangs in tea gardens under sirdars, some of whom object to their coolies being vaccinated, as they lose "sirdari" if coolies take leave for a day or two when subject to the vaccine fever. Many Nepalese object to vaccination entirely, and openly state that when they want protection from small-pox they will employ their own *Baidis* to inoculate them. Most of them disbelieve in the protective effect of vaccination, and I have learned that some submit to it merely to please the superintendent, when he has been at the trouble of coming to their houses for the purpose. It is to combat this opinion that I require a Nepalese translation of Dr. Charles's pamphlet on inoculation, small-pox, and vaccination, for distribution.

Inoculation is only forbidden within the limits of the municipality; all are at liberty to submit to it beyond them. The staff of hill vaccinators is three, not one of whom has ever filled a tube with lymph, although I make frequent demonstrations of the process in their presence. A supply of fresh lymph is constantly being sent from the hills in the hot weather to vaccinators of the circle in the plains, when engaged in stamping out the small-pox following inoculation. Much of the collection is thus yearly used up.

From these considerations it appears how far beyond reasonable expectation it is to hope that the Darjeeling hills can ever be turned into such a source of lymph supply as Kumaon and Gurhwal.

The differences of the circumstances may be briefly contrasted.

Darjeeling and Kumaon contrasted.

- (a) Kumaon and Gurhwal have a population of 634,532; that of the hill territory in Darjeeling is 46,727.
- (b) The people of the former live at higher elevations than those of the latter, and are free agents, which most of the Nepalese here are not.
- (c) The climate of the north-west Himalaya is distinctly different from that of British Sikkim.
- (d) Inoculation is forbidden in Kumaon and Gurhwal; this is only the case within the limits of the Darjeeling municipality.

- (e) The staff of vaccinators in Darjeeling is three. It must be greatly larger in Kumaon and Gurhwal, as I find that in one season they filled 2,951 tubes, and collected 16,132 crusts, while each vaccinator in 1871-72 vaccinated only 195 persons, having an area of 884 square miles, with a population of 48,810 in which to carry on his operations.
- (f) There is no really good class available from which to choose vaccinators in Darjeeling, while the supply in Kumaon and Gurhwal must be ample. The collections in the Darjeeling hills are therefore the work of the superintendent's hand alone.

From the foregoing it must not be supposed that no lymph can be issued from Darjeeling, or that it is useless as a source of supply. My wish is to explain the matter so that too great reliance may not be placed upon it, and disappointment result.

I think it would be sufficient to expect the Darjeeling hills to supply at the beginning of every season a good stock for all the men in the Darjeeling vaccine establishment in the plains, who are so much scattered as to require much more than if they were concentrated in one zillah, and to all the civil stations and dispensaries north of the Ganges and west of the Brahmapootra, in Bengal.

As it has been found that lymph collected one cold season in the plains and kept in the hills during the hot months retains its vitality and is fit for issue in the following October, I proposed in my letter No. 183 of 13th September last, to the Deputy Surgeon-General, Dinapore, that surplus stocks of lymph remaining in Calcutta in March should be sent to me here for care during the hot season. As none have reached me, the proposition does not seem to have met with approval; but I still think that the Superintendents of the Metropolitan, Dacca, and Sonthal Pergunnah circles should forward here their surplus stocks of lymph collected each season, not later than the 16th March, to avoid exposure to great heat.

The Government would then know whence a large supply of reliable lymph could be got at once in case of small-pox anywhere appearing epidemically.

17. Statement of stations and officers to whom lymph was issued during the season, agreeably to memo. No. 3845 (A) dated 13th October 1873, from the Secretary to the Surgeon-General, Indian Medical Department, to the Deputy Surgeon-General, Dinapore circle.

STATIONS.	OFFICERS.	REMARKS.
Rajmehal	Deputy Superintendent of Vaccination, Sonthal Pergunnahs.	
Gya	Civil Surgeon.	
Tura, Garo Hills	Ditto	2 issues.
Cooch Behar	Ditto	3 issues.
Julpigoree	Ditto	2 issues.
Darjeeling	Dr. Churchill, R.A.	
Purneah	Civil Surgeon	4 issues.
Calcutta	Superintendent-General of Vaccination	2 issues.
Monghyr	Civil Surgeon.	
Chupra (Sarun)	Ditto.	
Taherpore (Rajshahye)	Native Doctor of Dispensary	2 issues.
Titalya (Julpigoree)	Ditto	
Indore	Residency Surgeon.	
Darjeeling Terai	R. Southby, Esq.	
Kunwary	H. Harcourt, Esq.	
Maldah	Civil Surgeon	2 issues.
Rampore Beaulah	Ditto	
Darjeeling	Ditto	
Dinapore	Ditto	
Buxar, Bhootan	Medical Officer, 38th Regiment, N. I.	

Storing of surplus lymph in Darjeeling.

DARJEELING,
30th May 1874.

Memorandum by C. R. FRANCIS, Esq., Deputy Surgeon-General, Dinapore Circle,
(No. 553, dated Dinapore, the 10th June 1874).

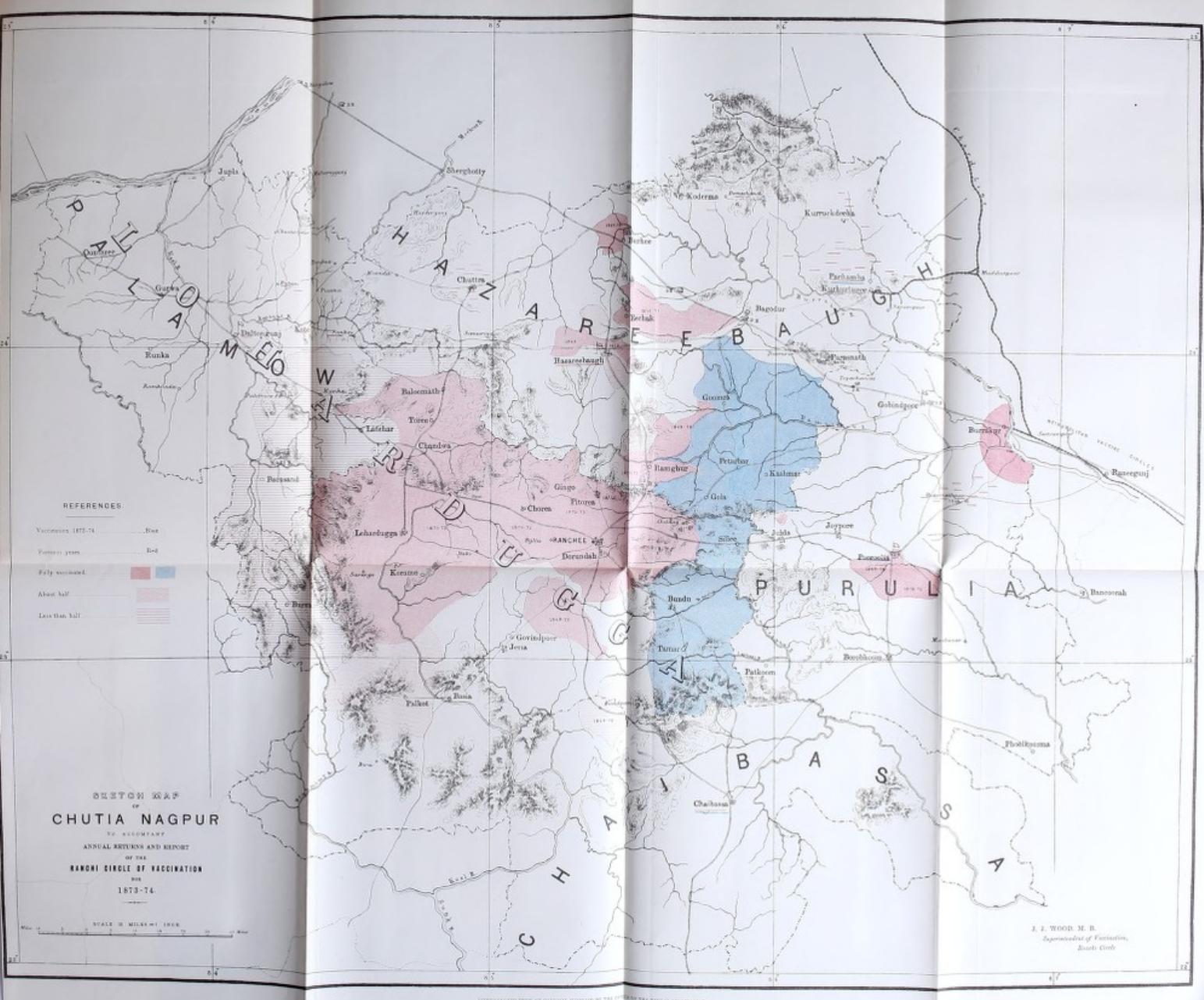
IN forwarding the annual report (for 1873-74) by the superintendent, Dr. Lidderdale, on vaccination in the Darjeeling circle, the undersigned has the honor to observe that he quite agrees with the superintendent on the following points:—

1. The advisability of making inoculation penal at one particular point, and of then concentrating all the vaccinators at that point. Thus area by area would become protected, and each, in its turn, would show (in outbreaks of small-pox) to the inhabitants of unprotected areas around the advantage of the prophylactic. The work of inspection would also be much easier.
2. That no ex-inoculators be permitted to work, except under strict supervision.
3. That it would be well if surplus supplies of vaccine were sent from the plains at the close of each cold season for preservation as stock in the hills.
4. That, for the reasons given, Darjeeling can never become a depôt for vaccine as Kumaon and Gurhwal have become.

*Seventh Annual Report of the Ranchee Circle of Vaccination for the year 1873-74, by SURGEON
J. J. WOOD, M.B., Superintendent.*

Establishment.	THE usual establishment of three head vaccinators and 20 vaccinators was employed.
Work done during the year compared with 1872-73.	The work of the establishment is represented by 37,411 cases and 35,177 successful cases, or 97.491 per cent., and the cost of each successful case was five annas very nearly. In the year 1872-73 there were 36,518 cases with 35,206 successful, or 97.77 per cent., at five annas six-tenth pie per case.
Cause of the smaller percentage of success.	2. There is thus an increase of 893 cases and a decrease of 29 successful cases. The percentage of success is slightly lower, but the cost of each successful case is a little less. The smaller percentage of success compared with last year is accounted for by the comparatively large number (1,578), and necessarily small success (76.71), in the non-working season of 1873-74, which reduced the working season's figure of percentage from 97.81 to the total percentage of 97.49. In 1872-73 only 525 cases were done, with 74.63 per cent. successful in the non-working months, and the figures for the working season were less affected.
Non-working season.	3. <i>The non-working season.</i> —Those vaccinators who were not on leave were attached to civil dispensaries, and were thence sent out when small-pox was reported in the interior. We have just seen that 1,578 cases were got with 76.71 per cent., or 1,160 successful. They were got in districts Lohardugga and Hazareebagh, whence, as usual, outbreaks of small-pox were reported. The result was rather better than last year. August was the only month in which no vaccination was done.
Working season—selected areas.	4. <i>The working season—areas selected.</i> —Before the beginning of the season, and with the approbation of the Commissioner of Chota Nagpore, two thanas in Lohardugga district, and three thanas in Hazareebagh district, were chosen for the year's operations. They were Tamar thana, of Lohardugga, which lies to the south-east of areas undertaken in previous years, and Sillee thana, which lies east from Ranchee. In Hazareebagh district, again, the contiguous thanas of Ramghur, Kashmar, and Goomea, were selected in order that the thanas undertaken might be close together and near those in Lohardugga, and because small-pox had appeared in them during the year.
Arrangement of parties.	5. <i>Arrangement of parties.</i> —One party of six vaccinators under Native Superintendent Elahi Bux was sent to Sillee thana, whence they were to proceed southward, so as to work Tamar thana. Another party of seven vaccinators under native superintendent Mukhun Lall was sent to Ramghur, whence they were to work eastward into Kashmar, and the third party was placed in Goomea thana, under native superintendent Mahomed Ishak.
Sillee party.	6. The party sent to Sillee worked in that thana until January. It is still too frequently the case that, in large villages particularly, certain classes, such as mahajuns and kaisths, are little open to conviction as to the benefits to be derived from vaccination, and therefore the village of Sillee itself was not so well vaccinated as could be wished. The party next entered Tamar jurisdiction, and there worked well till the end of the season. The Rajah of Tamar, although otherwise friendly, placed some difficulty in our way in spite of repeated interviews with myself and much persuasion used. His lady feared to have their son vaccinated, and so they kept the whole village of Tamar waiting. It still remains unvaccinated. As in Sillee so in Tamar, these exceptional cases of refusal to be vaccinated occurred. In Bundu also, a large village in the north of the thana, but few were done.
Palamow sub-division.	7. From Palamow sub-division some desultory work* was returned by the vaccinator, who was employed there attending to small-pox. No returns have been received of the work of local vaccinators who are known to be "about" in Palamow.
Lohardugga district.	Operations were conducted in 310 villages of Lohardugga district, and 16,388 cases were done, of which 99.65 per cent. were successful. The average of cases per vaccinator was 2,731. One man did 3,566 cases. Ten inoculators and eight apprentices with this party did 12,135 cases more, of which 99.90 per cent. were successful. The average of cases per man was 674.1, and the greater number done by one individual was 2,101.
Ramghur party.	8. The party in Ramghur thana, of Hazareebagh division, consisted of native superintendent Mukhun Lall and seven vaccinators. Much of Ramghur had been visited by

* About 500 cases, the details of most of which are wanting through their loss by the vaccinator.



REFERENCES

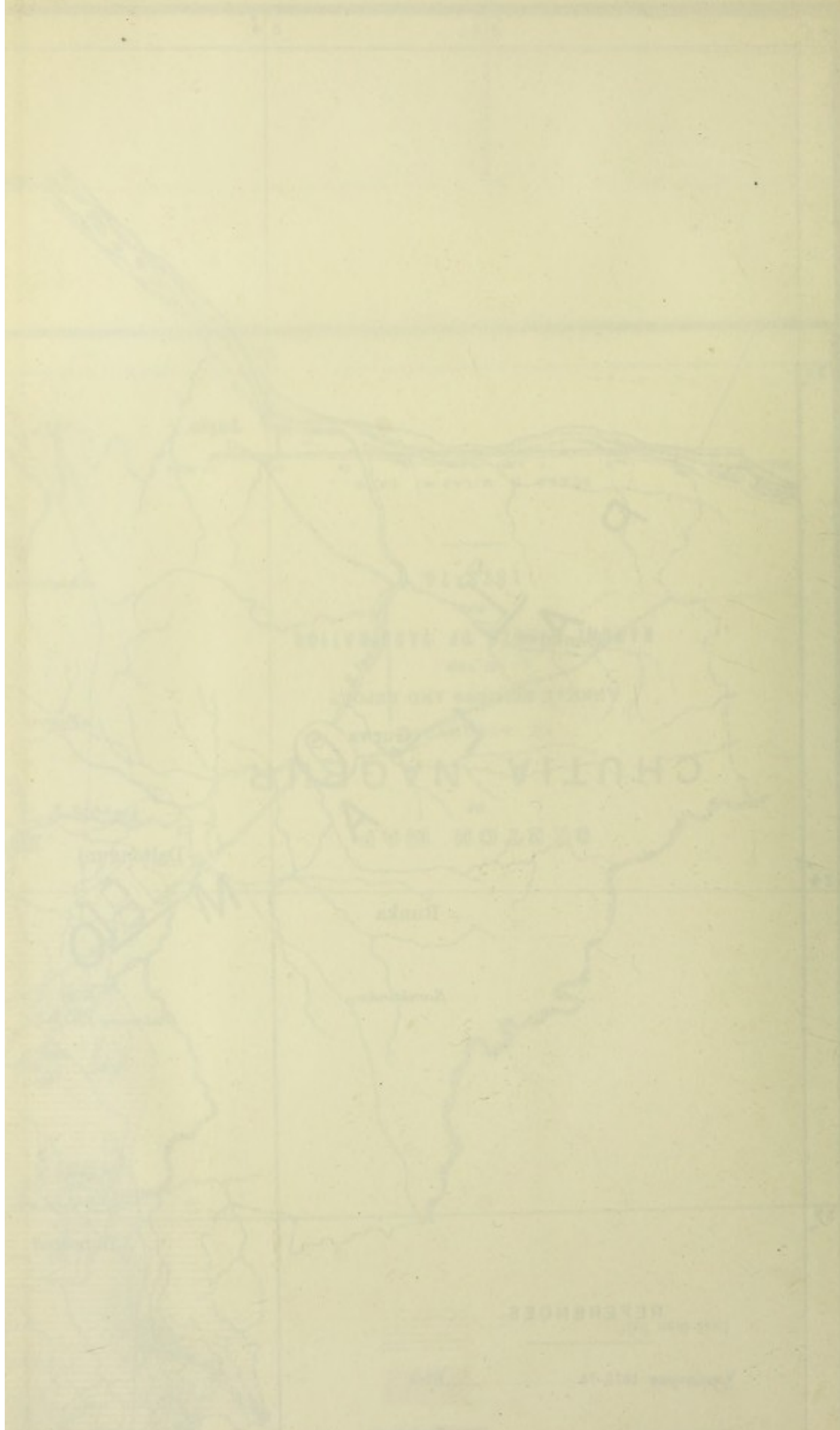
- Vaccines 1873-74 Size
- Former years Red
- Fully vaccinated Blue
- About half Pink
- Less than half Light Pink

SEXTON MAP
OF
CHUTIA NAGPUR
TO ACCOMPANY
ANNUAL RETURN AND REPORT
OF THE
RANGHUL DISTRICT
OF THE
HARDI CIRCLE OF VACCINATION
FOR
1873-74.

SCALE IN MILES AND INCHES

J. J. WOOD, M. B.
Superintendent of Vaccination,
Kooch Behar.

INTERPRETED FROM AN ORIGINAL SURVEY BY THE SURVEYOR GENERAL, CALCUTTA.



vaccinators in other years, who had vaccinated many of the people. As the season advanced this party threw out vaccinators into Kashmar thana, and in December I found Petabar, the outpost of Kashmar, exercised in its mind about the operation.

Here the higher caste inhabitants—Brahmins—had several interviews with me, and I brought every influence to bear in order to induce them to have vaccination, but in vain. Some Sonthals and others had been done, and the Kurnus agreed to be vaccinated whether the Brahmins agreed or not. Petabar has since been visited by small-pox.

9. Kashmar thana has not been fully vaccinated yet. It consists of very wild and woody country, and the villages are scattered. Many of the people are Sonthals. Work was done in 36 villages of this thana, and in 110 villages of Ramgurh. In all 6,726 cases were got, and 6,063 were successful, or 95·6 per cent.

Each man did on an average 960·8 cases. In addition to this, six apprentices did 1,884 cases, of which 1,689 were successful, or 98·87 per cent.

Under a better man than Mukhun Lall, who has often failed me, more work and better work could doubtless have been done.

10. In Goomea thana, also of Hazareebagh district, where small-pox outbreaks occurred during the non-working season, these often artificial epidemics continued through the cold weather. The people here and there favoured inoculation, but a considerable amount of work was got by native superintendent Mahomed Ishak and his party, who undertook this thana and the neighbouring part of Bagodhar. The native superintendent was particularly active in hunting up inoculators, and one man was detected in Sorhi and arrested in Goomea through his exertions alone, at the time of my visit in January. He was sent in by the police to Hazareebagh for trial. But this comes properly under the head of inoculation. Goomea party.

11. One of the vaccinators was caught taking money as fees from the ryots, and was made to refund the whole. Each person was paid back in my presence the money given. I do not think that this is a common practice among vaccinators in this circle, but it is perhaps worth noting.

There was not any unusual opposition to this party. In December a wandering vaccinator, with a perwannah from the Magistrate, tried to make some difficulty by claiming the sole right to work in certain villages, but matters were explained to him, and then went smoothly.

12. This party of six vaccinators had 12,719 cases, 10,529 successful cases, or 96·55 per cent., and each man did on an average 2,119·8 cases: 247 villages were operated in. Four apprentices and 11 Sindoorias did 3,903 cases, with 3,537, or 99·06 per cent. successful. Vaccination in Hazareebagh district during 1873-74 amounted to 30·5 per mille. Work done by the party.

13. *Vaccination by inoculators and others.*—Sixteen inoculators, chiefly from Manbhoom district, were employed in all the thanas except one, Sillee, of Lohardugga proper during the year. In the beginning of the season they began to come to Ranchee from their homes; and as they arrived they were placed under instruction or posted to the different thanas, according to the state of their knowledge of vaccine work. One or several men were posted to each thana, and at the end of the year they had vaccinated to the extent of 12,845 cases, but their returns do not show how many were successful. Their work was superintended and inspected in Tamar thana alone. Vaccination by ex-inoculators.

From the civil surgeon's returns I learn that in Manbhoom and Singbhoom, the home of most of our ex-inoculators, more work than ever has been done this year.

There were six Hindustani vaccinators and 23 "Thikaitis," or ex-inoculators, employed in Manbhoom, and 15,150 cases were done in 295 villages, and 12,213 of these were "verified:" 2,937 were "unverified." The verified cases showed 9,775 to be successful, or 87·85 per cent. The increase from last year is noted to be 6,692.

In Singbhoom 15 ex-inoculators were employed. They worked in 291 villages, and did 17,155 cases, of which 16,700 are entered "successful" in the forms, and 455 unsuccessful. None are marked unknown. The amount of supervision of the Singbhoom cases is not noted, so the amount of success is in so far untrustworthy: 97·35 was attained.

In 1872-73 Manbhoom had 8,458 cases done by 32 inoculators, and Singbhoom had 8,358 cases. Comparing these figures with those given above for the past season, Manbhoom has had an addition of 6,692 cases, and Singbhoom of 8,797 cases.

14. Although it does not always appear in the yearly reports, the work of inoculators and other vaccinators not upon the Government establishment was and is always looked to both by myself and by the native superintendents, when such supervision does not interfere with the attention due to the work of vaccinators on the staff.

Three Christians did good service among the Kolhs of Lohardugga, but of their 2,307 cases the number successful was not recorded. There were five other Christian vaccinators on this district, but they have sent in no returns. I am indebted to the Rev. J. C. Whitley for his interest and help in vaccination.

15. *Apprentices.*—Besides the Christians and instructed inoculators, there were other men under instruction or attached to parties, and most creditably have they laboured. There Apprentices.

Result of their labours.

is reason to think, indeed, that their work has been more carefully done, and has been better attended to by the native superintendents, than has that of the regular vaccinators. The apprentices have great inducement to exert themselves in order to obtain vaccinatorships. The result of their labours is 17,922 cases, of which 17,667, or 99·53 per cent., were successful. It is to be regretted that a small subsistence allowance has not yet been granted to these and other learners; and more particularly that afterwards no proper inspection of their work in general is possible. Such subsistence allowance and inspection were recommended by the Surgeon-General in paragraphs 44 and 68 of last year's general report.

Inoculation.

16. *Small-pox and inoculation.*—There were no cases of breach of vaccine laws in Manbhoom or in Singbhoom during the year under report. Two men were convicted in Lohardugga district. In Hazareebagh one man was run in by the police from Goomea as related above, and two others were shortly afterwards handed over to Mr. Campbell, the magistrate of Pachumba sub-division, who takes an interest in vaccination, and gave me great assistance. These two men were detected by native superintendent Mahomed Ishak, and also a fourth inoculator, who had been a Government vaccinator in 1867, but has since relapsed into inoculation. Although too ill himself to walk about and operate, he got himself carried about, and through two servants perpetrated his nefarious practice. He was too ill to bring up for trial.

17. I think that the native superintendent in the case of these four inoculators rendered great assistance to the cause of vaccination in the still benighted district of Hazareebagh. There are, as has often been noticed, a considerable number of inoculators resident in Hazareebagh zillah. Many of them, although they know very well how to vaccinate, have plied their old trade with impunity during the past year; and I think that I may be allowed to say that more of them might have been brought to justice, and that the police have not been very keen in their inquiries.

18. Two hundred and thirty cases of persons recently inoculated were brought to my notice by native superintendent Mahomed Ishak in Goomea and Pachumba but the number of fatal cases could not be ascertained. All these cases occurred during December and January in Hazareebagh zillah, and were seen by the native superintendent, some of them by myself. Since the close of the season I have a report of 100 cases inoculated in Lohardugga district, with six deaths. It is now some years since 200 cases with 12 deaths were reported to me by one of the native superintendents as having occurred in the Tamar thana jurisdiction of Lohardugga.

Deaths from small-pox throughout the circle.

19. The number of deaths from small-pox throughout the circle during the past year was 667, of which 338 were reported from Hazareebagh, 201 from Lohardugga, 95 from Manbhoom, and 33 from Singbhoom. Last year, 1872-73, Hazareebagh had 244 deaths, and Lohardugga 125; Manbhoom and Singbhoom had also fewer deaths than this year shows. As to this increase of small-pox in the circle during the past season, although it must be granted that inoculation, where practised, as it has been practised in Hazareebagh zillah, must increase the numbers killed by small-pox, still that alone would not account for the widespread increase in Hazareebagh during the year, much less would it account for such an increase as we have in Lohardugga and Manbhoom. The past season was evidently a more epidemic one than its predecessor.

Most fatal months.

20. The most fatal months were April, May, June, and March, when 351 of the deaths took place. Next come January and February with 120 deaths; then July, August, and September with 96, and October, November, and December with 60. October had the least mortality, 12 deaths.

Rate of mortality from small-pox.

The rate of mortality for the whole circle was ·1072 per mille; that for the several districts being—Hazareebagh ·4378, Lohardugga ·1624, Manbhoom ·0924, and Singbhoom ·0746.

The above figures are founded upon the mortuary returns, but since the information for these is collected by policemen and village chowkidars, deaths from other diseases besides small-pox are included.

Superintendence.

21. *Superintendence.*—The party of Elahi Bux was visited in November, December, and February. Mahomed Ishak's party was seen in December, January, and again in March. The party under Mukhun Lall was visited in November, December, and March. The number of miles travelled was 657.

The weather in February was extremely stormy and wet, an unusual thing in this circle during that month. From this cause the men suffered considerable hardship, indeed my tent became frequently uninhabitable, and such poor shelter had to be sought as was afforded by the verandah of a native house, a tumble-down cooly depôt, and the like.

Cause of delay in the submission of the annual report.

22. After the working season was over, the office writer had a severe attack of fever followed by ophthalmia. He had done his duties well, and given me much assistance, going out of his way to be of service in furthering vaccination. It has been found impossible to get an efficient substitute, and these untoward circumstances, along with my being sent on relief duty in the end of April, from which I returned only in the beginning of July, will,

I hope, be considered as sufficient reasons why the annual returns and report have been delayed beyond the usual time for their submission.

23. The table appended shows the number of cases inspected and the results obtained. Great efforts were made to get the villagers to allow themselves and their children to be vaccinated in more than one point, and with what success is shown in the table. It is, however, to be remembered that this table shows the result of vaccination with the needle.* In only a very few operations was the lancet used.

	Vaccinated in 4 points, of which were successful.					3 points.				2 points.			1 point.		Doubtful.	Sore arms.	Compared with the register.	Total.	Absent.	Grand total.
	4	3	2	1	F.	3	2	1	F.	2	1	F.	1	F.						
Seen after the 16th day ...	34	...	1	1	2	23	2	...	5	1,362	563	8	1,562	91	1	19	2,030	3,314a	696	4,910
Seen from the 13th to the 16th day ...	6	...	...	...	...	5	6	...	...	241	51	12	760	6	...	5	1,051	1,602b	156	1,148
Seen from the 9th to the 12th day ...	17	10	2	2	...	1	...	2	...	315	129	23	295	29	15	...	783	840c	230	1,970
Seen from the 5th to the 8th day ...	15	2	2	1	1	1	3	2	3	219	77	26	393	99	...	...	854	854	255	1,176
Seen from the 1st to the 4th day ...	59	...	...	...	...	28	...	...	...	30	...	...	87	...	...	...	204	204	27	231
	131	12	5	4	3	58	11	4	8	2,607	820	69	3,037	225	16	24	5,822	6,304	1,365	7,807

Remarks.—The percentage of successful points is 88.13, and of successful cases 95.79.
 (a) 384 cases present not compared with the register.
 (b) 41 ditto ditto ditto ditto.
 (c) 57 ditto ditto ditto ditto.

24. *Lymph.*—Several supplies were received from Calcutta, but most of it was found to be of little use. Thanks to small-pox, and the consequent employment of some of the establishment in the interior, a small stock of lymph was preserved in the circle, and this served with that from Calcutta as a beginning; but some delay was caused by the scanty supply, for all the parties could not be fully furnished so as to enter at once upon extensive work, and the stock had to be carefully nursed for a time.

25. *Vaccine census.*—A school in Lohardugga, and another in Hazareebagh, were taken; also Hazareebagh Central Jail, a tolah near Hazareebagh, and a part of the town of Purulia, &c. The following table is the result of the numbering. Many of the enumerated, who declared that they had small-pox, but upon whose skin no pitting appeared, were doubtless unprotected.

Vaccine Census, 1873-74.

Had small-pox	Male	...	...	...	...	362
	Female	...	...	...	...	33
Vaccinated	Male	...	...	...	...	70
	Female	...	...	...	...	34
Inoculated	Male	...	...	...	...	780
	Female	...	...	...	...	121
Unprotected	Male	...	...	...	...	59
	Female	...	...	...	...	46
Total	Male	...	...	...	...	1,271
	Female	...	...	...	...	234
Grand Total					...	1,505
Percentage unprotected					...	6.96

I enclose the annual returns in the usual forms and the sketch map of the circle. The eastern part of Kashmar and the south part of Tamar should have been left uncrossed.

J. J. WOOD, M.B.,
 Superintendent of Vaccination, Ranchee Circle.

RANCHEE,
 The 26th August 1874.

* NOTE.—Seton's Hand-Book of Vaccination, pages 117 and 217.

*Second Annual Report of the Eastern Bengal Circle of vaccination, by Assistant Surgeon
BHOOBUN MOHUN MITTER, Superintendent.*

Establishment.

1. *Establishment.*—The establishment sanctioned by Government consists of one superintendent, six head vaccinators, 36 vaccinators, and 36 extra vaccinators; but for want of experienced hands the work was carried on, from the 1st November 1873 to the 31st of March 1874, by five head vaccinators instead of six, and by 51 vaccinators instead of 72.

Throughout the non-working season there were three head and 18 ordinary vaccinators, but by the middle of September 1873 two head and two ordinary vaccinators were brought from Calcutta.

On the 1st of October 1873, 16 men were added to the staff: of these, 12 served me as extra vaccinators last year, and four were new men, who of their own accord are learning the work since August last.

Changes among vaccinators.

2. *Changes among vaccinators.*—In the beginning of November 1873, head vaccinator Roghoo Nath Chuckerbutty, who had been ill for some time past, took leave and returned to Calcutta to recruit his health; but the man who officiated for him was found incompetent to carry on the work.

Having no other person fit for this post, I applied to the superintendent of the Metropolitan circles of vaccination for a head vaccinator, and I am greatly indebted to him for the favour he showed in permitting Peary Mohun Buttacharjee to serve under me, who was put in charge of the Hurerampore division. Two men died of cholera, one absconded, and another was dismissed for negligence and misconduct. New men were appointed in their place. Among those who suffered from fever, there were three who could not work at all on account of general debility, and it was found necessary to get new men to officiate for them.

Necessity of extra vaccinators.

3. *Necessity of extra vaccinators during the organization of a vaccine circle.*—The work of a vaccinator is so trying and disagreeable, that those only who cannot earn their livelihood in any other way enter this department. While so employed, the majority try to get a situation in other Government offices, and submit their resignation when opportunity offers. Of those who remain behind, some cannot work in a satisfactory manner; others do not take any interest in their work, and it becomes a matter of necessity to get fresh men in their place. Out of a 100 men employed, 10 only turn out good vaccinators and become useful servants of Government; it is only in time we expect to get a set of good men.

The system of extra vaccinators acts as a safety-valve; those who are found unfit after a season's work are to be rejected.

These men can be taken into service in time of need.

Employment of vaccinators during the non-working season.

4. *Employment of vaccinators during the non-working season.*—On the 1st of April 1873 the extra vaccinators, 18 in number, were discharged, and there remained behind three head and 18 ordinary vaccinators. These men assisted me in carrying on my inspections till the 8th of May 1873, and from this date to the 28th of this month they took the vaccine census. After this, I employed them in making a fair copy of all the registers, and taught them everything connected with vaccination.

I granted two months' privilege leave to those men who were brought from Calcutta, to enable them to visit their families.

To prepare the minds of the people, I, in the beginning of September 1873, directed the vaccinators to proceed to those thanas where vaccine operations are to be carried on during the ensuing season, with instructions to post the Biggopuns in the hauts and known villages, and to explain to the people the aim of Government in offering vaccination.

Plan of work.

5. *Plan of the work for the year 1873-74.*—To overtake those portions of Srenagur and Nawabgunge thanas, which remained unfinished last year, it was thought advisable to work in the adjoining thanas of Manickgunge, Jaffergunge, and Hurerampore, so as to finish at one time the southern, south-western, western, and north-western portions of the Dacca district.

The geographical position of Goalundo thana made it also desirable to finish it at the same time; it lies on the west, while Jaffergunge and Hurerampore are on the east-side of the river Padma.

