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Report on vaccination

Madras Presidency

1867



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No. 160.

OFFICE OF INSPECTOR GENERAL,
INDIAN MEDICAL DEPARTMENT
FORT ST. GEORGE, 29th April 1868.

From

W. MACKENZIE, ESQ., C.B., C.S.I., A.M. & M.D.,
*Inspector General, Indian Medical Department,
Fort Saint George.*

To

THE HONORABLE R. S. ELLIS, C.B.,
*Chief Secretary to Government, Public Department,
Fort Saint George.*

SIR,—I have the honor to submit, herewith, Dr. Shortt's Report on the operation of the Vaccine Department of this Presidency, for the year 1867.

2. The year under review is the first in which the present system of operations has been fairly tested, and the result seems to be on the whole satisfactory.

3. The total number of persons vaccinated in 1867 was 270,749, giving the very considerable increase of 76,240 over the numbers of the previous year; and should the scheme now before Government for the re-organization of the department be sanctioned, I trust that still more favorable results will be obtained in future years.

4. The proportion of successful operations has, as before, varied considerably in the different districts, the maximum being 97.41 per cent. in North Arcot, and the minimum 77.32 in the Godavery Circle. The average for the whole Presidency has been 89.58 per cent., which is 3.20 above that of the previous year. Dr. Shortt attributes this increase to the exclusive use of needles in the performance of the operations.

5. The largest absolute numbers of vaccinations have been in the Coimbatore, North Arcot, and Tanjore Circles; and the largest increase on the numbers of the previous year, as well as the highest ratio of successful operations, in the North Arcot Circle.

Of these, three have resigned their appointments of their own accord, and a fourth was removed.

5. The Deputy Superintendents have exerted themselves satisfactorily in propagating the vaccine, prophylactic, and in extending the benefits of vaccination throughout their several circles, notwithstanding many difficulties and hardships, all of which they creditably overcame in the discharge of their duty.

6. The year under review was much more favorable as regards the several seasons, and the absence of epidemic diseases to a great extent; notwithstanding which vaccination meets with much opposition in nearly every one of the nineteen Collectorate. Whilst in some parts the prophylactic is greatly appreciated, and the Vaccinators not only invited, but their services readily accepted; in others, it is just the reverse. In some there is open opposition, with resolute defiance, knowing that it is perfectly optional to receive or reject vaccination, they use every means in their power to oppose it; in others again, there is a quiet but persistent refusal, and no persuasion, either on the part of the Superintendent, or his staff, can overcome such determined resistance, and frequently a hearing to our arguments is not vouchsafed.

7. The following casualties occurred among the staff of Vaccinators during the year under notice:—

Hospital Assistants removed from the department.	...	4
Vaccinators deserted	...	4
Do. resigned	...	8
Do. dismissed	...	3
Do. died	...	3

The vacancies caused by these casualties were filled up by qualified men, but there is a difficulty in obtaining suitable candidates, owing to a knowledge of English being insisted on. During the year under notice, no candidate was entertained who did not possess a fair knowledge of English. The only Hospital Assistant now attached to this department is nominally so. His services are placed at the disposal of the Rajah of Soondoor, as a Vaccinator, and his salary is paid by the Soondoor Estate.

8. Much discontent still prevails among the staff of Vaccinators. Their duties are extremely arduous, from the constant travelling imposed on them by the present mode of working, which subjects them

to much sickness, in addition to a separation from their families. As yet no prospects have been opened out for them, either as to present advancement or future provision in case of their becoming disabled by long service, &c.

9. The Vaccinators dislike the nature of their work, as it is extremely arduous, mainly in consequence of the almost constant travelling it imposes; and the same complaint is made by the Deputy Superintendents, and in consequence three of the latter grade have resigned their appointments during the year. Eight Vaccinators have resigned and three deserted. The only graduate of the Madras Medical College, who is in the Vaccine Department, complains of his being thereby estranged from the practice of his profession, and is anxious to leave.

10. The majority of the Deputy Superintendents are from the Apothecary grades; these complain of the inadequacy of their salaries to enable them to meet the expenses of travelling, notwithstanding that these appointments carry with them increased emoluments (in some instances double that received previously), yet they prefer to revert to their original position as Apothecaries, and thus I have to regret the loss of the services of three Deputy Superintendents, who were among some of the best in the department, and who were not only thoroughly conversant with their work, but also with the language spoken, the chief prejudices entertained by the people, and familiar with every talook and most of the villages comprised in their several circles. The services of these officers cannot be readily replaced, and therefore, under these circumstances, I would beg to suggest that, in appointing Superintendents for the future, they should be required to elect to serve permanently in the department.

The scheme now before Government, should it be sanctioned, will materially add to the prospects of the vaccinating staff, and it will also be the means of drawing men of respectability and caste into the department.

11. The present staff of Vaccinators consists of—

East Indians	...	...	...	...	...	4
Hindus	...	...	...	...	...	120
Mahomedans	...	...	...	...	...	14
Native Christians	...	...	...	...	...	7

General Nos. have been assigned to the whole of the staff, so that each individual can be readily recognized, without the difficulty which frequently arises where so many bear the same name, as among the Natives.

12. The work performed by the several circles during the year is as follows :—

CIRCLE.	Total number vaccinated.	Ratio per cent. of success.	Value of each operation.	REMARKS.
Vaccine Dépôt.....	5,307	94.10	RS. A. P.	
No. 1, or Madras.....	7,010	95.93	0 8 2	
" 2, or Coimbatore..	31,086	89.15	0 2 8	
" 3, or Malabar.....	23,158	87.74	0 3 9	
" 4, or Madras.....	19,495	96.79	0 3 7	
" 5, or Tanjore.....	29,879	90.74	0 2 10	
" 6, or North Arcot.	30,162	97.41	0 2 8	
" 7, or Salem.....	21,824	90.62	0 3 11	
" 8, or Bellary.....	18,146	85.60	0 4 6	
" 9, or Cuddapah...	6,331	77.42	0 13 4	
" 10, or Kistna.....	9,311	93.19	0 8 10	
" 11, or Godavery...	13,053	77.32	0 6 2	
Total...	214,762	89.66	0 5 8	Average.

13. From the above it will be seen that the average per-centage of success differs considerably in the several circles, the maximum being 97.41 in the North Arcot, and the minimum 77.32 in the Godavery Circles; so also there is a difference in the money value of each operation, being highest (Rupees 0-13-4) in the Cuddapah Circle, and lowest (Rupees 0-2-8) in the Coimbatore and North Arcot Circles. Taking the cost of the Government Vaccine Establishment proper in the Madras Presidency as Rupees 74,756-11-4, and the total number vaccinated as 222,051, we find that the actual cost of each vaccine operation amounts to Rupees 0-5-5.

14. On comparing the numbers vaccinated during the past three years, they stand as follow :—

Year 1865.	Year 1866.	Year 1867.
191,394	194,509	270,749

Of the 270,749 vaccinated during the year, 256,450 were by the Department proper, Municipal Associations, Civil Dispensaries,

Zemindaries, and Railway—the sex and caste of these are exhibited below :—

	Males.	Females.	Total.
Europeans and East Indians...	1,861	1,063	2,924
Hindus... ..	132,896	106,977	239,873
Mahomedans.....	8,730	4,923	13,653
Total...	143,487	112,963	256,450

In the Returns of the Medical Subordinates, particulars as to caste are not given of the 14,299 operations, but simply the sexes only; these comprise—

Males, 10,912. Females, 3,387.

These figures, when added to those above, make the total of the sexes as follows :—

Males, 154,399. Females, 116,350.

Shewing a preponderance of 38,049 males over females operated on during the year under review.

The exclusive total of the Vaccine Department for 1867 is made up of—

Eleven Vaccine Circles...	209,455
Vaccine Dépôt...	5,307
Military Cantonments...	7,289
Volunteer Vaccinators.....	259

Total...222,310

Thus shewing a large increase of 49,245 over 1866, and a further increase of 126,637 over 1865.

15. The collateral aid obtained by the several Zemindaries, Local Municipal Associations, Civil Dispensaries, and Railway for 1866 gave 9,792; and for 1867 there were 34,140, thus giving the large increase of 24,348 operations over the previous year.

16. The Return of Medical Subordinates gave for 1866, 11,652 operations, and in 1867, 14,299, shewing an increase of 2,647 over the previous year.

17. The work of the department for the year is extremely satisfactory, and it is the first year in which the present mode of operations is fairly tested; but in consequence of the smallness of the staff, and the extent of area of each circle, comprising two extensive

districts, giving an average of 10,196 square-miles, and a population of 1,932,169 souls, to be traversed and visited by the staff of each circle, we need not wonder at the slowness of the work.

18. Among other unavoidable drawbacks to the more rapid performance of the work of the department, may be enumerated the distance which has to be travelled over, and the delay which occurs at each village, even in those localities where vaccination is fully appreciated, before a subject can be brought, and even this is seldom the case, unless the Vaccinators give satisfactory replies to numerous and apt questions bearing upon the vaccine disease, its progress and termination, and its prophylactic virtues. The delay is, of course, much more considerable in villages where opposition is shewn from the first, and frequently several hours of a morning are passed away in a single village in persuading and explaining to the people all the benefits of vaccination, before a single child is submitted to the operation. There is frequently also considerable difficulty regarding the supply of lymph, and all these circumstances operating simultaneously, take away a large portion of time, which, without these obstacles, would be more profitably spent in a larger number of villages.

19. While being ready to admit the shortcomings of the department, as regards the comparatively slow progress of the work, and the limited extent of ground traversed, it must be conceded that, if the obstacles above enumerated had no existence, itinerating would be more rapid, and the total of operations would be considerably higher. In illustration of what may be effected under more favorable circumstances, it may be mentioned that in the Coimbatore Circle, (which has shewn the largest number of operations in the past and present years,) the average monthly number of each Vaccinator's operations for 1867 is 185, giving a daily average of 7.25. This figure looks small when taken by itself, but it is the highest yet attained in any circle, and thus brings out in a stronger light the magnitude of the unfavorable conditions which trammel the more rapid working of the department. Doubtless several hundred operations may be performed if the subjects were forthcoming, and a command of lymph at hand, as also if there was no ground to be got over; but such is not the case, and the Vaccinator has great difficulties to contend with at every step he advances, for which ample allowance should be made, especially when it is remembered we have to contend with a

people, for the most part ignorant and superstitious, in conducting our operations, and who are easily led away by the first report to our prejudice, by the most ignorant individual of any community.

20. Every means within our reach are brought into play by this department to keep the subject of vaccination constantly before the people, and with this view every English and Vernacular newspaper in the Presidency town is taken advantage of in which to insert weekly notices; and in the Mofussil the same is notified in the several District Gazettes, as well as in other newspaper publications, when it can be conveniently done. While the staff everywhere take advantage of the opportunities presented to them, to urge the advantages of vaccination to the people, and to contrast them with the ravages caused by small-pox, as exhibited in any among the crowd which surround them.

21. Three hundred treatises on vaccination in *Oorya* have been printed at the expense of Government for distribution in the Northern Districts, wherever that language is spoken, during the year 1867, and other treatises on the subject, enumerated in the last Report, have been in circulation in most parts of the Presidency. The second edition of 600 copies, alluded to at page 9 of last Report, was printed in Malayalam, and distributed in the Canarese District.

22. At the commencement of the year 1867, I was on my way to Jeypore, whither I proceeded and personally organized a staff of six Vaccinators from the men of the country for the Rajah of that estate, and placed them under the superintendence of a Government Vaccinator; and before leaving, I conducted a large number of operations in the villages that lay in my route, and by the aid of coolies, vaccinated for the purpose, I conveyed a supply of fresh arm-to-arm vaccine lymph into Jeypore, and established it there before I left.

23. During the recess, I was on the Shervaroys for a short time, inspecting the work of the Vaccinators; from thence I proceeded to Ootacamund, where I personally superintended the work of the Vaccinators at that station, Coonoor, Kotagherry, Neddivettum, and Goodaleor in Wynaad.

24. From Ootacamund I descended on the 8th July into Malabar, and from that time, up to the 15th December 1867, I had been employed in inspecting the work in the several circles, putting into Madras only for a week or ten days occasionally to complete office work, and then starting out again. Thus, not only did I visit every

one of my Assistants, spending from three to seven days with each, inspecting the books of the circle, and equipments and registers of Vaccinators, but also riding out into the villages from the head-quarters camp of the Deputy Superintendents, at an average of from five to twenty miles, to inspect the work of the staff, encouraging the Vaccinators by my presence, and talking to the people, and encouraging them to come forward. On these occasions from 50 to 365 subjects were operated on in my presence from arm-to-arm operation of a morning in the several circles.

25. Not only did I inspect the head-quarters stations of the several Deputy Superintendents, but every civil station or military cantonment that laid within my reach, or in the vicinity where my Assistants were at work, seeing the chief Medical Officers, or Civil Surgeons, the officials of the district, and members of the several Civil Dispensary Committees or Municipal Associations, to plead the cause of vaccination, and yet never made a longer stay than two or four days at any one place.