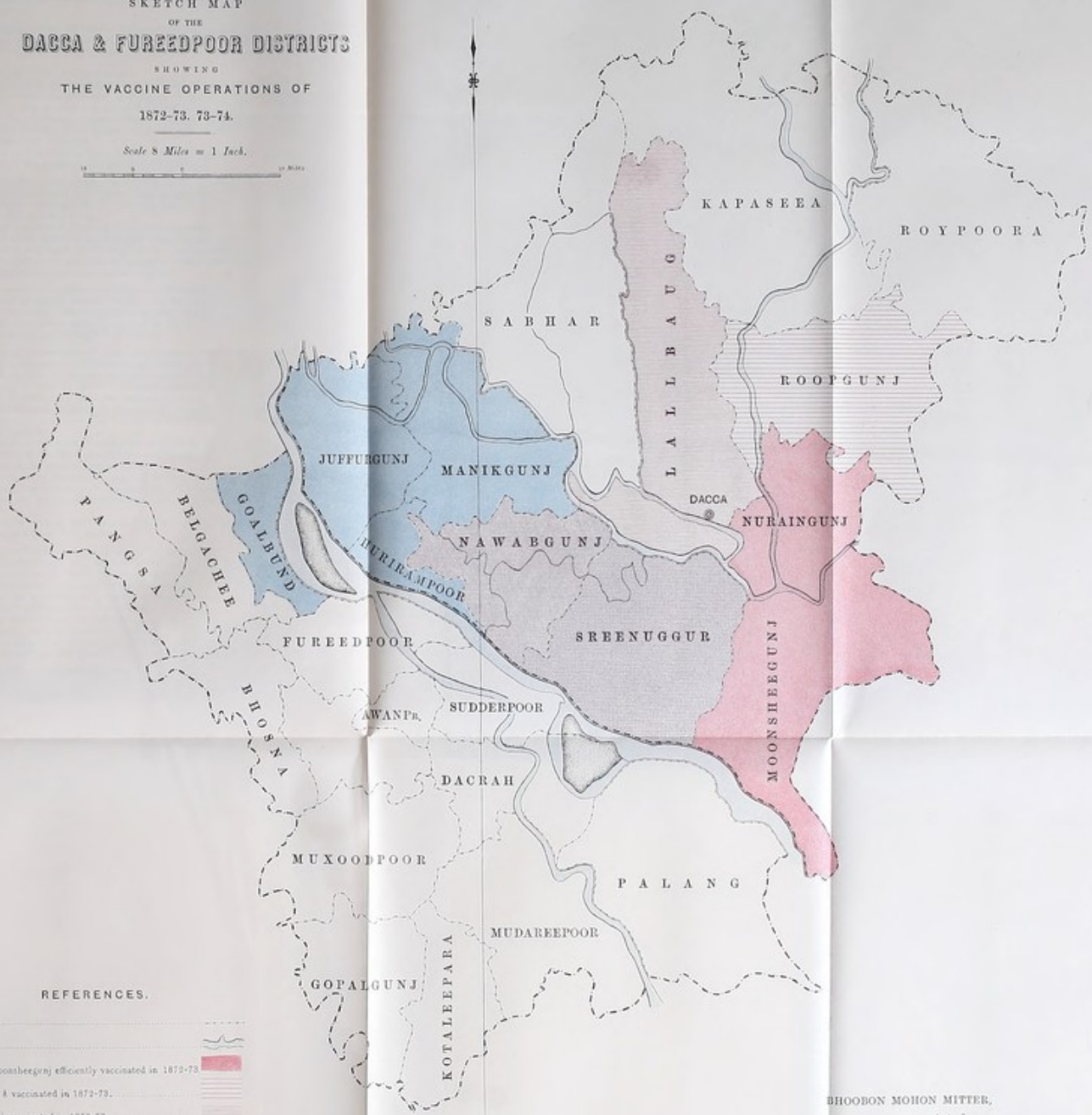
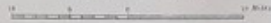
The work so undertaken is double that of the last year.

Assistance of civil authorities.

6. *Assistance of civil authorities.*—To make vaccination popular in a district where it is for the first time introduced, there is so great a need of the moral support of civil and municipal authorities, that without which it is incapable of taking a deep root in the virgin soil.

EASTERN BENGAL CIRCLE
 SKETCH MAP
 OF THE
DACCA & FUREEDPOOR DISTRICTS
 SHOWING
 THE VACCINE OPERATIONS OF
 1872-73, 73-74.

Scale 8 Miles = 1 Inch.



REFERENCES.

- Boundary lines.
- Rivers.
- Nuraingunj & Moonshiegunj efficiently vaccinated in 1873-74.
- Roopgunj, about 1/2 vaccinated in 1872-73.
- Lallbaug, about 1/2 vaccinated in 1872-73.
- Sreenuggur, about 1/2 vaccinated in 1872-73, 73-74.
- Nawabgunj, about 1/2 vaccinated in 1872-73, 73-74.
- Manikgunj, Juffurgunj, Herirampoore, Goalbund, efficiently vaccinated in 1873-74.

BHOON MOHON MITTER,
Asst. Surgeon
Supdt. Vaccination E. B. Circle.

EASTERN BENDAL CIRCLE

SECTION XIX

REPORT OF THE VACCINE DEPARTMENT

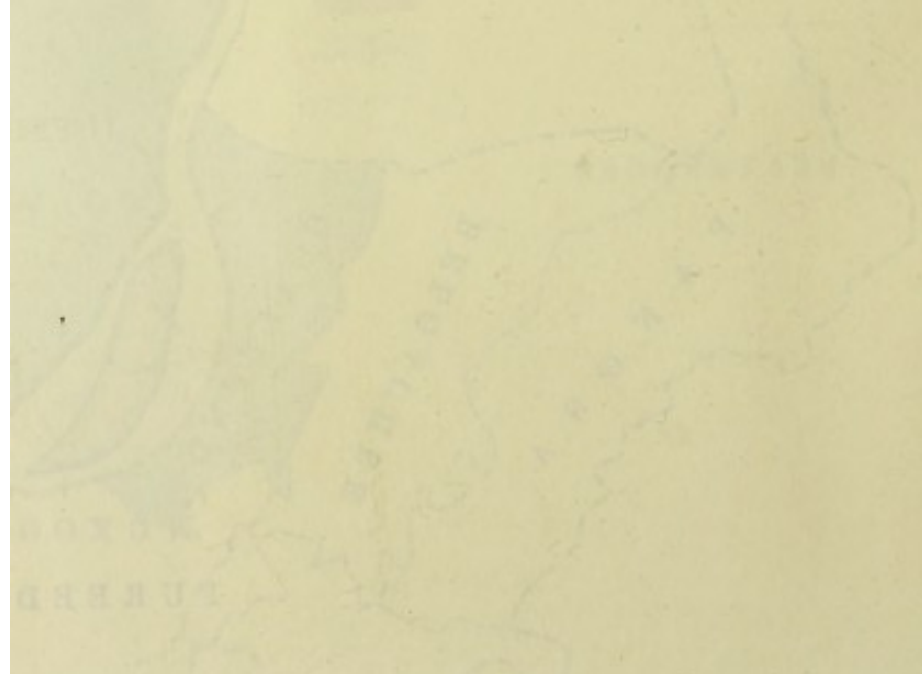
FOR THE YEAR 1902

1902

WASHINGTON, D. C.

The following table shows the number of vaccine doses prepared and distributed during the year 1902. The total number of doses prepared was 1,234,567, and the total number distributed was 1,123,456. The number of doses prepared in each of the several States and Territories is also shown.

State or Territory	Doses Prepared	Doses Distributed
Alabama	12,345	11,234
Arizona	5,678	5,123
Arkansas	8,901	8,456
California	15,678	14,567
Colorado	3,456	3,234
Connecticut	10,123	9,876
Delaware	2,345	2,123
District of Columbia	1,234	1,123
Florida	7,890	7,456
Georgia	11,234	10,890
Idaho	4,567	4,234
Illinois	18,901	17,890
Indiana	9,012	8,765
Iowa	6,789	6,543
Kansas	5,432	5,123
Kentucky	8,765	8,456
Louisiana	10,345	9,987
Maine	3,210	3,098
Massachusetts	14,567	13,987
Michigan	12,890	12,345
Minnesota	7,654	7,321
Mississippi	6,543	6,210
Missouri	11,765	11,432
Montana	2,109	1,987
Nebraska	4,321	4,109
Nevada	3,098	2,987
New Hampshire	2,876	2,765
New Jersey	13,456	12,987
New Mexico	4,987	4,654
New York	20,123	19,456
North Carolina	9,876	9,543
North Dakota	3,543	3,321
Ohio	16,789	16,123
Oklahoma	5,210	4,987
Oregon	4,123	3,901
Pennsylvania	19,012	18,345
Rhode Island	2,654	2,543
South Carolina	7,432	7,123
South Dakota	3,876	3,654
Tennessee	10,567	10,234
Texas	14,321	13,890
Vermont	2,543	2,432
Virginia	8,654	8,321
Washington	6,210	5,987
West Virginia	4,765	4,543
Wisconsin	11,432	11,109
Wyoming	3,654	3,432
Total	1,234,567	1,123,456



NEW YORK
TURKISH

The following is a good illustration. A certain number of people who had turned deaf to the words of vaccinators and refused to get their children vaccinated, adopted it when Babu Poornoo Chunder Ghose, deputy magistrate, in charge of Manikgunge sub-division, pointed out to them the beneficial effects of vaccination and the dangers of inoculated small-pox, and showed them the arms of his own children. The cause of vaccination would have been ruined had he acted otherwise. I am much indebted to this officer for the timely aid he always rendered me in removing the opposition and overcoming the prejudices of those who advocated the cause of inoculation.

7. *Assistance of influential natives.*—Whenever a change is going to take place in established customs or practices, it is not the common people who take the lead, but those who have received a high intellectual culture; the former, in these as in other matters, follow the example of the latter.

Assistance of influential natives.

I cite the following example by way of illustration.

The people of Komargah and its neighbourhood resisted all attempts to introduce vaccination among them; after a time we succeeded in inducing an educated man of the place to get his children vaccinated, and, as expected, his example was followed by his neighbours and also by the residents of the adjoining villages. The Government of the Punjab bestows thanks to those influential men who take great interest in promoting the cause of vaccination, and it encourages others to tread their footsteps.

Babu Shama Sunker Roy of Tewota, and Babu Mohim Chunder Mondul of Komargah, are the fit persons in this part of the country who deserve such an honor.

8. *Virus.*—In order to offer to the people the best specimen of vaccination, I got, on the 6th September 1873, a child vaccinated at Calcutta from lymph taken from the arm of another; the former was sent to Goalundo by the evening train of the 9th, and the virus was established there on the 11th at about 5 P.M.

Virus imported from Calcutta.

On the next morning he was sent to Dacca by the steam-tug, and eight children were vaccinated on the same day at about 4:30 P.M. from lymph taken from his arm.

The virus thus established was kept up throughout the vaccine season by arm-to-arm vaccination, and great care was taken to preserve its integrity while transmitting from one individual to another. It gave birth to genuine vaccine vesicles.

9. *Unwillingness of the people to supply vaccine lymph.*—Although the parents or guardians showed great reluctance to supply vaccine lymph from the arms of their vaccinated children, yet the vaccinators were able, after experiencing many difficulties, to induce some poor people, who, on receiving a handsome gratuity, agreed to do so; thus in each division a constant supply of lymph was kept up throughout the season.

Unwillingness of the people to supply lymph.

10. *Mode of employment of vaccinators.*—Of the five gangs in which the vaccinators were divided, one was sent to Srenagur and Nawabgunge to complete the work commenced there last year, and the others carried on vaccine operations in the thanas of Manikgunge, Jaffergunge, Hurerampore, and Goalundo, where vaccination was for the first time offered. The headman of each gang divided his men into batches, consisting of one experienced operator and one or two novices, and a group of villages was assigned to each batch with instructions to work in a progressive and systematic manner, and not to take new villages till the area allotted to them was finished.

Mode of employment of vaccinators.

The head vaccinators examined the work of each batch every 4th, 5th, or 6th day; paid especial attention to the character of the virus; taught the new men to vaccinate; and tried to induce those who had not adopted the prophylactic to accept it.

Those new men who had learnt to operate were allowed to do so on a large scale before the presence of an experienced vaccinator or of the headman: it is only in the months of December, January, and February, when undue irritation is not apt to arise, that the novices practice.

The vaccinators examined the arms of the vaccinated children every 6th or 7th day, and on each of these occasions inquired after their health.

11. *The area vaccinated.*—Vaccination was regularly performed in the thanas of Jaffergunge, Manickgunge, Hurerampore and Goalundo, Srenagur and Nawabgunge; the first four have been efficiently vaccinated, with the exception of those villages where fever was most rife, or where the residents opposed to submit to vaccination. The work in the last two was very much delayed by the opposition of a certain number of rich orthodox Hindoos, and the advancing season made it unadvisable to finish these.

Area vaccinated.

The vaccinators visited 429 villages of Jaffergunge, 216 of Manickgunge, 150 of Srenagur, 148 of Hurerampore, 140 of Goalundo, and 64 of Nawabgunge, besides 47 villages of Belgacha, 25 of Lallbag, 18 of Sabhar, and two of Attea, to check and stamp out small-pox, and seven of Moonshgunge, and three of Narangunge to establish the virus.

12. *Number vaccinated.*—The vaccinators worked in 1,249 villages, and performed 78,550 operations, against 47,568 of 1872-73, of which 78,413 were cases of primary vaccination, 78 of re-vaccination, and 59 of repetition. Out of 78,413 primary operations, 77,970 proved

Work of the season.

Results.

successful, 433 unsuccessful, and the result of 10 could not be ascertained. Of 78 re-vaccinations 47 proved successful and 31 unsuccessful. All the cases of repetition save one, were successful.

The percentage of success in primary vaccinations has been 99·44, and in re-vaccinations 60·25, and such a result is mainly due to the use of lymph of good quality taken fresh from the arm.

Progress of vaccination checked by the prevalence of fever.

13. *Prevalence of fever checked the progress of vaccination.*—Fever of intermittent and remittent type prevailed in an epidemic form in all the thanas where the vaccinators worked, but more so at Manickgunge and Jaffergunge than elsewhere. The condition of the people was very miserable. In many families all the members caught the disease simultaneously, and there was not a single soul in a sound state of health who could take care of them or cook for them. Many died without the consolation of having tasted a single drop of medicine, and those who survived are now suffering from enlargement of spleen.

Thus the people of many villages were unfit and unready for vaccination.

Almost all the vaccinators who had been working in these localities got the disease, and were incapable of carrying on their work.

The medicines which I had with me served to effect their cure, but repeated attacks brought on enlargement of spleen in some and great debility in others.

Superintendent's tours.

14. *Tours of the superintendent.*—From the 15th of October 1873 to the 24th of May 1874, a period of 220 days, I was on tour.

I devoted 162 days in inspecting six times in Jaffergunge and Manickgunge thanas, and four times in Goalundo, Hurerampore, Srenagur, and Nawabgunge thanas, 18 days in assisting the superintendent of the Metropolitan circles of vaccination in inspecting my circle, and 40 days in stamping out small-pox among a most turbulent set of people, on whom the vaccinators failed to make any impression.

I visited 400 villages, and inspected 21,269 cases.

Every case I inspected was compared with the register. I noted down the state of each point opposite the name of the person inspected, and put down letter (A) opposite the names of the absentees.

On being questioned, the parents or guardians of the parties not present answered that some had gone to other villages on business, or to meet their relations, others were in some distant fields feeding the cattle or ploughing.

During the time of inspection I examined the vesicles or marks with great care, and also paid attention to such matters as the mode of keeping registers and the spelling of proper names.

The Mussulman names were more frequently mis-spelt than the Hindoo ones, and this circumstance led to delay and confusion. I always inspected in a progressive manner all the villages vaccinated by a batch of vaccinators, so as to enable me to make an estimate of the quality of work done.

After the inspection was over, the parents and the guardians flocked round me and asked me questions connected with this subject, and the answers I gave satisfied them. I pointed out to them the dangers of inoculated small-pox, not only to those who willingly take the disease, but also to those who live in the vicinity.

The generality of people believe that they will have to pay something to cover the expenses incurred by Government in keeping the vaccine establishment, but I gave them to understand that they will not have to pay a single cowry for it: my words removed their fears.

The false rumour, circulated most probably by the inoculators, that those who have been vaccinated would be carried away to the tea plantations in Assam, impeded the progress of my inspection very much; the people were very backward in bringing their children to me. The subjoined table shows the number of my inspections.

Number of inspections.

	Vaccinated in four points, of which there were successful.					Vaccinated in two points, of which there were successful.			Doubtful.	Compared with register.	Total.	Absent.	Grand Total.
	4	3	2	1	Failed.	2	1	Failed.					
Seen after the 16th day	13,723	1,176	495	191	42	602	73	12	7	16,141	16,141	3,423	19,564
.. from 13th to 16th day	1,217	94	51	17	16	22	7	...	14	1,438	1,438	139	1,577
.. " 9th to 12th "	1,161	114	55	39	18	44	7	...	13	1,384	1,384	66	1,450
.. " 5th to 8th "	1,227	130	52	28	42	38	7	4	13	1,541	1,541	67	1,608
.. " 1st to 4th "	752	...	...	...	...	13	...	...	...	765	765	59	824
	15,020	1,514	563	176	118	719	94	18	47	21,269	21,269	3,764	25,033

The total number of persons inspected amounted to 21,269, and deducting from this total two cases of failure and ten cases of partial success after re-vaccination, and also 765 cases seen from 1st to 4th day, we get 20,492 cases, of which 20,321 were seen successful and 171 unsuccessful, including 37 doubtful cases. The percentage of successful cases inspected is 99·11, and that in the general return 99·44.

15. *Attitude of the people.*—Vaccination was for the first time offered to the people of Manickgunge sub-division and of Goalundo thana, and they looked upon it with eyes full of suspicion and distrust. The majority believed it to be the source of some new impost, but there were others who took a charitable view of the subject. Attitude of the people.

The vaccinators met with opposition in almost all the villages they worked, but it differed in degree.

The rich and orthodox Hindoos, by far the majority, not only refused to accept the prophylactic, but also compelled their neighbours and dependents to lean to their side. Persuasion and argument failed to produce any effect on the minds of the people of this description; they were as obstinate as the Fyrazees. To cope with vaccination, the inoculators appeared in the field in the latter end of November 1873.

They moved from village to village and circulated the false rumour that of those who had been vaccinated last year many got small-pox and died, and this they brought forward as the reason which deterred the rich men in adopting vaccination. Having implicit faith in them, the people believed what they said, and determined to adhere to their old practice.

Meanwhile they saw the zemindars and other rich men getting their children inoculated, and lost no time in joining them.

The example of the people around made the parents and guardians of the children vaccinated, repent what they had done.

This state of affairs existed at Srenagur and Nawabgunge, but it did not wear so formidable an aspect at Goalundo, Jaffergunge, Manickgunge, and Hurerampore. On the onset, the orthodox party offered a good deal of opposition, but we succeeded in overcoming their prejudice by argument and persuasion. Their example was followed by the people in general.

Except a few bigoted Hindoos, the generality of people are not so much inclined to inoculation as they seemed to be; and from my experience I am led to believe that they can be easily made to submit to vaccination as soon as inoculation is prohibited by law.

Then there would not exist any feeling of religious hostility against those who would first adopt the prophylactic, and their fate will be considered the fate of all.

A certain number of Fyrazees were induced to get their children vaccinated, and others would have followed their example had not the heads of this sect inflicted fines on those who had adopted the prophylactic.

16. *Necessity of extension of Act IV of 1865 each year to certain portions of this circle.*—From what has been stated in the last paragraph, it is evident that thorough vaccination in any district is almost impossible so long as the people are at liberty to inoculate their children; and I would again urge the necessity of prohibiting it by the extension of Act IV of 1865 each year to those thanas which would be the field of my operations. Necessity of the extension of Act IV.

The work which has been done this year leads me to conclude that by the end of the next vaccine season the remaining thanas (Roopgunge, Roypara, Kopasia, Lallbag, Sabhar) of the Dacca district could be finished, and I believe the said Act can be safely extended to this district in October next.

17. *Inoculation.*—Inoculation was very extensively practised in this district, and it acted as a great check to the spread of vaccination. It gave rise to several outbreaks of small-pox. Inoculation.

The inoculators appeared early in the field, and left no art untried to make vaccination unpopular. One of my head vaccinators reported to me that out of six persons inoculated at Sohagdai, one died; out of eight inoculated at Kowargah, one died; out of 13 inoculated at Aradoy, one died; and out of 39 inoculated at Frenpore, one died. The percentage of deaths being 5·2.

18. *Small-pox.*—Of the seven outbreaks of small-pox reported to me, one was very severe. It took place in the month of February 1874 at Chur Rughoonathpore and its vicinity, and great difficulty was felt in checking it. Small-pox.

The people were very much against vaccination, and the vaccinators failed to make any impression on them. The number of persons attacked and the number of deaths could not be ascertained.

While small-pox had been making great havoc in the infected localities, the inoculators were very busily engaged in adding fuel to the fire by inoculating the neighbouring villages. The disease spread like fire from one village to another, and it was with great difficulty checked.

I visited these villages in person, and after experiencing a good deal of trouble, I succeeded in stamping out the disease by vaccinating all the unprotected persons in and around the infected localities. In the remaining six outbreaks, 11 villages were affected and 220 persons took the disease, of whom 29 died and 191 recovered. In six out of seven outbreaks the disease could be traced to inoculation.

19. *Instruction of inoculators.*—In this part of the country inoculation is chiefly practised by the Chandals and Mallakors—Brahmins form exception to this rule: the majority are a set of ignorant people. Those who can read or write I tried to take into my service, but failed. They consider the work of a vaccinator too hard, and the pay too small. Working Instruction of inoculators.

two or three months they earn two or three hundred rupees during a season, and spend the remaining portion of the year at their homes. However, I succeeded in inducing one to serve under me. He turned out a good operator, but he did not take much interest in his work.

Vaccine census.

20. *Vaccine census.*—Great difficulty was felt in taking this census; the majority of the labouring class of people were for the greater portion of the day absent from their homes, and those who happened to be present told the vaccinators to wait till the other members return. Some treated them very rudely, and drove them out of their compound; others, though civil, yet concealed the true state of things. It is the belief of the people in general that vaccine census is nothing but the preliminary step for levying the tax.

	Inhabitants of 138 villages.	Percentage.
Number examined ...	46,938	10.0
Number had small-pox ...	1,633	3.4
Number inoculated ...	31,053	66.2
Number vaccinated ...	12,078	25.8
Number unprotected ...	2,174	4.6

Difficulties
experienced by
vaccinators.

21. *The difficulties experienced by the vaccinators in not getting suitable lodgings.*—The difficulties reported last year remained the same, but it was for a time obviated by taking into my service a certain number of men from the mofussil, who offered the vaccinators their spare rooms. But this state of things did not last long; to vaccinate new villages they moved onward and came in contact with men who seldom gave them shelter.

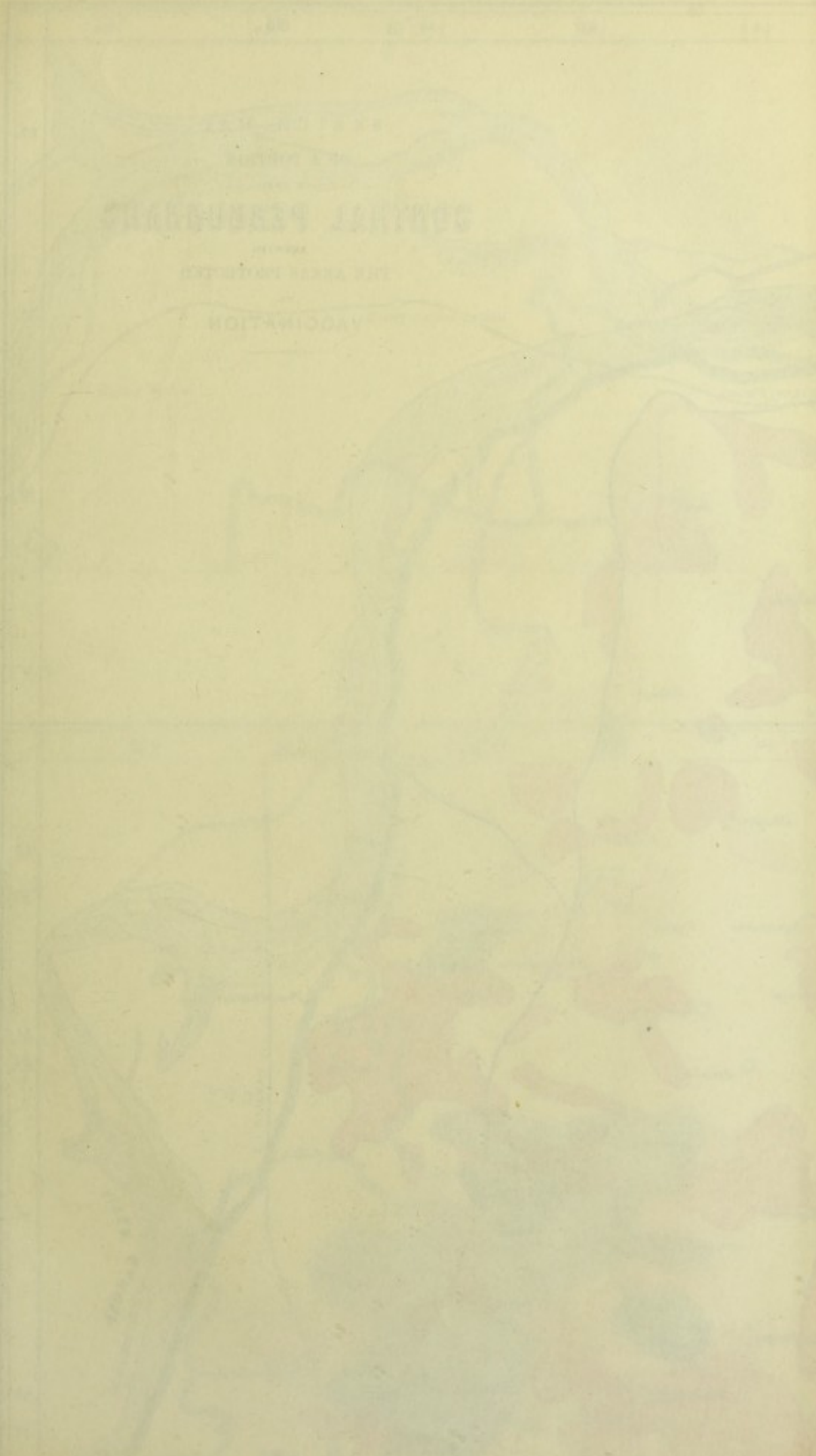
Behaviour of
establishment.

22. *Behaviour of the establishment.*—I take this opportunity of bringing to notice the care and zeal with which head vaccinator Jadoonath Chowdhry has carried on his duties.

The other head vaccinators, the vaccinators, and the office establishment, have worked to my entire satisfaction.

DACCA,

The 29th May 1874.

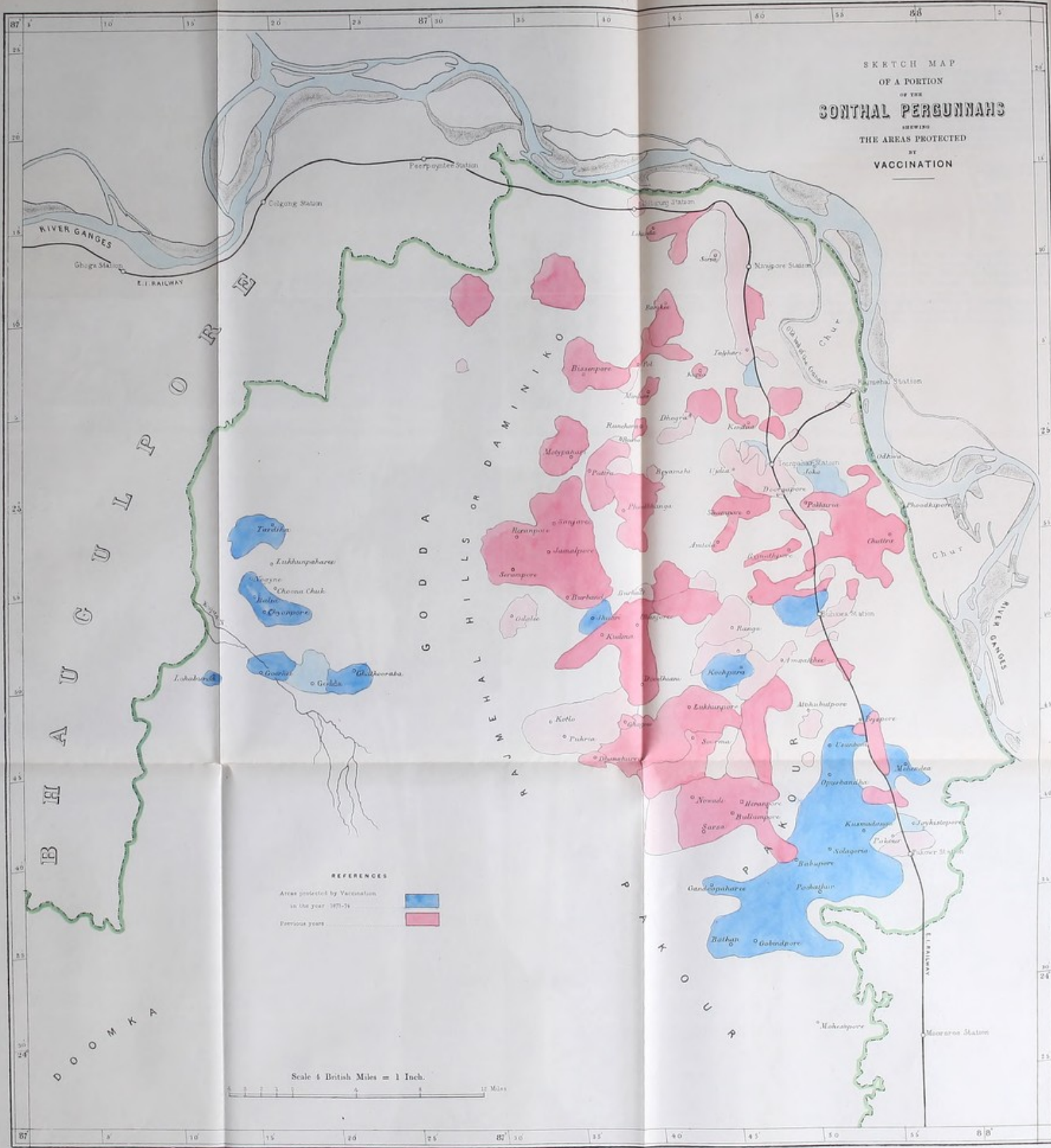


CENTRAL PENNSYLVANIA

THE GREAT PORTLAND

VACCINATION

SKETCH MAP
OF A PORTION
OF THE
SONTHAL PERGUNNAHS
SHOWING
THE AREAS PROTECTED
BY
VACCINATION



REFERENCES
Areas protected by Vaccination
in the year 1875-76 ■
Previous years ■

Scale 4 British Miles = 1 Inch.
0 1 2 3 4 5 6 7 8 9 10 Miles

Lithographed at the Surveyor General's Office, Calcutta, November 1876.

*The Seventh Annual Report on vaccination in the Sonthal Pergunnahs, by Assistant Surgeon
KALI KRISHNA GHOSE, Deputy Superintendent.*

1. THE establishment continued the same as last year, *i.e.* one deputy superintendent and six vaccinators. The latter were arranged in grades: thus one vaccinator in the first grade on a salary of Rs. 16 per month, employed rate, and Rs. 12, unemployed rate; two in the second grade on Rs. 13 and Rs. 10 respectively; and three in the third grade, on Rs. 10 and Rs. 8 each. There were no changes among these. Establishment.

2. *The non-working season.*—Owing to the prevalence of small-pox in certain portions of Rajmehal and Pakour sub-divisions, mentioned below, vaccination had to be carried on throughout the whole of the non-working season. This was done, however, at a great disadvantage. The heat of the weather, as might be expected, interfered seriously with the results of the operations, which had, in many cases, to be repeated before success could be attained. Great difficulty was also experienced in maintaining an efficient supply of lymph. This difficulty was greatly enhanced by the infected places requiring protection being situated wide apart from each other, and the prejudices of the people preventing their vaccinated children being taken from one village to another. The supplies that were obtained at this season from Calcutta and Darjeeling proved ineffective in most cases, when used. It was therefore with the greatest care and difficulty, and by performing arm-to-arm vaccination as far as practicable, that we could keep up a supply of lymph sufficient for our immediate requirements. Notwithstanding all our precautions, however, the ratio of success in the operations gradually fell from 93·20 in April to 42·5 in August. The total number of operations during the non-working season was 1,502, of which 1,251 were successful and 251 unsuccessful, including those that were doubtful, the percentage of success being 83·28. Non-working season.

3. The season's work was commenced in the beginning of October. The anxiety for having a sufficient supply of lymph at the outset for the purpose of starting vaccine operations simultaneously in several places was now greater than ever. Good crusts could not be had during the hot season. The only lymph we could preserve was by practising arm-to-arm vaccination; but owing to the prejudices of the people, as stated above, it was not found practicable in this way to spread the work for the extensive operations that were now to be undertaken. English lymph was not forthcoming. Our only hope lay in Darjeeling. A supply of crusts received from Darjeeling in September having in some cases proved successful when used, I asked for a fresh supply, and the superintendent was kind enough to grant my request. With this the work was at once started in many places, where it was kept up by arm-to-arm vaccination. A good and sufficient supply of lymph having been thus secured, systematic action was determined on, and definite areas taken up for protection. Commencement of season's work.

4. The vaccinators being engaged in September in places contiguous to the northern boundary of Pakour sub-division, the work of introduction in that sub-division was an easy one. Many villages in the north-westerly portions of this sub-division were protected last year, and had witnessed the beneficial effects of vaccination. This year it was proposed to protect the area continuous with this, as far as possible, in the east and south, and also to take up certain unprotected areas in Rajmehal sub-division. Pakour sub-division.

5. Three vaccinators were at first placed in Pakour sub-division, but subsequently, in November, one more joined, so that we had a batch of four vaccinators working in Pakour. Of this batch, vaccinators Indro Narain Doss and Rutty Kanto Doss were instructed to proceed in a south-westerly direction, starting from the north; and vaccinators Oghore Nath Mookerjee and Anundo Lall Mohunto to move on in a southerly and easterly direction. The two former having acquired great influence with the people of this quarter, by the energy and success with which they had conducted the operations of the previous year, were very successful in quickly establishing vaccination in a number of villages. The two latter had at first met with some opposition, which was, however, soon overcome.

Thus these vaccinators went on in a progressive manner protecting village after village. While engaged vaccinating in one set of villages, they would take care to prepare the minds of the people of another set which was to come next. Now vaccinating and now overcoming prejudice and opposition, they had a continuous round of duty to fulfil. Where great resistance was shown, they were told to keep aloof for a time, and to go on protecting such villages as readily yielded. This I have always thought a judicious policy. It is, in my humble opinion, one of the best means of overcoming opposition with the least possible sacrifice of time and energy. Unless where the opposition is based upon obstinate religious prejudice, a village cannot long hold out when it sees its surrounding neighbours overcome.

It is impelled, as it were, by a sort of religious fear not to remain unprotected in the midst of neighbouring protected villages, with whom it must have frequent intercourse.

6. The greater portion of pergunnah Ambar and the northern portion of pergunnah Sultanabad, constituting the zemindaree portions of the sub-division of Pakour, have been protected by vaccination last year. The area, as may be seen from the accompanying sketch map, extends westward to within a few miles of the boundary line between Pakour and Doomka; southward to within a few miles of Moheshpore, the residence of Rajah Gopal Singh Bahadoor, zemindar of Sultanabad; and eastward to near the railway line, and in certain places even across that line to the east. Owing to the ruggedness of the tract, the exact area in square miles cannot be determined.

Number of villages protected.

In this area 163 villages have been protected, and a total number of 10,091 primary and two secondary vaccinations performed; 9,804 primary vaccinations were successful. The percentage of success was therefore 97·20, excluding the cases unknown from total. The two cases of re-vaccination were successful. The population of Pakour sub-division, according to the last census, amounts to 141,304; now, taking the annual birth-rate at 30 per 1,000, we have 4,239·12 children annually born, so that more than double this number has been protected.

The village of Pakour itself, in which stands the residence of the zemindar of Ambar, has been left unprotected. The reason is that for two successive seasons past I have been foiled in my attempts to get vaccination introduced into the zemindar's family and village. This year I did not at first think of renewing my attempt, because I was afraid that would weaken the cause of vaccination in their zemindaree. These rich men have a great influence for good as well as for evil. If we succeed with them, the good that is done to the cause of vaccination is immeasurable; but if we fail, the mischief that is done is quite as great, if not greater. People are very apt to follow their example. So instead of disturbing them at first and throwing them into open resistance, I had this year adopted the policy of quietly establishing vaccination in their zemindaree and almost all round their village, in the hope of getting them round by degrees. Subsequently, when vaccination had been established in the surrounding locality, I had attempted to influence them, through the headmaster of their school whose children got vaccinated, but without success. By the exercise of tact and judgment, however, we have succeeded in accomplishing the object of establishing vaccination in their zemindaree without their aid, as much as we could have done with it. The present year, however, opens with an auspicious circumstance. Rajah Gopal Singh Bahadoor, zemindar of Sultanabad, has allowed his household and his village to be thoroughly vaccinated, and has thus paved the way for the future progress of vaccination in his zemindaree.

Rajmehal.

7. In the sub-division of Rajmehal two vaccinators, viz. Peary Mohun Doss and Bhagiruth Doss, were placed with instructions to protect certain definite areas in the interior. They were carrying on their work with vigour in the tract of land lying six or seven miles to the west of Bahawa station, East Indian Railway, when outbreaks of small-pox occurring in the sub-division itself, and subsequently in the sub-division of Godda, interfered with the regular progress of their work.

Vaccinator Peary Mohun Doss had to be sent to Godda in the beginning of January, for the purpose of suppressing the fearful epidemic of small-pox that broke out there, and of giving instruction, if possible, to the inoculators who were at work in the sub-division; and vaccinator Bhagiruth Doss also followed him towards the latter end of February.

Number of villages protected and operations performed.

In the sub-division of Rajmehal 38 villages have been protected last year, and a total number of 3,296 primary and 53 secondary vaccinations performed. 3,071, or 93·17 per cent., of the former, and 45, or 84·90 per cent., of the latter were successful. The population of Rajmehal being 190,890, the annual birth-rate is 5,726·7, less than two-thirds of which were protected last year, chiefly by two vaccinators working during a portion of the season. There was, however, another agency at work in this sub-division—I mean the converted inoculators, whose proceedings have been given below.

Godda.

8. In the sub-division of Godda 32 villages in portions of pergunnahs Godda and Barkop have been protected by the two vaccinators who were at work there for the latter part of the season. The total number of operations was 1,597, of which 1,534, or 96·05 per cent., were successful.

Number of operations.

Number vaccinated by entire establishment.

9. The total number of persons vaccinated during the year, as shown in the accompanying returns, amounts to 15,039, against 11,071 of the previous year; the number successful, 14,456, against 10,490, the percentage of success being 96·15, against 95·08. The cost of each successful case has been 2 annas 11·9 pies, against 4 annas 1½ pie. Each vaccinator on an average vaccinated 2,506·5 cases, against 1,845·16 in the preceding year.

Increase over previous season.

Thus there has been, as compared with the year 1872-73, an increase of 3,968 persons vaccinated, and of 3,966 successful vaccinations, a rise by 1·07 in the percentage of successful cases, and a reduction of more than one anna in the cost of each successful case. There has also been an increase of 661·3 in the number of cases vaccinated by each man.

Of the total 15,039 cases, 14,984 were primary vaccinations, of which 14,409, or 96.19 per cent., were successful, and 55 were re-vaccinations, of which 47, or 85.45 per cent., were successful. The re-vaccinations were in most cases performed upon cases which had been unsuccessful in previous seasons, and hence the percentage of success is rather high.

The above, I humbly presume to say, should be accepted as an exceedingly gratifying result, considering the smallness of our staff, the nature of the people with whom we have to deal, and the rugged and hilly character of the tract where we have had to work, in the midst of hardships and difficulties inconceivable.

10. The tabular statement given below shows the results of my inspections. My inspections were conducted on the same thorough system as last year. I would take up the work of one vaccinator at a time, and go on from village to village, minutely inspecting as many cases as I could find, and often comparing them with the registers kept. After finishing the work of one I would go over to another, and so on.

On my approach in a certain locality, notice is sent through the chowkidars to the people of the villages which I would propose to inspect, directing them to keep their vaccinated children for inspection. Without such previous notice people are apt to go abroad to work in the fields and jungles, often taking their children with them. In order that I should not lose the opportunity of inspecting the people of as many villages as may have assembled to meet me, I would sometimes commence work in the morning, and would not cease till evening, when after a whole day's toil I would retire to take my meals and my night's rest in a poor lowly Sonthalee hut or a miserable cowshed, which are often the only shelters afforded us against wild beasts and biting frosts.

In the course of my tours, I would also often take the opportunity to introduce vaccination in villages where it has not been introduced before, and to remove doubts and suspicions from the minds of those who would question the protective influence of vaccination. Thus I would try to make the most of my time during each tour.

From the month of January my attention being greatly directed to the outbreak of small-pox at Godda, my regular inspections were, to a certain extent, interfered with.

Tabular Statement of Inspection.

	Vaccinated in six points, of which there were successful.						Vaccinated in four points, of which there were successful.						Vaccinated in two points, of which there were successful.			Compared with register.	Total.	Absent.	Grand Total.			
	6	5	4	3	2	1	Failed.	Doubtful.	4	3	2	1	Failed.	Doubtful.	2					1	Doubtful.	
Seen after the 15th day	113	21	6	...	...	...	2	3	4,592	2,177	1,389	439	140	73	191	74	4	4	9,138	9,138	787	9,925
" from 15th to 16th "	3	...	...	...	...	...	...	...	187	107	59	13	12	17	2	1	...	...	408	408	8	416
" from 16th to 17th "	7	...	3	...	...	...	...	...	297	163	123	31	56	62	2	5	...	1	716	716	29	745
" from 17th to 18th "	...	...	...	...	...	...	...	...	313	159	75	22	28	7	6	1	1	...	691	694	43	737
" from 1st to 4th "	...	...	...	...	...	...	...	...	*78	...	...	...	...	...	...	...	...	...	78	78	3	81
Total	123	21	9	...	...	...	2	3	5,337	2,697	1,646	565	216	159	208	81	5	6	10,938	10,938	861	11,799

* Seen too early to decide on the result.

The total number of persons inspected amounted to 10,938, or 72.7 per cent. of the total number vaccinated. Excluding the 78 cases seen from the 1st to 4th day, we have 10,860 cases left behind, of which 10,449 were seen successful and 411 unsuccessful, including those doubtful. The percentage of successful cases inspected is 96.21, and that in the general return 96.15.

Each vaccinator's work was inspected about eight times on an average during the year.

11. *Small-pox.*—The last year has been one of unprecedented activity in epidemic influence. Outbreaks of small-pox, which have already formed the subjects of special reports, continued to occur almost throughout the year. In the case of Rajmehal and Pakour sub-divisions, these were in a great measure continuations of the outbreaks mentioned in my last annual report, and which first broke out in the beginning of January 1873.

12. During the non-working season, *i.e.* from April to the end of September, 14 villages in Rajmehal sub-division, besides the town of Rajmehal itself, and one village in Pakour, were reported to have been infected. The names of these infected villages are Kankjole, Islampore, Jhupsipahar, Jamalpore, Phoolbaria, Ghoogee, Oodwa, Newabdewree, Gurgaon, Englis, Palasbona, Putria, Maharajpore, Asunboni, and Rajipur (in Pakour), besides the town of Rajmehal itself. A total number of 159 cases and of 73 deaths was reported from these places. Thirty-four of these deaths, or nearly half the total number, occurred at Palasbona village, which, like two or three other villages of that quarter, such as Kankjole and Islampore, is inhabited chiefly by a peculiar sect of Mahomedans, who are rigidly opposed to

all prophylactic measures, and who therefore make it their study to conceal the fact of any occurrence of small-pox in their villages. Twenty-two lives were sacrificed at Palasbona before the people gave us any notice of the outbreak; and even then, when we went to inspect in their village and explained to them the noble mission which had brought us there, they would not show us the cases that had occurred, or give us any certain information regarding them.

Such, unfortunately, is the sad case with the people generally of this district. Rude and ignorant in the extreme, they exhibit a lamentable degree of apathy and indifference to the invasions of any epidemic disease, and are not roused from their lethargy until they see their village about to be depopulated. I am convinced that, were it not for the spread of vaccination and the extreme vigilance exercised by our men, most of these outbreaks of small-pox would never have come to light. The want of a regular police here, combined with the stupid inactivity of the people, rendered it extremely difficult to obtain information of these occurrences.

In eleven of the infected places mentioned above, including the town, vaccination was introduced; in seven of these it was completely established, and in four only partially so. Owing to the obstinate resistance of the people, it was not introduced in the three villages Kankjole, Islampore, and Newabdewree; and owing to the people being protected by vaccination in previous years, it was not undertaken in the two villages Gurgaon and Maharajpore, where the epidemic did not show any tendency to spread. Owing to the heat of the weather at this season, as already stated, extreme difficulty was experienced in affording protection to the infected localities. Many persons who had imbibed the poison were liable to be affected, even after vaccination had been performed and before it had taken effect; and this circumstance rendered us liable to distrust and suspicion. It was therefore under extremely disadvantageous circumstances that the work had to be carried on during the non-working season. Thirty-two cases of small-pox took place after vaccination, seven of which died. In these cases the vaccination had either failed, or the eruptions had appeared before the fifth day of the operation, when it had not taken effect. Twelve cases were ascertained to have occurred in persons who had old inoculation, five of which died.

13. During the working season, *i.e.* from October to March, the following villages in Rajmehal sub-division were known to have been infected, *viz.* Motyjhurna, Dhanbita, Oodwa, Jhubree, Banspahar, Rangamatea, Gadye, Puturchapti, Simuldhop, Pungro, Kelabaree, Tetulia, Ramchowkee, Pokhoria, and Hurnadanga.

In these 15 villages, 107 cases, with 37 deaths, were known to have occurred. Seventeen of these deaths, or nearly half the total number, had occurred at Dhanbita, a hill village in the interior, whereas at Palasbona, mentioned above, the disease had been raging for months previously without any notice having been given us by the people. In 10 of the villages vaccination has been introduced, and the disease thereby checked. Nineteen of the cases of small-pox had taken place after vaccination, generally before the fifth day of the operation, two of which died. Two cases of old inoculation were known to have been affected, both of which died.

Epidemic in Godda.

14. Towards the close of December 1873 information reached us of an epidemic of small-pox at Godda. The principal vaccinator of my staff, Peary Mohun Doss, was immediately ordered to the spot, with instructions to afford protection to the people of infected villages, and if possible to train up as many inoculators as he could find there, in order that they might be taken to assist him in stamping out small-pox. Subsequently another vaccinator was detached from my staff and sent to Godda. I myself went there in February, and found that vaccination was established in 13 infected villages. The epidemic was found to have spread itself very widely. I have already, in my special reports on small-pox, submitted a long list showing the villages infected and the total number of cases and deaths that had occurred. I need not therefore swell this report by an unnecessary repetition of the names of those villages. I think it will suffice to say, generally, that in pergunnah Godda, of the sub-division of Godda, we had up to the end of March 1874 a total number of 33 villages infected, of 269 cases, and 58 deaths; in pergunnah Barkop, 19 villages, 180 cases, and 19 deaths; in pergunnah Muneehari, four villages, 25 cases, and five deaths; in pergunnah Pursunda, three villages, 14 cases, and one death; and in pergunnah Pusyee, eight villages, 14 cases (besides several others in three of the villages, whose exact number could not be ascertained), and 21 deaths.

Thus up to the end of March 1874 67 villages in the whole sub-division of Godda were known to have been infected, with a total number of 502 cases of small-pox, of which 140 died. Vaccination had up to the same period been established in 22 villages in pergunnah Godda, five in Barkop, one in Muneehari, and four in Pusyee, giving a total of 32 villages protected more or less completely by vaccination.

As in the case of Rajmehal sub-division, mentioned before, the disease in some of the villages of Godda was ascertained upon inquiry to have been raging since September or November 1873; and in the case of one village the outbreak was said to have commenced in February 1873, no notice having been given by the people till the epidemic had affected

several villages, and many lives were sacrificed. The origin of the outbreak in Godda, as given by the people, was traced to contagion from certain villages in the Bhagulpore district.

15. *Inoculators.*—Besides the five inoculators mentioned in my last annual report, four inoculators of Rajmehal sub-division and two of Pakour have last year received instructions from me how to vaccinate, and were allowed to practice vaccination on their own account. Ex-inoculators.

We had thus a batch of seven converted inoculators for Rajmehal and four for Pakour. Among the former, Bany Madhub Chuckerbutty, with Ukoor Churn Doss, had worked in 25 villages in Rajmehal sub-division, and vaccinated a total number of 1,430 cases, of which about 1,300 were successful; Ram Tarun Chatterjee in 21 villages of the same sub-division, a total number of 1,262 cases, of which 1,062 were successful; Bycunto Nath Banerjea in four villages of the same sub-division, a total number of 190 cases, of which 150 were successful; Bepin Behari Acharjya, in two villages of Rajmehal, a total number of 83 cases, of which 65 were successful; and Sree Nath Doss in two villages of the same sub-division, a total number of 47 cases, of which 30 were successful. Thus we have 54 villages in Rajmehal sub-division protected by six converted inoculators, with a total number of 3,012 vaccinations and 2,607 successful operations, without any cost to Government.

This, together with the number done by the Government agency, gives a total for Rajmehal of 6,361 vaccinations performed last year, a number which exceeds the annual birth-rate.

Inoculator Bycunto Nath Banerjea also vaccinated in five villages of Godda sub-division a total number of 250 cases, of which 210 were successful. One of the Rajmehal inoculators, viz. Ram Rutton Mundel, and the four Pakour inoculators, have not done any work during the season. The latter perhaps could not find a footing, owing to the rapid progress of the Government vaccinators in Pakour.

16. I inspected the work of the inoculators two or three times on an average during the season, and am glad to say that I noticed a decided improvement in their operations. Most of them worked with a good vesicle; and what was particularly remarkable was that they had in most cases carried out my instructions in observing a uniform system with my vaccinators and operating on the upper arm. The fact that they succeeded in carrying on their practice by thus acting in direct opposition to their old-established customs speaks well for vaccination, and encourages us with a hope that the day is not very far distant when vaccination may, in certain places at least of Rajmehal sub-division, be rendered self-supporting.

17. This system of making the inoculators operate only on the upper arm, as is done by vaccinators, appears in my humble opinion to strengthen the cause of vaccination a great deal. Inoculators are then totally deprived of the chance of playing any deception either upon us or the people, or of disparaging vaccination by keeping up an impression in the minds of the people that they were practising in their old mode. On the other hand they feel themselves bound, as it were, to make it their interest to plead for vaccination, and to talk of its advantages over the old practice of inoculation.

The people also see their old inoculators practising, not in their old mode, but in the new mode prescribed by the Government, and are taught to acquiesce in it, feeling convinced that the old mode has been done away with. They by and by witness its beneficial effects, and learn to court it for its own sake.

This system, however, will only succeed where the inoculators work at a distance from Government vaccinators, and in places where vaccination is, to a certain extent, known. In the existence of these two conditions lies the chief secret of the success of Rajmehal inoculators.

18. In the sub-division of Rajmehal inoculation was this year known to have been practised in one or two places only; but it was carried on so secretly, and the places were so remote from the field of our operations, as to make it evident that the practice does not find so much favour with the people now as it used to do before. Inoculation in Rajmehal.

19. While at Godda for the purpose of inspecting, I took occasion to instruct two inoculators, named Nobin Chunder Banerjee and Harma Manjhee, whom I found there. The first had been vaccinating for months past, but it was found, upon an inspection of his work in two or three villages, that he had been practising a spurious kind of vaccination. He was therefore severely reprimanded, and taught the proper method of operating. He has since acted up to my instructions. I also took occasion to inspect the work of two or three more inoculators who were working at Godda. One of these, named Noyan Poojhoree, had in the year 1871-72 worked under my immediate supervision in the Pakour sub-division, and I found that he had this year worked at Godda with satisfaction.

I had on a subsequent visit taken particular pains to instruct six more inoculators belonging to Godda in the art of vaccination; but as this does not fall within the year under report, I withhold any particular description of it.

20. On the whole there were seven converted inoculators at work in Godda sub-division last year, under the immediate supervision of the hospital assistant there. They had vaccinated in 20 villages, 17 of which were infected with small-pox. The total number of operations performed by them was 1,898, of which 957 were ascertained to have

been successful, 448 unsuccessful, including those that were doubtful, and in 493 cases the result was not ascertained. For information on these points, I am indebted to the hospital assistant at Godda, to whom the inoculators used to submit their returns.

Vaccine census.

21. The sub-joined statement, drawn up chiefly on the authority of my vaccinators, who furnished the necessary information, will convey some idea of the degree of protection enjoyed by the people:—

Class of people examined.	Number examined.	Inoculated.	Per cent. of total examined.	Vaccinated.	Per cent. of total examined.	Had small-pox.	Per cent. of total examined.	Unprotected.	Per cent. of total examined.
Inhabitants of three villages in Godda sub-division ...	1,301	942	67.72	274	19.69	151	10.85	24	1.72
Ditto of seven villages in Pakour sub-division ...	4,314	2,493	57.78	1,278	29.62	111	2.57	432	10.01
Ditto of two villages in Rajmehal sub-division ...	654	382	58.40	229	33.63	23	3.51	29	4.43
Boys of Rajmehal school	61	27	44.26	17	27.86	5	8.19	12	19.67
Total ...	6,420	3,844	59.87	1,789	27.86	290	4.51	497	7.74

Conduct of vaccinators.

22. In conclusion, I feel it but justice to bear my humble testimony to the energy and zeal displayed by my vaccinators in the discharge of their duties. One or two among them deserve special encouragement, which would rather act as a fresh stimulus to their exertions. I therefore beg to solicit sanction to one more vaccinators being placed in the first grade, so that there would be two vaccinators in each grade. This arrangement would not exceed the budget grant sanctioned for our establishment.

Four extra vaccinators required.

I would also beg to submit for consideration that, owing to the outbreaks of small-pox being so frequent in this district, the work of our regular establishment is greatly interfered with, and that it is therefore most desirable that four extra vaccinators be sanctioned for this circle. These may not only carry on the systematic work of the season, but will also be very useful as flying agencies for the suppression of small-pox.

The services of a peon asked for.

There is one more grievance for which I would also beg to solicit the kind consideration of the higher authorities. When vaccinators are engaged in different and distant places in the interior, it may be of different sub-divisions, especially in times of small-pox, it becomes a matter of extreme difficulty, in case of any sudden emergency arising, to send for them or to carry any urgent orders to them. There are no post-offices in the interior, the only dāk arrangement here being the chowkidaree dāk, which is not at all times reliable, and which causes such delay in the delivery of letters that, in times of emergency, it is worse than useless. Under such circumstances the deputy superintendent is either compelled to go personally, leaving his more important duties in other quarters, or to send somebody at his own expense, there being no provision in the budget for contingent expenses.

It would therefore greatly facilitate and expedite the discharge of public duty, especially in times of emergency, were a peon allowed for this circle.

RAJMEHAL,
The 9th June 1874.

ABSTRACTS OF REPORTS FROM CIVIL SURGEONS.

WESTERN DISTRICTS—BURDWAN DIVISION.

Burdwan district.—The large amount of vaccination done in this district has been described in the special report on the Metropolitan circles, of the area of which it forms a part. Burdwan district.

The civil surgeon reports that he engaged one vaccinator from the staff of the Metropolitan circles on Rs. 12, paid out of the municipal funds, who worked within the municipal limits, from 28th November 1873 to 31st March 1874. The number of people vaccinated was 471, against 24 in the previous year, with a percentage of success of 98·89 in primary, and 94·44 in secondary cases. The vaccinator's work was regularly inspected by the civil surgeon and his assistant. Dr. French writes—"The work was very satisfactory, and the lymph was excellent." He also reports there was less opposition, and he found the people more willing than in previous years. He received many petitions for the despatch of vaccinators to villages. Inoculation is not now carried on in the town. No inoculators were trained by the civil surgeon himself, and he referred those that wished to learn vaccination to the superintendent of the Metropolitan circles. There were a few outbreaks of small-pox, which were promptly stamped out by the Metropolitan staff of vaccinators.

The returns of the branch dispensaries are blank, and no report is submitted, except from Chuckdighee and Jehanabad. Assistant Surgeon Juddoo Nath Bose, of Chuckdighee, reports that inoculation is seldom heard of, as the people have now learnt to appreciate the value of vaccination. No case of small-pox came to his notice. Assistant Surgeon Rojoni Lal Sett, of Jehanabad, reports that no vaccination was performed in the dispensary during the year. Here it should be stated that the post of Government vaccinator in branch dispensaries was abolished on the formation of the Metropolitan vaccine circles.

Raneegunge sub-division.—Mr. Roberts, civil medical officer, submits the vaccination report of the Raneegunge and Assensole dispensaries. He engaged no vaccinator, but vaccinated 72 persons with his own hand, of whom 39 were successful, with a percentage of 100 in primary, and 18 in secondary cases. The small percentage in re-vaccination is explained by the fact that the subjects were all Europeans with good cicatrices. Raneegunge.

There was small-pox in the Raneegunge bazar in April and May 1873, when the sub-divisional officer got two vaccinators from the staff of the Metropolitan circles, and partly paid for their services. In January 1874 there was small-pox in Assensole, and two vaccinators were sent by Dr. Gupta. Mr. Roberts reports that the people, chiefly up-country Beharees, are opposed to vaccination. Inoculation is not now practised in the Raneegunge sub-division.

Beerbhoom district.—Dr. Barker engaged one vaccinator on Rs. 10, paid by Government for seven months; he worked generally within municipal limits, and vaccinated 256 persons, against 491 in the previous year. Two hundred and fifty-six vaccinations in seven months, or only 35 cases monthly, is rather small work; but it may be accounted for by the apathy and unwillingness of the people. Dr. Barker and the native doctor inspected the greater part of the cases. Sporadic cases of small-pox occurred almost every month during the year, but from October the disease assumed an epidemic form. During 1873-74 there were 1,215 cases of small-pox, and 283 deaths reported by the police. Dr. Barker did what he could for the sufferers by deputing his native doctor with medicines for distribution, and then applied for a gang of trained vaccinators from the Metropolitan staff. The gang deputed to Beerbhoom vaccinated nearly 10,000 persons in four or five different thanas, and would have been able to do more if any assistance had been rendered to them by the civil authorities. The disease has considerably abated, but has not altogether ceased. Dr. Barker remarks—"The prejudice against vaccination is also strong in the interior of the district, but owing to the prevalence of small-pox many villages submitted to be vaccinated by the trained gang of vaccinators obtained from the superintendent, Metropolitan circles. But I fear so long as inoculation is not prohibited, small-pox will continue, and vaccination will make little progress." Beerbhoom.

Bankoora.—Mr. Conolly has submitted a long report of the proceedings of the local ex-inoculators. One Government vaccinator on Rs. 10 employed throughout the year, one vaccinator paid Rs. 10 by the municipality for the working season only, and 59 unpaid ex-inoculators were engaged in vaccination in the district. In the month of February five vaccinators, under one head-vaccinator, from the staff of the Metropolitan circles arrived from Calcutta, and worked for six weeks. In addition to the 59 ex-inoculators who worked, there were 15 others who were instructed in vaccination during the year. Bankoora.

Vaccination was commenced by Dr. Hill on 15th November 1873, and the work was taken up by Mr. Conolly on the 15th December. He divided the district into four divisions, and allotted a gang of ex-inoculators to each, *viz.*, Bishenpore, Onda, Bankoora, and Gungahatty. The Government vaccinator and the municipal vaccinator conducted the operations, and supervised the work of the converted inoculators. Small-pox of a severe type broke out in Bishenpore and in other places of the district. It assumed an epidemic form, and affected 69 villages. The civil medical officer exerted himself greatly to cope with the epidemic, and his efforts were attended at first with partial success. He travelled all over the district, and verified a large proportion of the operations. The total number vaccinated by the four gangs was 21,511, of which 17,934 or 83.37 were successful. Small-pox had almost died out, though a few cases lingered when the report was submitted. Three flying parties were organized to cope with fresh outbreaks. Mr. Conolly is of opinion that a few deserving and hard working ex-inoculators should be allowed something in the shape of retaining fee, as in Midnapore. He again asks for a tent, and some personal allowance for the season, for the work of inspection.

Midnapore district.

Midnapore district.—Dr. Mathew's report is reproduced, *in extenso*, on account of its interest. The work has fallen off. The withdrawal of the retaining fee was unfortunate.

"2. As compared with the previous year there has been a considerable falling off in the numbers vaccinated, but when comparing the seasons it must be borne in mind that two of the inspecting vaccinators were employed last season in vaccinating at Moynah, where small-pox then prevailed. The numbers vaccinated by them amounting to 9,639, and as these men were employed during the past year in purely inspection work, the above figures must be omitted when comparing the work of the season in question.

Difficulties experienced.

"3. When, however, comparing the work performed by the trained inoculators a considerable deficit is apparent, as noted in the margin. This is a marked falling off, and could only be regarded as a lamentable failure, were not the difficulties that had to be encountered taken into account.

Season 1872-73.	...	24276	
Number vaccinated	...	24276	
Season 1873-74.	...	18956	
Number vaccinated	...	18956	

"4. During the period under report the epidemic fever prevailed to a great extent, not only in the villages which it attacked in former years, but it spread to fresh tracts of the most densely populated country in the district, *i.e.*, Chunderkonah, Kurpoy, and Ghattal. The men who had been appointed vaccinators at these places were struck down by the fever, and only about 1,517 people were vaccinated along this line of country, owing to the serious extent to which the villagers were affected by the disease.

"5. Again, the proceedings of the vaccinators were crippled at Dasupore, Debre, Subbong, and Panchkoora, the fever having attacked these thanas with more than its former violence. In fact, the efforts made to carry on the work were frustrated by adverse circumstances beyond control, and I think but little blame can be attached to the vaccinating staff for the very feeble results obtained.

Re-distribution of vaccinators.

"6. During the past season a re-distribution of the vaccinators employed in the district was carried out by the magistrate.

To each individual Government sanctioned a payment of Rs. 2 per mensem during the working season, inasmuch as it was considered advisable to give the men some encouragement; and, moreover, it was thought that the payment of this small sum would place the men more under control, and more *en rapport* with the civil surgeon's office than they would otherwise be.

"7. In deference to the views of the magistrate, this allowance was not paid, Mr. Harrison urged that the men were quite willing to work without it, and that this payment was establishing a precedent which should not be encouraged. With these opinions I generally concurred; but I cannot help thinking now that the withdrawal of this small fee caused much disappointment, and it certainly deprived me of a valuable means of controlling the proceedings of the vaccinators.

"8. Now that the men have worked for a season without pay, matters had better remain as they are; but it will be necessary to give some of the vaccinators to understand that they will be liable to have their appointment cancelled by the magistrate, unless they display more energy than they have hitherto done.

"9. The numbers vaccinated by some of the men is shamefully small, and were it not for the reason already detailed would admit of no excuse.

"10. Personally, I was not able to supervise the proceedings of the vaccinators, nearly so much as in previous years. The Surgeon-General is aware how largely the medical staff employed in the district has been increased, and how greatly my time was occupied in looking after the working of some 20 dispensaries during the past season. I was obliged to trust a good deal to the reports of my inspecting vaccinators, who, as far as I could judge, worked very fairly, and submitted correct returns.

"11. Small-pox was not epidemic in any quarter of the district, except in some villages near the town of Tumlook, where it broke out during the last ten days of December. Small-pox.

"I inspected on two occasions the affected villages, and deputed an experienced vaccinator, named Sibdal Nusser, to assist the local men who did not appear to be making sufficient progress.

"The cases of small-pox that I saw were not of a severe type, and the disease, fortunately, did not spread to any uncontrollable extent. Vaccination was carried on in about 31 villages, and 3,698 people were operated on.

"12. This is the second season that vaccination has been introduced into this part of the country on the new system. The progress made has been satisfactory, and if this quarter of the zillah escapes the epidemic fever, I look forward to vaccination being established at Tumlook on as satisfactory and sound a basis as it has been for some years in the latter station.

"13. Inoculators were not heard of during the past year, nor do I believe that in those parts of the district where the people were healthy much opposition to vaccination was offered by the villagers. Inoculators.

"14. The most active opponent to vaccination, that I heard of during the past year, was a head-constable in charge of an outpost near Laranghur, who was pleased to place every obstacle in his power in the vaccinators way, and nearly brought the work to a stand-still by informing the people that they were being vaccinated with cow's fat, &c., &c. I brought the conduct of this man promptly to the notice of the district superintendent of police, who I believe transferred him to some less responsible appointment.

"15. As in past seasons, I have been favoured with the influence and co-operation of the civil authorities, the importance of which in an undertaking of this kind cannot be overrated. The new vaccinators have all been appointed, and received certificates from the magistrate which has given them a status and an influence with the people which they would otherwise never have possessed, and as long as this system is so aided and supported it will certainly flourish and prosper sooner or later. Co-operation of civil authorities.

"16. In conclusion, there is one point to which I beg to allude. I think the time has now come for suppressing by law the practice of inoculation throughout the district. For nearly six years inoculation has been prohibited by law within the municipal boundaries of the town, and I believe that the adoption of this measure was the principal reason that so many of the inoculators of the district abandoned their old calling. Suppression of inoculation by law.

"17. The practice of inoculation has greatly fallen in public estimation, and I feel confident that its prohibition by law would give the final blow to this baneful custom in the Midnapore district, and at the same time aid considerably our efforts to introduce vaccination.

"18. Supposing, for argument's sake, that every inoculator in the district agreed to learn vaccination. Under present circumstances we are powerless to prevent inoculators from other districts coming into Midnapore, and spreading small-pox far and wide.

"19. I am no advocate for the indiscriminate suppression by law of small-pox inoculation, which would leave the people without any form of protection, but in this case no fear of such a contingency exists, and I think the enforcement of this law in the Midnapore district would not be attended with any bad results."

Hooghly district.—This district is included in the Metropolitan circles, and has been gone over a second time, except a portion of thana Kistonuggur. Hooghly.

Mr. R. F. Thompson reports there is one municipal vaccinator who receives Rs. 10 *per mensem* all the year round, and who generally works within municipal limits. He is said to have vaccinated 2,240 persons for the first time, of whom 2,070 were successful; and 401 secondary vaccinations, with 279 successful cases. The operations were inspected every week, and the cases sometimes compared with the register. The people are very willing to have their children vaccinated. Inoculation is not now practised. No inoculators were trained. Chicken-pox prevailed at times in Hooghly and Chinsurah. Mr. Thompson found the ratio of unprotected among the number of persons he examined to be a little over 6 per cent.

Howrah.—This district is included in the Metropolitan circles, and had been gone over once. Some thanas were visited twice. Dr. Bird reports that two vaccinators were engaged on Rs. 10 a month, paid by the municipality. One worked for five months, and the other for six months. They confined their operations within the municipal boundaries, and vaccinated 1,810 persons, with a percentage of 96.72 successful cases, against 2,245 in the previous year. The work was inspected almost daily. The civil surgeon says the people are well inclined towards vaccination, and readily bring their children to be vaccinated. Sporadic cases of small-pox occurred within the municipality and caused 28 deaths. Howrah.