26. By either personal communication or by letter I have succeeded in getting eleven local Municipal Associations, six Civil Dispensaries, and eleven Zemindaries to employ between them eighty-six Vaccinators, in addition to my own particular department, during the two last years.

27. Of these several Institutions, the following deserve the acknowledgments of Government for having so readily come forward to supplement the Government establishment in the spread of vaccination during the year under review :—

MUNICIPALITIES.

Trichinopoly	...	...	... 2	Vaccinators.
Cochin	...	...	... 1	do.
Guntoor	...	...	... 1	do.
Nellore	...	...	... 1	do.
Bellary	...	...	... 2	do.
Tanjore	...	...	... 1	do.
Dindigul	...	...	... 1	do.
Chicacole	...	...	... 1	do.

DISPENSARIES.

Old Town, Cuddalore	...	...	... 1	do.
Nellore, for eight months	...	...	... 1	do.

ZEMINDARIES.

Ganjam...	...	...	... 21	Vaccinators.
Poodocottah	...	...	... 3	do.
Venkatagerry	...	...	... 2	do.

Total...38

So that during the year thirty-eight Vaccinators have been added to the strength of the department, and, with one or two exceptions, all qualified men were nominated to the work by this department.

28. I am happy to say that the vaccine lymph in use is of the very best description and quality throughout the Presidency, resulting everywhere in the genuine vaccine disease. In December I passed the vaccine lymph in use through the cow, and distributed supplies to the Vaccine Depôt, whilst the Deputy Superintendent in charge of the Vaccine Depôt also passed the lymph through a cow in December at the Presidency. The usual interchange of lymph is kept up throughout the several circles and Vaccine Depôt with decided benefit.

29. During the year under review, circumstances were not favorable for conducting experiments with the small-pox virus by transfer to cattle or other lower animals. I suggested in my last Report (paragraph 19-l. m.) that advantage might accrue by making cattle the medium of supplying vaccine lymph for our operations, which may be of benefit to the human subject, as also to cattle. But I now find that this plan is surrounded by too many difficulties, owing to the wildness and unmanageable state of the village cattle generally, and the utter indifference and unwillingness of the village officials and communities to render us any assistance whatever, and had to be relinquished altogether; this is much to be regretted.

30. There were distributed to the several Mofussil stations from the Vaccine Depôt, Madras, 189 subjects, 426 capillary tubes, 356 plates of glass, 133 ivory points, 12 lymph bottles, and 133 crusts. The lymph by subjects was only sent to St. Thomas' Mount, Palaveram, Poonamallee, and Guindy, whilst the preserved supplies were distributed all over the Presidency, in addition to New South Wales, Burmah, Port Blair, the Straits, and Central Provinces.

31. Mr. Hogg writes to say that the lymph sent to him to Sydney, proved successful; and supplies received from Mr. Hogg,

raised from our own lymph by transfer at Sydney, was found to be successful when tried again at Madras.

32. The supplies of lymph sent out by the several circles to different Mofussil stations consisted of 5 subjects, 513 capillary tubes, 188 plates of glass, and 51 crusts.

33. Complaints are occasionally received from Medical Officers of the difficulty they experience in maintaining a regular supply of lymph where no Vaccinator is located, and in consequence of the duties of the Subordinates not affording sufficient leisure to allow of their proceeding from house to house to look after the parties vaccinated to procure the necessary supply, there is a constant demand on the Vaccine Depot for lymph in capillary tubes, to which they invariably give the preference.

34. During the year under review the ratio per cent. of success to failure on the total of operations in this Presidency, stands as follows:—

Total number vaccinated	...	...	270,749
Do. do. successful	...	...	242,579
Ratio per cent. of success	...	...	89.58
Do. do. failure	...	...	10.42

The ratio of success is greater than that attained during the year 1866 by 3.20, and taken as a whole speaks well for the lymph in use.

35. Medical aid continues to be sought from the Deputy Superintendents as eagerly as ever in most districts, and the supply of medicines is quite inadequate to meet the demands made by the people. It is possible that when the larger supply, sanctioned by the Inspector General, Indian Medical Department, in the Office Docket, No. 3323, dated 2nd September 1867, is distributed, the Deputy Superintendents may be better able to meet the demands made on them in this respect.

36. The work of execution and the number of insertions introduced in the department is now made the rule, and every care is exercised, in transferring or collecting lymph, not to rupture vesicles unnecessarily, or where they are below the fixed number laid down in such cases; and re-vaccination of failed insertions is more generally acted on where opposition does not exist to the practice.

37. The needles are the only instrument now in use in the department, and they are found to be thoroughly efficient as a "Vaccinator;" and I myself am of opinion that the greater success attained in the ratio of success to failure is owing to the use of this instrument,

and I further believe that if more care be evinced in the laying on of a sufficiency of lymph to the insertions at the time of operation, the failures would be almost nil.

38. I will now offer a few remarks on the reports of my Assistants.

No. 1, OR MADRAS CIRCLE.

The total of operations in the several districts of the town of Madras for the year is 7,010, shewing an increase of 2,243 over that of the previous year. Of these, there were 4,112 males and 2,898 females. The increase is a trifle only, when compared with the bulk of the population. Although the staff are itinerating throughout the year from district to district, street to street, and house to house, advertisements to that effect being given in all the English and Vernacular newspapers weekly, as to the exact locality in which work would be carried on, yet small-pox has been prevailing in Madras throughout the year. The Mortuary Report gives 623 deaths from this cause. Of this total, the largest number of deaths (248) occurred during the second quarter of the year. It is painful to reflect that as large a number as thirty-two deaths should have occurred during the year among the European and East Indian population by a preventable disease.

The majority of these deaths, I presume, were among children of tender age, whom the parents neglected to have vaccinated from a false feeling of their being too young, and the operation causing pain, and thus by their carelessness alone these children are stricken to death by so loathsome a complaint, from the budding-life being unable to contend with so formidable a disease as small-pox.

My surmise as to the mortality caused by small-pox is so far correct, as will be seen from the annexed table, for which I am indebted to the kindness of the Sanitary Commissioner.

The money value of each operation at the Depot is Rupees 0-8-2 and that of this Institution with the circle, or in other words of the Presidency, is Rupees 0-15-10 which includes the value of the rice given as batta to the poor at the Vaccine Depot.

No. 2, or COIMBATORE CIRCLE.

I visited the staff of this circle at the village of Erode, in the Coimbatore District, on the 22nd July last, where the Deputy Superintendent had established his head-quarters. I remained four days visiting several villages, travelling from three to twelve miles with the staff, inspecting work, and operating on large numbers (225) of the people. I was greatly pleased with Mr. Karney's exertions. He was extremely zealous, and did not spare either himself or staff in the prosecution of his work, so that I was by no means surprised to find Mr. Karney again take the lead in the department by shewing the largest number of operations, viz., 31,086, comprising 16,650 males and 14,436 females. Of these, 5,931 were under one year of age, and the ratio of success on the total of operations gives 89.15 per cent. The cost of each operation in this circle is only Rupees 0-2-8 which, with one other exception, is the lowest cost per case.

No batta was given to mothers for supplying lymph during the year.

I would draw special attention to Mr. Karney's report, which is not only clear and well written, but he also explains very clearly and succinctly the objections made to vaccination, and the confused views the Natives entertain as regards small-pox. I am glad to have the opportunity of verifying all that Mr. Karney writes on the subject, as it quite accords with my own personal experience and observation.

I regret extremely that Mr. Karney has resigned his appointment in this department, for he has always conducted the duties of his circle with much zeal and efficiency, and to my entire satisfaction. He has my best wishes for his future success in life.

No. 3, or MALABAR CIRCLE.

I visited this circle at Calicut on the 16th July last, and spent five days with the staff in inspecting the records of the circle, the registers.

and equipments of the Vaccinators, and the vaccine lymph in use. The weather proved very unpropitious for out-door work, in consequence of rain; notwithstanding this many parts of the town were visited, and 139 subjects operated on in my presence during my stay at Calicut.

The total work of this circle for the year is 23,158; of these, there were 15,808 males and 7,350 females, and 612 were under one year of age. The ratio of success is 87.74 per cent. The increase of operations when compared with the past year is 5,713. The money value of each case operated on in this circle is Rupees 0-3-9.

The greatest objection exists in Malabar to the practice of vaccination, not only among the Natives, but also among some of the descendants of the Portuguese, who seem to be more averse to it than even the Natives, and persistently repel all our advances, and will not accept of vaccination. These people are (Roman Catholic) Christians, and it is painful to see them, as such, set so pernicious an example to the Natives around them.

Mr. Lawrence, the Deputy Superintendent, has been making creditable progress with his staff in overcoming the objections made to vaccination. Mr. Lawrence also stands well in the estimation of the officials of his circle, as well as with the more respectable class of residents of Malabar, and I have to regret his loss, as he also has resigned his appointment in this department.

Rupees 19-6-11 were expended in this circle, as giving batta to mothers of children supplying fresh lymph during the year.

No. 4, or MADURA CIRCLE.

I visited this circle in October last, and joined the camp of the Deputy Superintendent at Vadasunnoor, a village fourteen miles distant from Dindigul, in the Sub-Collectorate of the Madura District, where I inspected the records, equipments of Vaccinators, and the vaccine lymph in use, and then proceeded with a party of Vaccinators to the Pulney Hills, where I arranged for the work of the Vaccinators, and re-joined the Deputy Superintendent at Periacolum, where I was obliged to wait a couple of days to see the records completed.

The total of operations in this circle for the year is 19,495, comprising 10,862 males and 8,633 females, there being a small increase

of 1,892 over that of the previous year; 2,514 of the subjects vaccinated were under one year of age. The ratio of success attained was 96.79. The money value of each operation was Rupees 0-3-7. Only 12 Annas were issued as batta money to mothers.

I was in no way pleased with the work in this circle, and the same want of punctuality complained of in my last Report continuing to exist, notwithstanding repeated admonitions, the Deputy Superintendent's removal from the department was the result.

No. 5, or TANJORE CIRCLE.

On the 29th September I proceeded to this circle, and joined the Deputy Superintendent at Bonagherry, thirty-five miles distant from Cuddalore, in the South Arcot District, and was engaged for three days in inspecting books, Vaccinators' equipments, and the vaccine lymph in use. We next proceeded to the adjacent villages, travelling from twelve to fifteen miles, to inspect work and operate on subjects. 531 individuals, young and old, were subjected to the operation in my presence during the time I remained with the staff.

The total of operations for the circle during the year was 29,879, comprising 15,798 males and 14,081 females; and of these, 4,582 were under one year of age, shewing an increase of 7,471 over that of the previous year in the total of operations, with a ratio of 90.74 per cent. of success, and a money value of Rupees 0-2-10 per operation.

Rupees 4-12-0 were given as batta to mothers to supply lymph.

I was well pleased with all I saw in this circle, and the efficiency with which Mr. Donaldson conducted his duties. Mr. Donaldson is well spoken of by the officials of the district generally, and also as a medical man at Cuddalore, where he had been stationed for many years prior to joining this department.

No. 6, or NORTH ARCOT CIRCLE.

I joined the head-quarters of the Deputy Superintendent and staff of this circle at Chingleput on the 13th September, and on the same day inspected the lymph in use. The next day I accompanied the staff into the town to see them work, and operated on

185 subjects. On the evening of the 15th, I proceeded with the staff to Carangooly, where I inspected the records, and registers and equipments of the Vaccinators on the 16th, and went into the town to see the Vaccinators' work, when 172 subjects were operated on, and 124 in the evening, making a total of 296 that day. On the 17th, we went into the town of Madranticum, and operated on 246 subjects; and on the 18th, we proceeded to Acheravak, visiting several villages on the way and operating on 362 subjects, making a total of 1,089 operations during my stay, 843 of which were operated on in my presence.

The total number of operations of this circle for the year is 30,162, shewing 15,836 males and 14,326 females, giving an increase of 15,426 over that of the previous year; of these, 1,433 were under one year of age. The percentage of success is 97.41, and the cost of each operation amounts to Rupees 0-2-8.

Rupees 4-15-0 were expended as batta to mothers for supplying lymph during the year.

Mr. Kinsley, the Deputy Superintendent, has been exerting himself creditably in the cause of vaccination, and his work stands next to Mr. Karney's in the total for the year, while he shews the largest increase in the number of operations for the period under review.

Mr. Kinsley also has resigned his connection with this department, and I regret the loss of his services in the cause of vaccination.

No. 7, or SALEM CIRCLE.

I joined the head-quarters of this circle at Salem on the 25th July 1867, and during my stay of a week, between Salem and the Shervaroys, we operated on 247 subjects in the surrounding villages, at from two to eight miles distant from these places.

The total of operations in the circle for the year is 21,824, giving 11,086 males and 10,738 females; of which number, 4,629 were under one year of age. The increase over the previous year is 4,190, and the percentage of success on the total is 90.62. The cost of each operation was Rupees 0-3-11. The amount of batta given to mothers for supplying lymph was Rupees 23-9-6.

Mr. Boulth has been exerting himself creditably in the discharge of his duties.

No. 8, or BELLARY CIRCLE.

The Deputy Superintendent of this circle met me at Bellary on the 17th August, and we proceeded to his head-quarters at Camp Darrogee, where the records and registers and equipments of Vaccinators were inspected. The next four days were spent in visiting the surrounding villages at distances averaging from five to fifteen miles, and operated on 823 subjects in my presence.

The total of operations for the circle for the year was 18,146, comprising 10,547 males and 7,599 females; 5,786 of whom were under one year of age, and the ratio of success 85.60 per cent. Mr. Atkinson's numbers shew a small decrease of 718 to that of the previous year, and this can readily be accounted for, as Mr. Atkinson is new to the work, and only entered on his duties on the 1st February. With more experience in the department, I am confident he will do better for the future. The money value of each operation in this circle is Rupees 0-4-6. No batta was expended during the year.

No. 9, or CUDDAPAH CIRCLE.

I joined the head-quarters of this circle on the 9th August at Moodanoor, thirty miles from Cuddapah, and I travelled with the staff from thence towards the end of the district in the direction of Bellary, during five days, visiting the villages in our way and operating thus on 377 subjects. On the 10th August, ere leaving Moodanoor, the records of the circle and registers and equipments of the staff were inspected.

The total of cases operated on for the year was 6,331; of these, there were 3,557 males and 2,774 females, and of this number 713 were under one year of age. There is a trifling increase of 812 over that of the previous year; the per-centage of success is 77.42 on the whole total. The cost of each operation performed is Rupees 0-13-4.

I sympathise sincerely with Mr. Ward in the smallness of his numbers, as his exertions certainly deserve better success. None other of my Assistants have travelled over so much ground, or visited so many villages in succession, as Mr. Ward has done. He has itinerated over nine talooks, visiting most of the villages in each, and leaving them as fast as he entered them, in consequence of the determined opposition of the people generally to vaccination. In some of

these talooks vaccination was never even heard of before, and it is possible that next year may make the people more familiar with the subject, and crown the unwearied exertions of the Deputy Superintendent with better success.

No. 10, or KISTNA CIRCLE.

I joined the head-quarters of this circle at Budvail, in the district of Cuddapah, and thirty miles distant from the town of that name, on the 15th November, and spent three days with the staff. Inspected the books and Vaccinators' registers and equipments, &c., and had ninety-six cases operated on in my presence in the adjacent villages, travelling over a distance of from five to fifteen miles daily ere I left the staff.

9,311 cases were operated on in this circle during the year; of these, 4,810 were males and 4,501 females, of whom 564 were under one year of age. The ratio of success has been 93.19, and the money value of each operation Rupees 0-8-10. There is a small increase of 2,152 over the numbers of the previous year shewn in the return.

No. 11, or GODAVERY CIRCLE.

I joined this circle at Vizianagram on the 22nd January 1867, on my return from Jeypore, and stayed two days with the staff, and was able only to examine the lymph in use, when, in consequence of my presence being required at the Presidency, on receiving a telegram, I proceeded thither at once.

A total of 13,053 cases were operated on during the year, comprising 8,159 males and 4,894 females; of these, 530 were under one year of age. The ratio of success is 77.32 per cent., and a money value of Rupees 0-6-2 per operation. The amount of 8 Annas only was given as batta to mothers. There is an increase of 7,045 operations over that of the previous year, which is satisfactory, when the opposition to vaccination which exists in this circle is considered.

This is the largest of the circles, comprising three extensive districts, many portions of which are unhealthy. The Deputy Superintendent and several of the Vaccinators were prostrated by sickness during the year; the former particularly was seriously ill, and his life despaired of for several days.

Mr. Morris has been extremely zealous in the discharge of his duties, whilst his time and attention have been greatly distracted in supervising the work of fifty-three Zemindary Vaccinators, in addition to his own staff. These Zemindary Vaccinators have been giving a great deal of trouble; the Deputy Superintendent had also to visit the more remote parts of the district in looking after their work.

Mr. Carmichael, the Collector of Ganjam now, and formerly of Vizagapatam, speaks well of Mr. Morris' exertions, and I have had every reason to be satisfied with the efficient and energetic manner in which this officer has conducted his duties, more especially in the management of so large a staff as sixty-six Zemindary and Government Vaccinators.

39. From a general review of the vaccine operations of the several circles, it will be seen that the largest number of operations as to total was, as in last year, in the Coimbatore Circle, whilst the largest number of operations for the year was effected in the North Arcot Circle, and the smallest number, as in last year also, was in the Cuddapah Circle. The highest per-centage of success was attained in the North Arcot Circle, which shewed the same results in 1866 too, and similar to the past year also; the Godavery Circle exhibits the lowest per-centage of successful operations.

40. The largest amount of batta given to mothers of children supplying fresh vaccine lymph is, this year also, at the Presidency, where Rupees 100-9-6, in excess of the amount for 1866, were expended, and this was owing to the great demands which were made on the Vaccine Depôt for lymph subjects. The largest sum spent in any one circle, as batta, in the Mofussil, was Rupees 23-9-6, which is less than the amount of the previous year by Rupees 29-15-6. Eight Annas has been the lowest sum spent in any circle, and in two, no batta whatever was given. We are endeavouring to do away with the batta system in the Mofussil, but in the Presidency I fear we shall never be able to do so; that is, at the Vaccine Depôt. The total sum expended by this department as batta money, throughout the Presidency, has been Rupees 239-10-5 for the whole year, exclusive of the Vaccine Depôt.

41. The total number of casualties during the year, (resignations, dismissals, deaths, &c.,) is eighteen; the greatest number of which occurred in the Madura Circle, in which there were four resignations and one desertion.

42. 37,890 children, under one year of age, have been operated on, shewing an increase of 8,996 over that of the previous year. Our efforts are constantly directed to the extension of infantile vaccination as much as possible, and we find that we can, with benefit to the subject, and advantage to the prophylactic virtues of vaccination, operate as early as six weeks after birth.

43. The greatest objection to vaccination exists in the Cuddapah Circle, and only in a slighter degree less so in Malabar, and in most of the other circles, in particular parts only, objections exist. Small-pox has been prevalent either in a sporadic or epidemic form in every circle, the disease being kept up by the contagion being diffused by small-pox inoculation, and the going about of persons laboring under the disease are sufficiently recovered, with their soiled clothes about them; and I have reason to believe from my own observations, in most instances the disease, when it shows itself, takes on a much milder form than usual, and no authenticated case has come to my knowledge, or that of my Assistants, where death was caused by this disease after successful vaccination.

44. At the Presidency town there has been a good deal of small-pox, owing, I think, to the result of contamination from the interior of the districts. Besides which, we are at present ignorant of the epidemic influences which seem to favor the propagation and extension of the disease during certain seasons of the year in preference to others, shewing itself in one district at one time, and in another at a different time.

45. I find that not only in this Presidency, but also in others, a strong opinion prevails, that to extend the blessings of vaccination more universally among the people of the country, it must be made compulsory, and as this is the case among almost all civilized nations, I do not see why it should not be done in India, where the people both from ignorance and superstition are unable to help themselves, and there can be no valid reason why a paternal Government should not step in and insist on their accepting so universally recognized a blessing as vaccination, and make the operation compulsory.

46. I submit copious extracts from the several reports of my Assistants, whose experience in the circles, among men of different castes, creeds, and habits, during the yet infant state of the department, is worthy of record.

47. My best thanks are due to D. F. Carmichael, Esq, the present

Collector of Ganjam; to G. S. Forbes, Esq., the late Collector of Ganjam; to J. A. C. Boswell, Esq., the Acting Collector of Nellore; to A. Wedderburn, Esq., the Collector of Bellary; and G. A. Ballard, Esq., Collector of Malabar, for their kind interest in the matter of vaccination.

48. Very material help has been received from the several Zemindars, Civil Dispensaries, and Municipal Associations. I would more especially draw attention to the efforts of the Zemindars, who are native gentlemen, holding landed property, and whose assistance and countenance to the work are likely to do much good, as the people on these estates are generally guided by what the proprietor does, and when he patronises a work, it prospers, but the work languishes from want of effective supervision. When this is obtained, I look confidently forward to the greater extension of vaccination in this direction.

49. I would beg to bring to prominent notice the Zemindar of *Mandeesa*, of the Ganjam District, of whom the Deputy Superintendent of the Godavery Circle speaks highly, and I trust that the Government may be pleased to acknowledge his services in the good cause of vaccination.

50. I would respectfully suggest, in conclusion, that the several Zemindars and Municipal Associations that employ Vaccinators may receive a copy of the report on Vaccination annually published.

51. I have to acknowledge, with thanks, the readiness with which the press has furthered our views in publishing the notices of my Assistants, and in making known the advantages and localities in which they work.

JOHN SHORTT, M.D., Surgeon,
Supt. Genl. of Vaccine, Madras Presidency.

MILITARY CANTONMENTS.

There are three Military Cantonments in which Vaccinators are located by this department, they are:

1. BANGALORE.

During the year under review, two Vaccinators were posted to this cantonment, but owing to the removal of the Hospital Assistants, some changes became necessary, consequently for about four months

one Vaccinator's services only were available, the work of the Vaccinator being confined to the Municipal limits, and in supplying vaccine lymph to the Medical Officers belonging to the several Regiments and other Military hospitals.

The work performed during the year under notice, comprised 1,541 operations; of which, 1,420 were successful, and 121 unsuccessful, giving a per-centage of 92.14 of success. The work shows a small decrease of 294 in comparison with the number of the previous year, and this is accounted for by the fact abovementioned, viz., that there was but a single Vaccinator at work during four months. 736 operations were among children under one year of age, of which 721 were successful, giving a per-centage of 97.66 of success.

The caste and sex operated on are shown below:—

	Males.	Females.	Total.
Europeans and East Indians	75	62	137
Hindus	583	552	1,135
Mahomedans	144	125	269
Total...	802	739	1,541

One rupee was expended in giving batta to mothers for supplying lymph.

The Deputy Superintendent of the Salem Circle paid several visits during the recess, to inspect the work of the Vaccinators in this Cantonment, and I myself visited the place once.

2.—SECUNDERABAD.

Two Vaccinators have worked throughout the year, at this Military station, under the Medical Officer in charge of the Civil Dispensary. The total of operations is 4,423; of these, 1,714 were under one year of age, and the return shows a large decrease of 759 in the total of operations, for which no explanation is offered. The per-centage of success has been 72.46. The following figures give the caste and sex of the subjects operated on:—

	Males.	Females.	Total.
Europeans, &c... ..	115	97	212
Hindus	1,978	1,788	3,766
Mahomedans	294	151	445
Total...	2,387	2,036	4,423

3.—KAMPTEE.

One Vaccinator has worked at Kamptee during the year, under the Surgeon in charge of the Civil Dispensary, and the total of whose operations is 1,325; of these, 762 were under one year of age, and the per-centage of success was 98.72. The return shows an increase of 329 on the total of last year.

The following caste and sex were the subjects operated on:—

	Males.	Females.	Total.
Europeans, &c.	37	5	42
Hindus... ..	885	336	1,221
Mahomedans	41	21	62
Total... ..	963	362	1,325

The Vaccinator also supplies vaccine lymph to the several Regiments and Military hospitals in the Cantonment. No reports for the year have been received from either Secunderabad or this station.

ZEMINDARIES, &c.

I.—BELLARY DISTRICT.

SOONDOOR.

The Hospital Assistant continues to work and give satisfaction, both as a Vaccinator and as a Medical man. His work was inspected by the Deputy Superintendent of the Circle in May, and found satisfactory, though small in numbers.

During the year under review, 435 were operated upon, being 99 less than that of the previous year; of this number, 52 were under one year of age. The ratio of success on the total was 96.57.

The sex and caste comprised—

	Males.	Females.	Total.
Europeans, &c... ..	1	..	1
Hindus	222	154	376
Mahomedans	25	33	58
Total... ..	248	187	435

II.—GANJAM DISTRICT.

Several landed Proprietors or Zemindars and Estates under the Court of Wards have employed twenty-one Vaccinators during the year on their several estates, as follows:—

No.	Estates, &c.	Number of Vaccinators.	Names of Proprietors.
1	Tekkali	2	Not known.
2	Beredy... ..	2	
3	Barwa... ..	4	
4	Thurla... ..	2	
5	Mandeesa	3	
6	Purlakimedy	3	
7	Jalantra	5	

The work performed consists of 1,745 operations, of which nineteen were under one year of age. The per-centage of success is 85.27 on the total of operations. The total is made up of 1,175 males and 570 females, who were all Hindus by caste. The Superintendent of the Godavery Circle organized the staff, and inspected the work of the Vaccinators during the year.

III.—GODAVERY DISTRICT.

The following Proprietors have employed five Vaccinators in this district for the last two years:—

No.	Estates.	Number of Vaccinators.	Names of Proprietors.
1	Pittapur and Co-canada	2	V. M. G. Rama Rao, Bahadur Gauroo.
2	Nuzeed	2	Subanadaru Appa Rao, Bahadur Gauroo.
3	Tuni	1	Jagapathy Sonapali Rajah Rao, Bahadur Gauroo.