Ooterparah branch dispensary.—There is no vaccinator attached to the dispensary, as the place is now included in the Metropolitan circles, and was gone over during the past season. The assistant surgeon reports there is one local vaccinator, who practises on his own account, and has submitted a return through him, viz., 883 persons with a percentage of 96.3 successful. Ooterparah dispensary.

cases. The assistant surgeon occasionally inspected his cases, and was satisfied with the results. There was no small-pox in the place.

Serampore.

Serampore.—Dr. Greene reports that the municipality employs one vaccinator on Rs. 10 per month, who works from October to April. He worked within municipal limits, and brought vaccinated children to the dispensary for the civil surgeon's inspection. One-thousand two-hundred and fifty-four children were vaccinated, with a percentage of 99.92, against 858 in the previous year. With a few exceptions the people were well disposed towards vaccination.

There was small-pox in one village near Serampore, which was promptly stamped out by the Metropolitan staff of vaccinators, who were at work in the Serampore sub-district, which they have gone over a second time during the last season.

CENTRAL DISTRICTS, PRESIDENCY DIVISION.

24-Pergunnahs.

24-Pergunnahs district.—This district is included in the area of the Metropolitan circles, and has, with some exceptions, been gone over twice. The dispensary vaccinators were abolished after the organization of the above circles. The several municipalities obtained skilled vaccinators from the Metropolitan staff, and paid for their services; their work has been shown in the especial report of those circles. The only work not shown there is 24 vaccinations in the Baraset municipality, and 1,193 performed by three ex-inoculators trained by Assistant Surgeon Juddoo Nath Ghose, of the Shatkhira dispensary. These men received no pay, but took small fees from the people.

Inoculation.

Inoculation, though prohibited by law, was extensively practised in portions of the Baraset, Busseerhat, and Shatkhira sub-divisions: it gave rise to small-pox, which assumed, in thana Kullerah, an epidemic form (*vide* report on the Metropolitan circles). Two gangs of vaccinators from the Metropolitan staff worked hard for three months during the recess before they could stamp out the disease.

Nuddea.

Nuddea district.—Dr. Earle reports that the municipalities of Kishnaghur, Ranaghat, Santipore, Chooadangah, Meherpore, Kooshtea, and Mohespore, as well as the Kishnaghur Maharajah's estate, entertained vaccinators from the staff of the Metropolitan circles. All the returns are shown in the report of those circles. The civil surgeon complains that the different municipalities appoint vaccinators without his knowledge, and also that the public vaccinators act without his orders. He is of opinion that all the vaccination in his district should be under his control.

Jessore.

Jessore district.—Dr. Hutcheson, who relieved Dr. Bowser on 6th January 1874, has submitted a long and an interesting report on vaccination in this district. There were 11 vaccinators in the district paid by Government, and 11 unpaid ex-inoculators who worked under the supervision of the native doctor of the Magoorah dispensary. The total number vaccinated was 6,010, against 2,159 in the previous year, of which only 4,865, or 79 per cent. were successful. The increase was owing to greater agency, though not in a proportionate degree, since the average number performed by each vaccinator was only 200 during the whole season. Much of this work was never inspected, and the returns, especially the work of the ex-inoculators, must be received with some caution. However, it is a good sign that inoculators are changing their practice and enlisting themselves in the cause of vaccination. Great credit is due to Native Doctor Bhoanund Chuckerbutty, of Magoorah.

Inoculation practised.

Inoculation was also extensively practised in the district, especially in Khoolna and Jhenidah sub-divisions, and it is worthy of remark that these sub-divisions exhibit meagre returns of vaccination.

Small-pox.

There was a good deal of small-pox in the district, though the mortality therefrom as reported by the police, was less than in the previous year, viz., 178 deaths, against 456. Jessore is not included in any vaccine circle.

RAJSHAHYE DIVISION.

Moorshedabad district.

Moorshedabad district.—Dr. Shircore has submitted an interesting report on vaccination in this district. He states that the number of vaccinators employed during the past year was 16, against 10 in 1872-73. Of these nine were paid by Government, and six by different municipalities, and one by the zemindar of Lalgola. The six extra men were entertained on account of the prevalence of small-pox in the district. The permanent vaccinators attached to dispensaries worked within municipal limits, while the extra men were sent out to villages where small-pox broke out. The amount of work performed during the season was considerably in excess of the previous year, viz., 7,321, against 3,494. This result was no doubt due partly to the increased number of vaccinators, but mainly to the prevalence of small-pox, which alarmed the people, and made them more willing to take vaccination. Dr. Shircore observes that the returns of the sudder dispensary at Berhampore are thoroughly trustworthy, as the cases were inspected and verified by himself and his assistant; whereas the means of verifying the returns from the branch dispensaries were not so satisfactory, though on the whole, he thinks the returns might be

accepted as fairly trustworthy and correct. Small-pox prevailed very largely in the district, and caused many deaths. The people are not very favorably disposed towards vaccination, though they were terrified by outbreaks of small-pox into a ready acceptance of the prophylactic.

Dr. Shircore points out the very inadequate provision of the district as regards vaccination, and suggests that Moorshedabad should be included in one of the vaccination circles.

Dinagore district.—Dr. Gregg submits the report. No vaccination was performed at the dispensaries. The civil surgeon thinks the people are not adverse to vaccination. Inoculation is prevalent throughout the district though not to such an extent as before. Small-pox appeared at a place called Raneegunge five times during the year, and also at Herala; besides a few sporadic cases in other parts of the district. There were only 30 deaths from the disease in a population of a million and a half. This district is included in the Darjeeling circle, and has been partially protected by vaccination. Dinagore.

Maldah district.—The civil medical officer, Baboo Dwarka Nath Chatterjee, reports that there was no public vaccinator paid by Government or municipality; he himself vaccinated 23 persons, and the native doctors of the jail and dispensary six and 20 respectively, making a total of 49; of this number, 23 were successful. It is stated that the people have no faith in vaccination and that inoculation is practised all over the district. Small-pox is said to be prevalent in the district throughout the year; it commences during the cold weather in villages where inoculation has been recently practised, and spreads to adjoining villages with the advent of the hot weather. The district being included in the Darjeeling circle has been partially vaccinated. Maldah.

Rajshahye district.—Dr. E. C. Bensley was civil surgeon throughout the year. The report is, however, submitted by his successor, Dr. Curran. It appears there was no vaccinator attached to the sudder dispensary, nor in the branch dispensaries, except one at Lallpore, paid by the municipality, and one at Nattore, paid by Ranee Sharut Soonduree of Pootia. The native doctors of the various dispensaries and three ex-inoculators of Taherpore vaccinated 7,932 persons, against 2,418 in the previous year. There were only 10 cases in the sudder dispensary at Beauliah; the largest numbers, viz., 3,409 and 3,510, were done by the three ex-inoculators and by the Lallpore dispensary vaccinators. It does not appear that any supervision was exercised over the dispensary vaccination of this district. Inoculation is not largely practised. There was small-pox, but not to any great extent. This district is also included in the Darjeeling circle, and has been partially protected by vaccination. Rajshahye.

Rungpore district.—Dr. K. D. Ghose, civil medical officer, engaged two vaccinators at Rs. 10 a month, each. The salary of one was paid by the municipality, and that of the other was met out of the dispensary funds. He divided the town into two sections, and set a vaccinator to work in each. They vaccinated 801 persons. Their work was thoroughly inspected by the civil medical officer and the native doctor of the dispensary. They seem to have protected one-half of the town, as the percentage of unprotected in that portion is only one per cent. The people are not hostile to vaccination, and Dr. Ghose thinks the aid of civil authorities is not necessary, but on the contrary, police interference and magistrate's orders do more injury to the cause of vaccination than good. Inoculation is prevalent in the district, but it is on the decline, as the income from it is said to be not much. Small-pox prevails in an epidemic form almost throughout the district, but the town is comparatively free from it. Rungpore.

Dr. Ghose made an effort to introduce vaccination in two places where there were branch dispensaries, viz., Olipore and Battashim. At the latter place he was very successful. Of the 21 villages of which the pergunnah of Battashim is composed, 13 have been thoroughly vaccinated. The actual number was 1,327 done by one vaccinator.

Bogra district.—Mr. Lyons, civil medical officer, had two vaccinators paid by the municipalities, one at Rs. 10, and the other at Rs. 7 a month, who worked from November to March. He divided the town of Bogra into two parts, and set a vaccinator to work in each. They vaccinated 3,578, against 1,543 in the previous year, with a percentage of 95.34 successful cases. Bogra.

Mr. Lyons and the magistrate induced the municipality of Sherepore to entertain a vaccinator on Rs. 7 a month, from 24th November to 31st March. He vaccinated 1,565 persons, with a percentage of 97.12 of successful cases. The civil medical officer and the native doctor of the Sherepore dispensary inspected the cases frequently. The town has been pretty thoroughly protected. No great resistance to vaccination. Inoculation is practised in the district. From April 1873 to March 1874, 54 persons were attacked with small-pox, six died and 48 recovered. This district is also included in the Darjeeling circle.

Pubna district.—Mr. Davis, the civil surgeon, reports that one vaccinator was entertained by the municipality on Rs. 7 a month, from 15th October 1873 to March 1874. He was employed to vaccinate in the town and neighbouring villages. The work was very small and unsatisfactory owing to the failure of the lymph. Out of 44 cases vaccinated, only 16 were Pubna.

successful, giving a percentage of 36.3. The people are not adverse to vaccination, but it is said the frequent failures discouraged them, and they did not bring their children forward so freely as heretofore, when success had attended the first operations. Inoculation is practised in the town and district. No epidemic of small-pox occurred in the sudder station during the year. Mr. Davis noticed the percentage of unprotected among the prisoners to be 1.96, and among school-boys 11.1. Seven vaccinations are said to have been done by the assistant surgeon of the Doohye branch dispensary, of which only two were successful.

At Serajunge the municipality entertained one vaccinator on Rs. 10, from November to March. His operations were confined within the municipality, and were frequently inspected by Assistant Surgeon Kasi Kinkur Mitter: 559 persons are said to have been vaccinated, against 1,267 in the previous season, with a percentage of 59.2 successful cases.

ORISSA.

Cuttack district.

Cuttack district.—Dr. Cayley, was in medical charge of this district throughout the year. The report is, however, submitted by his successor, Dr. Stewart. There were two vaccinators attached to the Cuttack dispensary—one permanently, and the other for six months during the vaccinating season—on a salary of Rs. 10 each, paid by Government. Five-hundred and twenty-eight persons are said to have been vaccinated, of whom 396, or 75 per cent. were successful. Dr. Cayley paid particular attention to vaccination, and carefully inspected the work at the Dhankenal dispensary. Twenty-one persons were vaccinated, of whom 17, or 85.7 per cent., were successful; and at the Jajepore dispensary 18 vaccinations are said to have been done by the native doctor in charge, with a success of 66.6 per cent. Inoculation is said to be the rule in the mofussil, but Dr. Stewart is unable to furnish any statistics of mortality consequent on the practice. Small-pox prevailed throughout the district, and is reported to have caused 745 deaths.

Pooree.

Pooree district.—Dr. Hill, the present civil surgeon, who relieved Dr. Meredith on 1st February 1874, submits an interesting report. He states that on assuming charge he found only one vaccinator at work, receiving Rs. 10 a month from Government. With the sanction of the magistrate he appointed an extra vaccinator on Rs. 8 from 15th February. With two vaccinators he determined to push on the work, and first turned his attention to those localities that had not been touched before. The vaccinators met with dogged opposition, and returned unsuccessful from the village of Juggernathpore, which they had been sent to vaccinate. Dr. Hill then went out himself, accompanied by his men, and succeeded in vaccinating 50 persons. He then turned to Khoordah, where the native doctor, in charge of the local dispensary, had been very unsuccessful, and with the aid of Mr. Taylor, the sub-divisional officer, he managed to vaccinate only one person. The civil surgeon hopes for better success next year. The total number vaccinated was 403, of which 288, or 69.32 per cent., were successful. Dr. Hill inspected every case and compared with the register, which he caused the vaccinators to keep. He thinks he would have been able to show a larger return if he had been in charge from the commencement of the vaccinating season, as out of the 403 vaccinations, only 82 had been done during his predecessor's time. The people are said to be decidedly adverse to vaccination. There are 31 inoculators in the district, who practise their art in the mofussil. Dr. Meredith had made an attempt to train inoculators, but they would not come to him. Dr. Hill thinks, as he has now got a list of all the inoculators in the district with their names, places of residence, caste, &c., he may be successful, with the magistrate's help, in inducing them to come and learn the art of vaccination from next year. Small-pox was very prevalent in the Khoordah sub-division. There were sporadic cases also in other parts of the district: 68 deaths were reported by the police.

Attitude of the people.

Balasore.

Balasore district.—Dr. Zorab, officiating civil surgeon, reports that there were two vaccinators attached to the dispensary, one receiving Rs. 10, and the other Rs. 7, from Government; they worked within an area of 12 miles. Five-hundred and seventeen persons are said to have been vaccinated with a success of 79.69 per cent., and 47 re-vaccinated, of whom 31, or 65.95, were successful. The cases were frequently inspected by the civil surgeon. Arm-to-arm vaccination was followed by good results, and tubes and crusts were also used. The people are said to be hostile to vaccination. Inoculation prevails to a great extent but no information as regards mortality is available. No inoculators came for instruction, though both the magistrate and the police superintendent were requested to give their aid in the matter. There was small-pox in the district, but not to any great extent.

At the Bhuddruck branch dispensary there was one vaccinator paid Rs. 10 out of the local funds. He vaccinated in the villages of thana Dhannuggur, at a distance of 18 or 20 miles from the dispensary, under the orders of the joint-magistrate, and the native doctor could not inspect his cases on account of the distance. Two-hundred and seventy-nine cases are said to have been vaccinated, of which 231, or 77.25 per cent., were successful.

EASTERN DISTRICTS—DACCA DIVISION.

Dacca district.—Dr. Wise reports there are six vaccinators attached to the Mitford hospital, each receiving Rs. 10 a month; three are paid by Government, and three by the municipality of Dacca. They are said to have been constantly employed throughout the year on account of the importation of small-pox into the town from the district. The town was divided into three parts, and two vaccinators were allotted to each. Three thousand and two persons are said to have been vaccinated, of whom 2,629, or 90·2 per cent. were successful; and 51 re-vaccinated, of whom 22 were successful. The civil surgeon, or the house-surgeon of the Mitford hospital, inspected the operations once a week. Dr. Wise writes: "I can confidently assert that the prejudices of the people against vaccination have not diminished during the last seven years." Inoculation is said to be practised very generally throughout the district, and one inoculator was bold enough to inoculate seven Mahamedan children at Dacca itself, where Act IV (B.C.) of 1865 is in force. The man was caught, tried, and fined Rs. 15, or 10 days' rigorous imprisonment in default. Dr. Wise saw all the inoculated children, and was surprised at the paucity of the pustules and at the mildness of the inoculated disease. Dr. Wise reports that "small-pox was in the city or neighbourhood during the greater part of the year. On each occasion of its appearance it was traced to inoculation. By vaccinating as many of the unprotected children in the houses around as possible, the disease was confined within limits beyond which it never spread."

Blank returns are submitted from all the branch dispensaries. As Dacca is included in the eastern Bengal vaccine circle, dispensary vaccination has become unnecessary.

Fureedpore district.—Dr. Bose, civil surgeon, states there is one vaccinator attached to the dispensary, who is paid Rs. 10 a month by Government, and who works all the year round. Mr. Wells, the magistrate, takes a great interest in vaccination, and gives every aid. He has put an inhibition on inoculation within five miles of the town. The vaccinator works in the town and also in the neighbouring villages. One thousand eight hundred and fifty-six persons are said to have been vaccinated, of whom 1,664, or 93·32 per cent., were successful. The civil surgeon inspected every case in the jail and town, and occasionally went out to the village to inspect the vaccinations done there. The people are reported to be getting more favorably disposed towards vaccination than before, as they now seek its protection during epidemics of small-pox. Inoculation is practised in the district. Dr. Bose's efforts to induce inoculators to adopt vaccination have hitherto been in vain. He writes thus about small-pox:—"There was no epidemic prevalence of the disease during the year to require exceptional measures." Blank returns are submitted from the branch dispensaries of Puddumdee and Goalundo. The superintendent of the Dacca circle vaccinated some 8,000 persons in thana Goalundo, district Fureedpore.

Backergunge district.—Dr. C. E. W. Bensley was civil surgeon during the past year. The report is submitted by the assistant surgeon of the dispensary. There was one vaccinator, who was paid Rs. 10 by Government; he worked within municipal limits, and vaccinated 1,705 persons, of whom 1,150, or 72·6 per cent. were successful. The civil surgeon and his assistant inspected the cases once a week, and saw about 80 per cent. of the total number vaccinated. Educated persons prefer vaccination to inoculation, while the ignorant do just the reverse. Inoculation is not practised in the town, but is said to be prevalent in the district. Two years ago the civil surgeon made a vain attempt to induce inoculators to change their practise. There was no epidemic of small-pox in the town or district, but a few sporadic cases occurred in both.

Mymensingh district.—Mr. Shaw, civil surgeon, reports there is one Government vaccinator attached to the dispensary on Rs. 10; he works generally within the town, and is occasionally sent out to villages at a distance of 5 to 10 miles. Six hundred and twenty-nine persons are said to have been vaccinated, of whom 358, or 57 per cent., were successful. This low percentage of success is attributed to the failure of the lymph supplied from Calcutta on several occasions from November to April. The vaccinator was more successful with crusts, which he had preserved from last year. The civil surgeon inspected the cases in the jail, and those that were brought to him. There is no active opposition to vaccination. Inoculation is extensively practised in the district, but no data as to mortality are available. A few sporadic cases of small-pox were reported in the town and also from the district.

Reports are submitted from the branch dispensaries. At Tangail one vaccinator was entertained from 10th January on Rs. 10, paid out of the local funds; but as the lymph sent from Calcutta repeatedly failed, his services were dispensed with at the end of the month. He was again appointed from 1st March, and worked in the villages across the river from Tangail. The assistant surgeon of the dispensary called on the principal men of the villages, and urged them to have their children vaccinated. One hundred and seventy-five persons were vaccinated, against 855 of the previous year, with 88 per cent. of success. The decrease of work was owing to the repeated failure of lymph from November to March. The last supply received on 1st March proved successful.

At the remaining branch dispensaries the native doctors performed a few vaccinations.

Sylhet district.

Sylhet district.—Mr. Griffith, civil surgeon, reports there was one Government vaccinator on Rs. 10, who worked from October to March. One thousand three hundred and sixty-six persons are said to have been vaccinated, against 637 in the previous year with, 77·01 per cent. of success; and 11 persons re-vaccinated, of whom seven were successful. The civil surgeon inspected the vaccinations about six times. The attitude and feelings of the people towards vaccination are stated to be positively favorable. Inoculation is carried on, but not so much as before. Mr. Griffith saw some inoculated children at a village on the ninth day, and remarked they were only slightly feverish and without any small-pox pustules. He thought the operations were not perfectly successful. There was small-pox in the district, but nothing like an epidemic. The vaccinator was sent to Guineghaut, where small-pox was rather severe.

Cachar.

Cachar district.—Dr. Monteath, civil surgeon, reports there is one vaccinator attached to the dispensary on Rs. 10 a month, paid by Government. He works in the civil station, in the tea gardens, and sometimes in the villages, if the people are willing to take vaccination. From 1st November to 21st March he vaccinated 1,431 persons, against 1,194 in the previous year, of whom 1,211 were successful. The civil surgeon had frequent opportunities of closely examining the vaccinator's work, and considered the result of his inspection to be, on the whole, satisfactory. The attitude and feelings of the people towards vaccination remained the same as in former years, though in some places the people appeared to appreciate its benefits. The managers of tea gardens take much interest and give every aid. Inoculation is prevalent in the district. Dr. Monteath tried to get inoculators to learn vaccination, but all to no purpose. No epidemic of small-pox occurred. Only one or two cases were met with.

A blank return is submitted from the branch dispensary at Brahmogram.

CHITTAGONG DIVISION.

Chittagong.

Chittagong district.—Dr. Meadows, civil surgeon, submits the report, and states that one vaccinator was employed throughout the year, and two extra men were entertained for two months. Their salary was Rs. 10, paid by Government. The permanent vaccinator worked in the town, and the extra men were sent out in the district, where their services were required to vaccinate the coolies of tea gardens and also the inhabitants of villages. The magistrate gave every aid. One thousand two hundred and eighty-nine persons are said to have been vaccinated, of whom 1,188, or 92·31, were successful. The number in the previous year was 517, the work of one vaccinator. The civil surgeon inspected the town vaccinator's work constantly, and that of the district vaccinator's on two occasions. And when he could not go out, he asked the managers of tea gardens to send him reports of all vaccinations done among the coolies. As regards the attitude and feelings of the people towards vaccination, it is said—"There is no improvement in the town, but there is a marked desire in many parts of the district for vaccination." Inoculation is extensively practised both in town and district. There are 366 inoculators, and 86 per cent. of the population are stated to be inoculated. Only one inoculator has been induced to change his practice for vaccination, and he managed to vaccinate 232 persons very successfully. He was employed chiefly in the tea gardens. Dr. Meadows, frequently inspected his cases. No prevalence of small-pox: six deaths were reported. Under the head of general remarks, Dr. Meadows writes:—"It appears that a belief in vaccination is gaining ground in this district from the requests I have had from various talookdars to supply vaccinators to their districts."

Noakholly.

Noakholly district.—Baboo Odooy Chand Dutt, civil medical officer, reports there were two vaccinators—one paid by Government at Rs. 10 per month, throughout the year, and another paid by the municipality also at Rs. 10 for five months. They were employed in the town and villages around it; no area was defined. Those who asked, or could be induced to accept vaccination, were operated on. One thousand seven hundred and forty-one persons were vaccinated, against 1,070 in the previous year, of whom 1,574 were successful. The civil medical officer inspected all the cases in town, and each village was visited once or twice. The people in and about town appreciate the value of vaccination, while in the district it is still unappreciated. Inoculation is generally practised throughout the district, but not in the town, though not prohibited by law. Two inoculators were taught in the previous year to vaccinate; one of them came back this year and took some lymph to start the work. The other man never appeared. A tailor's son is said to have learnt from the first man, and vaccinated three children which were seen by the civil medical officer, and pronounced to be satisfactory. Small-pox prevailed epidemically in some parts of the district early in 1873. Sporadic cases appeared during the remainder of the year. In January of 1874 it prevailed in some places. Baboo Odooy Chand Dutt proposes to train up inoculators as vaccinators, and to appoint a native superintendent of vaccination over them.

Tipperah district.

Tipperah district.—Dr. Cowan, officiating civil surgeon, submits a long and interesting report on vaccination in this district. There were two vaccinators, who received Rs. 10 each; the salary of one was paid entirely by the municipality, and that of the other partly by Government and partly by the dispensary committee. They worked within municipal limits.

They were late in starting the season's work, owing to the failure of lymph; and it was not till the middle of December that they succeeded in establishing virus. The civil surgeon's plan was to perform systematic vaccination in section after section of the sudder station, and one village after another. The civil authorities gave every help. The two men performed 594 vaccinations, of which 326 were successful; and 181 re-vaccinations, with 52 successful cases. The civil surgeon inspected the work once a week, and was satisfied with its quality. The people in and around the town are beginning to see the benefits of vaccination. Inoculation is said to be almost universal in the district. No inoculator was trained. There was very little small-pox in the district, and the few cases that occurred were very successfully treated with carbolic oil. Dr. Cowan records several cases thus treated with the happiest results. At the Brahmunberiah branch dispensary one vaccinator was employed on Rs. 10 for three months, by the dispensary committee. He vaccinated 75 persons, of whom 67 were successful. The cases were inspected by the native doctor in charge of the dispensary.

ASSAM AND ADJACENT HILLS.

Goalpara district.—Mr. Slane, civil medical officer, reports, there is one Government vaccinator attached to the dispensary throughout the year, on a salary of Rs. 10. He began work in October, and confined his operations to a group of villages selected by the medical officer. The civil authorities gave every assistance. Three hundred and two persons are said to have been vaccinated, of whom 292, or 88·07 per cent., were successful. Mr. Slane inspected the work only three times, and regrets he could not spare more time, as there was considerable sickness among the European population. The people are bigotedly opposed to vaccination. Inoculation is almost general, and causes, it is said, a mortality of 2 per cent. Three inoculators consented to learn vaccination, and were employed as assistants to the vaccinators, for which they were allowed Rs. 5 each. Small-pox was unusually prevalent, and preventive measures could not be taken, as the people shunned treatment and concealed cases. Goalpara.

Gowhatty district.—Dr. Russel, civil surgeon, reports there were fifty-six public vaccinators, including one inspector at Rs. 15, from 21st January to 30th April, and one municipal vaccinator on Rs. 10 throughout the year. The men were sent out by mowjahs, which they were allowed to select. The deputy commissioner had two men following his camp, and exerted himself actively in inducing the natives to seek protection by vaccination. The district superintendent of police also had one man following his camp, and he similarly exerted himself. The mowjadars and other influential natives were requested to assist. Ten thousand six hundred and eighty-four primary, and 790 secondary, vaccinations were performed, with a success of 90·15 and 86·83 per cent., respectively. The civil surgeon's inspection was chiefly confined to places near the station. The vaccination inspected is said to have been of good quality. Certain mowjahs were thoroughly vaccinated; in others the work was not exhaustive. The people are said to be apathetic and indifferent as regards vaccination. Inoculation is almost entirely discontinued in the district. Dr. Russell trained some ex-inoculators in the station, and gave them perwannahs and certificates, stating the mowjahs where they were to work. They were required to submit weekly reports. The district enjoyed an unusual immunity from small-pox during the past year, though there were sporadic cases in the station bazar. The bazar people are sufficiently well informed to know that they have the right (which they exercise) to boldly reject vaccination, while Act IV (B.C.) 1865, is in force to prevent inoculation. At the Burpettah branch dispensary four persons were vaccinated by the native doctor in charge. Gowhatty.

Nowgong district.—Mr. Hughes, civil medical officer, reports there is one permanent vaccinator for the whole year, and an extra one was entertained from March 1874. Both were paid by Government at the rate of Rs. 10 each per month. The permanent vaccinator worked in the civil station and in villages within an area of six miles. The extra man was sent to tea gardens. Three hundred and forty-eight persons are said to have been vaccinated, of whom 244, or 70·11 per cent. were successful. The civil medical officer inspected on six occasions, and found the work satisfactory. Nowgong.

Mussulmans and low caste Hindoos refuse to take vaccination, while the better classes offer no objection. Inoculation is largely practised. No inoculator was trained during the year. Small-pox prevails every year, especially among the Domes, who reject both inoculation and vaccination.

Sebsaugor district.—Dr. Ahmed officiated as civil surgeon during the past year. The report is, however, submitted by Baboo Mohanund Mookerjee, civil medical officer. He states that there is one permanent vaccinator on Rs. 10, who works from November to March. With the sanction of Government, obtained in the middle of February, four extra men were entertained from the latter end of February to 31st March. The vaccinators were employed in the sudder and sub-divisional towns and their immediate vicinity, within an area of eight or ten miles. Arm-to-arm vaccination was practised as far as possible. The civil authorities Sebsaugor.

rendered every assistance, and influential natives were also invited to assist. Two thousand two hundred and seventy-seven persons are said to have been vaccinated, against 1,114 of the previous year, of whom 1,981 were successful. The work in the sudder station and its immediate neighbourhood was inspected once or twice every week, but that in the sub-division only once during the season. The people of the district are opposed to vaccination. Inoculation is largely practised in the interior. Notice was sent to all the police thanas, inviting inoculators to come forward and learn vaccination, but none came. Small-pox was prevalent in the district, but it did not assume an epidemic form during the year.

Debrooghur
district.

Debrooghur district.—Mr. Curran, civil surgeon, reports that four vaccinators were employed during the year on Rs. 10 a month; they worked from November to April. They commenced their operations first in the station, and then extended to the villages and tea gardens all round up to nine miles. They also worked in the sub-division of Jaipore where small-pox broke out, and vaccinated some 400 persons, including the semi-savage Nagas and others. The civil surgeon himself went there, and Lieutenant Holcombe, the Assistant Commissioner, induced the people to accept vaccination by his own example. Two thousand one hundred and twenty-three persons are said to have been vaccinated, of whom 1,848 were successful. Mr. Curran, inspected almost every village and tea garden. Crusts were used, and many cases were done in his presence. Not much opposition was met with; and where the people refused when the vaccinators went alone, the civil surgeon's presence afterwards succeeded in rendering them willing to submit to the operation. No inoculation was heard of in the district during the year. No information as regards the prevalence of small-pox in the district was obtainable.

Luckhimpore.

Luckhimpore district.—At the north Luckhimpore dispensary the hospital assistant vaccinated 77 persons, of whom 40 were successful.

Khasi and
Jynthead Hills.

Shillong district, Khasi and Jynthead Hills.—Dr. Reed was in charge up to 20th November, when he was relieved by Dr. O'Brien, who submits the reports. He states that there were two Government vaccinators paid Rs. 12 each throughout the year. They were sent to different large villages in the hills with letters from the deputy commissioner to the headmen or chiefs, requesting them to assist the vaccinators in every way. The area of operations was chiefly confined to large villages of Cheera, Jowai, and Shillong. The civil surgeon saw most of the successful cases about Shillong, and a large number of those at Cheera and Jowai, which he visited in March. Nine hundred and twenty-eight persons were vaccinated; 697 or 75·1 per cent., were successful. The people are reported to be either hostile or apathetic. The chiefs, though written to by the deputy commissioner, lent little or no assistance, some offered passive resistance. Inoculation is not practised. The hillmen are as much opposed to inoculation as to vaccination; small-pox did not prevail greatly.

Garó Hills.

Garó Hills.—Mr. Ferris, civil surgeon, reports there were four vaccinators on Rs. 10 each, paid by Government; they worked from October to March. These men had received education at the Goalpara mission school, and been baptised. The vaccinators received a thorough training. There was no area defined for want of maps. The men were sent out in couples, to wander from village to village and operate on willing people. No pressure was used. The Garos will only permit the insertion of lymph in one spot and not in three or four, thereby lessening the chance of success. The civil surgeon visited the vaccinators' work three times. The villages were visited in turn, and all the persons assembled and examined individually. Seven hundred and eighty-four persons are said to have been vaccinated, against 264 in the previous year, of whom 738, or 94·1 per cent. were successful. The Garos are willing enough to be vaccinated, but they put obstacles in the way by certain customs peculiar to them. No inoculation exists among the Garos in the interior, but near Goalpara they permit it. The mortality from the practice is said to be very great—10 per cent. The Garos have often been scourged by small-pox. In the middle of March three villages were attacked almost simultaneously: eight deaths have occurred by the latest advice.

BEHAR—PATNA DIVISION.

Patna district—Dinapore cantonment and sub-division.—Dr. Tuson reports that one vaccinator on Rs. 10 was employed, who worked in Dinapore and the neighbouring villages. The cantonment magistrate gave every aid. Two hundred and seventy-eight persons are said to have been vaccinated, of whom 217 or 78·05 per cent. were successful. The cases were inspected and verified by the civil surgeon who found the quality of the lymph to be good whenever he used it for vaccinating European children. The people are beginning to appreciate vaccination, but there still remains a prejudice against it. A few inoculators have been taught how to vaccinate. Small-pox was prevalent throughout the year. Dr. Tuson observes that one vaccinator is quite inadequate for a large cantonment like Dinapore. Dinapore.

Patna city and district.—Dr. Smith has submitted an interesting report from which the following has been extracted :— Patna city and district.

“Ten vaccinators are entertained for Patna and Bankipore. Of those at Patna three are paid by Government Rs. 10 a month throughout the year. The remaining four are paid Rs. 10 per month by the municipality, but they are only entertained from November to April. Of the three men at Bankipore two are permanent, being paid by the municipality, and the third is also paid by the municipality, but he is temporarily entertained.

“Ten inoculators who have been taught to vaccinate are also at work at Patna.

“At Behar there was a somewhat irregular establishment. Two vaccinators were employed in the month of December, six in January, and seven during February and March. They were all paid by the municipality, their pay varying from Rs. 6 to Rs. 10 *per mensem*. Behar.

“At Barh one vaccinator attached to the dispensary was entertained from 24th November 1873 to 31st March 1874. Barh.

“Altogether at Patna, Bankipore, Behar and Barh there were 16,029 vaccinations reported this year, against 14,256 last year.” The work was inspected by the civil surgeon and the assistant surgeons of the different branch dispensaries. Inoculation is on the decrease; many inoculators were trained and granted passes, but some of the men are reported to have practised inoculation under the guise of their pass. Sporadic cases of small-pox occurred, and measures were taken to prevent the disease from spreading. Dr. Smith points out the utter inadequacy of the existing establishment of vaccinators to the requirements of the Patna district, and strongly advocates the opening of a regular vaccine circle on the same scale as the eastern Bengal circle.

Gya district.—Dr. R. Macleod reports there are two vaccinators attached to the sudder dispensary and paid Rs. 10 a month by Government throughout the year; and at the sub-divisional dispensaries of Nowadah, Aurungabad, and Jehanabad, the three municipalities entertained one vaccinator in each, on Rs. 10, from November to April. The permanent vaccinators worked in the town of Gya and its adjoining villages. The sub-divisional men worked where they found people willing to take vaccination. One thousand one hundred and ninety-six persons are said to have been vaccinated, against 1,207 in the previous year, of whom 1,099, or 92·2 per cent., were successful. All the cases at the sudder station were inspected by the civil surgeon or his assistant. The people are said to be not hostile to vaccination, but inoculation is prevalent in the district. All the vaccinators employed were old inoculators; eight of them were trained in Nowadah, where they promised to vaccinate. Four of them, however, practised inoculation instead of vaccination. Small-pox was not more than usually prevalent, and whenever practicable, vaccinators were sent out to villages where it was rather severe. Gya.

Arrah district.—Dr. Thornton reports that vaccination was carried on in Arrah, Sasseram, Jugdispore, Doomraon, and Buxar. He states that at Arrah three vaccinators were employed on Rs. 10 per month each, two being paid by Government, and one by the municipality. They were told off to certain defined *mohullahs* of the town, and the neighbouring villages, and their work was inspected twice a week by the civil surgeon. Two thousand one hundred and ninety-seven persons are said to have been vaccinated, against 2,671 in the previous year, with a success of 87·16. The report proceeds :—“The people of Arrah and its neighbourhood for the most part accept vaccination readily. Inoculation has considerably fallen off since its prohibition within the bounds of municipalities, but it still prevails extensively in other parts of the district. During the year 22 inoculators were induced to adopt the practice of vaccination. After receiving some instruction they were required to perform some vaccinations before me, after which they received certificates of their ability to vaccinate and some vaccine lymph or crusts for their operations. As most of these men went away into the interior of the district, it was impossible to exercise Arrah.

any supervision or control over them." A good deal of small-pox was reported during the first three months of 1874, but the mortality is said to have been small.

Sasseram
sub-division.

Sasseram.—Assistant Surgeon Shama Churn Moozoodar reports that two vaccinators, on Rs. 10 each, were entertained by the municipality for four months. One of them had to be dismissed on account of negligence and inattention to his work, and a new man was appointed in his place. They vaccinated 294 persons, against 682 in the previous season. The work was inspected daily, and found pretty good. The people generally have much prejudice against vaccination, and some are opposed to both vaccination and inoculation. Inoculation was carried on in the town, and no deaths were heard of.

A few cases of small-pox appeared in Sasseram, and it was very severe in two villages where 20 out of 50 attacked, died.

Jugdispore.

Jugdispore.—Hospital Assistant Mohamed Ufzar reports that one vaccinator, three ex-inoculators, and himself were at work. The vaccinator received Rs. 10 from the municipality for six months. One thousand and sixteen persons are said to have been vaccinated, against 839 in the previous year. The native doctor inspected the work twice a week, and found it good. The people of Jugdispore are favorably disposed to vaccination. Inoculation has fallen off in the town, but it prevails in the interior: three inoculators were trained. Small-pox was very severe.

Doomraon.

Doomraon.—Assistant Surgeon Muddoo Soodun Goopta reports that one vaccinator, on Rs. 10 a month, was entertained by the municipality. He worked in Doomraon and its neighbourhood, and his operations were inspected at least every week. One hundred and sixty-five persons are said to have been vaccinated, against 1,175 in the previous year. The people do not look favorably upon vaccination: inoculation is prevalent. Eight inoculators were trained and sent out to villages; the amount or quality of their work was never ascertained. Small-pox cases prevailed in the Doomraon town and sub-division throughout the year; the cases in town were isolated and treated.

Buxar.

Buxar.—Dr. Harvey reports that the municipality employs one vaccinator for four months; he works in the town. Besides the paid vaccinator, 51 instructed ex-inoculators were also at work: these men were examined by Dr. Harvey, who, on being satisfied as to their fitness as vaccinators, granted them certificates bearing the magisterial seal. Their services were had in requisition whenever small-pox broke out in distant villages. The operations in Buxar were inspected weekly, and those of the ex-inoculators working in distant villages by the native doctor, who made a tour once a month. The paid vaccinator operated on 1,470 persons. The 51 men must have performed a large number of vaccinations, but they never sent any return of their work. The people of Buxar and the neighbouring villages are said to be well disposed to vaccination.

No inoculation was heard of, as all the inoculators had been warned. There was small-pox in the sub-division, but not in a severe form.

Bhubooa.

Bhubooa.—Hospital Assistant Rohim Bux reports that one vaccinator, on Rs. 10, was employed by the municipality for four months. He worked in Bhaboral and the neighbouring villages, and his operations were regularly inspected by the hospital assistant. He vaccinated 245 persons, 192 successfully.

Dehree.

Dehree.—Dr. Jackson reports that 69 persons were vaccinated by himself and his assistants. There was no paid vaccinator. The people are opposed to vaccination. Small-pox was very prevalent in the sub-division.

Tirhoot.

Tirhoot district.—The civil surgeon has not furnished a general report.

Mozufferpore.—Assistant Surgeon Bhuggobutty Churn Mookerjee reports that three vaccinators are attached to the dispensary, on a salary of Rs. 10 a month, throughout the year: two of them are paid by Government, and one by the municipality. Definite areas within the municipality and its suburbs were assigned to each. Cases were brought to the dispensary once a week for inspection. The operations before the end of December were unsuccessful owing to bad lymph; 3,918 persons are said to have been vaccinated, of whom 2,928, or 59.4 per cent. were successful. No active opposition to vaccination in town except from *mohajuns*. Inoculation is extensively practised in the villages; four inoculators were instructed in vaccination and sent to the interior, with what result is not stated.

Durbungah.

Durbungah.—Assistant Surgeon Nobogopal Ghosal reports that two vaccinators, on Rs. 10 each—one paid by the estate of Raj Durbungah throughout the year, and another by the municipality for only six months—were at work during the last vaccinating season; no definite areas were assigned or plan adopted. The operations are said to have been regularly inspected by the reporter's predecessor: 354 persons were vaccinated, of whom 294, or 83.5 per cent. were successful. The people are said to be apathetic and indifferent to vaccination. Inoculation is very prevalent in the interior. Sporadic cases of small-pox occurred.

Mudhoobanee.—Assistant Surgeon Brojendra Coomar Dutt reports that vaccination had hitherto been carried on in this sub-division by the agency of eight trained inoculators. But this year one vaccinator was appointed on Rs. 10 a month, one half of his salary being paid by the municipality, and the other half from out of the dispensary funds. He first worked at Mudhoobanee, and afterwards in two villages where small-pox was very severe. His work was inspected by the assistant surgeon and a native doctor. Five hundred persons are said to have been vaccinated, of whom 350, or 70 per cent., were successful. The people are opposed to vaccination: inoculation is the universal practice. No new inoculators were trained last year. Those eight men who had been trained before, practised inoculation whenever they found it more remunerative than the practice of vaccination. No authentic report of small-pox was received, except from two villages where the vaccinator was latterly at work.

Mudhoobanee
sub-division.

Sectamarhee.—Assistant Surgeon Muthoora Nath Sen reports that one vaccinator on Rs. 7, paid out of the local funds, was employed from November to March. He worked in Sectamarhee and its adjoining villages, and his operations were thoroughly inspected by the assistant surgeon of the dispensary. The people are not favorable to vaccination; inoculation is largely practised. Four inoculators were instructed in vaccination and granted perwannahs by Mr. Reilly, the deputy magistrate. Only one of them turned out to be good, and vaccinated 25 cases. Of the other three nothing was heard of. Sporadic cases of small-pox were reported, and in some instances the vaccinator was sent to the villages to try and localize the attack, in which he generally failed, owing to the unwillingness and opposition on the part of the people.

Sectamarhee.

Tajpore.—Native Doctor Goury Coomar Mookerjee reports that one temporary vaccinator, on Rs. 10, was employed for a little over three months. He vaccinated 363 cases, 248 successfully, including 61 operations by the native doctor himself, who frequently inspected the vaccinator's work. The people are much prejudiced against vaccination, and inoculation is the prevailing practice. Small-pox broke out in a few villages, where a native doctor and the vaccinator were despatched.

Tajpore

Hajeepore.—Hospital Assistant Sheikh Meajan reports that one vaccinator, on Rs. 10, was employed from 17th February to 30th March. He vaccinated 56 cases, 46 successfully. The hospital assistant inspected the work twice. The people dislike vaccination, and inoculation is the rule. No small-pox was reported.

Hajeepore.

Sarun district.—Dr. C. M. Russell reports there are three permanent vaccinators attached to the dispensary throughout the year, all receiving Rs. 10 a month. The salary of one is paid by Government, and of two by the municipality. Besides these, four temporary men were entertained for the season only, on Rs. 8 a month, two being paid by the municipality and two by the Nevilgunge town fund. The vaccinators were chiefly employed in the town of Chupra and Nevilgunge. Respective *mohullahs* were allotted to each vaccinator, so as to define the area of his operations. The result of inspection is said to have been, on the whole, satisfactory. The work of the vaccinators was examined almost daily, and Bryce's test occasionally used to verify the quality of the vaccinations. One thousand seven hundred and forty-two persons are said to have been vaccinated, against 1,902 in the previous season, with 1,508 primary, and 13 secondary successful cases. The people of the district are adverse to vaccination, while in Chupra and Nevilgunge they have got reconciled to it. Inoculation is in vogue in the district. Five inoculators were supplied with lymph, crusts, and lancets after being shown how to vaccinate; but though they one and all promised to send in returns and keep the civil surgeon informed of their whereabouts, none of them did so. One of these men brought a few cases for inspection, and then disappeared. Small-pox prevailed in the district from February to June 1873; vaccinators were despatched to the villages where the disease raged most, but their attempts to induce the inhabitants to be vaccinated were unsuccessful.

Sarun district.

Hutwa.—Assistant Surgeon Shib Chunder Bose reports that two vaccinators on Rs. 10 each, and six trained inoculators receiving one anna commission for each successful case, were employed by the *Raj Treasury* from 15th November to 30th April. The two regular vaccinators worked in the town of Hutwa, while the ex-inoculators worked in their jurisdiction. The work of the former was inspected three or four times during the month. One thousand two hundred and sixty-seven persons are said to have been vaccinated, of whom 1,083, or 92.82 per cent. were successful. The people are reported to be favorable to vaccination. Inoculation is still practised, but to a less extent than before. Six inoculators were trained, as mentioned before, and the results of their operations are said to have been successful. Small-pox broke out in several places; and it is stated by the assistant surgeon that people came to the dispensary to have their children vaccinated, and thereby protected against small-pox.

Hutwa.

Sewan.—Assistant Surgeon Ram Kali Gupta reports that one vaccinator on Rs. 10 a month, was employed by the municipality from November to April. He worked in Sewan and the adjacent villages. Small-pox prevailed rather severely in the sub-division.

Sewan.

Chumparun district.

Chumparun district.—Dr. Cullen reports there is one vaccinator on Rs. 10, paid by Government, who works from November to the end of March. Besides the vaccinator a number of inoculators, who had been trained, also worked in the district. The Government vaccinator was generally employed to inspect the work of the local ex-inoculators, and when not so employed he vaccinated in the town and suburbs of Moteeharee. The civil surgeon could not himself inspect so frequently as in former years, owing to the pressure of famine works. One thousand and seventy-three persons were vaccinated, of whom 1,059, or 98·75 per cent., were successful.

Attitude of the people.

The people are said to be indifferent to vaccination so long as it is performed by their own inoculators. Inoculation is still very prevalent in the district. Dr. Cullen writes:—"The old inoculators are persuaded to come into the station to learn vaccination, and are then allowed to operate over the area where they formerly inoculated, and to take the fees established by old custom for this purpose. Their work is frequently inspected, and they are made to furnish monthly returns of the numbers operated on, and these numbers are verified during inspection."

Small-pox.

Small-pox prevails every year, and sometimes to a severe extent. At such times vaccinators are sent out to try and vaccinate the unprotected; but the people do not fear the disease, and are averse to such measures.

BHAGULPORE DIVISION.

Monghyr.

Monghyr district.—Dr. Purves reports that the municipalities of Monghyr and Jamalpore employed four vaccinators, who were paid Rs. 10 each during the working season, and Rs. 5 during the recess. Two vaccinators were also entertained by the Durbungah Raj on the Khurruckpore estates. The Government grant of Rs. 120 was distributed among 134 instructed inoculators. They had no defined areas, but worked where they expected most success. The operations within municipal limits were inspected by the civil surgeon and his assistant. Great difficulty was experienced in starting the work, owing to the repeated failure of lymph and crusts. The numbers vaccinated were, Monghyr and Jamalpore vaccinators, 1,259; Khurruckpore vaccinators, 439; the hospital assistants of Jamooee and Begoo Serai, 634 and 27, respectively; 134 converted inoculators, 12,964. Vaccination does not find much favor among the higher class natives, and the Marwarees are opposed to both inoculation and vaccination. Inoculation is said to be very common in the town and all over the district. Now that the Act prohibiting it has been extended to Monghyr and Jamalpore, inoculators will not be able to carry on their practice in those towns. Dr. Purves thus remarks on the proceedings of the trained inoculators:—

Trained inoculators.

"With the exception of the municipalities already mentioned, and the two vaccinators paid by the Rajah of Durbungah, there is no organized system of vaccination. All the work in the district is performed by trained inoculators, who get little or no encouragement in the way of remuneration from Government, and upon whom, as a necessary result, we have no check.

"All that Government allows on account of vaccination is Rs. 120 *per annum*, and it has hitherto been the custom to divide this sum among the deserving trained inoculators; but now that their number has so increased, the share they may become individually entitled to is scarcely worth claiming. The number of these men applying for *perwannahs* has considerably increased during the year under notice—134 against 92. They are generally late in presenting themselves, and only work over a short period. They are furnished with an order to the police to be allowed to operate in certain thanas, and their respective document is attached.

"In the event of any of them being discovered practising inoculation, the police are requested to report the matter at once. A copy of the printed form they get is appended.

"Each man works among the inhabitants of a few villages in the vicinity of his own; and in fact this is the only way of getting the people to submit to the operation. These men are generally known to the villagers, and they repose confidence in them, which would not be accorded to strangers. I have no doubt that some of them may not be honest, and practise inoculation on the sly; but many of them do good work. The returns show an increase in the operations performed by these men—12,961 against 12,531.

Small-pox.

"Small-pox is an annual occurrence, and the disease is generally present more or less from March to June. During 1873, 706 deaths were registered, viz., 81 in the municipality and 625 in the district."

In conclusion Dr. Purves remarks:—"Unless, however, some pecuniary encouragement be given by Government to these ex-inoculators, I fear much that they will get tired of working for nothing, and may revert to their old occupation in despair."

Bhagulpore.

Bhagulpore district.—Dr. Baillie reports:—"As in the previous year, vaccination was chiefly carried on by old inoculators, men who have been in the habit of inoculating in the same villages, and their fathers before them, often for several generations. The plan of operations was the same as that described in my last report.

"One hundred and sixty-seven of these men applied for *perwannahs* to enable them to vaccinate in the district, being an increase of 58 over the previous year; and a large proportion of these were new men, going to different parts of the district to those employed last year; indeed it appears to be a general rule with these men to operate only once in two or three years in the same batch of villages, and not to go to the same each year; 153 of these were supplied with vaccine materials, the remaining 14 having declined to wait until a supply was forthcoming.

"Of these 153, returns have been received from 98 only; a few of the remainder are known to have left the district without operating, four or five having brought back their *perwannahs*, saying that they could get no practice this year. The returns received from these 98 men show 5,836 cases of vaccination, being a decrease of 2,200 as compared with last year. This is due chiefly to a large reduction in the number of operations in the Banka and sudder sub-divisions, in the former especially, the falling off there being nearly 3,000 cases, and attributable to the absence of a Bengali vaccinator, who alone operated nearly 2,000 cases last year under pressure of an existing epidemic of small-pox. The returns from Soopole and Muddehpooa show 29 against 21 only in the preceding season. This is remarkable, as these two sub-divisions include the most distressed portion of the district. It appears to indicate increased confidence in the vaccination, and to a much larger extent even than is shown by the figures, for from Soopole, returns have been received from only half the number of men who received *perwannahs* (40), while the actual number of returns is the same as last year, 20, the number of vaccinations, 164 last season, to 816 in the present. There is also a falling off of more than one-third the number of cases in the sudder sub-division as compared with the preceding season. The returns from this sub-division are, however, the most imperfect of all.

"Vaccination was also carried on at the various dispensaries by the subordinates in charge, though to a very limited extent only, as shown in the various returns.

"6. The only paid vaccinators employed were Janky Ram, a man who had been attached to the sudder dispensary in that capacity for some years, and Amjad Hossain, a former compounder in the dispensary. These men were employed exclusively within the municipal district, and their outturn of work was considerably less than in the previous year. The reason they gave for this was that the people were unusually obstinate in urging objections by reason of the absence of small-pox this season, and consequent want of stimulus to them to prevent their children being attacked.

"7. This was to some extent confirmed by a circumstance that came under my own observation; for, when inspecting vaccination in some villages a short distance beyond the municipal limits, the chief villagers came forward and told me that, in consequence of two children having been brought to a neighbouring village suffering from small-pox, they became alarmed and immediately sent for their vaccinator, and had caused all their children to be vaccinated. There was another reason, however, which was probably still more effectual. It was found when some work in the nature of relief works was opened in the municipality that scarcely any men offered themselves for employment. In consequence of the extensive relief works opened in the north of this and the neighbouring districts by Government, the men had migrated there leaving the women in charge of their homes, and these the vaccinators found far more difficult to deal with than the men. They repeatedly reported to me that on their appearance in a village the women ran away with their children and hid themselves or barricaded the entrances to their huts. The inoculators who were employed within the municipality also reported their inability to prevail with the people to submit their children for vaccination, though the reason they gave for it was that, in consequence of the high price of food, the people were unable to pay them.

"8. Another and very strong reason for the smaller outturn of vaccination is the imperfection of the returns; the plan suggested to obtain these was that the chowkidars of villages should report the number of persons vaccinated to the thana police officer at the time of his usual weekly report, while the vaccinators were to report to me direct; thus one set of returns would check the other. Instead of doing this, the subordinate police officers called on the vaccinators to report to them direct, thus obviating all the advantage to be gained by the plan recommended, while time is lost by the men having to travel unnecessarily many miles to the thanas; and having made their reports to the police, the men think it unnecessary to send me a return at all.

"9. At the thanas, again, the returns are very carelessly kept; at one a register was shown me in which all cases of small-pox were entered indiscriminately with the vaccination; at another I found four or five cases of vaccination only in the register though it was being carried on largely by several men in two large villages in the immediate neighbourhood. In one of these I found several cases of inoculations also, and from this no report had been received at all, though there are three chowkidars belonging to the village, and a police constable posted in it permanently.

Ex-inoculators.

Causes of decrease as compared with last year.

Careless manner of keeping returns in the police thanas.

"10. On representing these circumstances to the superintendent of police, I was informed that the men were fully occupied with work connected with the despatch of grain to the distressed districts, and could not give attention to vaccination affairs.

"11. But few of the inoculators were fully at work before the middle of February, and consequently returns of their work did not reach me until well into March, by which period my time was fully occupied with arrangements connected with medical relief to the distressed districts, that it was difficult to leave the station for any considerable time. Inspection was therefore chiefly confined to the work in the sudder station division, and I visited a number of villages for this purpose both to the north and south of the river. In all these I found a large amount of good vaccination being carried on, and the people far more willing to submit to it than they are in the town. At one village, Narainpore, as already mentioned, I found several cases of inoculation at the same time that vaccination was going on: these, I suspect, were done by the operators for their own reputation's sake; many of the people are not yet sufficiently cognizant that the vaccination is successful unless pimples appear on the body as in inoculation, and the operators therefore occasionally find it necessary to have a case of undoubted small-pox to satisfy those who are doubtful.

"12. Wherever I went, however, I endeavoured to collect the people together, and to impress upon them the advantages to themselves of vaccination in preference to inoculation, and I usually found them perfectly willing to listen, and ready to trust their children to the village inoculator, whatever operation he might perform.

Inspection of work.

"13. Inspection of vaccinators' work in the town was carried on by myself and by the assistant surgeon constantly; though, from the scattered character of the various bazars comprising it, it is difficult either to carry on the work or to inspect it systematically. Frequent visits were made to that part which is occupied by Bengalis, who are usually well disposed to vaccination, and the influential portion of whom assist and encourage it. To the south of the town, also, an influential zemindar, Abdul Quadir Khan, gave good assistance, and I found the children in his neighbourhood generally vaccinated; elsewhere it was often very desultory, and the work of inspection most tedious, not infrequently a journey of five or six miles being required to see not more than as many cases.

"14. Besides the paid vaccinators, 10 of the inoculators applied for permission to work in the town, which was granted; they did not, however, meet with as much success even as the paid vaccinators, only 168 cases having been returned as performed by them; some of them brought back their *perwannahs*, saying that in consequence of the high price of food they could obtain no practice.

"15. Three of these men were found to be inoculating small-pox, and were prosecuted and punished; in one case a death from small-pox having resulted from their proceedings; and the evidence in these cases tended to show that the people themselves had not specially desired that their children should be inoculated in preference to being vaccinated.

"16. In some few places arm-to-arm vaccination has been introduced; but it is by no means general, and crusts are far more generally made use of. The disadvantage of this is the constant necessity for new supplies, and it is found difficult to obtain them in sufficient number in the early part of the season.

Purneah district.

Purneah district.—Dr. Picachy reports that one vaccinator, paid Rs. 10 a month by the municipality, was employed throughout the year. He worked at the sudder dispensary, and also in the adjacent villages. His operations were inspected by the civil surgeon and the native doctor. Six hundred and twenty-seven persons were vaccinated, 557 successfully. Of this number, 256 were *Dhangurs*. The better class of people are against vaccination, and prefer inoculation, which is the prevailing practice in the district. Nineteen inoculators, however, applied to Dr. Picachy for permission to vaccinate, and received *perwannahs* from the magistrate after having been instructed in the art and practice of vaccination. Only one man sent in a return of a few cases. Small-pox never prevails much in the district. A few sporadic cases occurred in the adjacent villages, and three cases in the jail. Isolation of the sick and vaccination of the unprotected arrested the disease in the jail.

Sonthal Pergunnahs.

Sonthal Pergunnahs.—Dr. Cameron reports that 59 converted inoculators worked during the past season and vaccinated 11,836 persons, of whom 10,785, or 94.1 per cent., were successful. The report proceeds:—"These men are not paid anything by Government, but are remunerated by fees not exceeding four annas for a boy and two annas for a girl from their clients.

"As mentioned in previous reports, the ex-inoculators find their clients vaccinating entire villages at one time, and keeping up other customs which they are accustomed to. The areas within which they worked were attempted to be defined by granting authorizations to the men themselves, and assisting them by letters to ghatwals, headmen of villages, &c., to enable them to carry on vaccination in fixed localities instead of going to other places at a distance; but frequently these means did not succeed in consequence of

neighbouring villages to the *illakhas* of other men who were not to be found. In Deoghur the ex-inoculators are residents of the sub-division, but in Godda and Jamtara this is not generally the case.

"On different occasions the civil surgeon inspected 374 cases of vaccination, of which 215 were successful, giving a ratio of 57.4 * * * * * This figure is very low, but I believe it fairly represents the amount of success attending operations by untrained men vaccinating from crusts." The civil authorities rendered great assistance. The civil surgeon detected the practice of inoculation in seven villages done by ex-inoculators, who had promised to vaccinate. Small-pox prevailed in the district generally; it was most severe in the sub-division of Godda. Here, between September 1873 and 31st March 1874, 637 cases with 102 deaths occurred in 98 villages. In addition to the six local men, two good vaccinators were at work from about the end of January. Small-pox also prevailed in other parts and caused several deaths. Dr. Cameron recommends that a number of trained vaccinators should be appointed to teach the ex-inoculators.

Civil surgeon's inspections.

COOCH BEHAR DIVISION.

Julpigoree district.—Mr. Griffiths, civil surgeon, reports there were no public vaccinators attached to the dispensaries; the several medical officers in charge performed a few operations. Thus, at Julpigoree, Titalyah and Fallicotta, 224 persons were vaccinated, of whom 169 were successful. The educated natives appreciate the value of vaccination. Inoculation is said to be disappearing from the district. This district is included within the Darjeeling circle, and four Government vaccinators with one native superintendent were at work in the district during the season. It is reported no cases of small-pox occurred within the district during the year.

Julpigoree.

Darjeeling district.—Report not received.

CHOTA NAGPORE DIVISION.

Hazareebagh district.—Dr. Davies, who was in temporary charge, reports there were no vaccinators attached to the dispensary. Thirty-eight persons were vaccinated by the medical officer himself. The people are said to be adverse to vaccination, and inoculation, though prohibited by law, is reported to be carried on to a large extent surreptitiously in the district. Some ex-inoculators were instructed in vaccination, and, being supplied with lymph and *purcannahs*, were sent out to vaccinate in the district. The police were instructed to keep their eye on them, because it was feared they might return to their old practice of inoculation. Small-pox prevailed in Hazareebagh town from April to June of last year, when a temporary hospital was opened at a short distance to the north-east of the town. At the branch dispensary at Buxhee twenty-one vaccinations were done by the hospital assistant in charge. This district is included in the Ranchi circle.

Hazareebagh.

Lohardugga district.—Dr. Hoskins reports that one vaccinator on Rs. 10 was employed by the Ranchi dispensary committee for four months, from December to March. His operations were confined to Ranchi and its immediate vicinity, and almost all the cases were inspected by the civil surgeon. Eight hundred and fifty-seven persons were vaccinated in Ranchi; in 203 the result was not ascertained, because they were temporary residents, who left the place immediately after the operation. Five hundred and sixty cases were successful. The opposition to vaccination is greatly decreasing. There has been no inoculation in Ranchi for some years past. The number of deaths from small-pox reported during 1873-74 was 122.

Lohardugga.

Palamow.—Assistant Surgeon Aghore Nath Bose reports there is no public vaccinator attached to the dispensary. He made great efforts to induce people to have their children vaccinated, but with small success. He succeeded in vaccinating 17 cases. Inoculation was not heard of. One inoculator was trained, who is said to have vaccinated 420 persons.

Palamow.

Singhbhoom district.—Vaccination by the agency of the local ex-inoculators has made very satisfactory progress. The following is Dr. Manook's report:—

Singhbhoom.

"Vaccination may now be said to be fairly established in this district. The people have no objection to it so long that the operation is performed by their own *tekaitis*, who have for generations been performing inoculation in their villages. But in this respect the Coles are more forward in accepting vaccination. It is sufficient that the *manley* or the headman of their *pir* consents to have vaccination carried on in his jurisdiction,

Attitude of the people.

when every village under him willingly comply. In some instances, even, the *moonda*, or head of a single village, had, at the instigation of an ex-inoculator applied to me that lymph may be given to the *tekait*s to vaccinate in his village. Other castes, likewise, have been willing to get vaccination performed in their villages; and there has not been any active interference against the performance of vaccination conducted by *tekait*s. Villagers have sometimes objected, however, but owing to two reasons: when they consider themselves unable to pay the Brahmins, and when a new *tekait* is inclined to take the place of their old one. This last objection will, in time, I have hopes, be got over, not by forcibly thrusting a new man in the village, but by persuasion. The people alone are not to blame for this. The *tekait*s themselves, considering certain areas as their vested rights for the purposes of vaccination, always try to frustrate any attempt that may be made to introduce a new man to take their place. A very good instance of this occurred during the season under report. Wishing to extend the vaccination area from Chyebassa, as a centre, I told one of the *manleys* that a vaccinator would be sent to work in his jurisdiction. He very willingly assented and I sent a *tekait* to him. On this coming to the ears of certain *tekait*s, who considered this *manley's illaka* as their vested right, they went to the *manley*, and by every means of persuasion in their power, even so far as to threaten him with dire results from the anger of their gods, if he allowed the other *tekait*s to vaccinate in his villages, tried to make him send away the vaccinator I had appointed. The *manley* very wisely came and reported the circumstances to me; and the deputy commissioner, on being informed, had the men sent for and judicially fined. They also received a warning from me that, on a repetition of such actions on their part, they may not be allowed to vaccinate at all. The punishment of these men will have a very good result on the others, and in time it may be possible to make these *tekait*s work wherever they are ordered.

Ex-inoculators.

"7. The register shows the names of 52 ex-inoculators. Among these, only four were added during the year, and one has been reported dead. Of the 51 registered *tekait*s, only 26, or half the number, applied for lymph. They worked in eighteen localities, and were allowed to retain their old beats, so far as this could be done without depriving certain areas of vaccination. In last year's report it was mentioned that certain vaccine centres were formed, which would be extended year by year. These were Chuckerdhurpore, 16 miles to the north-west; Holdipookur, in Dhulbhum, 22 miles to the east; a part of the Colehan, six miles to the south-east; and Chyebassa central. Vaccinators were this year also made to work round their points. The Chyebassa centre has extended towards the east and south, and the Colehan centre to the south-east has also extended; but I have not been able to unite it to Chyebassa. There are still some villages intervening, and next season the protection of these will be taken in hand. Work has also been going on in the Holdipookur centre by two sets of vaccinators. The men set to work in Chuckerdhurpore, after vaccinating the remaining villages in their own beats not protected last year, came away, as they would not encroach on the beats of others. But from this point also the extent of protection has increased, as two vaccinators have been working in Kera Pir, which is adjoining Chuckerdhurpore. Of the 18 sets of inoculators working in the district, 15 have submitted returns; against 12 sets of inoculators, and eight sets who submitted returns during last year. The number vaccinated, as shown in this return, is more than double that of last year, being 17,155 against 8,358. The number of villages vaccinated during the year was 291 against 120 last year. This is good season's work, if the results could be more closely inspected. Unfortunately I could inspect the work of only two. I visited sixteen villages and inspected 541 cases. Of these 254 only were very successful cases of vaccination, the vesicles being whole and well formed; 225 were very indifferent, the vesicles having burst and turned into ulcers; and 62 were quite unsuccessful. This result would give only 46.95 per cent. of successful cases, a very unsatisfactory result if only the best kind of vaccination, as it ought to be, should be insisted on. This I took every care to impress on the vaccinators; and if inspection could be more methodically and frequently carried out, improvement would follow. But to inspect such a number of vaccinators' work, spread out in several parts of the district, requires at least one person who could devote his whole time to this work alone.

Number protected.

"In Chyebassa the numbers vaccinated were not many; 21 were vaccinated by the hospital assistant attached to the police, and 13 by me. Of these 34 cases, 30 were successful, or 88.23 per cent.

"Some catechists, attached to the Lutheran Mission, who were taught vaccination last season, have also vaccinated in Bandgown, the western limit of the district; but I am sorry to say I have received no return from them up to date.

Small-pox.

"8. There was no report during the year of an outbreak of small-pox in an epidemic form in any part of the district. But from the mortuary returns it appears that sporadic cases must have occurred, if what is shown in the mortuary returns as deaths from small-pox was really small-pox, and no other kind of eruptive disease. The returns show the number of deaths from small-pox to have been 32.

Number of deaths during the year.

Manbhoom district.—Mr. Wilson, civil medical officer, reports that 266 persons were vaccinated in the sudder station by himself and his two assistants, the dispensary being too poor to employ any vaccinator. Five public vaccinators with their native superintendents of the Ranchee circle were at work in the district. Mr. Wilson reports thus on the proceedings of the inoculators. Manbhoom.

“During last season not more than 29 *tekait*s worked, and their operations amounted to 12,213, in 241 villages situated in 15 *pergunnah*s, and I verified the same on various occasions between 28th October and 30th March; the result of which verifications is given below :— Work performed by ex-inoculators.

Number of operations said to have been performed	...	12,213		
Successfully vaccinated	...	9,775		
Unsuccessfully	...	1,351		
Absentees	...	1,087		
Total		...	12,213	

“ (As regards 198 absentees of the above, it is my firm belief that they were never operated upon at all: the number was merely inserted by the ex-inoculator to swell his return, and make it appear that he had done more than was actually the case.) Thus showing an increase of 3,760, or nearly one-third over those of the preceding season, and giving an average at 421.13 cases to each *tekait*; whereas the average for 1872-73 was 241 only. The highest number of operations performed by a *tekait* was 2,803 and lowest 163.

“From returns received by me up to 10th April, I find 2,937 other operations were performed by 12 ex-inoculators (five are included and seven are not amongst the 29 men mentioned before) in 54 villages, in nine *pergunnah*s (seven *pergunnah*s are included, and two are not in the 15 *pergunnah*s mentioned above).

“These last operations have not been verified by me, partly because the returns reached too late in the season to admit of my going out, and also, partly because the numbers taken separately were too insignificant for me to undertake a journey on their account.

“The grand total number of operations performed in the district last season aggregated 15,150, being 6,692 in excess of those for 1872-73. The season's work.

“At the commencement of last season 47 *tekait*s were in possession of lancets, and since then 10 more men applied for and obtained instruments and crusts, having been previously instructed in vaccination, and furnished with certificates of their fitness to operate.

“It will be seen from the foregoing particulars that not more than 29 of the 57, or a trifle more than half, ex-inoculators have done any work which has been seen by me. Seven others have performed some work, so they say, but what the remaining 21 *tekait*s have been doing, I am unable to ascertain.

“As one hundred *tekait*s registered themselves in the office of the deputy commissioner three years ago, it will be seen that little more than half have accepted lancets and only 30 of them have done any work last season; the other six operators being Hindoostanees, of whom I shall have something to say further on.” Re-distribution of *tekait*s.

As many *pergunnah*s were without resident *tekait*s, “whilst some had too many, the deputy commissioner, at my recommendation, in the middle of October last, arranged that 42 men should practice in as many *pergunnah*s, and that the remaining three should be taken in hand by a few Hindoostanee vaccinators who were here at that time. This was highly satisfactory, and would have answered admirably if the 42 *tekait*s had fulfilled their engagements, as I believe they promised to do, but the result was unfortunately otherwise, as out of the 42 *tekait*s only 23 performed operations in 12 *pergunnah*s, and the three Hindoostanee vaccinators (who afterwards increased to six) operated in three other *pergunnah*s; so that exactly one-third of the district received the benefits of vaccination.”