The operations performed during the year under notice comprised

4,383; of these, 53 were under one year of age. The ratio of success was 92.06 on the total of operations. The caste and sex are as under:—

	Males.	Females.	Total.
Europeans, &c.	2	5	7
Hindus	2,469	1,820	4,289
Mahomedans	53	34	87
Total...	2,524	1,859	4,383

IV.—MADURA DISTRICT.

1.—SHEVAGUNGA.

Three Vaccinators have been working in this estate during the year. The number of subjects operated on was 4,757, against 2,654 of the previous year, giving an increase of 2,103 operations. The per-centage of success over the total is 96.15.

The following comprise the caste and sex of individuals operated on—

	Males.	Females.	Total.
Europeans, &c.	1	...	1
Hindus	2,742	1,892	4,634
Mahomedans	73	49	122
Total...	2,816	1,941	4,757

2.—RAMNAD.

At this estate a single Vaccinator has been employed throughout the year. His work is 593; of these, 68 were under one year of age, and the ratio of success 97.95. There is a decrease in the total of 360 below that of the previous year. The caste and sex comprising—

	Males.	Females.	Total.
Europeans, &c.	2	1	3
Hindus... ..	246	290	536
Mahomedans... ..	24	30	54
Total...	272	321	593

Neither of these estates was inspected during the year.

V.—NORTH ARCOT.

POONGANOOR.

The Vaccinator on this estate has been working throughout the year, and shews a total of 1,115 operations; of this number, 365 were under one year of age, and the per-centage of success on the total was 97.84. This Vaccinator shews an increase of 677 operations over that of the previous year. His work was inspected by the Deputy Superintendent of the North Arcot Circle in the month of March, and in December by the Deputy Superintendent of the Cuddapah Circle, and the work found was very satisfactory. The following are the caste and sex operated on:—

	Males.	Females.	Total.
Hindus	584	529	1,113
Mahomedans	...	2	2
Total...	584	531	1,115

VI.—TANJORE DISTRICT.

POODOOCORTAH.

A staff of three Vaccinators for this estate was organized in March last by Mr. R. Donaldson, Deputy Superintendent of Vaccine, Tanjore Circle, and ever since they have been at work, shewing a total of 3,385 operations; of these, there were 275 under one year of age, giving a per-centage of 97.28 as the ratio of success, and the caste and sex are as follow:—

	Males.	Females.	Total.
Europeans, &c.... ..	1	...	1
Hindus	1,708	1,610	3,318
Mahomedans	35	31	66
Total...	1,744	1,641	3,385

VII.—VENKETAGHERY.

Two Vaccinators have been employed by the Rajah of this estate during the year, but no returns of their work have been received.

VIII.—VI. AGAPATAM.

There are twenty-seven Vaccinators employed in this district by the several landed Proprietors; these men are scattered throughout different parts of the district, and they show collectively a total of 8,035 operations; of these, there were 785 under one year of age, and the ratio of success was 83.82.

The following comprise the caste and sex of the parties operated on:—

	Males.	Females.	Total.
Hindus	4,855	3,162	8,017
Mahomedans	18	...	18
Total...	4,873	3,162	8,035

The following is the list of Proprietors:—

No.	Estates.	No. of Vaccinators.	Names of Proprietors.
1	Kassipuram and Vizagapatam.	6	The Honorable the Maharajah of Vizianagram.
2	Bobbili, Pentavalsa Chidicada and Jaganadpuram.	4	Rajah Sri S. K. Rayaduppa Rungarow, Bahadoor Gauroo.
3	Joypore	6	Rajah Sri Ramchendra Devu, Maharaz Gauroo.
4	Salur... ..	1	Rajah S. Pedabappay Simbulu, Bahadoor Gauroo.
5	Madgole	1	Sri M. K. Bhupati Gauroo.
6	Belagam	1	Sri V. V. Dhatroz Gauroo.
7	Kassimcotta and Meelapaka...	1	Sri Miamiamah Gauroo.
8	Goodacherla, Anakapilli, Koruprolu, Bharinakam, Mungapaka, and Srirampuram.	2	Sri Godajanikaya Gauroo.
9	Theroomahomedpuram...	1	S. A. Atchaymah Gauroo.
10	Nakkapilli and Kuppeli	1	G. Naraina Gajapati Rao Gauroo.
11	Kentali, Mantena, and Ungaradu.	1	Sri Jungunti Sitayammah Gauroo.
12	Palcondah and Hinjeram.....	2	Messrs. Arbuthnot and Co., Madras.

Of the Zomindaries that have been in full operation throughout the year, that of Vizagapatam shews the largest number of vaccinations, (8,035,) as also the number operated upon under one year of age, whilst the Zemindary of Poonganoor shews the highest success 97.84.

CIVIL DISPENSARIES.

1.—NEGAPATAM.

This Institution employs a Vaccinator, whose work for the year

comprises 1,274 operations; of these, 172 were under one year of age. The ratio of success on the total is 8.885, giving the following proportions of caste and sex:—

	Males.	Females.	Total.
Europeans, &c.	3	3	6
Hindus... ..	620	615	1,235
Mahomedans	17	16	33
Total...	640	634	1,274

2.—CUDDALORE.

This Dispensary employs a Vaccinator; the work for the year has been 333; the number vaccinated under one year of age was 40; and the ratio of success 86.78. The caste and sex operated are—

	Males.	Females.	Total.
Europeans, &c.	6	8	14
Hindus... ..	160	141	301
Mahomedans... ..	14	4	18
Total...	180	153	333

3.—OLD TOWN, CUDDALORE.

This Institution has had a Vaccinator employed since August. The number of operations has been 44; two of which were under one year of age. The per-centage of success has been 75. Caste and sex vaccinated were—

	Males.	Females.	Total.
Europeans, &c.	2	2	4
Hindus... ..	14	11	25
Mahomedans... ..	8	7	15
Total...	24	20	44

4.—MANARGUDI.

A Vaccinator is employed by this Institution. 1,378 cases have been operated on during the year, of which 200 were under one year of age. Ratio of success 86.08. The caste and sex vaccinated were—

	Males.	Females.	Total.
Hindus... ..	695	678	1,373
Mahomedans	4	1	5
Total...	699	679	1,378

5.—COMBACONUM.

A Vaccinator is employed here. The number operated on was 948; 276 were under one year of age, and the ratio of success 92.19. The sex and caste vaccinated were—

	Males.	Females.	Total.
Europeans, &c.	1	2	3
Hindus	522	404	926
Mahomedans... ..	10	9	19
Total...	533	415	948

6.—NELLORE.

This Dispensary employed a Vaccinator in April 1867, but discontinued in November. The total number shown is 180, of which 88 were under one year of age. Ratio of success 92.22. The caste and sex were as under :—

	Males.	Females.	Total.
Europeans, &c.	3	2	5
Hindus	67	57	124
Mahomedans... ..	31	20	51
Total...	101	79	180

Of the Civil Dispensaries in operation for a whole year, Manargudi stands highest in the number of vaccinations (1,378), while Combacconum shows the largest number under one year of age, as also the highest per-centage of success.

MUNICIPALITIES.

1.—BIMLIPATAM.

The Vaccinator in this place shows 291 operations in the year; 10 under one year of age, with a success of 96.56. Caste and sex operated on were—

	Males.	Females.	Total.
Europeans, &c.	6	2	8
Hindus	163	120	283
Total...	169	122	291

2.—VIZAGAPATAM.

The two Vaccinators here show 1,073 operations; 145 under one

year of age, with a per-centage of 81.08 of success. The caste and sex vaccinated were :—

	Males.	Females.	Total.
Europeans, &c.	28	32	60
Hindus	671	276	947
Mahomedans... ..	48	18	66
Total...	747	326	1,073

3.—CUDDAPAH.

This Vaccinator shows 345 operations during the year, of which 74 were under one year of age, and a ratio of success of 62.02. The caste and sex operated on were :—

	Males.	Females.	Total.
Europeans, &c.	1	...	1
Hindus	175	69	244
Mahomedans... ..	68	32	100
Total...	244	101	345

4.—TRICHINOPOLY.

This Municipality employed two Vaccinators from the 1st January 1867. They show 2,038 operations for the year; 521 were under one year of age, the ratio of success has been 81.04. The caste and sex operated on were :—

	Males.	Females.	Total.
Europeans, &c.	15	10	25
Hindus	918	616	1,534
Mahomedans... ..	286	193	479
Total...	1,219	819	2,038

5.—COCHIN.

This Association employed a Vaccinator in September last. He shows 120 cases vaccinated in four months, with 55.83 of success per cent. Ten subjects, under one year of age, were operated on. The caste and sex vaccinated were :—

	Males.	Females.	Total.
Europeans, &c.	2	8	10
Hindus	62	43	105
Mahomedans... ..	5	...	5
Total...	69	51	120

6.—GUNTUR.

In September this Association also employed a Vaccinator. The number operated on was 104, of which 14 were under one year of age. Ratio of success 85.65. The caste and sex stand thus :—

	Males.	Females.	Total.
Europeans, &c.	...	1	1
Hindus	43	25	68
Mahomedans... ..	23	12	35
Total...	66	38	104

7.—NELLORE.

Here a Vaccinator was employed in October. He shows 249 operations; 26 were under one year of age. Ratio of success 83.13. The caste and sex operated on are as follow :—

	Males.	Females.	Total.
Europeans, &c.	1	1	2
Hindus	46	30	76
Mahomedans... ..	106	65	171
Total...	153	96	249

8.—BELLARY.

Here two Vaccinators were employed in October. They give 385 as their operations for three months, with a success of 97.40; 137 were under one year of age. The caste and sex operated on were :—

	Males.	Females.	Total.
Europeans, &c.	19	17	36
Hindus	102	140	242
Mahomedans... ..	52	55	107
Total...	173	212	385

9.—TANJORE.

A Vaccinator has been employed in this Municipality since April. He shows 509 operations, of which 14 were under one year of age. Ratio of success 98.02. The caste and sex vaccinated were :—

	Males.	Females.	Total.
Europeans, &c.	5	...	5
Hindus	296	162	458
Mahomedans... ..	23	23	46
Total...	324	185	509

10.—DINDIGUL.

In November a Vaccinator was employed by this Association. He shows 98 operations, 12 of which were under one year of age; percentage of success 86.73. Caste and sex are as under :—

	Males.	Females.	Total.
Hindus	52	40	92
Mahomedans... ..	4	2	6
Total...	56	42	98

11.—CHICACOLE.

In December a Vaccinator was employed. He shows 23 operations, of which two were under one year of age, and a success of 60.86 per cent. The caste and sex were :—

	Males.	Females.	Total.
Europeans, &c.	1	2	3
Hindus	12	8	20
Total...	13	10	23

MADRAS RAILWAY.

The Returns of the Apothecaries of the Madras Railway are received through the Consulting Physician, Surgeon-Major W. J. vanSomeren, M. D. They shew a total of 320 operations, of which 90 were under one year of age, and the ratio of success has been 81.27. The caste and sex vaccinated were :—

	Males.	Females.	Total.
Europeans, &c.	7	10	17
Hindus	150	116	266
Mahomedans... ..	23	14	37
Total...	180	140	320

JOHN SHORTT, M.D., Surgeon,

Superintendent General of Vaccine,

Madras Presidency.

Extracts from the Reports of the Deputy Superintendents
of Vaccine.

No. 1, or MADRAS CIRCLE.

Deputy Superintendent—Mr. L. W. LINCOLN, Sub-Assistant Surgeon.
Establishment.

Vaccine Dépôt—1 Vaccinator and 3 Peons.

Madras District—4 Vaccinators, and 2 Peons.

Military Cantonment, Bangalore—1 Vaccinator.

VACCINE DÉPÔT.

Cost of establishment, Rupees 2,705-12-10. Value of each case vaccinated, Rupees 0-8-2.

During the year under review, 5,307 cases have been vaccinated, better illustrated by the following tabular statement:—

1866.			1867.				
Number vaccinated.	Successful.	Unsuccessful.	Number vaccinated.	Successful.	Unsuccessful.	Increase.	Decrease.
4,627	4,177	450	5,307	4,997	310	680	...

The per-centage of success has been 94.10. A much larger number of operations (from the increased allowance for the purchase of rice being allotted) would have been shewn, only that the people are loath to come, now that the necessaries of life are selling at ordinary rates; those we get are the poorest of the poor, and who take advantage of the boon graciously sanctioned by Government.

The expenditure on account of rice during the year has been Rupees 2,161-2-10. The average number of persons vaccinated daily was seventeen, and there was an issue of rice to an average of sixty-six persons daily. 1,723 maulas and seven seers were expended.

During the past year, 1,065 charges of lymph were distributed to the Mofussil stations, viz., capillary tubes, 426; plates of glass, 356; ivory points, 133; crusts, 138; and lymph bottles, 12. The applications for lymph are still very numerous, and I would beg to bring to notice the great want of capillary tubes, the supply being altogether inadequate to meet the demands. Medical Officers prefer lymph preserved in tubes to any other mode. Vaccine virus has also been forwarded to Rangoon, Port Blair, Andamans, Singapore, Sydney, and the Central Provinces. A pattern of needles was sent to Surgeon-Major Moore, Superintendent of Vaccine, Mount Abo, Bombay, on application by that Officer. In addition to the above mentioned supplies of lymph, 189 vaccine subjects were sent out to Medical Officers and other gentlemen in the Presidency town.

During the year under review, I have granted to candidates going up to the several Governmental examinations, 480 certificates of vaccination, being an increase of 331 over the previous year of 1866.

At the Dépôt, no case of small-pox after vaccination has occurred. Fifteen cases bearing distinct marks of small-pox were vaccinated with successful results, the vesicles differing from ordinary vaccination only in regard to size being smaller.

Vaccine virus direct from the cow was forwarded by the Superintendent General of Vaccine from the Shervaroys on the 11th December, and the following results were obtained.

On the 12th December three cases were vaccinated: on the eighth day there was great constitutional disturbance, the fever running very high. The lymph from these cases was transferred to thirty-two other subjects, in whom the constitutional disturbance was little; this entirely ceased on the third transfer. The lymph now in use at the Dépôt is chiefly from these cases.

On the 28th October, four subjects were operated on from tube lymph, received from Thomas Hogg, Esq., Sydney, charged from cases vaccinated with lymph sent from the Vaccine Dépôt, Madras. On examination on the sixth day after the operation, each case had six finely-formed vesicles; in one case only was there any decided constitutional disturbance. I operated on several cases from this virus, and I consider the lymph in use by Mr. Hogg to be genuine and vigorous.

I have also, during the year, operated with preserved tube lymph,

vaccination. This should not be: the mortality thus caused is considerably enhanced, and for which vaccination suffers in a greater or less degree.

During the year, myself and staff have traversed the whole of the Presidency town. In the months of April, May, and June, the recess period, a Vaccinator was working in each district, and on the 1st July, the commencement of the field season, they again worked in a body. I would beg to suggest for the favorable consideration of the Superintendent General, that the former plan be adopted in Madras, as I think it would answer better. There are four districts and four Vaccinators—by a Vaccinator being posted to each, constantly being and living with the people, a greater degree of confidence would be obtained, and there would be a corresponding increase in the number of operations. The itinerating method is certainly the best, but I only throw out this suggestion for the town of Madras itself alone.

I have vaccinated six cases bearing distinct marks of small-pox, the resulting vesicles in no way, saving size, differed from ordinary vaccination.

During the year, I have witnessed two cases of small-pox occurring shortly after vaccination, the disease shewing itself, in both cases, on the sixth day after the operation. One case proved fatal on the ninth day after vaccination, and the third of small-pox. Small-pox had, at the time, attacked several members of the family in the same house, so that it is evident that the system had imbibed the disease prior to vaccination; for as soon as the vaccine vesicles showed themselves thoroughly formed, a good crop of small-pox eruption immediately followed. The other case of small-pox after vaccination was mild, and the child recovered without disfigurement of any kind. The small-pox pustules in both these cases had a horny feel and rapidly matured. Perhaps the case that proved so quickly fatal was of a scrofulous diathesis or of a weak and delicate constitution, phthisical(?), to the injurious tendencies of which, apparently, it is even difficult for vaccination to contend against. One thing is certain, however, that the variolous poison is more rapidly and easily eliminated, and that the same disfigurement and mortality attendant thereon are not as in genuine cases of variola.

There has been a large expenditure of batta money during the year, viz., Rupees 159, and was chiefly occasioned by detaching

Vaccinators with subjects to Poonamallee, St. Thomas' Mount, Guindy, Sydapett, and Palaveram. For Poonamallee alone, in the month of February last, when small-pox was reported to have prevailed epidemically in the cantonment and adjacent villages, the sum of Rupees 50-12-0 was expended for vaccine subjects sent thither. On the report of small-pox being prevalent, I proceeded immediately to Poonamallee, under instructions from the Superintendent General, when from personal inquiries in the villages en route from Avady and adjacent ones, small-pox was said "not to be known;" notwithstanding, I operated on more than three hundred of Invalids, Time-expired men, women, and children proceeding to England. In February last, a Vaccinator was detached to St. Thomas' Mount, with a supply of lymph; owing to the prevalence of small-pox in adjacent villages, only twenty-six cases were operated on, but the Medical Officer reported that not one single case had proved successful. I immediately went to the Mount, and found that *only one case*, out of twenty-six, had failed. I produced the scabs that I had removed from the successful cases, for the inspection of the Medical Officer. The Dresser, who reported the failure, was called on for an explanation, when he stated that he reported so on the strength of what he was told by one of the hospital servants.

I have much pleasure in placing on record the merits of my staff. It would be invidious to draw comparisons when one and all have worked with the same zeal, notwithstanding the rebuffs and abuse very frequently experienced, on several of which occasions I was present, but helpless. As a stimulus to further exertions, I would respectfully suggest a small increase to their present salaries on the new scheme coming into operation.

1,792 subjects, under one year of age, were operated on during the year, with a per-centage of success of 96.59.

In conclusion, I beg to tender my best thanks and acknowledgments to the Editors of the several local newspapers, English and Vernacular, for their kindness and readiness in publishing my weekly Notices.

CANTONMENT OF BANGALORE.

Cost of Establishment, Rupees 441. Value of each case vaccinated, Rupees 0-4-6.

During the past year there have been three changes amongst the Vaccinators employed in this Cantonment: In September, Hospital

Assistant Sunjeevee was removed from the Vaccine Department; the Cantonment was then worked by one Vaccinator. In November, Vaccinator Armoogum, No. 101, was removed to the Kistna Vaccine Circle, and his place, in Bangalore, was filled up by a new appointment, viz., Vaccinator Scott, No. 214. The work has been satisfactorily performed, and the lymph in use is good; a supply was also forwarded from the Vaccine Depot, Madras.

The work of the Vaccinator is confined, as before, to the municipal limits. He is further directed to call upon the Medical Officers of Civil and Military Hospitals, weekly, for the purpose of either vaccinating or supplying virus.

The total number of operations for 1867 was 1,541, of which 1,420 were successful, and 121 unsuccessful, giving a per-centage of 92.14 of success. The decrease of 294 cases, in comparison with the previous year, can only be attributed to the several changes among the Vaccinators, and one man only working in the concluding portion of the year, four months.

The number of children, under one year of age, operated on was 736; successful 721, unsuccessful 15. Per-centage of success 97.96.

One Rupee for batta has been expended in this Cantonment during the year.

The needle instrument has been in use in the entire circle throughout the year as a vaccinator, with the same efficiency and success.

No. 2, or COIMBATORE CIRCLE.

Deputy Superintendent—Mr. W. KARNEY, Sub-Assistant Surgeon.
Establishment.

14 Vaccinators and 2 Peons.

Cost of Establishment, Rupees 5,274-12-1. Value of each case vaccinated, Rupees 0-2-8.

Total number vaccinated during the year ... 31,086

Per-centage of success... 89.15

This circle comprises sixteen talooks, with an area of 11,514 square miles, and an estimated population of 2,155,320.

The Return embodies the operations of an entire year, i.e., from 1st January to 31st December 1867, which, as heretofore, comprised a working season extending over nine, and a recess over three months.

On the 1st January 1867, the staff of the circle was complete,

and during the year the following changes occurred:—The Hospital Assistant was transferred again to the Medical Department; one Vaccinator deserted, another was dismissed, and three other Vaccinators joined. Before entering on the proper heads of the report, it would be appropriate to give, in this place, an abridged sketch of our travels and employment during the twelve months under review.

At the beginning of the year we were engaged in Musari Talook, Trichinopoly District; from thence we went to Kullitali in March, at the close of which month the last working season expired. The next three months, April, May, and June, comprised the recess, on the setting in of which, the head-quarters removed to Coimbatore, and the staff was distributed by ones and twos over the circle. In July the staff was again collected at Perindoray, and starting from there, I commenced to itinerate over the Coimbatore District, going from talook to talook in succession. From Perindoray we passed into Bowani, next to Sattimungalum, and then to Puladum. Thus, during the past field season, we have gone over two talooks of the Trichinopoly District, and four of Coimbatore; and if to these be added those talooks in which the staff were employed during the recess, there will be eleven talooks altogether in which vaccination, more or less, has been performed during the year. In the preceding year the work was limited to but seven talooks.

The only alteration in the mode of carrying out the work, made in the past year, was that of employing the staff during the recess in small scattered parties, instead of collectively, as was done the year before. A similar arrangement was adopted in the working season with this difference: that the several groups were disposed at much shorter distances around the head-quarters, shifting when it shifted, so that the work of the whole was perpetually under supervision. This plan has been attended with more than one advantage. It enabled me to travel more speedily, and at the same time afforded ample work to keep the whole of the staff actively employed at all times.

In our transit through each talook most of the larger villages in it were visited, and the largest number, possible, vaccinated at each place. Notwithstanding that our stay in each talook, from four to eight weeks, was made the most of, yet I feel confident in asserting that the amount of work performed is comparatively insignificant to what could have been done had our time permitted us to go over each of them in a more thorough manner.

The total number vaccinated, description of lymph used, and results, are exhibited below :—

	Number vaccinated.	Successful.	Unsuccessful.	Absent.
From lymph in capillary tubes...	60	37	14	9
Do. on glass pieces	9,028	7,733	478	817
Do. in phials ...	89	72	8	9
Arm-to-arm vaccinations...	21,909	19,874	338	1,697
Total...	31,086	27,716	838	2,532

Of the total number operated on, 27,716 were successful, and 3,370 unsuccessful, giving a ratio of 89.15 of success in every hundred vaccinated.

The comparative numbers of the past and preceding years stand as below :—

Year.	Total.	Increase.
1866	28,373	...
1867	31,086	2,713

The increase, small as it is, I consider quite a feat, requiring as it did the greatest exertion on the part of this staff to accomplish. I looked for a decrease rather than increase in the number, for, not only was the strength of the staff, almost throughout the year, short of its full complement, but among the casualties that occurred, I lost one or two, to whose industry the large number yielded in the preceding year was mainly due.

On reference to the abstract given in the Annual Return, it will be observed that only ten of the staff were present throughout the year. *Hospital Assistant Singaravaloo was relieved in September; Vaccinator, No. 44, deserted in March; No. 83 was suspended in July, and dismissed shortly afterwards; No. 1 took ill in August, and remained so till the end of the year; and it was not until a lapse of one or two months in each case that the vacancies so caused were filled up. Thus the best part of the work shewn in the Return was the labor only of ten men, each of whom has performed a monthly average of 204 operations.

Judging from past experience, I think a Vaccinator's time would be very well occupied if he executes that number of operations every month, and unless quantity is to be preferred to quality, a greater maximum is scarcely obtainable under the present way of working. A larger number might be done if the Vaccinators had no more to do than to enter every village they came to, operate on all they found in it, and pass on to another; but, as each case has to be registered, the results watched, and, if necessary, the operation done over again, sometimes more than once, much time is spent, and no little fatigue endured in marching to and fro to the village or villages wherever they may happen to commence any work. Then, again, it is seldom indeed that much work is done at any village on visiting it for the first time; two or three visits have to be made, and on each occasion much house-to-house searching, talking, and persuading have to be gone through on the part of the staff, before each place is any thing like finished. Often, to reach a village, a long march has to be got over, and then only the day's work begins; and when it is borne in mind that this routine has to be performed almost daily, it will be allowed that a Vaccinator's work is no easy task, nor need any one be surprised to hear that the amount of fatigue endured by the staff in the past year proved too much for some of the less hardy of its numbers.

Speaking generally, the conduct of the staff has been very satisfactory. All hands seemed to do their utmost and, to display a livelier interest in the work than in previous years, and hence there is not much difference in their numbers, compared one with another. Some have not succeeded so well as others, owing to a want of tact rather than industry. Vaccinators Nos. 103, 58, 104, and 156, performed the highest number of operations. The fines inflicted on the staff have been very few, compared with the number in the year preceding.

In carrying on vaccination in these two districts, what appeared to me to hinder the diffusion of the practice more than any thing else, were the confused notions entertained by the people regarding small-pox, and the relation that vaccination bears to it and to other kindred diseases. A few words will suffice to make this understood.

Among the Native population, especially the rustic tribes met with in the interior, small-pox, chicken-pox, measles, eruptions and rashes of every description are all confounded together, and are looked upon as varieties of the same affection, differing in degree, but not in kind;

and to all they very vaguely apply the generic name, "*Ummay*," or "*Marriatha*." There are very few of our formidable list of skin diseases, but what the Natives would consider a kind of *Ummay*. That small-pox seldom occurs more than once in a life-time to the same individual, experience has taught them. It would be well if their pathological ideas stopped at this point; but unfortunately for themselves, as well as for the cause of vaccine, they believe also, in their indiscriminating way, that a person is equally protected from small-pox by an attack of chicken-pox, measles, or any simple rash, it matters not which, so long as it is *Marriatha*, as they know it, in one of its protean forms; and when it is known, furthermore, that they all have a fancy no person could grow up to an adult age without having undergone one or more attacks of *Marriatha*, it will be understood how it is that all the adult population are so insensible to the utility of vaccination, so far as it concerns themselves.

With infants, and those unattacked by the disease, the case is different: the parents are, as a rule, found willing or easily persuaded to submit them to the operation, believing as they do that, by doing so, they only forestall what they must get naturally, sooner or later, in a much severer form.