The first of these was the discovery of gold in California in 1848. This led to a great influx of people to the West, and the discovery of gold in Colorado in 1859. These discoveries led to the development of the West, and the discovery of gold in California in 1848. This led to a great influx of people to the West, and the discovery of gold in Colorado in 1859. These discoveries led to the development of the West, and the discovery of gold in California in 1848.

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TABLE

Statement showing particulars of Vaccination in each Division of

1	2	3		4		5		6	7	8
		Number of native superintendents, head vaccinators.		Number of vaccinators.		Total number of persons vaccinated.				
CIRCLES.	Name and rank of Superintendents.	1873-74.	1872-73.	1873-74.	1872-73.	1873-74.	1872-73.	Collectorate, Political Agency, or Native State in which vaccinations were performed during the year.	Population in area included in last column.	Name of portion of district or of town.
<i>North Division.</i>										
Town ...	Surgeon Major T. E. Charles, M.D., Superintendent-General.	(j)2	2	6	6	3,320	3,206	In the town and suburbs of Calcutta.	Town 447,601 Suburbs 257,149 Total... 704,750	North Division. (j)
Suburbs ...		(j)1	1	5	5	2,839	2,533			
Cooly depôt ...		...	...	...	...	18,424	12,752			
Total...		3	3	11	11	24,583	18,491			
<i>South Division.</i>										
Town ...	Surgeon Major T. E. Charles, M.D., Superintendent-General.	1	1	5	5	3,497	3,502	In the town and suburbs of Calcutta.	Total... 704,750	South Division.
Suburbs ...		2	2	5	5	5,531	7,274			
Cooly depôt ...		...	...	...	...	5,183	2,356			
Total ...		3	3	10	10	14,213	12,992			
Grand Total ...		6	6	(k)21	21	38,796	31,483			

Statement showing particulars of Vaccination in the

1st Circle...	Surgeon K. P. Gupta, M.B., Superintendent.	4	4	(a)26	26	80,621	83,797	Nudda, Burdwan and 24-Pergunnahs.	807,623	11 thanas in 24-Pergunnahs and 1 in Nudda.
2nd Circle...		4	4	(a)26	26	57,937	74,660	Hooghly...	660,000	8 thanas in Hooghly.
3rd Circle...		4	4	(a)26	26	168,118	168,617	24-Pergunnahs, Nudda, Burdwan, Hooghly and Beerboom.	862,638	1 in Hooghly, 8 in Burdwan, and 2 in Howrah.
Total ...		12	12	78	78	3,06,676	2,67,074		2,329,661	

Statement showing particulars of Vaccination in the

Darjeeling	Surgeon Major E. Lidderdale, M.D., Superintendent.	1	1	3	3	1,184	2,412		94,712	Darjeeling
		1	1	6	6	9,082	10,744		1,501,924	Dinapore
		1	1	6	6	22,739	22,759		2,149,972	Rungpore
		1	1	6	6	18,477	16,409		689,467	Bogra
		1	1	5	5	25,727	31,817		1,319,729	Rajshahy
		1	1	4	4	7,166	5,986		418,665	Jaisigoree
		1	1	6	6	7,259	6,137		1,714,735	Purneah
Total ...	7	7	42	43	97,737	1,06,399		8,556,630	Mallah	

Statement showing the particulars of Vaccination in the

Ranchee	Surgeon J. J. Wood, M.B., Superintendent.	1	3	6	16	16,565	33,136		870,094	Lohardugga
		2	...	12	2	121	1,951		366,519	Palamow
		...	...	1	...	18,032	1,421		847,776	Hazareebagh
Total ...	3	3	20	20	37,411	36,518		2,608,998	Pachumba	

Statement showing the particulars of Vaccination in the

Sonthal Pergunnahs	Baboo Kali Krishna Ghose, Deputy Superintendent.	6	6	15,039	11,071	Sonthal Pergunnahs.	1,239,287	Rajmehal, Pakour and Godda.
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Statement showing the particulars of Vaccination in the

Eastern Bengal Dacca.	Baboo Bhoobun Mohun Mitter, Superintendent.	5	3	51	36	78,491	47,549	Dacca and Ferozapore.	2,865,382	Thanas, Goalundo, Juffergunge, Manickgunge, Hurrempore, Nowabgunge, Sreenagur, Lailbag, Sabhat, Balgachia.
Grand Total ...		33	31	218	204	574,170	50,094		17,724,768	

(a.) And 8 apprentices.

(c.) Includes 1,332 repetition cases, of which 1,332 were successful.

(d.) Includes 12 repetition cases.

(e.) " 1,000 " " "

(f.) " 7 " " "

No. I.

Superintendence in the Metropolis, Lower Provinces, during the year 1873-74.

9												10				11	12	
Primary vaccinations.												Revaccinations.				Percentage of successful cases, excluding those unknown from the total.		
A.		B.				C.			D.	A.	B.	C.	D.	In primary vaccination.	In secondary vaccination.	Average number of persons vaccinated by each vaccinator.		
Sex.		Caste.		Age.		Results.			Total.	Successful.	Unsuccessful including those "doubtful."	Unknown.	Total.					
Males.	Females.	Christians.	Hindus.	Muslimans.	Other castes.	Under 1 year.	Above 1 year.	Successful.	Unsuccessful including those "doubtful."	Unknown.	Total.	Successful.	Unsuccessful including those "doubtful."	Unknown.	Total.			
1,753	1,428	40	2,397	744	...	882	2,299	3,143	14	24	3,181	28	121	...	149	99.55	18.79	553.3
1,538	1,282	14	1,962	904	...	898	1,922	2,814	6	...	2,820	7	12	...	19	99.78	36.84	567.8
1,276	1,082	...	2,308	...	...	770	1,538	2,592	...	6	2,598	2,497	13,358	61	16,316	100	15.55	...
4,567	3,742	54	6,607	1,648	...	2,559	5,759	8,219	29	30	8,599	2,532	13,091	61	16,284	99.73	15.69	2,254.8
1,111	918	32	1,067	701	...	464	1,565	2,022	3	4	2,029	334	1,013	121	1,468	99.85	24.79	609.4
2,906	2,479	33	3,324	2,916	...	708	4,667	5,376	5	...	5,375	35	123	...	158	99.9	22.15	1,106.2
282	195	...	346	131	...	49	457	477	...	...	477	1,923	3,685	...	4,708	100	21.73	...
4,289	3,502	356	4,677	2,845	...	1,212	6,669	7,860	8	4	7,881	1,392	4,821	121	6,534	99.89	22.40	1,421.3
8,856	7,334	416	11,284	4,496	...	3,762	12,428	16,128	28	34	(d) 16,190	3,924	18,512	182	22,618	99.81	17.49	1,567.4

Metropolitan Circles during the year 1873-74.

42,018	38,591	100	43,533	36,976	...	5,508	73,101	89,463	136	10	80,669	3	9	...	12	99.83	25	3,121.6
50,298	27,539	10	50,983	6,944	...	2,762	53,175	57,711	187	39	57,937	...	...	...	...	99.07	...	1,524.6
91,295	76,821	...	142,364	23,812	...	7,799	160,326	1,67,791	277	48	168,116	...	2	...	2	99.83	...	4,424.1
163,711	142,951	116	236,829	69,732	...	16,069	296,602	305,965	696	97	306,662	3	11	...	14	99.86	21.42	3,831.7

Darjeeling Circle during the year 1873-74.

605	579	...	952	232	270	914	897	199	88	1,184	...	...	...	...	...	81.84	...	394.7
5,029	4,953	...	4,949	4,688	334	249	8,833	8,743	465	53	9,201	...	...	...	...	94.97	...	1,513.6
12,777	9,953	...	3,172	19,181	377	728	22,610	22,114	992	73	23,179	...	...	...	...	95.79	...	3,783.3
9,663	8,814	...	1,789	16,234	454	751	17,726	18,362	306	20	18,688	...	...	...	...	98.36	...	3,079.5
11,944	10,783	...	3,731	19,799	197	1,368	21,359	21,651	816	290	22,727	...	...	...	...	96.34	...	4,545.4
3,965	3,201	7	3,699	3,113	386	168	7,906	6,964	894	227	7,493	...	...	...	...	88.92	...	1,791.5
3,776	3,474	...	2,144	4,763	341	459	6,820	6,952	241	57	7,259	...	...	...	...	96.64	...	1,398.3
4,680	4,461	...	2,879	6,113	149	484	8,657	8,995	348	12	9,255	...	...	...	...	96.23	...	1,525.5
52,439	45,318	7	21,367	73,891	2,492	4,432	93,323	(e) 94,138	4,171	790	99,689	...	...	...	...	95.75	...	2,327.5

Ranhee Circle during the year 1873-74.

8,562	7,999	27	7,926	149	9,363	1,091	15,474	16,294	1,027	274	(e) 17,565	...	...	...	...	94.06	...	2,744.1
57	64	...	113	...	8	3	118	118	9	1	(f) 128	...	...	...	...	91.33	...	121
10,428	8,594	6	1,328	1,310	3,788	525	18,407	17,140	2,048	941	(g) 20,129	...	2	...	2	89.32	...	1,577.7
919	874	...	1,050	193	530	84	1,799	1,653	475	113	(h) 2,243	...	...	...	...	77.69	...	1,793
19,970	17,441	33	22,017	1,632	13,769	1,705	33,798	35,177	3,559	1,329	40,665	...	2	...	2	90.81	...	1,870.5

Sonthal Pergunnahs Circle during the year 1873-74.

7,878	7,306	...	2,930	1,171	10,883	2,614	12,970	14,499	570	5	14,984	47	8	...	55	96.19	83.46	2,596.5
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Eastern Bengal Circle during the year 1873-74.

40,299	38,114	2	30,996	47,505	...	6,184	72,229	78,028	494	10	(i) 78,472	47	31	...	78	99.44	66.25	1,539
292,952	258,464	562	325,314	198,447	27,084	34,155	517,262	545,815	9,302	2,265	555,462	4,021	18,564	182	22,767	98.31	17.80	2,633.8

(g.) Includes 1,129 repetition cases.
 (h.) " " 459 " " "
 (i.) " " 19 " " "
 (j.) Middle division abolished and joined to the other two.
 (k.) Four vaccinators sanctioned, but not employed.
 (l.) Including 10,290 cases of success modified by previous protection, the percentage of success amounts to 64.69.

TABLE No. II.

Statement showing the monthly number and results of the Vaccinations performed in each Circle of Superintendence in the Metropolis, Lower Provinces, and Metropolitan, Darjeeling, Ranchee, Sonthal Pergunnahs, and Eastern Bengal Vaccine Circles, during the year 1873-74.

1	2	3	4	5			6	7
				Successful.	Unsuccessful, including doubtful.	Unknown.		
Circles of superintendence.	Months.	Districts in which operations were chiefly conducted.	Total number vaccinated.	RESULTS.			Total.	Average percentage of successful, including those "unknown."
				Successful.	Unsuccessful, including doubtful.	Unknown.		
South Division.	1873.	Town, primary ...	61	61	.....	.....	61	100
	April ...	Ditto, revaccination ...	87	27	.....	60	87	31.03
		Suburbs, primary ...	137	137	.....	.....	137	100
		Town, primary ...	37	37	.....	.....	37	100
	May ...	Ditto, revaccination ...	9	3	.....	6	9	33.33
		Suburbs, primary ...	69	69	.....	.....	69	100
		Town, primary ...	10	10	.....	.....	10	100
	June ...	Suburbs, ditto ...	39	39	.....	.....	39	100
		Cooley depôt ...	58	58	.....	.....	58	100
		Ditto, revaccination ...	319	62	.....	257	319	19.43
	July ...	Town, primary ...	10	10	.....	.....	10	100
		Ditto, revaccination ...	233	29	.....	204	233	12.44
		Suburbs, primary ...	72	72	.....	.....	72	100
	August ...	Cooley depôt, ditto ...	65	65	.....	.....	65	100
		Ditto, revaccination ...	497	100	.....	397	497	20.12
		Town, primary ...	10	10	.....	.....	10	100
	September ...	Ditto, revaccination ...	90	17	.....	73	90	18.88
		Suburbs, primary ...	33	33	.....	.....	33	100
		Cooley depôt ...	43	43	.....	.....	43	100
	October ...	Ditto, revaccination ...	780	153	.....	627	780	19.61
		Town, primary ...	8	8	.....	.....	8	100
		Suburbs, ditto ...	33	33	.....	.....	33	100
	November ...	Ditto, revaccination ...	2	.....	.....	2	2	.....
		Cooley depôt, primary ...	70	70	.....	.....	70	100
		Ditto, revaccination ...	554	126	.....	428	554	22.74
	December ...	Town, primary ...	92	92	.....	.....	92	100
		Suburbs, ditto ...	135	135	.....	2	135	98.51
		Cooley depôt, primary ...	79	79	.....	.....	79	100
	1874.	Ditto, revaccination ...	779	178	.....	601	779	22.84
		Town, primary ...	349	349	.....	.....	349	100
		Ditto, revaccination ...	136	24	.....	112	136	17.64
	January ...	Suburbs, primary ...	548	548	.....	.....	548	100
		Cooley depôt, ditto ...	107	107	.....	.....	107	100
		Ditto, revaccination ...	983	215	.....	768	983	21.87
	February ...	Town, primary ...	390	390	.....	.....	390	100
		Ditto, revaccination ...	440	126	.....	320	440	28.25
		Suburbs, primary ...	823	823	.....	.....	823	100
	March ...	Ditto, revaccination ...	194	24	.....	82	194	22.64
		Cooley depôt, primary ...	29	29	.....	.....	29	100
		Ditto, revaccination ...	385	86	.....	309	385	21.77
	April ...	Town, primary ...	405	404	.....	1	405	99.75
		Ditto, revaccination ...	35	7	.....	28	35	29
		Suburbs, primary ...	1,172	1,170	.....	2	1,172	99.82
	May ...	Ditto, revaccination ...	30	11	.....	39	30	22
		Ditto, repetition ...	2	1	.....	1	2	50
		Cooley depôt, primary ...	14	14	.....	.....	14	100
	June ...	Ditto, revaccination ...	244	62	.....	182	244	25.40
		Town, primary ...	399	395	.....	2	399	99.49
Ditto, revaccination ...		129	29	.....	100	129	22.48	
July ...	Suburbs, primary ...	1,480	1,480	.....	.....	1,480	100	
	Ditto, revaccination ...	12	12	.....	.....	12	100	
	Town, primary ...	157	41	.....	116	157	26.11	
August ...	Ditto, revaccination ...	258	256	.....	2	258	100	
	Suburbs, primary ...	303	72	.....	110	303	39.56	
	Ditto, revaccination ...	812	812	.....	.....	812	100	
September ...	Town, primary ...	2,029	2,022	.....	3	2,029	99.85	
	Ditto, revaccination ...	1,468	324	.....	1,015	1,468	24.79	
	Suburbs, primary ...	5,373	5,369	.....	4	5,373	99.92	
October ...	Ditto, repetition ...	2	1	.....	1	2	50	
	Ditto, revaccination ...	158	35	.....	123	158	22.15	
	Cooley depôt, primary ...	477	477	.....	.....	477	100	
November ...	Ditto, revaccination ...	4,708	1,023	.....	3,685	4,708	21.73	
	Town, primary ...	55	55	.....	.....	55	100	
	Ditto, revaccination ...	3	.....	.....	3	3	.....
December ...	Ditto, repetition ...	2	2	.....	.....	2	100	
	Suburbs, primary ...	36	35	.....	1	36	97.22	
	Ditto, revaccination ...	1	.....	.....	1	1	.....
1873.	Cooley depôt, primary ...	120	120	.....	.....	120	100	
	Ditto, revaccination ...	988	152	.....	836	988	15.38	
	Town, primary ...	39	39	.....	.....	39	100	
January ...	Ditto, revaccination ...	13	4	.....	9	13	36.76	
	Suburbs, primary ...	26	26	.....	.....	26	100	
	Ditto, revaccination ...	6	3	.....	3	6	50	
February ...	Cooley depôt, primary ...	88	85	.....	3	88	100	
	Ditto, revaccination ...	605	94	.....	541	605	14.35	
	Town, primary ...	5	4	.....	1	5	80	
March ...	Suburbs, ditto ...	36	36	.....	.....	36	100	
	Ditto, revaccination ...	5	2	.....	3	5	40	
	Cooley depôt, primary ...	58	57	.....	.....	58	100	
April ...	Ditto, revaccination ...	465	99	.....	390	465	15.14	
	Town, primary ...	39	38	.....	1	39	97.43	
	Ditto, revaccination ...	16	6	.....	10	16	37.50	
May ...	Suburbs, primary ...	20	20	.....	.....	20	100	
	Cooley depôt, ditto ...	117	117	.....	.....	117	100	
	Ditto, revaccination ...	632	134	.....	498	632	21.20	

* Including cases of success, modified by previous protection. The percentage of success amounts to 69.78
 † Ditto ditto ditto ditto ditto ditto 70.25
 ‡ Ditto ditto ditto ditto ditto ditto 73.81

TABLE No. II.—(Continued.)

1	2	3	4	5			6	7.												
				Successful.	Unsuccessful, including doubtful.	Unknown.														
Circle of superintendence.	Months.	Districts in which operations were chiefly conducted.	Total number vaccinated.	RESULTS.			Total.	Average percentage of successful, excluding those "unknown."												
				NORTH DIVISION.—(Continued.)	1873.	Town, primary			6	6	.....	6	100						
						Ditto, revaccination			1	.....	1	.....	1	.....					
						Suburbs, primary			24	24	.....	24	100						
						Cooley depôt, ditto			61	61	.....	61	100						
						Ditto, revaccination			287	51	235	.....	287	17.83					
						Town, primary			8	8	.....	8	100						
						Suburbs, ditto			51	51	.....	51	100						
						Ditto, revaccination			2	1	1	.....	2	50					
						Cooley depôt, primary			92	92	.....	92	100						
						Ditto, revaccination			521	67	441	13	521	15.18						
						Town, primary			177	174	3	.....	177	98.30					
						Ditto, revaccination			1	1	.....	1	100						
						Suburbs, primary			184	181	3	.....	184	98.36					
						Cooley depôt, ditto			270	267	.....	3	270	100					
						Ditto, revaccination			1,298	235	1,051	12	1,298	18.27						
						Town, primary			365	365	.....	.....	365	100				
						Ditto, revaccination			1	.....	1	.....	1	.....					
						Ditto, repetition			1	.....	1	.....	1	.....					
						Suburbs, primary			426	426	.....	.....	426	100				
						Ditto, revaccination			1	.....	1	.....	1	.....					
						Cooley depôt, primary			363	363	.....	.....	363	100				
						Ditto, revaccination			2,239	375	1,861	3	2,239	16.77						
						Town, primary			484	484	.....	.....	484	100				
						Ditto, revaccination			4	.....	4	.....	4	.....					
						Suburbs, primary			510	510	.....	.....	510	100				
						Ditto, revaccination			1	.....	1	.....	1	.....					
						Cooley depôt, primary			240	240	.....	.....	240	100				
						Ditto, revaccination			1,855	283	1,572	.....	1,855	15.25					
						1874.			Town, primary	604	602	1	1	604	99.83					
									Ditto, revaccination	42	7	35	42	16.66					
									Ditto, repetition	1	1	1	100					
									Suburbs, primary	628	626	2	628	99.68					
									Cooley depôt, ditto	320	320	320	100					
									Ditto, revaccination	2,525	375	2,149	4	2,525	14.87					
									Town, primary	887	877	3	7	887	99.65					
									Ditto, revaccination	65	8	57	65	12.30					
									Ditto, repetition	2	2	2	100					
									Suburbs, primary	509	509	509	100					
									Ditto, revaccination	2	1	1	2	50					
									Cooley depôt, primary	346	346	346	100					
									Ditto, revaccination	2,633	359	2,272	2	2,633	13.54					
									Town, primary	592	482	4	16	592	99.17					
									Ditto, revaccination	3	2	1	3	66.66					
									Suburbs, primary	4	4	4	100					
									Cooley depôt, primary	390	390	390	100					
									Ditto, revaccination	1	1	1					
									Cooley depôt, primary	293	293	293	100					
									Ditto, revaccination	1,988	313	1,675	1,988	15.74					
									Total	Town, primary	3,171	3,134	13	24	3,171	99.58				
										Ditto, repetition	10	9	1	10	90				
										Ditto, revaccination	149	28	121	149	18.79				
										Suburbs, primary	2,820	2,814	6	2,820	99.78				
										Ditto, repetition				
										Ditto, revaccination	19	7	12	19	136.84				
										Cooley depôt, primary	2,368	2,362	6	2,368	100				
										Ditto, repetition				
										Ditto, revaccination	16,116	2,497	13,558	61	16,116	115.55				
										METROPOLITAN CIRCLES.	1st Circle.	Nuddea	231	211	20	231	91.34		
												Burdwan	196	194	2	196	98.97		
												Ditto and 24-Perunnahs	57	42	15				.....	57				75
												Ditto ditto ... ..	.....	.....	.....	.....	.....		.....
												Ditto ditto ... ..	.....	.....	.....	.....	.....		.....
												Ditto ditto ... ..	.....	.....	.....	.....	.....		.....
												24-Perunnahs	2,455	2,437	16	2	2,455		99.34	
												Ditto and Nuddea	10,663	10,647	18	.....	10,663		99.83
												Ditto ditto	12,033	12,020	13	.....	12,033		99.89
												Ditto ditto	11,939	11,931	7	1	11,939		99.94	
												Ditto ditto	16,208	16,190	18	.....	16,208		99.88
												Ditto ditto	26,837	26,794	36	7	26,837		99.86	
												Total	80,621	80,466	145	10	80,621		99.82	
												2nd Circle.	April	Ditto ditto	2	2	.....		2	100
													May	Ditto ditto ... ..	.....	.....	.....		.....	.....
													June	Ditto ditto ... ..	.....	.....	.....		.....	.....
													July	Ditto ditto ... ..	.....	.....	.....		.....	.....
													August	Ditto ditto ... ..	.....	.....	.....		.....	.....
													September	Hoochly	137	136	1		.....	137				99.27
													October	Ditto	7,225	7,192	24		9	7,225				99.06
													November	Ditto	7,492	7,472	16		4	7,492				99.75
													December	Ditto	7,846	7,826	16		4	7,846				99.79
													January	Ditto	10,471	10,421	39		11	10,471				99.62
													February	Ditto	11,700	11,655	42		3	11,700				99.64
													March	Ditto	13,064	13,007	49		8	13,064				99.62
													Total	57,937	57,711	187	39		57,937	99.67

* Including cases of success, modified by previous protection. The percentage of success amounts to 51.67
 † Ditto ditto ditto ditto ditto ditto 68.44
 ‡ Ditto ditto ditto ditto ditto ditto 61.65

TABLE No. II.—(Continued.)

1	2	3	4	5			6	7		
				Successful.	Unsuccessful, including doubtful.	Unknown.				
Circles of superintendence.	Months.	Districts in which operations were chiefly conducted.	Total number vaccinated.	RESULTS.			Total.	Average percentage of successful, excluding those "unknown."		
				Successful.	Unsuccessful, including doubtful.	Unknown.				
METROPOLITAN CIRCLES.— (Continued.)	3rd Circle.	April 24-Pergunnahs	199	199	.....	.....	199	100
		May Ditto	
		June Ditto	4	4	4	100	
		July Ditto and Bardwan	177	173	4	97.74	
		August Ditto ditto	1,267	1,269	2	99.84	
		September Ditto ditto and Hooghly	2,026	2,010	16	99.21	
		October Ditto ditto and ditto	11,363	11,349	14	99.87	
		November Nuddea ditto ditto	24,999	24,983	16	99.94	
		December Ditto ditto ditto	23,764	23,728	36	99.85	
		January Ditto ditto ditto and Beerbhoom	31,909	31,821	88	99.72	
		February Bardwan, Hooghly, and Beerbhoom	37,164	37,101	63	99.83	
		March Ditto ditto ditto	36,146	36,072	74	99.80	
				Total	168,118	167,791	279	48	168,118	99.83
				Grand Total	306,676	306,968	611	97	306,676	99.80
			1873.							
DARJEELING CIRCLE.		April Darjeeling	2,614	2,117	499	37	2,614	82.11		
		May Dinapore								
		June Ranjore								
		July Julpigoree								
		August Darjeeling	905	595	341	69	905	71.17		
		September Rajshahye								
		October Julpigoree								
		November Darjeeling								
		December Rajshahye	353	255	77	21	353	76.8		
		January Julpigoree								
		February Darjeeling								
		March Rajshahye								
April Rajshahye	266	212	42	12	266	83.46				
May Julpigoree										
June Rajshahye										
July Julpigoree										
August Rajshahye	453	411	31	11	453	92.96				
September Rajshahye										
October Darjeeling										
November Rajshahye										
December Darjeeling	237	201	31	5	237	86.63				
January Rajshahye										
February Julpigoree										
March Purneah										
April Darjeeling	148	113	27	8	148	80.71				
May Julpigoree										
June Dinapore										
July Ranjore										
August Boora	10,961	9,828	806	197	10,961	91.35				
September Rajshahye										
October Julpigoree										
November Purneah										
December Ditto	18,699	18,672	535	92	18,699	97.12				
1874.										
January Ditto	19,544	18,967	471	106	19,544	97.6				
February Ditto and Darjeeling	20,739	19,969	755	105	20,739	96.48				
March Ditto ditto	23,838	22,946	865	127	23,838	97.97				
		Total, Darjeeling Circle	97,757	92,796	4,771	790	*97,757	95.72		
	1873.									
RANCHEE CIRCLE.		April Hazareebagh	530	225	253	42	530	52.26		
		May Ditto and Lohardugga	297	269	21	5	297	88.49		
		June Ditto and Palamow	350	328	15	7	350	95.61		
		July Ditto ditto	236	212	11	13	236	95.66		
		August ... ..	.....	.....	.....	.....	.....	.....
		September Hazareebagh and Lohardugga	118	51	67	.....	118	43.65	
		October Lohardugga	47	45	1	1	47	97.82		
		November Hazareebagh and Lohardugga	4,427	4,088	103	296	4,427	95.27		
		December Ditto ditto	9,448	9,110	154	205	9,448	98.55		
		1874.								
		January Ditto ditto	10,085	9,634	162	289	10,085	98.35		
		February Ditto ditto	6,188	5,945	87	156	6,188	98.36		
March Ditto ditto	5,685	5,240	69	37.6	5,685	98.7				
		Total, Ranchee Circle	37,411	35,177	965	1,329	*37,411	97.40		
	1873.									
SOUTH-PERGUNNAH CIRCLE.		April Rajmehal	648	694	44	.....	648	95.3	
		May Ditto and Pakour	614	491	123	.....	614	79.96	
		June Rajmehal	59	27	32	.....	59	45.76	
		July Ditto	14	6	8	.....	14	42.85	
		August Ditto	40	17	23	.....	40	42.5	
		September Ditto	127	196	21	.....	127	83.46	
		October Rajmehal and Pakour	961	902	54	5	961	94.35		
		November Ditto ditto	2,528	2,462	66	.....	2,528	97.38	
		December Ditto ditto	2,726	2,684	42	.....	2,726	98.46	
		1874.								
		January Ditto ditto and Godda	3,488	3,422	66	.....	3,488	98.10	
		February Ditto ditto ditto	1,661	1,566	35	.....	1,661	97.81	
March Pakour and Godda	2,233	2,169	64	.....	2,233	97.13			
		Total, South-Pergunnahs' Circle	15,039	14,456	578	5	15,039	96.15		

* Repetition cases not shown.

TABLE No. II.—(Concluded.)

1	2	3	4	5			6	7	
				Successful.	Unsuccessful, including doubtful.	Unknown.			
Circles of superintendence.	Months.	Districts in which operations were chiefly conducted in each month.	Total number vaccinated.	RESULTS.			Total.	Average percentage of successful, excluding those "unknown."	
EASTERN BENGAL CIRCLE.	1873.								
	April ...	Dacca, primary ...	161	161	.....	.....	161	100	
	September ...	Ditto ...	162	161	.....	1	162	99.38	
	October ...	{	Primary ...	3,473	3,429	41	3	3,473	98.74
			Repetition ...	6	6	.....	.....	6	100
	November ...	{	Revaccination ...	4	2	.....	2	4	50
			Primary ...	13,118	13,038	78	2	13,118	99.39
			Repetition ...	8	8	.....	.....	8	100
	December ...	{	Revaccination ...	5	2	.....	3	5	40
			Primary ...	12,061	11,999	60	2	12,061	99.48
			Repetition ...	10	10	.....	.....	10	100
			Revaccination ...	16	7	.....	9	16	43.75
	1874.								
	January ...	{	Primary ...	17,924	17,869	55	.....	17,924	99.09
			Repetition ...	8	8	.....	.....	8	100
	February ...	{	Revaccination ...	22	11	.....	11	22	50
			Primary ...	14,916	14,832	83	1	14,916	99.38
	March ...	{	Repetition ...	5	5	.....	.....	5	100
			Revaccination ...	14	10	.....	4	14	71.42
			Primary ...	16,658	16,521	135	2	16,658	99.18
		Repetition ...	22	21	.....	1	22	95.45	
		Revaccination ...	18	16	.....	2	18	88.88	
		Total ...	78,413	77,970	433	10	78,413	99.44	
		Repetition ...	59	58	.....	1	59	88.30	
		Revaccination ...	78	47	.....	31	78	69.25	

TABLE No. III.

Statement showing expenditure of Vaccine Department in each Circle of Superintendence in the Metropolis, Lower Provinces, Metropolitan, Darjeeling, Ranchee, Sonthal Pergunnahs, and Eastern Bengal Vaccine Circles during the year 1873-74.

1	2	3	4	5	6	7	8	
Circles.	Particulars.	Sanctioned.	Expended.	Total number vaccinated.	Percentage of successful cases, excluding those unknown from the total.	Cost of each successful case, excluding cases of modified success after re-vaccination.	REMARKS.	
CALCUTTA AND SUBURBS.	<i>Paid by Government.</i>		Rs. A. P.	Rs. A. P.				
	Office establishment	864 0 0	864 0 0	.....	.....	.....
	2 Superintendents	3,090 0 0	3,090 0 0	.....	.....	.....
	3 Vaccinators, at Rs. 10 each	300 0 0	300 0 0	.....	.....	.....
	Contingencies, including office rent	1,185 0 0	788 1 5	.....	.....	.....
	Travelling allowance, &c.	840 0 0	720 0 0	.....	.....	.....
	Cost of postage labels	40 0 0	20 0 0	.....	.....	.....
	Total	6,889 0 0	6,332 1 5	.....	.....	.....
	<i>Paid by Town Municipality.</i>							
	3 Head vaccinators, at Rs. 15 each per mensem							
	3 Vaccinators, at Rs. 12 each per mensem	1,980 0 0	*1,524 0 0	.....	.....	.....
	6 Vaccinators, at Rs. 10 each per mensem							
3 Vaccinators, at Rs. 8 each per mensem								
Contingencies, at Rs. 18-5-4 per mensem	220 0 0	220 0 0	.....	.....	.....
Total	2,200 0 0	1,744 0 0	.....	.....	.....
<i>Paid by Suburban Municipality.</i>								
3 Head vaccinators, at Rs. 15 each per mensem								
2 Vaccinators, at Rs. 12 each per mensem	1,764 0 0	1,764 0 0	.....	.....	.....
7 Vaccinators, at Rs. 10 each per mensem								
1 Vaccinator, at Rs. 8 per mensem								
Contingencies, at Rs. 16-10-8 per mensem	200 0 0	200 0 0	.....	.....	.....
Total	1,964 0 0	1,964 0 0	.....	.....	.....
Grand Total	11,053 0 0	10,069 1 5	38,796	51.95	40 8 0			
METROPOLITAN CIRCLES.	<i>Paid by Government.</i>							
	Superintendent's salary, presidency house-rent of ditto at Rs. 100	11,108 0 0	5,829 8 0	.....	.....	.....
	3 Native Superintendents, at Rs. 200 each per mensem	7,200 0 0	7,200 0 0	.....	.....	.....
	12 Head vaccinators, at Rs. 15 each, from September to March, and two-thirds of this from April to August	1,800 0 0	1,853 0 3	.....	.....	.....
	78 Ordinary vaccinators, Rs. 12-10-8 each, from September to March, and two-thirds of this from April to August	8,000 0 0	8,033 15 7	.....	.....	.....
	3 Clerks, at Rs. 39, from April 1873 to March 1874	1,080 0 0	1,129 0 6	.....	.....	.....
	24 Apprentices, at Rs. 5 each, from September to March, and half of this from April to August	840 0 0	5,144 1 8	.....	.....	.....
	9 Peons, at Rs. 6 each, from September to March							
	3 Peons, at Rs. 6 each, from April to August	576 0 0	630 0 0	.....	.....	.....
	1 Peon, at Rs. 7 for the whole of the year, and 1 sweeper, at Rs. 2 a month							
	Travelling allowances	7,480 0 0	9,069 0 0	.....	.....	.....
	Contingencies	721 0 0	1,588 5 1	.....	.....	.....
Cost of postage labels	70 0 0	.....	.....	.....	.....	Included in the contingent.	
Grand Total	38,993 0 0	33,626 15 1	3,66,676	99.80	0 1 10			

* Four vaccinators' pay, three at Rs. 10 and one at Rs. 8 per mensem, the sum of Rs. 456 has been refunded to the town municipality.

† The same, including 10,599 cases of modified success after re-vaccination Rs. 0-3-3.

‡ This includes the increased pay of the head-clerk from 18th August to 31st March.

§ This excess is owing to half salary of 24 apprentices subsequently sanctioned and not included in the Budget Estimate.

|| Excess due to vaccinators' and apprentices' travelling allowance (sanctioned) drawn during the year, but not included in the estimates.

TABLE No. III.—(Continued).