Much small-pox has, as usual, prevailed all over the circle. From what I saw of the disease on my travels, compared with my experience of it in former years, I should say it was the chief epidemic in this district during the past year. The people here entertain a very foolish dread of vaccination when small-pox is prevailing, of which I found it hard to disabuse their minds. Unfortunately, too, for this feeling, it sometimes happens that subjects who have been vaccinated at places where there is an outbreak, take the disease and die; the people in such cases, of course, blame the operation and not the disease for the fatal event, and in this way vaccination is now and then brought into unmerited disrepute. Two children, to my knowledge, during the past year, sickened with confluent small-pox while under vaccination—one died and the other recovered.

If we were to judge of the death-rate of small-pox from the mode of treatment that is in vogue amongst the Natives, I fear it must lead to a very unfavorable conclusion. It may not be thought foreign to give here some account of their plan of treating this disease, and in doing so, it may be worth while to mention also a few of their modes of dealing with disease in general.

It is a matter of fact that the healing art, so far as it is known to the mass of the rural classes in the mofussil, is at the present day just where it was in the days of Galen; for, as was taught by that ancient father of Physic in his time, so these people believe now, and no more; to wit, that every disease is in its nature either hot or cold, and that every medicine is endowed with similar properties: for the cure of a disease, therefore, it is only necessary to give a remedy of an opposite quality, or, in other words, to counteract a hot disease a cold medicine must be employed and *vice versa*. In accordance with this view, most, if not all, disorders are classified into the two kinds—hot and cold. Fevers, cutaneous eruptions of all kinds, and most inflammatory diseases are instances of what they call hot diseases; while tetanus, hysteria, teething-fits, and convulsive affections generally will serve as examples of the cold class. In treating the former, every thing is done to cool down the system, and the heightened temperature of the blood, which is supposed to be the sole cause of the disease, and for this purpose drugs of various kinds, reputed to be of a cooling nature, are administered, while the patient is restricted to a diet, from which animal food and all other articles that are considered heating, are strictly excluded. Among other dietetic articles, the following are most esteemed in this class of diseases:—"Moroo" or butter-milk; "*Thyroo*," or milk set into a sour curdle by adding some acid substance to it—these, with boiled rice, are made into slops; "*Ellanzer*," or tender coconuts, plantains, onions, sugar-candy prepared from palmyra jaggery, &c. In affections of the cold kind, their grand sheet anchor is actual cantery, which they use in a most heroic style. I have frequently seen a young child with the whole of its chest and abdomen literally studded with burnt marks, the results of this practice. This they do, I suppose, under the impression that as cold is the cause of the disease, it is quickest got rid of by half-roasting the patient.

Small-pox is regarded as the type of all the hot diseases, the high fever and eruption which attend it being taken to denote the excessive degree to which the system is overheated. From the moment the disease proclaims itself, the patient, young children as well as others, is assiduously hand-fed with the cooling slops and congees alluded to, of which he is allowed to consume any quantity, but nothing else. With this part of their treatment no one can find much fault; and another good thing is, they do not, so far as I know, make any

effort to cut short the disease by giving internal medicine; but what follows is the worst. On the ninth day of the disease, sometimes as early as the seventh, whilst the eruption is in full suppuration, they commence the first of a series of baths, which is the main thing they rely on for the cure of the disease. The water used is first medicated by steeping in it overnight a bunch of *Margosa* leaves, and it is kept exposed to the sun for some hours; the body of the patient is then daubed over with a paste made with the same leaf, and turmeric ground together, and the water is thrown over him. This process is repeated every alternate day, until the scabs fall off, and is always done in the open air, whilst at other times the patient is closely "cabin'd, cribb'd, and confin'd" in one of their small habitations.

This custom is universal; patients, young and old, severe and mild cases, are all treated alike, and not in the very worst cases of the disease is the aid of a "*Vythean*" ever sought after. To neglect it would amount to a sin in their idea, sanctioned as it is by immemorial usage. The same custom is followed after vaccination (which they look upon as an artificial *Marriatha*), and has become so inveterate, that all effort of mine to hunt down the bad practice, proved abortive.

Letting alone the great risk the patient runs of catching an internal inflammation by being thus so frequently exposed to sudden changes of temperature, the very exertion he is put to in undergoing this rough sort of hydropathic* treatment at a time when his strength is apt to be most exhausted by the disease, must render his chances of recovery very uncertain.

The vaccine lymph in use in this circle has kept up its average degree of activity throughout the year, lessening a little in the hotter, and again intensifying in the cooler months. The usual irregularities as to size, progress, and sequence of changes in the pocks have been observed when the operations were performed with preserved lymph, but not so often in the arm-to-arm vaccinations, among which the number of failures seldom exceeded a small minority, while the local and systematic phenomena normal to the vaccine disease were pretty uniformly observed. If anything, the fever, loss of appetite, restlessness, pain and swelling of the glands in axillæ, &c., have been

* *NOTE*.—This water-cure plan of treatment is a favorite one with the Natives. Women after delivery are invariably subjected to the same process, commencing on the third day after confinement, and using in their case very hot water, which is dashed over the loins and abdomen with force, whilst the woman is made to sit bolt upright.

more marked and complained of by the people, especially with infants, some of whom suffered very severely. In two instances convulsions supervened, but of this I am only able to speak from hearsay, not having seen the children whilst so affected, though I think it is probable enough that these were examples of teething fits, excited into action by the superadded irritation consequent on the operation. Swelling of the axillary glands has been commonly noticed, and in some strumous subjects these tumefactions terminated into abscesses; altogether the constitutional disturbance appeared to be more severe, in tender-aged subjects too much so, and on this account I would recommend some exception being made in their case to the rule of vaccinating with so many as six punctures. As to my further experience with the needle instrument, I have only this to remark that, for all practical purposes, and when used carefully, it has been found to be not inferior to the lancet for vaccination; I say when used with care, because I have noticed this, that it is no easy thing to break up a vesicle with it, especially a small-sized one, without causing the lymph to get fouled with blood or pus, to avoid which a degree of care and nicety is necessary—a matter not always likely to be attended to by the Vaccinators in performing the operation.

In the past, as in former years, disease and suffering in a variety of forms were met with among the population, and as opportunities offered, the stock of medicines supplied to me proved of service in affording relief, but what has been done in this way is nothing compared with the amount of sickness witnessed. The principal diseases met with were small-pox, fever, ophthalmia, and cutaneous affections; among the latter, guinea-worm was found to be a most prevalent endemic in the district of Coimbatore.

Under the head of "Means for the more effective spread of vaccination," I have no suggestions to offer beyond those indicated in former years.

During the past year, 5,931 infants, under a year old, were vaccinated.

From the remarks made in a previous paragraph, it will be observed that owing to the prejudice the people entertain to the operation, after having suffered from small-pox, it is scarcely feasible to practically test the effect of vaccination on subjects bearing distinct marks of small-pox.

No instances of small-pox after unmistakable vaccination fell under my observation, though I have seen the two diseases, vaccinia and variola, co-existing in the same subject, without manifesting any appearance of influencing each other. This occurred in two subjects who were vaccinated at villages where small-pox was prevailing at the time, and to whom allusion has already been made in a previous part of this report.

No batta money has been expended during the past year.

No. 3, OR MALABAR CIRCLE.

Deputy Supt. Mr. C. ST. J. LAWRENCE, Sub-Assistant Surgeon.

Establishment.

13 Vaccinators and 2 Poons.

Cost of Establishment, Rupees 5,128-9-8. Value of each case vaccinated, Rupees 0-3-9.

Total number vaccinated during the year ... 23,158

Per-centage of success... 87-74

This circle comprises fifteen talooks, with an area of 10,461½ square miles, and an estimated population of 2,488,538.

The return of vaccination for the year 1867, herewith submitted, comprises operations performed in the South Canara and Malabar Collectorates. In South Canara the staff was employed from January to March, the close of last field season, during which time the villages along the coast, from Cundapur to Mangalore, were visited, extending over a distance of sixty miles, and the Vaccinators were occasionally permitted to proceed to villages further inland when application for their services was made by the inhabitants.

On the termination of the field season, the head-quarters of the circle was transferred to Cannanore, and the Vaccinators deputed separately to some of the most important localities, viz., to Mangalore, Cannanore, Tellicherry, Quilandy, Calicut, Beypoor, Ponany, Cochin, and Paulghat, included in the circle, to which places they confined their work in the recess.

In the month of July, the Calicut Talook was selected as the sphere of our work, and the whole of the umshoms comprised in it visited.

While here employed, a party of Vaccinators was sent to the Military outpost station, Malliappooram, and from thence visited the adjacent large villages, Munjerri and Kundoti.

Our next movement was into the Korumbanad, Cottayam, and Cherikal Talooks, parties of Vaccinators having been deputed to places where small-pox was reported to prevail, and gradually shifted to villages in the vicinity. About the latter part of December, four Vaccinators were sent to Wynaad, and one to the Amindivi islands. The aggregate number of operations given in the Return is 23,158, and the results noted are 20,339 successful against 2,819 unsuccessful. Compared with the Return of last year, as briefly represented in the subjoined table, an increase of 5,713 cases operated on this year will be observed.

Years.	Total number vaccinated.	Successful.	Unsuccessful.
1867	23,158	20,339	2,819
1866	17,445	14,992	2,453
Increase	5,713	...	...

This increase is wholly due to the exertions of the Vaccinators, who, notwithstanding all discouragements, have worked exceedingly well, and often have borne good-naturedly the insults and taunts cast at them from ignorance and prejudice. A large number of failures was generally noticed amongst cases first operated on in a village, and which I found to have been wilfully induced from a dread of the results of the operation, but when confidence is once established, a good run of success takes place.

The number of cases vaccinated in each district is as follows:—

Districts.	Number of months employed.	Number vaccinated.	Successful.	Unsuccessful.
South Canara	3 months.	6,459	...	...
Malabar	9 do.	16,699	...	...

The system pursued in working my staff has been the same as in former years, the Vaccinators being sent out in parties of twos or

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threes to different umshoms, within easy distance of my personal supervision, and their work quite unexpectedly examined, beginning with the seventh and eighth day operations, and then on to later periods, at the same time encouraging and vaccinating the people who have been distrustful of its beneficial effects.

I would here again mention the obstacles that chiefly exist on this coast to our movements being more quickly made. The houses being far apart from each other, which the peculiar habits of the people, who are mostly agriculturists, render necessary, with the exception of the small towns on the coast and one or two other places, the houses are not in close proximity as in the villages of the Eastern Coast, or other parts of the country; consequently, our visits from house to house take up more time, and the unwillingness that is generally shewn at first visits, necessitates a repetition of them and a longer stay at each place.

The Vaccinators at present constituting my staff, I have much pleasure to report, have behaved exceedingly well, and have shewn zeal and activity in the performance of duty. They have endeavoured to vie with each other in the numbers vaccinated, the prospect of an increase of pay, recommended in the scheme now before Government, having acted as a stimulus to their exertions.

Vaccinator P. Chendu, No. 107, has vaccinated the largest number throughout the year; next to him stands Chappen Paniker, No. 18; then Cheroo Cooty Nair, No. 140; and fourth, Oopooto Ramon, No. 8. Although these men have displayed a great deal of attention to their work, yet they have had the advantage over the others by being natives of Malabar.

The following casualties have occurred among the Vaccinators during the year:—Vaccinator Munganatha was struck off as a deserter, and Narnappah dismissed for disobedience of orders, he having refused to proceed on duty to Cochin. Vaccinator Armoogum Pillay died from chronic diarrhoea, brought on from exposure and irregular living while on circuit, which, from the nature of their duties, the Vaccinators are often compelled to endure. Third Class Hospital Assistant A. Ruthnasawmy was removed to the Jail at Cochin in September last; for the time he was with me during the year he gave satisfaction. These four vacancies were filled by newly-appointed Vaccinators, who, after some practice, are well acquainted with their duties, and quite alive to the work.

Before the termination of our labors in South Canara, I was glad to find that vaccination was beginning to be appreciated by the people, and will, I am hopeful, be more generally accepted after a few years, even in those parts where religious superstition has a predominating influence, and obstructs the spread of vaccination among the inhabitants.

A vast amount of difference exists in the two districts, South Canara and Malabar, in which vaccination is received by the people. In the former, the Vaccinators were often invited by extensive landed proprietors to vaccinate not only their families, tenants, and dependants, but also, by their influence, succeeded in getting the people in the neighbourhood to submit to the operation; whereas, in Malabar, personal feelings, ignorance, and caste prejudice are the chief barriers to its spread, which, from day to day, I have with disgust witnessed among all classes, the educated and semi-civilized sharing alike in these deep-rooted prejudices, so that assistance or co-operation was seldom given by any of the people, but shouts or cries of warning raised on the sight or approach of a Vaccinator to a village. While a party of Vaccinators was engaged in the vicinity of the town of Calicut, an unprovoked assault was made on them by some people of the Nair caste, who manifest the greatest dislike to vaccination in the district, and their object appeared to have been to intimidate the Vaccinators, and prevent them visiting these parts. Four of the offenders were discovered, and a charge laid against them before the Sub-Magistrate, who, on conviction, sentenced each to a fine of thirty Rupees—the conviction and sentence, on appeal, were upheld by the Collector, and the publication of this decision in the *District Gazette* has had a deterrent effect, for the Vaccinators have not been interfered with in the legitimate execution of their duty. The amount of assistance in Malabar, from the Native officials, would have been very limited indeed had not the Collector, G. A. Ballard, Esq., issued instructions to the Tahsildars and village officers to co-operate with us in extending the benefits of vaccination, and to whom I am indebted for the success attained this year.