1	2	3	4	5	6	7	8
Circles.	Particulars.	Sanctioned.	Expended.	Total number vaccinated.	Percentage of successful cases, excluding those unknown from the total.	Cost of each successful case, excluding cases of modified success after re-vaccination.	REMARKS.
	<i>Paid by Government.</i>	Rs. A. P.	Rs. A. P.			Rs. A. P.	
DABERLING CIRCLE.	1 Superintendent	9,000 0 0	9,000 0 0	.....	.....	.....
	1 Deputy Superintendent	1,800 0 0	1,325 12 10	.....	.....	.....
	7 Head vaccinators	1,584 0 0	1,071 8 9	.....	.....	.....
	42 Vaccinators	4,440 0 0	3,839 13 3	.....	.....	.....
	42 Apprentices	1,785 0 0	419 5 5	.....	.....	.....
	Office establishment	420 0 0	420 0 0	.....	.....	.....
	Contingencies	401 0 0	282 5 9	.....	.....	.....
	Travelling allowance	41,345 0 0	1,108 8 7	.....	.....	.....
Total	21,375 0 0	17,827 6 7	97,757	95.75	0 3 0		
	<i>Paid by Government.</i>						
RANCHIE CIRCLE.	1 Superintendent	7,200 0 0	7,200 0 0	.....	.....	.....
	3 Native Superintendents, at Rs. 16 and Rs. 20 each	696 0 0	645 12 3	.....	.....	.....
	20 Vaccinators, at Rs. 6 and Rs. 10 each	1,940 0 0	1,837 13 5	.....	.....	.....
	Office establishment, at Rs. 30	300 0 0	329 8 0	.....	.....	.....
	Contingencies	284 0 0	265 4 2	.....	.....	.....
	Travelling allowance	736 0 0	670 4 4	.....	.....	.....
	Postage labels	25 0 0	10 0 0	.....	.....	.....
	Total	11,181 0 0	11,008 10 2	37,411	90.81	0 5 0	
	<i>Paid by Government.</i>						
SONTHAL PERGUNNAB CIRCLE.	1 Deputy Superintendent, at Rs. 100 per month, with an extra allowance of Rs. 50 per month from 1st October to 31st March 1874	1,500 0 0	1,500 0 0	.....	.....	.....
	1 Vaccinator, at Rs. 16 per month, employed rate, and Rs. 12, unemployed rate; 2 Vaccinators at Rs. 13, employed rate, and Rs. 10 unemployed rate; 3 vaccinators at Rs. 10, employed rate, and Rs. 8, unemployed rate	804 0 0	784 0 0	.....	.....	.....
	Travelling allowance	143 0 0	415 8 0	.....	.....	.....
	Cost of postage labels	8 0 0	8 0 0	.....	.....	.....
	Total	2,815 0 0	2,707 8 0	15,038	96.15	0 2 11	
		<i>Paid by Government.</i>					
EASTERN BENGAL CIRCLE.	Superintendent, at Rs. 350 per mensem	4,200 0 0	4,200 0 0	.....	.....	.....
	6 Head vaccinators, at Rs. 15 each per mensem	1,080 0 0	740 0 0	.....	.....	.....
	36 Vaccinators, at Rs. 10 each per mensem	4,320 0 0	3,240 0 0	.....	.....	.....
	36 Extra vaccinators, at Rs. 10 each per mensem	2,160 0 0	380 0 0	.....	.....	.....
	Office establishment	504 0 0	504 0 0	.....	.....	.....
	Contingencies	447 0 0	418 0 0	.....	.....	.....
Travelling allowance ... ..	.....	20 13 0	.....	.....	.....
Total	12,711 0 0	9,562 13 0	78,471	99.41	0 1 11		

* Includes Rs. 116, sanctioned on account of purchase of needles and paints.
 † Includes Rs. 199, sanctioned as an additional grant for travelling allowance.
 ‡ Inclusive of special grant of Rs. 145.

TABLE No. IV.

Statement showing the results of the year 1873-74 as compared with those of each of the previous five years in the Metropolis, Metropolitan, Darjeeling, Ranchee, Sonthal Pergunnahs, and Eastern Bengal Vaccine Circles.

Circles.	Years.	Total number of persons vaccinated.	Number successful.	Ratio per cent. successful, excluding those "unknown" from the total.	Number of vaccinators.				Cost of whole vaccine establishment.	Cost of travelling allowances and contingents.	Total cost.	Cost of each successful case, excluding cases of modified success after revaccination.				
					Paid by the State.		Paid from other sources.	Total.					Number previously employed as inoculators.			
					A.	B.								C.	D.	
									Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.				
CALCUTTA AND SUBURBS.	1868-69...			No information.					No information.							
	1869-70...	22,283	16,889	79.97	3	30	33	10	16,314	0 0	2,809	0 5	13,213	0 5	0 13	1½
	1870-71...	19,287	14,620	77.82	3	25	28	10	16,258	0 0	2,320	0 0	12,778	0 0	0 14	6½
	1871-72...	20,335	14,614	70.72	3	24	27	10	16,272	0 0	2,370	0 0	12,642	0 0	0 14	5½
	1872-73...	31,483	18,216	58.00	3	24	27	10	9,341	8 9	2,219	13 6	11,561	6 3	0 10	1
	1873-74...	38,796	20,652	51.95	3	24	27	10	8,112	0 0	1,948	1 5	10,060	1 5	† 0 8	0
METROPOLITAN CIRCLES.	1868-69...	122,493	121,335	99.42	68	...	68	.....	No information.				0 4	1		
	1869-70...	155,825	155,315	99.75	68	...	68	11	22,831	9 9	7,325	5 1	30,156	14 10	0 3	1
	1870-71...	140,119	139,639	99.67	65	...	65	13	26,880	0 0	8,335	0 0	35,235	0 0	0 4	0½
	1871-72...	91,516	90,994	99.55	65	...	65	9	28,019	2 3	6,916	10 8	34,935	12 11	0 6	1
	1872-73...	267,074	266,154*	99.72	99	...	99	19	23,927	3 5	7,570	19 3	31,797	13 8	0 1	10
	1873-74...	366,676	365,968	99.80	99	...	99	21	25,969	10 0	9,637	5 1	35,626	15 1	0 1	10
DARJEELING CIRCLE.	1868-69	47,965	42,169	91.39	29	...	29	12	14,366	9 10	1,371	0 0	15,737	9 10	0 5	11
	1869-70...	81,444	75,664	93.11	29	8	37	19	15,943	14 8	1,153	19 0	16,197	8 8	0 3	5
	1870-71...	78,772	74,348	95.20	30	6	36	19	15,885	1 8	1,486	5 8	17,371	7 4	0 3	8½
	1871-72...	111,769	97,982	81.78	42	3	45	19	16,531	1 7	1,323	2 10	17,854	4 5	0 2	10
	1872-73...	106,399	100,695	95.97	42	1	43	9	16,578	5 7	1,796	3 4	18,284	8 11	0 2	10
	1873-74...	97,757	94,128	95.75	42	...	42	11	16,376	8 3	1,450	14 4	17,827	6 7	0 3	0
RANCHEE CIRCLE.	1868-69...	7,964	4,618	58.42	20	...	20	13	8,593	14 1	1,145	0 0	10,148	0 0	2 3	2
	1869-70...	19,161	16,074	87.54	20	...	20	8	8,644	5 0	1,655	0 0	9,699	5 0	0 9	7½
	1870-71...	23,313	20,378	92.12	20	...	20	6	8,066	14 6	979	15 0	9,046	13 6	0 7	0½
	1871-72...	51,913	47,506	93.19	20	...	20	61	9,083	6 7	994	0 0	10,037	6 7	† 0 4	7
	1872-73...	36,518	35,206	97.77	20	...	20	.....	11,178	10 9	1,167	15 4	11,246	10 6	† 0 5	6
	1873-74...	37,411	35,177	90.81	20	...	20	.....	10,663	1 8	935	8 6	11,098	10 2	0 5	0
SONTHAL PERGUNNAH CIRCLES.	1868-69...	3,179	2,879	90.60	5	...	5	.....	1,042	0 0	166	0 0	1,208	0 0	0 6	8
	1869-70...	6,332	5,628	79.62	5	...	5	.....	1,623	9 6	287	19 6	1,911	4 0	0 6	1
	1870-71...	6,454	5,643	87.84	5	...	5	.....	1,795	13 2	332	15 6	2,128	12 8	0 6	0
	1871-72...	8,332	7,561	90.86	6	...	6	.....	2,122	0 0	331	19 6	2,453	19 6	0 4	8
	1872-73...	11,071	10,490	95.08	6	...	6	.....	2,284	0 0	463	3 6	2,687	3 6	0 4	1½
	1873-74...	15,039	14,456	96.15	6	...	6	.....	2,234	6 0	423	8 0	2,767	8 0	0 2	11
EASTERN BENGAL CIRCLE.	1872-73...	47,549	47,417	99.72	39	...	39	4	4,724	11 7	240	0 0	4,964	11 7	0 1	8
	1873-74...	78,491	78,075	99.41	56	...	56	4	9,064	0 0	438	13 0	9,502	13 0	0 1	11

* Includes 35 successful repetition cases.

† The same, including 16,579 cases of modified success after revaccination, is Rs. 0-5-3.

‡ Cost of establishment work only.

TABLE No. V.

TABLE

Statement showing particulars of Vaccination in each of the three Circles

1	2	3		4		5		6	7	8	A.				
		No. of native Superintendents of Vaccination attached to the dispensary.		No. of vaccinators attached to the dispensary.		Total number of persons vaccinated.					Collectorate, Political Agency, or Native State for the population of which the dispensary is provided.	Population of area included in last column.	Names of dispensaries.	Sex.	
		1873-74.	1872-73.	1873-74.	1872-73.	1873-74.	1872-73.							Males.	Females.
PRESIDENCY CIRCLE.	J. G. French, M.D., civil surgeon			1	2	471	74	Burdwan ...	2,634,745	Burdwan ...	277	194			
			1	1	1,712	2,390						934	778		
	E. E. J. Roberts, M.B., civil medical officer			*86	*44	18,429	1,040	Bankoora ...	526,772	Bankoora ...	714	654			
					72							26	30		
	R. A. Barker, M.D.			1	1	256	491	Beerbhoom ...	695,921	Beerbhoom ...	161	76			
	R. G. Mathew, M.D., civil surgeon			27	27	19,097	33,266	Midnapore ...	2,540,963	Midnapore ...					
	R. F. Thomson, civil surgeon			1	1	2,041	2,385					363,635	Hooghly ...	1,291	949
	J. Green, M.D., civil medical officer			1	1	1,254	828		393,864	Serampore ...	756	498			
	R. Bird, M.D., civil surgeon			2	1	1,839	1,619		731,037	Howrah ...	1,232	578			
				1		911				Oosterparah ...	576	335			
				1		24				Baraset ...	17	7			
				2		1,196				Satkhira ...	610	583			
				1		1,451				Goburdanga ...					
				1		271				Busseerhat ...					
	R. Moir, M.D., civil surgeon			5	10	1,382	3,637	24-Pergunnahs ...	2,210,047	Jagoolee, Moheshpore, North and South Suburban, Barripore, and Joynuggur	180	84			
				1		551							Kishnuggur ...	391	250
				1		167				Oolah ...	68	99			
				1		159				Ranaghat ...	79	79			
	E. J. Earle, M.D., civil surgeon			1	6	128	1,116	Nudda ...	1,812,793						
				1		171							Santipore ...		
				1		22				Koroolatchy ...	107	64			
				1		360				Choudaha ...					
				1		388				Meherpore ...	172	123			
			5	5	641	837			Jessore ...	211	177				
			1	1	514	277			Naldanga ...	441	280				
			1	1	148	261			Jhendah ...	260	254				
E. Hutchison, M.D., civil surgeon			1	1	2,919	579	Jessore ...	2,075,021	Magerah ...	1,676	1,243				
			1		240							Chandra ...	134	65	
			1		283	194			Seedhurpore ...	140	131				
			1		167				Dowlutpore ...	81	86				
			1		1,291				Bagirhat ...	294	547				
			6	3	4,123	1,791			Berhampore ...	2,437	1,686				
			3	3	1,444	683			Moorsheadabad ...	831	613				
S. M. Shireore, civil surgeon			1	1	454	309	Moorsheadabad ...	1,533,626		253	181				
			1	1	778	301						Jamookhandi ...	274	204	
			3	1	496	373			Azimungoo ...	359	157				
			1	1	86	46			Jungipore ...	49	37				
D. N. Chatterjee, civil medical officer					50	41	Maldah ...	676,426	Maldah ...	40	9				
					10	65						Benaleah ...	6	4	
			1	2	960	1,500			Nattore ...	324	445				
E. C. Bensley, M.D., civil surgeon			1		24	37	Rajshahye ...	1,316,729	Lalpore ...	14	10				
			1		3,510	767							1,828	1,682	
					10	43			Kurruchmeria ...	10					
			2		3,469				Teberpore ...	1,802	1,097				
K. D. Ghose, civil medical officer			1		891	140	Rangpore ...	2,143,972	Rangpore ...	697	194				
			1		1,327							Battashim ...	637	679	
A. Lyons, civil medical officer			2	2	3,623	1,543	Bogra ...	689,467	Bogra ...	1,942	1,656				
			1	*12	6,313	1,610						Sherepore ...	826	739	
H. M. Davis, civil medical officer			1	1	44	78	Pubna ...	1,211,594	Pubna ...	26	18				
					7	34						Doolye ...	7		
			1	1	539	1,267			Serajungoo ...	310	249				
H. Cayley, civil surgeon			2	2	628	367	Cuttack ...	1,494,784	Cuttack ...	321	297				
					18	41						Jajepore ...	15	3	
					21				Dhenkanal ...	20	1				
J. Meredith, M.D., civil surgeon			2	1	463	154	Pooree ...	769,674	Pooree ...	301	102				
					15	3						Khoordah ...	7	8	
J. M. Zorab, M.B., officiating civil surgeon			2	2	564	341	Balasore ...	770,232	Balasore ...	381	183				
			1	1	259	168						Bhuddruck ...	196	103	
Total			94	82	85,534	75,442*			23,811,324		35,446	27,341			
DACC A CIRCLE.	J. C. Wise, M.D., civil surgeon			6	6	3,033	2,984	Dacca ...	1,852,993	Dacca Mitford Hospital ...	1,886	1,107			
	R. N. Bose, M.D., civil surgeon			1	1	1,910	1,234						Fureedpore (jail) ...	1,096	782
	C. E. W. Bensley, M.D., civil surgeon			1	1	1,705	1,271	Backergunge ...	2,377,433	Backergunge ...	1,496	299			
				1	1	629	819						Mymensingh ...	584	45
	J. C. Shaw, civil surgeon					3	52	Mymensingh ...	2,349,917	Sherepore ...	3				
					35	31						Ransepahpore ...	25	10	
					166	121						Hoseinpore ...	61	75	
			1	1	173	855			Tanjail ...	110	65				

* Cotwa, Bundipore, and Dinagepore omitted; no vaccination carried on during the year.

No. V.

of Medical Superintendence in the Province of Bengal during the year 1873-74.

9										10				11		12
PRIMARY VACCINATION.										REVACCINATION.				Percentage of successful cases excluding those unknown from the total.		Average number of persons vaccinated by each vaccinator
B.				C.			D.	A.	B.	C.	D.	In primary vacci- nation.	In secondary vacci- nation.			
Caste.			Age.		Results.			Total.	Successful, including those doubtful.	Unknown.	Total.					
Christians.	Hindus.	Mussulmans.	Other castes.	Under one year.	Above one year.	Successful.	Unsuccessful, in- cluding those doubtful.					Unknown.	Successful.	Unsuccessful, including those doubtful.	Unknown.		Total.
5	401	65	.....	21	450	448	5	.....	453	17	1	.....	18	98.9	94.44	471
...	1,618	94	.....	50	1,662	1,493	219	.....	1,712	...	...	.....	...	87.2	.....	1,712
5	1,314	51	.....	75	1,295	1,164	206	.....	1,370	...	...	.....	...	84.96	.....	1,370
...	17,658	274	497	437	17,992	15,277	3,132	.....	18,409	...	...	.....	...	82.89	.....	214.3
39	17	.....	.....	43	13	56	.....	.....	56	3	13	.....	16	100	18.75	By civil medical officer.
1	169	67	.....	18	219	176	57	4	237	15	4	.....	19	75.33	78.95	256
No information.	.....	.....	.....	.....	.....	.....	.....	.....	19,097	.....	.....	.....	.....	.....	.....	707.3
260	1,494	483	.....	1,203	947	2,070	123	47	2,240	88	279	34	601	94.39	23.97	2,641
41	1,136	77	.....	38	1,214	1,253	1	.....	1,254	.....	.....	.....	.....	99.92	.....	1,254
80	1,209	315	.....	572	1,238	1,723	79	8	1,810	29	.....	.....	29	95.61	100	1,839
12	731	150	18	565	346	839	52	.....	911	.....	.....	.....	.....	94.29	.....	By a private vaccinator.
...	16	8	.....	.....	24	22	2	.....	24	.....	.....	.....	.....	91.96	.....	24
...	794	309	.....	71	1,122	1,159	43	.....	1,193	.....	.....	.....	.....	96.79	.....	By 3 apprentices.
No information.	.....	.....	.....	.....	.....	1,447	3	1	1,451	.....	.....	.....	.....	99.08	.....	725.9
...	208	56	.....	12	232	232	0	6	264	5	2	.....	7	89.92	71.45	170 by native doctor.
No information.	.....	.....	.....	.....	.....	1,375	7	.....	1,382	.....	.....	.....	.....	99.49	.....	276.4
40	292	219	.....	52	499	541	1	9	551	.....	.....	.....	.....	99.81	.....	551
...	157	19	.....	9	158	156	11	.....	167	.....	.....	.....	.....	93.41	.....	167
...	155	3	.....	13	145	157	1	.....	158	1	.....	.....	1	99.36	190	159
No information.	.....	.....	.....	.....	.....	178	.....	.....	178	.....	.....	.....	.....	100	.....	128
...	132	19	.....	6	163	167	4	.....	171	.....	.....	.....	.....	97.66	.....	171
No information.	.....	.....	.....	.....	.....	22	.....	.....	22	.....	.....	.....	.....	100	.....	22
...	200	100	.....	20	280	260	.....	.....	300	.....	.....	.....	.....	100	.....	300
...	273	115	.....	44	344	360	1	.....	370	8	10	.....	18	99.73	44.44	388
11	365	265	.....	591	59	522	119	.....	641	.....	.....	.....	.....	81.43	.....	128.2
...	440	73	1	11	503	458	56	.....	514	.....	.....	.....	.....	89.10	.....	514
...	33	106	9	7	141	161	21	26	148	.....	.....	.....	.....	82.78	.....	148
1	2,044	874	.....	291	2,628	2,414	505	.....	2,919	.....	.....	.....	.....	82.7	.....	By 11 trained inoculators.
...	40	109	.....	.....	200	169	49	.....	200	20	14	.....	40	80	65	246
...	154	120	.....	35	245	251	29	.....	280	3	.....	.....	3	89.64	100	283
13	68	11	75	.....	167	159	8	.....	167	.....	.....	.....	.....	95.21	.....	167
...	.....	1,141	.....	75	1,066	761	389	.....	1,141	35	25	.....	60	65.09	58.33	1,301
10	2,537	1,322	254	876	3,247	3,629	480	23	4,123	.....	.....	.....	.....	88.5	.....	687.1
5	832	697	.....	75	1,598	1,160	294	.....	1,444	.....	.....	.....	.....	85.87	.....	481.3
...	379	55	.....	29	414	335	29	.....	363	60	9	.....	69	92.95	85.95	434
...	573	95	110	24	734	767	71	.....	778	.....	.....	.....	.....	90.87	.....	778
...	361	135	.....	31	465	439	49	17	498	.....	.....	.....	.....	91.65	.....	163.3
...	54	32	.....	2	84	73	2	.....	86	.....	.....	.....	.....	92.4	.....	86
...	36	19	3	5	44	22	23	2	49	1	.....	.....	1	46.81	100	23 by civil medical officer, 6 by jail native doctor, and 21 by dispensary native doctor.
...	4	6	.....	.....	19	6	4	.....	19	.....	.....	.....	.....	69	.....	By native doctor and com- pounder.
...	97	764	198	169	860	925	44	.....	903	.....	.....	.....	.....	95.45	.....	909
...	18	6	.....	3	21	22	1	1	24	.....	.....	.....	.....	95.65	.....	By native doctor.
...	546	2,965	.....	421	3,989	3,334	172	.....	3,506	1	3	.....	4	95.69	25	By temporary vaccinator and compounder.
...	8	2	.....	.....	10	1	9	.....	10	.....	.....	.....	.....	10	.....	By native doctor.
...	504	2,965	.....	52	3,357	3,189	187	33	3,469	.....	.....	.....	.....	94.46	.....	By 3 ex-inoculators.
...	321	489	.....	5	794	795	8	.....	801	.....	.....	.....	.....	99	.....	469.5
...	329	982	16	252	1,475	1,288	28	.....	1,316	11	.....	.....	11	97.87	100	1,327
...	803	2,748	27	428	2,880	3,419	169	8	3,578	45	.....	.....	45	95.51	100	1,811.5
...	593	963	9	321	1,244	1,529	45	.....	1,603	45	.....	.....	45	97.12	100	1,610
7	13	24	.....	2	42	16	28	.....	44	.....	.....	.....	.....	36.36	.....	44
...	4	3	.....	1	6	2	5	.....	7	.....	.....	.....	.....	28.57	.....	By dispensary establish- ment.
...	94	412	53	19	540	312	213	32	559	.....	.....	.....	.....	59.2	.....	559
133	329	66	.....	11	517	394	95	35	628	.....	.....	.....	.....	86.48	.....	264
...	12	6	.....	.....	18	12	5	1	18	.....	.....	.....	.....	79.39	.....	By native doctor.
...	18	3	.....	.....	21	17	3	1	21	.....	.....	.....	.....	85	.....	Ditto.
...	400	3	.....	41	362	288	115	.....	493	.....	.....	.....	.....	71.46	.....	291.5
...	15	.....	.....	.....	15	9	6	.....	15	.....	.....	.....	.....	69	.....	By native doctor.
15	483	63	.....	49	515	412	105	.....	517	31	16	.....	47	79.69	63.95	282
...	279	4	.....	.....	299	231	68	.....	299	.....	.....	.....	.....	77.23	.....	299
700	40,779	20,128	1,180	7,367	55,420	58,031	7,310	202	(a) 81,700	424	376	34	(b) 834	.....	.....	.....
...	1,328	1,325	.....	169	2,893	2,629	291	80	3,002	22	29	.....	51	89.97	43.13	508.8
4	663	1,198	13	173	1,705	1,664	119	95	1,878	16	11	5	32	93.32	59.25	1,910
11	634	1,060	.....	69	1,645	1,150	467	88	1,795	.....	.....	.....	.....	71.11	.....	1,795
15	218	391	.....	6	625	538	255	16	629	.....	.....	.....	.....	58.49	.....	By native doctor and com- pounder.
...	3	.....	.....	.....	3	.....	3	.....	3	.....	.....	.....	.....	.....	.....	Ditto ditto.
...	22	13	.....	9	26	19	11	5	35	.....	.....	.....	.....	63.33	.....	Ditto ditto.
...	68	98	.....	4	162	98	31	19	148	13	4	1	18	75.96	76.47	Ditto ditto.
...	102	73	.....	12	163	134	21	.....	175	.....	.....	.....	.....	88	.....	1 vaccinator for 1 month

(a).—Result of 19,097 cases unknown, and sex, caste and age of 21,913 persons not stated.

(b).—Case of 167 revaccinations are included under sex, caste, and age of primary vaccination.

No. V.—(Continued.)

9										10				11		12	
PRIMARY VACCINATION.										REVACCINATION.				Percentage of successful cases, excluding those unknown from the total.		Average number of persons vaccinated by each vaccinator.	
B.				C.			D.	A.	B.	C.	D.	In primary vaccination.	In secondary vaccination.				
Caste.		Age.		Results.			Total.	Successful.	Unsuccessful, including those doubtful.	Unknown.	Total.						
Christians.	Hindus.	Mussulmans.	Other castes.	Under one year.	Above one year.	Successful.						Unsuccessful, including those doubtful.	Unknown.	Total.	Successful.		Unsuccessful, including those doubtful.	Unknown.	Total.
16	232	1,118	.....	61	1,505	1,052	314	...	1,566	7	4	...	11	77.01	63.63	1,377
3	1,131	253	.....	161	1,333	1,179	157	25	1,394	32	6	...	37	86.31	91.43	1,431
13	362	867	47	2	1,287	1,188	99	...	1,859	...	...	...	...	92.30	.....	429.7
5	109	1,722	.....	19	1,722	1,563	123	6	1,692	13	36	...	49	92.70	26.33	879.5
...	139	389	.....	4	515	326	193	...	519	52	129	...	181	62.81	28.72	359
...	5	15	.....	...	20	14	6	...	20	...	...	...	...	70	.....	By native doctor.
...	37	18	.....	10	45	44	11	...	55	...	...	...	...	89	.....	55
...	265	37	.....	10	292	266	36	...	362	...	...	...	...	88.08	.....	292
17	7,637	2,988	62	2,163	8,581	9,623	934	137	10,634	686	76	23	790	91.23	90.02	Nothing.	
...	1	3	.....	...	4	3	1	...	4	...	...	...	...	75	.....	By native doctor.
No report received.	Nothing.
13	304	.....	31	18	330	244	93	11	348	...	...	...	...	72.40	.....	348
2	2,207	61	17	633	1,624	1,910	298	...	2,118	91	66	2	159	90.17	57.96	553.4	
8	1,726	73	316	246	1,877	1,788	111	164	2,663	69	...	...	69	91.15	109	2,123
...	64	13	.....	6	71	31	32	1	64	4	9	...	13	49.20	30.77	By hospital assistant.
187	195	9	537	83	845	697	231	...	928	...	...	...	...	73.10	.....	464
56	225	13	527	84	737	623	195	3	821	...	...	...	...	76.16	.....	821
No report received.	...	...	...	8	776	736	48	...	784	...	...	...	...	93.87	.....	196
350	17,877	11,788	2,361	3,892	28,484	27,359	4,612	655	32,626	996	367	38	1,161	87.21	73.07	...	
1	232	45	.....	28	250	217	61	...	278	...	...	...	...	78.05	.....	278
5	7,078	2,067	.....	3,834	5,914	9,323	425	...	9,748	...	...	...	...	95.94	.....	1,624.7
32	1,817	1,734	17	1,903	1,797	2,590	335	267	3,610	...	...	...	...	89.41	.....	962.5
...	373	118	.....	80	411	456	29	6	491	11	...	...	...	108	.....	592
...	1,386	782	.....	258	1,920	1,897	269	36	2,142	36	...	...	...	636	100	...
...	556	57	10	1	622	603	17	3	623	...	...	...	...	97.25	.....	311.5
...	296	51	.....	347	296	51	3	...	347	...	...	...	...	85.30	.....	347
...	112	105	.....	4	213	195	22	...	217	...	...	...	...	89.86	.....	217
1	5	1	.....	3	4	5	2	...	7	...	...	...	...	71.43	.....	7
8	1,519	659	20	656	1,541	1,915	242	40	2,197	...	...	...	...	88.78	.....	732.3
...	159	135	.....	14	280	239	65	...	294	...	...	...	...	77.89	.....	147
3	722	291	.....	188	828	837	172	7	1,016	15	...	...	...	82.95	100	1,601
...	92	73	.....	22	143	126	33	6	165	...	...	...	...	79.34	.....	165
...	37	48	169	68	177	192	44	9	245	...	...	...	...	81.35	.....	245
21	962	487	.....	348	1,122	1,135	285	59	1,470	169	20	...	189	79.93	89.41	1,659
28	31	18	.....	4	83	59	28	...	87	6	15	...	21	67.81	28.57	1,366
18	3,176	724	.....	1,615	2,593	2,928	999	...	3,918	...	...	...	...	74.73	.....	...
...	289	63	2	...	354	294	60	...	354	...	...	...	...	83.05	.....	...
17	265	81	.....	152	211	284	72	7	283	...	...	...	...	79.77	.....	283
...	369	151	.....	87	413	350	159	...	590	...	...	...	...	70	.....	590
...	136	36	.....	...	172	105	62	5	172	...	...	...	...	62.88	.....	172
...	21	35	.....	10	46	25	19	9	56	...	...	...	...	59.57	.....	56
15	1,157	541	.....	394	1,519	1,598	205	...	1,713	13	16	...	29	88.03	44.82	249
...	695	572	.....	259	1,917	1,683	184	...	1,767	...	...	...	...	83.47	.....	158.4
...	249	201	.....	...	459	416	34	...	459	...	...	...	...	92.44	.....	459
...	988	84	.....	...	662	1,939	29	6	1,673	...	...	...	...	99.25	.....	1,673
20	1,166	63	.....	536	713	994	246	9	1,249	...	...	...	...	89.16	.....	312.5
12	9,315	3,224	415	4,839	8,125	12,280	681	...	12,964	...	...	...	...	94.72	.....	967
...	21	6	.....	18	9	25	2	...	27	...	...	...	...	92.59	.....	...
...	348	4	87	34	345	384	53	2	439	...	...	...	...	87.87	.....	219.5
...	545	129	.....	358	276	602	32	...	634	...	...	...	...	94.95	.....	249.5
34	369	87	.....	101	380	479	2	...	481	...	...	...	...	99.58	.....	249.5
No record.	...	...	...	...	...	...	...	...	5,836	...	...	...	...	...	...	29.5
1	...	11	.....	4	9	10	2	1	13	...	...	...	...	83.33	.....	...
1	6	4	.....	3	9	10	2	...	12	...	...	...	...	83.33	.....	By native doctor.
...	26	4	.....	2	11	6	5	...	11	...	...	...	...	54.54	.....	...
...	...	...	.....	2	28	14	10	6	30	1	1	2	58.33	59	...	...
27	237	97	268	69	558	557	70	...	627	...	...	...	...	83.83	.....	627
...	3,757	162	176	...	4,635	4,635	...	...	4,635	...	...	...	...	109	.....	161.4
...	2,067	89	2,441	4	4,583	4,589	...	...	4,589	...	...	...	...	109	.....	199.5
16	1,679	35	777	127	1,771	952	455	493	1,898	...	...	...	...	67.75	.....	316.3
...	767	159	477	35	1,279	1,299	105	...	1,314	...	...	...	...	92.01	.....	262.8
No report received.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	37	39	.....	3	73	76	...	...	76	...	...	...	...	109	.....	By native doctors.
...	45	49	1	11	84	60	19	16	95	...	...	...	...	73.95	.....	...
No record.	...	...	.....	...	63	33	20	...	53	...	...	...	...	62.26	.....	...
3	35	.....	.....	5	33	14	24	...	38	...	...	...	...	25.82	.....	...
...	15	6	.....	...	21	12	4	5	21	...	...	...	...	75	.....	...
392	215	165	175	207	650	560	90	203	833	2	2	...	64	86.15	59	857	
...	13	4	.....	2	13	12	5	...	17	...	...	...	...	79.58	.....	By native doctors.
No record.	...	...	.....	...	...	...	...	...	420	...	...	...	...	...	.....	...
6	3,392	1	9,574	1,519	11,694	16,739	459	...	17,189	...	...	...	...	97.33	.....	...
25	129	44	.....	118	80	157	25	16	198	22	4	2	28	86.36	81.61	...
No record.	...	...	.....	...	9,776	1,351	1,087	...	12,313	...	...	...	...	87.85	.....	...
...	33	.....	.....	3	30	3	30	...	33	...	...	...	...	9.09	.....	By native doctor.
66	46,774	614,933	14,528	918,358	57,705	82,108	7,515	2,289	498,168	275	57	3	5335	.....	.....	...
1,625	165,439	45,949	18,139	29,617	141,969	167,498	18,837	3,206	214,894	1,695	800	75	2,759	.....	.....	...

(a).—350 revaccinations are included in sex, and caste of primary vaccination.
 (b).—40 revaccinations are included in sex, caste, and age of primary vaccination.
 (c).—Shershetty, Darjeeling, and Soolool omitted; no vaccination carried on during the year.
 (d).—Results of 6,356 cases not known.
 (e).—Caste of 22,198 persons not stated.
 (f).—Sexes of 18,823 " " "
 (g).—Ages of 22,145 " " "

TABLE No. VI
Vaccine Census.