Small-pox has prevailed almost throughout the year in the subdivision, North Malabar. Its first appearance was noticed at Telli-cherry in April last, and from thence carried to other parts; its increase and subsidence being much influenced by the monsoon having prevailed to a greater extent before and after the rains. Its fre-

quent prevalence as an epidemic on this part of the coast will not at all be surprising, when the impunity of those attacked mix with the unprotected population is known. The outbreak this year was not confined to children, but adults of all ages suffered from it, and in every instance from personal inquiry I was informed that the stricken person was never vaccinated at any period of his life. Both the confluent and modified forms of the disease occurred—the former chiefly amongst adults, and depending on the peculiar habit or predisposition of the system. The extreme horror with which small-pox is received by the people in those parts, as to destroy all feeling and seek only personal safety, seems strange not to suggest a desire for a preventive which vaccination offers, and is generally known and gratuitously given by a benevolent Government; but such is native apathy and indifference to health that a remedy is not sought for unless danger actually impends on the unfortunate victim of neglect, when he will run from door to door, for miles, in attempts to save life in the last extreme.

The present system of itineration affords the best opportunity of vaccination being generally known and impressed on the minds of the people, for reports of our visits to any place are carried far and wide, to enable those willing for the operation to apply, and also the advantage of better supervision.

Irregularities in the progress of the vaccine disease have not been noticed when the insertions were left undisturbed, the rise and maturation of the vesicles with constitutional derangement taking place regularly; but when the vesicles were tampered with, many irregularities in its local action were noticed, such as ulcers, small abscesses, and other kinds of eruption. In some weakly and scrofulous children the vesicles have been found to assume a peculiar appearance, more like blebs filled with bloody serum, and have caused alarm, but when the confined serum was allowed to escape, the cause of all anxiety was dispelled. I have not observed any ill-effects from vaccination to deplore having performed or suggested the operation.

The vaccine virus in use has not deteriorated from climatic changes, notwithstanding the extreme states of the weather that are experienced on the coast, from a heavy monsoon extending to almost six months, to an oppressive heat in the hot season for three months. Lymph received from New South Wales, charged in a capillary tube hermetically sealed, was found active when used. The vesicles first raised by

it were small, as is generally noticed when lymph thus mechanically preserved is used, but in its subsequent transfers in arm-to-arm operations, vesicles of a larger size were produced.

612 children, under one year of age, were vaccinated during the year. A very strong repugnance to vaccinating infants exists on this coast; reasons of all kinds, from fear or imagination, are put forth, but none worthy of record.

No cases of small-pox, after successful vaccination, have come under my observation, but instances have occurred of small-pox appearing while the vaccine disease was in progress, and these have taken place only in those parts where small-pox was prevalent, and the person vaccinated having been exposed to the contagion of small-pox before or shortly after vaccination, and the eruption of small-pox appeared in every instance before the constitutional effect of vaccination was induced.

To encourage parents to accompany Vaccinators with their children to supply lymph, Rupees 19-6-11 were expended as batta, and has enabled us to keep up a constant supply of fresh lymph, and the results of our operations more successful by arm-to-arm transfer.

NO. 4, OR MADURA CIRCLE.

Deputy Superintendent Mr. W. OSMAN, Sub-Assistant Surgeon.

Establishment.

11 Vaccinators and 2 Peons.

Cost of Establishment, Rupees 4,380-9-6. Value of each case vaccinated, Rupees 0-3-7.

Total number vaccinated during the year	...	...	19,504
Per-centage of success	...	...	96-79

This circle comprises fifteen talooks, with an area of 8,691 square miles, and an estimated population of 2,357,386.

The number of vaccine operations in this circle for the year 1867 was 19,504 against 17,612 of the preceding year, being an increase of 1,892. This increase arises chiefly from the large number of operations in the Tenkerai Talook of the Tinnevely District during the first three months of the year.

Vaccinators Nos. 35, 46, 26, and 10, shew the greatest number of operations during the year.

Prejudice against vaccination almost general amongst the Lubbees, and of a most determinate nature, in several Hindu villages of the Dindigul Talook, was witnessed during the past year, which could not be overcome by any persuasion. Nothing short of a compulsory Government order would be of any avail in the spread of vaccination.

Small-pox prevailed more or less in the districts of Madura and Tinnevely. For the further spread of vaccination, I can suggest nothing than that recommended under the preceding head.

No irregularities of the vaccine disease, or ill-effects therefrom, came under observation.

The number of children vaccinated, under one year, is as follows:—

Total number vaccinated..	...	...	2,511
Successful...	...	...	2,422
Unsuccessful	...	...	89

During the first quarter of the year under report, operations were conducted in the Tenkerai Talook of the Tinnevely District, during which period about half of the talook had been visited. The total number of operations during this period was 7,542, of which 7,366 were successful. The work was very gratifying to the whole staff, as numbers of cases came forward in almost every village to avail themselves of vaccination, the only exception to this willingness to be vaccinated were villages inhabited by Lubbees.

The second quarter of the year was the period of recess; Headquarters being located at Palamcottah, and the Vaccinators distributed to other towns and villages in the circle:—Three Vaccinators were kept in Palamcottah, two nominated for Tinnevely, one for Nanganary, one for Ambasamudaram, one for Streviliputur, and two for Dindigul. The total number vaccinated during the recess was 3,523, and 3,391 successful cases resulted therefrom.

During the second half year, the Dindigul Talook was our field of work. Up to the beginning of the month of October, the staff kept together in this talook. The town of Dindigul was the first head-quarter station where we remained until the 13th July, when headquarters were removed to Mettoor, thence to Nellacottah on the 22nd, to Kannaputty on the 8th August, to Iyempolliem the 16th, Chembutty 27th, Kunnevady 3rd September, Palkanooth the 16th, Thandecumboo 22nd, Vadasendoor 3rd October. In the villages visited up to this time there was much prejudice

encountered in those inhabited by Lubbees, and some sects of Hindus, such as Canpiliars, Curumbers, and Thotiers who, from their manner, shewed that they could not be prevailed upon to receive vaccination in their families, and were, in consequence, left without any further interference. The inspection of the staff by the Superintendent General of Vaccine took place on the 8th October, at the village of Vadasendoor, when the Lubbee inhabitants took exception to the Vaccinators going from house to house in their streets, seeking cases for operation. The Lubbees assembled together in a great number, and came to the Superintendent General to represent what appeared to them an unusual thing in the Vaccinators thus going from house to house, and, through their Cazee, they stated that vaccination was against the dictates of the Koran. The Superintendent General, in an argument, shewed the error of the Lubbees. With regard to vaccination, and ultimately prevailed on the Cazee to use his influence to get the Lubbees to consent to vaccination. On my meeting the Cazee the following morning, I found him in no mood to work as he had promised, and also that two others had joined him to repel my efforts to vaccinate any children in the Lubbees' street. Police Inspector T. C. O'Connor was in my company, and he advised me not to proceed any further in the street. Up to this open demonstration against vaccination 6,770 cases were operated upon, of which 6,472 were successful. The staff of Vaccinators, but three, followed the Superintendent General to the Palney Hills, whither they were ordered, and I went into Periacolum. The staff remained separated up to the end of October, and on the 31st all rejoined at Thungachammaputty. The prejudice now evinced, in almost all the villages to the north of the Dindigul Talook, was so great and strong, that little or no work could be done in them, and it was with great difficulty that the lymph supply could be kept up. I have done my utmost by inquiring among the villages, to ascertain the cause of this great prejudice, which took root and spread during the absence of myself and Vaccinators, but could elicit nothing than the most trifling reasons.

The total number of operations for the last three months of the year was very small in consequence, viz., 1,669, of which 1,562 were successful.

Several of the Vaccinators were, during this period, placed on the sick report from attacks of intermittent fever, contracted in the Dindigul valley, and on the lower range of the Palney Hills. The

whole of the supply of medicines having been expended, I was obliged to send some of them to the Dindigul Mission Dispensary. One Vaccinator was so much depressed in health from the Hill fever, that he could not join head-quarters from Periacolum for about a month. One case of *hematuria*, probably from the presence of calculi, was left behind at Madura on the removal of the head-quarters to Palamcottah.

I have much pleasure in reporting favorably of the conduct of the staff of this circle. Four of the number were discontented with their work, and were permitted to resign the service at their own request; one deserted. Their places were filled up by young men from the Dépôt.

No. 5, OR TANJORE CIRCLE.

Deputy Superintendent—M. R. DONALDSON, Sub-Assistant Surgeon.

Establishment.

14 Vaccinators and 2 Poons.

Cost of Establishment, Rupees 5,383-8-0. Value of each case vaccinated, Rupees 0-2-10.

Total number vaccinated during the year	...	29,879
Per-centage of success	...	90.74

This circle comprises sixteen talooks, with an area of 7,506 square miles, and an estimated population of 2,594,247.

The opening of the year under review found the staff of the circle engaged in the southern portion of the Tanjore Talook, from where, in the end of January, they moved to the talook of Combaconum, in which they were occupied until the middle of March. They then proceeded to Shencly, where they were employed until the recess set in. During the recess period the Vaccinators were distributed over the principal places in the districts from which they rejoined the head-quarters of the circle, established at the commencement of the working season at Porto Novo, in the Chellambrum Talook. The working of this extensive talook, and a portion of the adjoining one, that of Virdachellum, occupied a period of five months. The talook of Ellavanasur, and a further portion of Virdachellum, were next taken in hand, and operations are still being carried on in both.

The following plan of working has been steadily carried out dur-

ing the year:—A populous town or village in a talook is usually selected as the head-quarters *pro tem.* of the circle, and the Vaccinators are divided into parties of three and four, to each of which a certain number of the surrounding villages is allotted. When all the villages within a circumference of from eight to ten miles have been visited, a fresh site is chosen as a centre, and the Vaccinators are distributed around it as before. This method, I conceive, facilitates the inspection of the work performed, while at the same time it ensures the thorough working up of any given locality. Of course, in those places where vaccination is not appreciated and sufficient employment cannot be obtained for the Vaccinators, the stay is of much shorter duration.

The comparative numbers vaccinated during the past and previous years, are as follow:—

Year 1867.	Year 1866.
29,879	22,405

showing an increase of 7,474 in favor of the former. On comparing the number of vaccinations during the lapsed year, with those performed in 1865, there will be found an increase over the latter of 18,204.

From an examination of the several monthly Returns, from which the annual Return is compiled, it will be observed that a considerable falling off in the number of operations occurred in the months of February, April, and October, which may be accounted for as follows:—In February the staff were employed in a locality where cholera was prevailing in a virulent form, and of course it was difficult at such a time to procure subjects willing to undergo the operation. During this trying time the Vaccinators went about their work as usual, but it was easy to see that they did so with much hesitation and apprehension, and the death of one of their number, and of a member of the family of another from the disease, did not tend to reassure them. As the epidemic was at the time also prevailing in most other parts of the district, and we had just quitted a locality in which it had made its appearance, it was not thought advisable to move from the infected spot. The decrease in April is attributable to the setting in of the recess, and the time lost by the Vaccinators in joining their respective localities, in which they were appointed to work during the three months. The deficiency in October is accounted for by the heavy rain which fell on many days in that month.

and by the occurrence of the *Depanattival*—immediately before, and during which, it is almost impossible to obtain subjects to vaccinate.

Of the 22,872 operations performed, 2,764 proved unsuccessful, giving 90.71 as the per-centage of success. As usual, all doubtful cases, and those in which the results could not be subsequently ascertained, have been returned as unsuccessful.

The average number of operations by each Vaccinator, during the year, is 2,079. The highest number (2,696) has been attained by Vaccinator Kistnasawmy Iyah, No. 5, the lowest (1,340) appears in the Returns of Vaccinator Kylaum, No. 73. The fewness of this man's operations, as compared with the former, is accounted for by the fact that he joined the circle during the recess, his Returns, consequently, exhibit the operations of a little more than eight months.

The changes that have occurred among the staff of the circle have been occasioned by the death of Vaccinator, No. 63, Ragavah, and the transfer to the Madras Circle of 3rd Class Hospital Assistant Manuilla Pillay. The vacancies thus caused have been filled up by the appointments of Vaccinators Chudrapani, No. 195, and Kylaum, No. 73. Vaccinator Rungasawmy, No. 188, also joined during the year, having been nominated to succeed Ponnosawmy, No. 26, removed in the end of 1866 to the Madura Circle.