LOCALITIES.		Class of persons examined.	Number examined.	Inoculated.	Per cent. of total examined.	Vaccinated.	Per cent. of total examined.	Had small-pox.	Per cent. of total examined.	Unprotected.	Per cent. of total examined.
Burdwan	Burdwan	Prisoners	1,261	1,005	79.68	28	2.23	211	16.73	17	1.34
		School boys	24	11	45.83	3	12.5	3	12.5	7	29.16
	Raneegunge	Ditto	17	2	11.76	3	17.64	1	5.88	11	64.70
		Prisoners	699	447	73.39	4	0.65	115	18.88	43	7.06
		Prisoners in jail	811	609	82.49	19	2.36	70	8.64	53	6.51
Bankoora	Prisoners	225	174	76.90	5	2.21	25	11.06	22	9.75	
	Boys of Government school	225	94	42.17	61	27.35	15	6.72	53	23.76	
Beerbhoom	Boys of vernacular school	Village Toolparrah	206	81	39.32	50	24.27	30	14.56	45	21.84
		Village Tonatore	373	305	81.82	13	3.46	26	6.92	31	8.30
24-Pergunnahs	All classes of prisoners in Satkhira, Busserehat, and Baraset.		10,348	6,737	65.23	2,250	21.78	569	5.5	772	7.47
Nuddea	Meherpore	Service	99	79	79.79	12	12.12	6	6.06	2	2.02
		Zemindars	9	2	22.22	5	55.55				22.22
		Cultivators	34	29	85.29	1	2.94	3	8.82	1	2.94
		Milkmen	5	4	80	1	20				
		Shopkeepers	77	72	93.50	1	1.29	4	5.19		
		Fishermen	26	24	92.30	2	7.69				
		Preachers	13	10	76.92			1	7.69	2	15.38
		Laborers, day	37	30	81.08	2	5.40	3	8.10	2	5.40
		School boys	59	33	56	17	28.81				
		Villagers	59	49	83			1	1.69		
Jessore	Sreedharpore	Hindus	104	96	92.30	4	3.84	1	.96	3	2.90
		Mussulmans	302	340	112.91			22	6.98		
		Other castes	8	3	37.5	4	50	1	12.5		
Jhenidah	Native Christians		46	44	95.6	1	2.1	1	2.1		
		Prisoners in jail	1,253	1,184	94.41	29	2.3	41	3.27	8	0.63
Berhampore	School boys		457	330	72.2	97	21.2	27	5.9	3	0.6
		Ditto	308	91	29.54	99	32.14	89	28.89	29	9.41
Moorshedabad	Kandi	Hindus	511	310	60.66	94	18.39	22	4.30	85	16.63
		Mussulmans	33	19	57.57	7	21.21	1	3.03	6	18.18
Azimgunge	School	Students, Azimgunge	65	15	23.07	17	26.15	8	12.3	25	38.46
		Prisoners in jail	94	63	67.14	7	7.43	17	18.09	5	5.32
Maldah	Patients in dispensary		3,611	2,502	69.27	354	9.80	362	10.02	393	10.88
		Pathala boys	140	94	67.14	19	13.57	14	10.0	13	9.28
Rajshahye	Beaulah	English school boys	192	65	33.72	24	12.5	8	4.16	5	2.6
		Middle class	441	209	47.4	138	31.3	55	12.5	39	8.8
Pooteah	Lower		1,923	795	41.34	93	4.84	94	4.9	41	2.13
		Middle	665	501	75.33	141	21.2	3	.45	20	3.0
Karachmaria	Hindus		29	21	72.41	8	27.58				
		Mahomedans	13	10	76.93	3	23.07				
Taerpore	Mussulmans		242	74	30.62	8	3.31			100	41.34
		Hindus	62	16	25.8	23	37.1	4	6.4	19	30.7
Rungpore	Inhabitants of parts of the town under operation this year.		3,490	1,925	55.16	1,428	40.91	79	2.26	58	1.66
		Inhabitants of parts of the town not vaccinated this year.	3,129	1,552	49.60	637	20.4	121	3.86	829	26.49
Rungpore	People in the district markets.		1,324	720	54.42	197	14.88	95	7.16	302	22.81
		People in town markets	1,776	841	47.35	682	38.40	70	3.94	183	10.30
Rungpore	Children at school		595	92	15.46	158	26.55	19	3.19	39	6.55
		Prisoners in jail	527	418	79.31			98	18.59	11	2.09
Olipore	Patients attending dispensaries		2,023	1,495	73.90	200	9.88	125	6.18	205	10.13
		School boys	95	49	51.59	12	12.63	5	5.26	29	30.52
Bhabanigunge	Village people		146	89	60.96	19	13.01	12	8.22	44	30.13
		Persons attending the dispensary.	129	88	68.22	5	3.88	9	7.0	15	11.63
Batashim	Dispensary patients		551	467	84.75	17	3.08	44	7.98	83	15.06
		School boys	46	12	26.08	3	6.52	3	6.52	28	60.87
Bogra	Market people		457	313	68.48	2	.43	24	5.25	118	25.82
		Villagers	766	519	67.75			14	1.82	233	30.42
Bogra	Zemindaree servants		100	60	60			20	20	20	20
		Servants	238	188	78.99	26	10.92			24	10.08
Bogra	Cultivators		327	211	64.52	104	31.90			12	3.66
		School boys	86	16	18.6	52	60.46	4	4.65	14	16.27
Nowkhilla	Prisoners in jail		179	121	67.59	36	20.11	22	12.29		
		Shopkeepers, &c.	130	97	74.61	21	16.15	5	3.84	7	5.38
Pubna	Lower classes		48	17	35.41	15	31.25	6	12.5	19	20.83
		Jail	204	178	87.25	2	0.98	20	9.80	4	1.96
Pubna	School		135	104	77	13	9.6	3	2.2	15	11.1
		Hindus and Mahomedans.	125	90	72	2	1.6	14	11.2	19	15.2
Serajgunge	School boys		168	99	58.92	16	9.52	10	5.96	43	25.59
		Hindus and Mahomedans.	231	45	19.48			3	1.30	183	79.22
Cuttnack	Dhankaul	Prisoners, school boys, and others.	428	354	82.7	3	.7	43	10.02	28	6.54
		Jail	366	196	53.25			104	28.41	6	1.65
Poree	Government English school.		116	38	32.75	11	9.48	52	44.82	15	12.92
		Sanskrit school	43	5	11.62	2	4.65	21	48.83	15	34.88
Dacca	Vernacular		56	12	21.42	5	8.92	22	39.28	17	30.35
		Males and females of asylum.	125	68	54.40	8	6.40	15	12	34	27.20
Dacca	Kaliparah	Males and females of jail	1,259	875	69.5	43	3.4	116	9.2	235	17.8
		Adults and boys	609	459	75.37	25	4.12	29	4.76	65	10.68
Fareedpore	Hindus and Mussulmans		2,210	1,838	83.17	29	1.31	42	1.90	290	13.12
		English school	205	144	70.24	49	23.90	1	.49	11	5.36
Fareedpore	Vernacular school		204	139	68.14	63	30.88			11	5.39
		Normal school	64	44	68.75	15	23.43			5	7.81
Nurreah	Girls' school		15	1	6.66	14	93.33				
		Bunnooah pathala	51	14	27.45	34	66.66			3	5.88
Nurreah	Hindus		1,175	912	77.61					263	22.38
		Mahomedans	407	285	70.02			11	2.70	111	27.27

TABLE No. VI.—(Continued.)

LOCALITY.	Class of persons examined.	Number examined.	Inoculated.	Per cent. of total examined.	Vaccinated.	Per cent. of total examined.	Had small-pox.	Per cent. of total examined.	Unprotected.	Per cent. of total examined.	
Mymensingh	Mymensingh ... Prisoners in the Mymensingh Jail.	1,408	617	43.82	62	4.4	255	18.11	474	33.66	
	Hossainpore ... Mussulmans ...	600	362	60.3	65	11	84	14	88	14.6	
	Sylhet ... Hindus ...	600	305	50.8	69	11.5	99	16.5	129	21.5	
	Sylhet ... Prisoners of Sylhet Jail	1,130	940	83.21	95	8.39	91	7.98	69*	6.09	
	Prisoners ...	114	41	35.96	23	20.17	33	28.94	17	14.91	
	Dispensary patients ...	21	5	23.8	15	71.42	2	9.52	1	4.76	
	School boys ...	144	110	76.38	18	12.50	7	4.86	9	6.25	
	Garden coolies ...	6,944	360	5.18	5,636	81.16	140	2.14	709	11.50	
	<i>Police Guards.</i>										
		Hindus ...	95	91	95.7	4	4.2
	Mussulmans ...	61	61	100	.....	.....	.....	.....	.....	.....
<i>Schools.</i>											
	Hindus ...	337	331	92.7	12	3.4	8	2.2	6	1.6	
	Mussulmans ...	130	104	79.82	7	5.33	12	8.63	16	11.51	
	Christians ...	14	10	71.4	1	7.1	.....	.....	3	21.4
<i>Jail.</i>											
Chittagong	Hindus ...	50	45	90	3	6	2	4	.....	.....
	Mussulmans ...	182	117	64.28	7	3.85	12	6.59	6	3.29	
	Mughls ...	20	18	90	.....	.....	1	5	1	5
<i>Dispensary.</i>											
	Hindus ...	150	137	91.3	6	4	7	4.6	.....	.....
	Mussulmans ...	104	74	71.1	12	11.5	4	3.8	14	13.4	
	Other castes ...	11	5	45.4	.....	.....	5	45.4	1	9
	Sonapur village ...	437	229	52.40	107	24.51	1	0.22	160	36.6	
	Babupore ...	285	132	46.31	.....	.....	28	9.82	125	43.85
Noakholly	Jail ...	192	76	39.58	105	54.68	9	4.68	2	1.04	
	English and Bengali schools.	158	91	57.59	31	19.62	5	3.16	31	19.62	
	Goalpara Jail ...	91	62	68.13	.....	.....	15	16.48	14	15.38
Goalpara	Zillah school ...	250	168	67.20	6	2.40	30	12.00	46	18.40	
	Luckimpore school ...	63	44	69.84	5	7.93	2	3.17	12	19.04	
	Gourecpore ...	65	50	76.92	1	1.54	5	7.69	9	13.84	
	Villagers ...	140	118	84.28	10	7.14	9	6.42	3	2.14	
Gowhatty	School at Dhupertolla, 23 boys.	23	.....	.....	16	69.56	2	8.69	5	21.74
	Kamroop Jail ...	129	84	65.1	8	6.2	12	9.3	25	19.3	
	School students ...	20	.....	.....	.....	.....	20	100	.....	.....
	Prisoners ...	12	.....	.....	.....	.....	12	100	.....	.....
	Prisoners admitted into jail.	353	168	47.59	2	0.56	150	42.49	63	17.84	
	Boys at the English zillah school.	80	33	41.25	7	8.75	24	30	16	20	
	Boys of the vernacular school.	73	34	46.57	1	1.37	28	38.33	10	13.69	
	Young men of the normal school.	44	17	38.63	.....	.....	17	38.63	10	22.72
	Prisoners, Shillong Jail	41	6	14.63	.....	.....	23	56.10	12†	29.27
	Shillong school boys, Khasias.	50	3	6	12‡	24	31	62	4	8	
Dinapore	Common people ...	268	.....	.....	268	100	.....	.....	.....	.....
	Men of rank and respectability.	10	.....	.....	10	100	.....	.....	.....	.....
Patna	Males ...	3,428	1,232	35.94	880	25.64	715	20.85	601	17.53	
	Females ...	2,962	1,125	37.98	726	24.51	600	20.28	451	15.23	
Bankipore	Males ...	3,428	1,232	35.94	880	25.67	715	20.85	601	17.53	
	Females ...	2,962	1,125	37.98	726	24.51	600	20.28	451	15.23	
Gya	Gya pilgrim hospital ...	5,305	1,947	36.7	850	15.8	2,014	37.8	584	10.7	
	" jail ...	2,274	1,202	52.82	2	.08	432	19.87	618	27.17	
	Scientific Society's school	145	105	72.4	2	1.3	20	13.7	18	12.4	
	Gya zillah school ...	189	105	55.6	22	11.6	59	31.2	3	1.6	
Nowadah	Namooda dispensary ...	240	205	85.42	15	6.25	20	8.33	.....	.....
	Mussulmans ...	60	45	75	7	11.66	8	13.33	.....	.....
Shahabad	Hindus ...	180	160	88.88	8	4.44	12	6.66	.....	.....
	Hindus ...	1,102	487	44.19	1	0.09	553	50.18	61	5.53	
Sasseram	Mahomedans ...	169	34	20.11	.....	.....	67	39.64	8	4.73
	Hindus ...	250	100	40	10	4	135	54	5	2	
Doomraon	Mussulmans ...	175	78	44.5	3	1.7	93	53.1	1	.57	
	Higher class ...	100	50	50	10	10	20	20	20	20	
	Middle " ...	100	35	35	19	19	37	37	4	4	
Bhalooah	Lower " ...	100	22	22	14	14	52	52	12	12	
	Hindus ...	427	340	79.8	197	46.1	.....	.....	.....	.....
Buxar	Mussulmans ...	231	183	79.2	48	20.8	.....	.....	.....	.....
	Schools ...	71	37	52.1	13	18.3	18	25.3	3	4.2	
Mozufferpore	Lock-up ...	7	5	71.4	.....	.....	2	28.6	.....	.....
	Convicted prisoners ...	575	323	56.1	11	1.9	39	6.8	.....	.....
	Hajut ...	18	13	72.2	.....	.....	5	27.7	.....	.....
Mudhoobunnee	Civil ...	6	5	83.3	.....	.....	1	16.6	.....	.....
	Prisoners, patients, and others.	60	54	90	.....	.....	1	1.66	5	8.33
Sectamurhee	Middle and lower classes	320	75	23.4	25	7.8	117	36.6	103	32.2	
	Hindus ...	44	.....	.....	41	93.18	3	6.81	.....	.....
Tajpore	Mahomedans ...	21	.....	.....	19	90.47	2	9.51	.....	.....

* The 90 unprotected cases were vaccinated, and are included under that head. Total examined during the year, 1,130.
 † These 12 men were vaccinated in the jail.
 ‡ These numbers do not give a correct idea of the general population, as many more children have been vaccinated at Shillong than elsewhere.
 Report from the Police not received.

TABLE No. VI.—(Concluded.)

LOCALITY.	Class of persons examined.	Number examined.	Inoculated.	Per cent. of total examined.	Vaccinated.	Per cent. of total examined.	Had small-pox.	Per cent. of total examined.	Unprotected.	Per cent. of total examined.
Chupra	Pupils of Government Sarun School.	203	139	68.47	27	13.3	34	16.74	3	1.48
	Teachers	12	4	33.33	2	16.66	5	41.66	1	8.33
Hazeepore	Prisoners, Sarun Jail	392	181	46.17	5	1.27	202	51.53	4	1.02
	Hindus and Mussulmans	56	.....	.....	56	100	.....	.....	.....	.....
Sewan Sub-division.	Christians	15	.....	.....	14	93.34	1	6.67	.....	.....
	Hindus	494	14	2.83	110	22.26	212	42.91	158	31.98
Begoo Serai	Mahomedans	111	.....	.....	29	26.12	34	30.63	48	43.24
	Mostly poorer classes and grown-up men.	725	445	61.38	150	20.68	89	11.05	59	6.89
Khurruckpore	General population of Khurruckpore.	551	385	69.59	25	4.53	113	20.50	59	5.44
Jumosee Sub-division.	Pathala	153	147	96.07	.....	.....	6	3.92	.....	.....
	Bazar	997	929	93.26	.....	.....	17	1.70	60	6.03
Monghyr	Village near the thana	1,965	1,637	83.30	90	4.58	19	0.96	219	11.14
	General population	6,151	4,593	74.67	293	4.76	719	11.69	546	8.88
Bhagulpore	School	142	85	59.86	28	19.72	27	19.01	2	1.4
	Christians	3	.....	.....	3	100	.....	.....	.....	.....
	Muddehpoura	1,159	715	61.71	313	27.21	92	8.00	30	2.61
	Mussulmans	292	203	69.52	49	16.78	25	8.56	15	5.13
Toolsis	School	52	41	80	.....	.....	2	3	9	17
	Villagers	125	79	61	.....	.....	12	10	34	29
Manbhoom	Govindpore Sub-division.	215	119	55.35	30	13.95	21	9.77	45	20.93
Ranchee	Lower classes	33	.....	.....	33	100	.....	.....	.....	.....
	Prisoners, male	594	289	48.65	2	0.34	55	9.26	158	26.60
	female	19	5	26.32	.....	.....	2	10.53	12	63.16
	Palamow prisoners	32	11	34.4	8	25	7	21.8	6	18.7
Singbhoom	constabulary	12	6	50.0	2	16.6	3	25.0	1	8.3
	school boys	45	29	64.4	6	13.3	15	33.3	4	8.8
Singbhoom	Civil population, Dalton-gunge.	62	46	74.1	12	19.3	4	6.4	.....	.....
	Rural population	1,327	117	8.8	73	5.5	85	6.39	362	27.3
	Prisoners	157	124	78.98	8	5.09	15	9.55	19	12.1
	Dispensary patients	242	147	60.74	29	11.98	39	16.11	27	11.16
Purneah	Prisoners	1,511	921	60.95	3	0.2	251	16.61	136	9.0
	Dispensary patients	39	33	84.6	.....	.....	12	30.8	4	10.3
Hazareebagh	School	74	46	62.16	5	6.75	7	9.45	16	21.6
	Dispensary patients	96	42	43.75	23	23.96	19	19.79	12	12.59
Metropolitan Circles.	School	75	36	48	19	25.33	13	17.33	7	9.33
	Villagers	399	196	49.12	35	8.77	52	13.03	26	6.52
Ranchee Circle	School boys	8,301	604	7.27	6,068	73.09	614	7.39	1,015	12.23
Eastern Bengal Circle.	Villagers	1,505	909	60.40	134	8.90	395	26.24	67	4.45
Sonthal Pergunnahs.	.....	46,938	31,953	68.08	12,078	25.73	1,535	3.27	2,174	4.64
Sonthal Pergunnahs.	.....	6,359	3,817	59.90	1,772	27.88	285	4.48	485	7.63
	School boys	61	27	44.26	17	27.86	5	8.19	12	19.67

E. McKELLAR, M.D.,
 Surgeon Major,
 Offg. Secy., Surgeon General,
 Indian Medical Dept.

TABLE No. VII.

TABLE

Deaths registered from Small-pox in the Districts of

Number.	CIRCLES.	DIVISIONS.	DISTRICTS.	Population according to census of 1873.			January.			February.			March.				
				Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.		
1	Western ...	Burdwan ...	Burdwan ...	9,95,818	10,38,927	20,34,745	5	7	12	12	12	3	5	
2			Bankoora ...	1,61,680	2,05,682	3,67,362
3			Beerbhoom ...	3,34,550	3,61,371	6,95,921
4			Midnapore ...	12,57,194	12,85,769	25,42,963	12	9	21	41	12	2	53	11	18	29	
5			Hooghly ...	2,37,676	2,61,731	4,99,407
6			Sarampore ...	1,93,023	2,00,842	3,93,865
7			Howrah ...	2,92,738	3,03,197	5,95,935
			Total ...	35,72,138	37,14,849	72,86,987	12	12	24	49	23	72	18	26	44		
8	Central ...	Presidency ...	24-Pergunnahs ...	10,03,030	9,48,107	19,51,137	3	2	5	7	3	10	5	3	8		
9			Nudda ...	8,77,123	9,35,670	18,12,793	15	22	37	4	4	8	4	3	7		
10			Jessore ...	10,51,136	10,23,895	20,75,031	9	8	17	9	16	25	25	35	69		
			Total ...	29,31,281	29,07,672	58,38,953	27	32	59	20	23	43	34	41	75		
11	Central ...	Rajshahye ...	Moorshedabad ...	6,45,335	7,08,291	13,53,626	5	4	9	27	35	62	69	49	118		
12			Dinapore ...	7,76,431	7,25,403	15,01,834	
13			Maldah ...	3,31,987	3,45,339	6,77,326	
14			Rajshahye ...	6,50,886	6,60,143	13,11,029	2	1	3	
15			Rungpore ...	10,35,026	10,54,946	21,49,972	
16			Bogra ...	3,47,864	3,41,603	6,89,467	
17			Patna ...	6,92,514	6,99,080	13,91,594	1	1	2	3	
			Total ...	44,48,845	44,44,890	88,93,735	8	8	16	32	39	71	85	72	157		
18	Cooch Behar ...	Cooch Behar ...	Darjeeling ...	53,057	41,635	94,712	...	...	...	...	...	...	...	...	...
19			Jalpaigore ...	2,10,890	2,01,772	4,12,662	2	1	3	6	3	9	...	...	...
20			Goalpara ...	2,10,134	1,97,580	4,07,714	8	5	13	8	4	12	4	4	8		
			Total ...	4,80,084	4,41,097	9,21,181	10	6	16	14	7	21	4	4	8		
21	Eastern ...	Dacca ...	Dacca ...	9,65,775	9,47,218	19,12,993	3	1	4	...	...	...	...	...	...
22			Fareedpore ...	4,97,854	5,14,735	10,12,589	
23			Backergunge ...	12,04,337	11,73,196	23,77,533	3	1	4	1	1	2	7	5	12		
24			Mymensingh ...	11,87,862	11,61,955	23,49,817	30	28	58	28	21	49	8	10	18		
25			Sylhet ...	8,89,330	8,39,249	17,28,579	
26			Cachar ...	1,10,373	94,654	2,05,027	
					Total ...	47,86,531	47,80,967	95,67,498	38	30	68	32	24	56	26	28	54
27	Chittagong ...	Chittagong ...	Chittagong ...	5,16,059	5,91,343	11,07,402	...	...	...	...	...	...	...	...	...
28			Noakhali ...	3,62,067	3,61,867	7,23,934	3	...	...	...	...	...	...	...	...
29			Tipperah ...	7,82,391	7,51,540	15,33,931	1	...	...	...	...	...	...	...	...
			Total ...	16,80,517	16,94,750	33,75,267	4	1	5	14	13	27	15	14	29		
30	Behar ...	Patna ...	Patna ...	7,61,877	7,97,761	15,59,638	3	7	10	22	15	37	27	40	67		
31			Gya ...	9,54,129	9,95,621	19,49,750	6	5	11	14	31	35	44	40	84		
32			Shahabad ...	8,35,374	8,88,600	17,23,974	13	34	47	14	13	27	44	104	148		
33			Tirhoot ...	21,91,764	21,92,942	43,84,706	5	12	17	25	11	36	27	29	47		
34			Saran ...	9,96,683	10,67,177	20,63,860	15	8	23	35	42	77	69	67	136		
35			Champanun ...	7,37,529	7,05,280	14,42,809	5	1	6	2	3	5	14	14	28		
			Total ...	64,77,356	66,45,387	131,22,743	47	67	114	112	105	217	225	285	516		
36	Bhagalpore ...	Bhagalpore ...	Monghyr ...	8,97,674	9,15,912	18,13,586	3	7	10	14	18	32	31	31	62		
37			Bhagalpore ...	9,17,183	9,09,197	18,26,380	14	30	44	29	19	48	31	28	59		
38			Purneah ...	8,76,339	8,38,475	17,14,814	
39			Sonthal Pergunnahs ...	6,29,716	6,29,571	12,59,287	2	3	5	6	1	7	19	10	21		
			Total ...	33,20,293	32,93,665	66,13,958	19	40	59	49	38	87	130	101	231		
40	Orissa ...	Orissa ...	Cuttack ...	7,25,330	7,69,454	14,94,784	8	17	25	81	67	148	122	111	253		
41			Pooree ...	3,89,449	3,89,325	7,78,774	10	5	15	8	5	13	2	7	9		
42			Balsore ...	3,79,077	3,91,155	7,70,232	
			Total ...	14,93,856	15,40,834	30,34,690	18	23	41	99	82	181	145	130	273		
43	South-West Frontier Agency.	Chota Nagpore ...	Hazareebagh ...	3,97,645	3,74,830	7,72,475	11	12	23	9	9	18	20	14	34		
44			Lohardogea ...	6,21,548	6,15,575	12,37,123	7	6	13	6	6	12	7	2	9		
45			Singbhoom ...	2,05,752	2,05,649	4,11,401	
46			Manbhoom ...	5,40,896	4,94,634	10,35,530	
			Total ...	17,25,281	16,90,108	34,15,389	18	19	37	13	15	30	30	18	48		
47	Assam ...	Assam ...	Kamrup ...	2,92,688	2,68,295	5,60,983	1	1	2	6	4	10	3	1	4		
48			Darrung ...	1,32,837	1,13,172	2,46,009	1	11	12	3	1	4	...	...	...
49			Nowgong ...	1,33,197	1,23,283	2,56,480	
50			Seelmaigor ...	1,54,940	1,41,640	2,96,580	1	1	2	3	14	7	21	2	2	4	
51			Lockimpore ...	64,692	56,575	1,21,267	
52			Khasi and Jynteah Hills ...	3,216	3,092	6,308	
53	Naga Hills ...	641	262	903	...	...	...	...	...	...	...	...	...	...
			Total ...	7,72,121	7,67,926	15,40,047	3	16	19	24	14	38	9	9	18		
			Grand total ...	3,16,88,271	3,18,10,560	6,34,98,831	294	254	428	660	283	843	721	728	1,449		
			Ratio of deaths per 1,000 of population ...				'006	'007	'007	'01	'01	'01	'02	'02	'02		

TO THE HONORABLE SECRETARY OF DEFENSE

FROM: [Illegible Name]

SUBJECT: [Illegible Subject]

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RESOLUTION.

JUDICIAL DEPARTMENT.

Calcutta, the 9th February 1875.

READ—

The Surgeon-General's report on vaccination in the Lower Provinces for the year 1873-74.

THE Lieutenant-Governor observes with pleasure the unabated success which, during the past year, has attended the efforts of the Medical Department to extend vaccination among the people of these provinces. The total number of operations performed was 791,634, against 687,406 in 1872-73; this number is still far short of the requirements of these provinces, being little more than one-third of what is accepted as their birth-rate. Still it is satisfactory as indicating considerable progress compared with the previous year. Of the net increase of 104,228 cases, about one-third is attributable to the extension of dispensary practice, and the rest to the labours of the special establishments entertained at Government expense. Besides these, in many districts there were independent vaccinators and ex-inoculators at work, from all of whom returns have not been received. Increased attention has been given by Civil Surgeons to vaccination, with the satisfactory result of an increase in the number of inoculators who have engaged to practice the art, and further efforts on their part in this direction are desirable.

2. An examination of the figures submitted with the present report shows that there was a decrease of 8,642 in the number of operations performed in the course of the year in the Darjeeling circle, against an increase of 82,718 cases in the five remaining circles. The large number of emigrants who were vaccinated on passing through Calcutta have swelled the returns of that circle. Operations were most successfully carried on in the Metropolitan circles, where a large area has been effectually protected from small-pox. Considerable energy has been shown in pushing on the work in the Eastern Bengal circle, and credit is due to the Superintendent for the large increase in the number of operations performed by his staff. In the Sonthal Pergunnahs, where there were repeated outbreaks of small-pox in the course of the year, strenuous attempts were made, with some success, to induce the people to be vaccinated. Operations were carried on in selected thanas of all the districts of the Darjeeling circle. The decrease in the outturn of work is ascribed to the opposition encountered in certain parts where inoculators had excited the prejudices of the people, and to some of the ground gone over having been that protected in a previous year. The great extent of this circle, and the absence of good roads, increase the difficulties of inspection, and the vaccinators are consequently less easily kept up to their work.

3. Out of 766,297 primary cases, 711,333, or 92·99 per cent., were successful; and out of 25,337 re-vaccinations, 5,716, or 22·79 per cent., were successful. These figures would seem to show that, compared with the previous year, there had been some decline in the success attending primary operations; the result is rather, however, to be attributed to an increase in the care with which dispensary work has been checked and supervised.

4. The amount of inspection work performed by the Superintendents of the various circles was satisfactory. The number of cases personally examined and verified with the registers was no less than 47,165 in the Metropolitan circle, 29,754 in the Darjeeling circle, and 21,269 in the Dacca circle. In the Ranchee circle the number was comparatively small, but the Superintendent appears to have moved freely about the country and to have been careful in the supervision of his work. The Lieutenant-Governor observes that complaints are made of the inferiority of dispensary practice, and of the difficulty with which vaccinators who have engaged in it are induced to adopt correct methods. The returns furnished disclose great variations in the number of operations performed at the various dispensaries, and there seems to be little doubt that some of the vaccinators entertained there are inefficient. It is of the first importance that their work should be strictly supervised, more especially in the municipalities where inoculation is prohibited by law; and the Lieutenant-Governor trusts that the matter will have the continued attention of the Medical Department. He would wish that in future reports a statement should be given of the amount of the work personally examined and verified by the Civil Surgeon, similar to that rendered in the case of the Circle Superintendents.

5. Judged by the number of operations performed on an average by each vaccinator, there has been, the Lieutenant-Governor is glad to notice, an improvement in the efficiency of the establishments entertained. The work performed in the Metropolitan circle and in the Sonthal Pergunnahs, which amounted on an average to 3,931 and 2,506 cases respectively, was particularly satisfactory. In the Darjeeling and Eastern Bengal circles some difficulty has been experienced in bringing up the staff of vaccinators to the full sanctioned number. In Julpigoree and the Hill Tracts of Darjeeling it is with difficulty that men are got to serve at all; but the Lieutenant-Governor trusts that Dr. Lidderdale will not relax his efforts to obtain recruits from among the resident population—a measure the importance of which he fully recognizes. There was considerable sickness and there were also some deaths among the staff employed in the Eastern Bengal circle; and, under the circumstances, much credit is due to the Superintendent for the amount of work overtaken and for the success of the operations performed. In the Ranchee circle the apprentices attached to the various parties of vaccinators are reported to have laboured creditably, and the Lieutenant-Governor will be prepared to entertain favourably a proposal, if separately submitted, to give them a subsistence allowance in accordance with the Surgeon-General's recommendation.

6. The total cost of vaccine operations, as exhibited in the statement appended to the present report, was Rs. 98,207, or Rs. 6,104 more than in the previous year. Of the whole amount, Rs. 9,897 only was paid from local funds or other sources, the rest being a charge on the State. The average cost of each successful operation was two annas, or nearly half an anna less than in the previous year. This result the Lieutenant-Governor considers satisfactory, and he trusts that in future years an increased outturn of work will still more diminish the average cost in Ranchee, and especially in Calcutta, where it is still abnormally high.

7. It is impossible that Government should provide vaccination for the whole of the people of these provinces, or even maintain permanently large establishments in any of them; and the Lieutenant-Governor therefore watches with interest the efforts which are made to introduce a self-supporting system in certain districts. In Bankoora, Midnapore, Sonthal Pergunnahs, Gowhatty, and the districts of the Chota Nagpore, Patna, and Bhagulpore divisions, a considerable number of inoculators have been induced to change their practice and undergo instruction in vaccination. These results are creditable to the Civil Surgeons of these districts, who will doubtless continue to interest themselves in the matter. The Lieutenant-Governor hopes that other Civil Surgeons will

make similar efforts and will thereby obtain a similar success. So long as the ex-inoculators are under instruction, it may be necessary or advisable to give them a subsistence allowance, and the Lieutenant-Governor will receive favourably proposals to this effect. Once trained, however, they must distinctly understand that it is to their own exertions that they must look for support, though in special cases the Lieutenant-Governor will not be unwilling to grant a bonus to deserving men who have exerted themselves successfully and whose work has been inspected and approved. It is important that whatever funds are available should be devoted to organizing an efficient system of inspection and control over the work performed by these men. The experience of successive years has demonstrated the danger of giving them the support of Government without any security against misconduct on their part. The present reports contain more than one instance where the work of the staff of Government vaccinators has been discredited, and where obstacles have been thrown in their way by the irresponsible action of ex-inoculators whose proceedings have been uncontrolled.

8. In Bankoora, where Dr. Conolly has interested himself very successfully in the cause of vaccination, the Lieutenant-Governor has accordingly sanctioned a special establishment to supervise the inoculators whom he has trained, and, should the system be successful, the Lieutenant-Governor will be glad to extend it to other districts. It is particularly desirable that the Civil Surgeon of Beerbhoom should persevere in his endeavours to utilize the ex-inoculators whom he has already engaged in vaccination. In Midnapore operations were much interfered with by the epidemic of fever, which prevailed throughout the season, indisposing the people to vaccination and crippling the staff at the disposal of the Civil Surgeon, whose attention was necessarily much diverted to the establishment of endemic dispensaries. The Lieutenant-Governor trusts that in the current season more progress will be possible, and that a fair start will be given to a system which promises to be self-supporting.

9. During the year under report, small-pox was more than usually prevalent in all the circles except the Darjeeling one. It was present in Calcutta throughout the year, and appeared also in the 24-Pergunnahs and Burdwan. It was particularly severe in Bankoora, Beerbhoom, and the Sonthal Pergunnahs. It was also epidemic in Hazareebagh and Lohardugga. Full advantage was taken of the circumstance to push forward operations, the people accepting vaccination the more readily when danger is at hand. Vaccinators detached from the Metropolitan staff protected nearly 10,000 persons in Beerbhoom. In Bankoora more than twice that number were protected owing to the good arrangements made by the Civil Medical Officer. In the Sonthal Pergunnahs the staff of vaccinators at the disposal of the Deputy Superintendent was found to be quite insufficient. It has now been reinforced by the transfer of vaccinators from the Metropolitan circle, and will now, it is expected, fully meet the requirements of the Pergunnahs.

10. The results of the vaccine census, submitted with the present report, show that vaccination is making steady progress among the juvenile population. The Lieutenant-Governor has read with interest Dr. Charles' remarks on the degree of protection from small-pox which has been afforded to Calcutta in the past season by vaccination.

11. The fact that in several instances outbreaks of small-pox in districts to which Act IV (B.C.) of 1865 has been extended, were traced to the proceedings of inoculators should render Magistrates sensible of the necessity which exists for a strict enforcement of the law. The Lieutenant-Governor observes that the Surgeon-General is of opinion that a clear case has been made out for the extension of the Act to Bogra and Dacca, and he will be ready to entertain proposals to this effect on their separate submission. The Act has since the close of the year been introduced into certain thanas of Jessore, and arrangements for extending it to the Sonthal Pergunnahs are being made.

12. In conclusion, the Lieutenant-Governor thanks Dr. Campbell Brown and his subordinate officers for the efforts they have made to promote the work of the Department.

By order of the Lieutenant-Governor of Bengal,

RIVERS THOMPSON,

Secretary to the Govt. of Bengal.

No. 590.

COPY forwarded to the Surgeon-General, Indian Medical Department, for information and guidance.

Circular No. 7.

COPY forwarded to all Commissioners for information and guidance.

By order of the Lieutenant-Governor of Bengal,

J. CRAWFURD,

Offg. Under-Secy. to the Govt. of Bengal.

CALCUTTA,
The 9th February 1875.