The apathy and carelessness of the people form the chief obstructions to the spread of vaccination, and the usual silly pretexts are advanced by those who desire to evade the operation; the most common excuse is, that the children have already had the small-pox—these children, in nine cases out of ten, presenting no indications whatever of having suffered from the disease. The fact of a child having had chicken-pox, or any of the forms of cutaneous disease, which the Natives designate "*Ummy*," affords quite a sufficient plea for putting off the Vaccinator. In most of these cases the children are kept out of sight, and it requires no little persuasion to induce the parents to bring them forward for inspection. Where satisfactory marks of small-pox are not apparent, I have often overcome the unwillingness of the parents, and had such subjects successfully vaccinated. The assistance of the village authorities, when voluntarily offered, has always been found useful in enabling us to surmount these and a host of other difficulties we have to contend with; but, as a rule, I have invariably refrained from seeking their aid myself, and have also, as far as possible, discouraged my men from doing so.

Small-pox has prevailed throughout the year in almost every talook of the district, though to what extent I am not aware.

The only suggestion, "for the more effectual spread of vaccination," that occurs to me to offer, is one that has frequently been made, viz., that vaccination should be made compulsory. I am perfectly satisfied from the experience that I have had in the department, that the time has fully arrived for legislative interference in the matter. I believe that the generality of the people are sufficiently alive to the objects and advantages of vaccination, not to be insensible to the fact that any enactment which should provide for compulsory vaccination, must have for its aim the promotion of their own interests and well-being. Such a coercive measure, with an adequate staff of operators to carry it out, is the only effectual one which can be adopted to secure the people the full advantages of vaccination; and until it is had recourse to, it is hopeless to think of exterminating small-pox.

The medicine-chest has been found of great use as a means of gaining the goodwill and confidence of the people, and in this way of furthering the cause of vaccination. In some places I have had innumerable applications for relief, to all of which I have attended as far as the limited means at my disposal would permit. With the larger supply of medicines sanctioned by the Inspector General in September last, but not yet received, the usefulness of the Deputy Superintendent in his medical capacity will be considerably increased. The cholera pills and chlorodyne have been found useful in several outbreaks of cholera which have occurred in the vicinity of my camp.

Under the head of irregularities, &c. I have to notice the case of a child vaccinated in August last. The vesicles ran their ordinary course up to the tenth day, when a copious eruption, resembling urticaria, as much as any thing else, made its appearance and spread over the entire body. This was immediately followed by general oedema, especially marked about the face and thighs. A speedy subsidence of these symptoms followed the administration of a purgative, and the child subsequently did well. A good deal of ulceration has frequently been met with, resulting from the common practice of covering the vesicles with a thick paste formed of bruised neem leaves, saffron, and other substances. Considerable difficulty is experienced in repressing this objectionable practice. I have seen large unsightly ulcers ensuing from the irritation thus produced.

The vaccine lymph in use is good and efficient. The usual constitutional symptoms, running high in some cases, invariably supervene on the operation. Most of the adults operated on are loud in their complaints of inability to work from fever, axillary tenderness, &c.

The largest number of operations, or eighty per cent. of the whole, has been performed direct from the arm. The tubes and glasses are employed only when any difficulty is experienced in procuring subjects willing to accompany the Vaccinators. In many instances the use of preserved lymph, especially when it has been employed a few days after being collected, has led to disappointment. Where it has not actually failed, the resulting vesicles have been found very small. When "worked back again," however, the lymph has proved thoroughly efficient, producing vesicles of the normal size and character.

The number of subjects, under one year of age, vaccinated during the year has been 4,582, with a percentage of success of 91.42. I have not experienced in this district the difficulty in procuring these subjects mentioned in my last year's report.

No instances of small-pox after unmistakable vaccination, or well-marked cases of previous small-pox, have fallen under my observation.

The conduct of the Vaccinators has been good. They have worked diligently, and to my entire satisfaction.

No. 6, or NORTH ARCOT CIRCLE.

Deputy Superintendent—Mr. P. KINSLEY, Sub-Assistant Surgeon.

Establishment.

13 Vaccinators and 2 Peons.

Cost of Establishment, Rupees 5,167-6-9. Value of each case vaccinated, Rupees 0-2-8.

Total number vaccinated during the year	...	30,162
Percentage of success	...	97.41

This circle comprises sixteen talooks, with an area of 7,628 square miles, and an estimated population of 1,457,067.

The comparative numbers vaccinated for the past and previous years, are as follow:—

	Year 1865.	Year 1866.	Year 1867.
Vaccinated...	7,714	14,736	30,162
Increase ...	...	6,732	15,426

It will be seen that the numbers of 1867 exceed those of 1866 by 15,426, and those of 1865 by 22,448.

In remarking on this increase, while claiming a share of credit for the exertions of the Vaccinators, it will be but just to observe that this success could not have attended their labors, had they been working in a comparatively virgin field. During the nine working months (or rather except the recess period, for work is going on throughout the twelve months), of the year, the operations of the staff have been confined to the Madras District, and in such talooks as have been visited, it was found that the population generally were eager for vaccination, admitting that the work of former years demonstrated its utility. It may be observed here also, that this is the first year of the re-organization of the department any vaccination has been at all prosecuted in the Madras District. During the three months of recess, the Vaccinators were distributed over the entire area of the circle, one or two being sent to each of the more important provincial towns.

The numbers of all the Vaccinators have increased during the year, and this is chiefly due to the reasons detailed above. The numbers vaccinated by Vaccinators Ramasawmy, A. Ramanjalam, V. Soobroy Mudali, and Arnachellum, are more than double the number shown against their names for 1866. Vaccinators Poonosawmy and Brunniah are excluded in this calculation, as they only joined in the latter end of 1866.

The obstructions to the spread of vaccination have been detailed in former reports. The want of a larger staff can scarcely be designated an "obstruction," but daily experience confirms the observation that, the more persistently vaccination is kept before the eyes of the population, the more opportunities will be afforded them for judging of its value; and this is practically impossible while the staff of Vaccinators is employed within a limited area of a circle, whose geographical extent is equivalent to that of two districts.

These circumstances which operate as veritable obstructions to the progress of vaccination, are neither numerous nor ineradicable, and may easily be overcome by frequent visits. During the year under review, I gave up entirely the attempt to enlist the aid of the village

officials, simply because I considered it hopeless. That a powerful impetus may be given to vaccination by the help of these men is indisputable; and a little official pressure may induce them to emulate the conduct of the same class in Bombay, as detailed in the reports of the Superintendents of Vaccination in that Presidency. This apathy of the village Moonsiffs and Monegars is a decided "obstruction," and is the most easily removed. The so-called prejudices of the Mofussil population to vaccination will vanish as education permeates the masses; until then, tact is the only force which may safely be employed.

In the latter part of the month of February small-pox prevailed in the Military Cantonment of Poonamallee, and one-half of the staff of the circle, with the Deputy Superintendent, were sent to work there. The numerous details of European troops, with their wives and children, were examined on arrival, and all those not bearing marks of vaccination were vaccinated. Indeed, it was considered necessary at first to vaccinate, without exception, all in the dépôt, and yet the native population, within the limits of the dépôt, were left unmolested—the majority refused to be vaccinated. Small-pox prevailed among them for months subsequently, the Military and Medical authorities were powerless to compel them to be vaccinated, and to save the troops the clumsy expedient of restricting them to Barracks was adopted.

Small-pox was officially reported to exist in the petty Zemindary of Congunde, in the North Arcot District, in the month of October, and a Vaccinator was detached for duty there. More recently a Vaccinator was sent to Maderpank, a sub-division of the Kalastry Zemindary, on the requisition of the Collector of the district. In the month of March, small-pox was said to be prevailing in the Rapoor Talook of the Nellore District, and two Vaccinators were sent there. About the middle of December, intimation was received that the Strihariettah villages of the Nellore District, and some villages of Atmakur Talook of the same district were infected with small-pox, and a Vaccinator was sent to each of these localities.

It has been already observed that a larger number of Vaccinators, scattered over a wider field than at present, would be one of the means by which vaccination may be more effectually disseminated.

No irregularities in the progress of the vaccine disease were observed, nor were any ill effects seen to follow vaccination.

The total number of cases vaccinated, under one year of age, was 1,433, being 184 in excess of 1866.

I have not had opportunities for witnessing the occurrence of small-pox after unmistakable vaccination; and the disinclination of the native, who has once suffered from small-pox, to be vaccinated, precludes any observations being made as to the success of vaccination in such cases.

The lymph has continued very good and genuine throughout the year, and is now, during the cold season, most intense in its action, producing excellent vesicles, with but few failures.

The general conduct of the Vaccinators has been exemplary, and they are decidedly gaining in tact in overcoming any prejudices they may meet with among the village population. It is gratifying to be able to observe that no change whatever has occurred in the staff by any casualty, and the same Vaccinators who commenced work together in the beginning of the year, remained together at its close.

NO. 7, OR SALEM CIRCLE.

Deputy Superintendent Mr. W. H. BOALTH, Sub-Assistant Surgeon.

Establishment.

14 Vaccinators and 2 Peons.

Cost of Establishment, Rupees 5,332-14-10. Value of each case vaccinated, Rupees 0-3-11.

Total number vaccinated during the year	...	...	21,824
Per-centage of success...	...	...	90-62

This circle comprises sixteen talooks, with an area of 10,266 square miles, and an estimated population of 2,295,136.

The number of vaccine operations performed during the past year has been 21,824, of which 19,798 were successful, and 2,026 unsuccessful, shewing a total increase of 4,790 upon the corresponding period of last year. The increase I attribute to the more peaceful and yielding character of the people we had to deal with this year, and upon whom we were, in consequence, able to prevail more successfully. The Vaccinators had evidently gone to work more cheerfully on hearing of the scheme that was to bring them promotion, yet that in no way tended materially to increase the numbers. From what I have seen this year, and from former experience, I am of opinion that, however expensive a scheme might be devised to better the prospect of the Vaccinator, and thereby to stimulate him to greater exertion, yet

under the present system, when he is only to vaccinate those "willing to submit to the operation," too much praise cannot be credited to him for an increase in numbers. An Act rendering vaccination compulsory would be the easiest, the most economical, and surest way of causing vaccination to be generally accepted, and thus put a stop to, or at all events check, the spread of that loathsome disease, small-pox.

The number of operations performed by each Vaccinator vary; the largest number (2,165) being shewn by Vaccinator Dravian. The average being 1,500 for the remaining men of the staff.

The same objections, as detailed in my last report, had to be encountered this year also; and many, aware that vaccination is optional, have cast it to our face, and told us not to be importunate, but that when they are willing to get their children operated on they will send for us.

The Hindu is so wedded to superstitious customs that when left to his option it requires the strongest arguments to induce him to forsake them, and even when convinced, a most improbable story urged on the opposite side, causes him to revert to his old opinions, and adhere to them with greater tenacity; so that, as I have just stated, parents who themselves bear unmistakable marks of vaccination, and fully appreciate the benefits of the operation, yet they deny to their offspring the benefits enjoyed by themselves; but all their superstitious notions will vanish should they be subjected to some pecuniary loss for their adherence to them.

Little or no religious prejudice exists against vaccination, at least in this circle; all the objections brought forward are silly and trifling in their nature, and might easily be over-ruled by legislative enactment. Should Government think it unadvisable to make vaccination compulsory, then years, I believe, must pass over ere vaccination will be generally accepted. I beg, therefore, to suggest, as a means of spreading vaccination thoroughly, first, that the staff of Vaccinators be increased; and second, that vaccination be made compulsory, under the penalty of a small fine.

Small-pox was reported to have prevailed during the month of May in the talook of Oosoor; there was a Vaccinator there during the recess, and his Returns shew large numbers. Dr. Wells, in charge of the Remount Depot, writing to me of this Vaccinator, says "the lymph has been of the best description, and the vesicles were perfect in the

cases seen by me." Mr. Woodroffe, the Acting Head Assistant Collector of Tripatur, also reported the existence of small-pox in a village of that talook, and that a few fatal cases had occurred, and requested a Vaccinator to be sent. I immediately forwarded him a supply of lymph, and suggested to him to direct the Dresser attached to his department to make use of it. He has probably done so, as I have not heard from him again. From what I have seen, small-pox in a sporadic form exists more or less throughout the year in some place or other, even within so small a limit as a talook, and when a fit opportunity arrives to develop itself in an epidemic form, it breaks out; hence we frequently hear of outbreaks of small-pox at all seasons of the year.

The lymph in use in this circle, throughout the year, has been good and genuine, as seen by the resulting constitutional symptoms, and the success of Bryce's test. In fact, the constitutional symptoms in some instances have been so high as to have alarmed not a few, and caused them to postpone the operation, till they have seen the results of such cases.

One irregularity has been observed in the progress of the vaccine disease. On inspection, the eighth day, I found, instead of a genuine vaccine vesicle with a firm depressed centre, in five or six instances, two or more of the punctures had the appearance of large blisters and contained a clear acrid fluid, which if not opened had a tendency to dissect up the cuticle and spread. In one instance this blister attained the size of a rupee; on opening these blisters, a thin layer of slough was usually found. This irregularity I am at present unable to attribute to any particular cause. A few days poulticing, and the subsequent application of a little coconut oil, invariably healed them. A few cases, suffering from general malaise after vaccination came under my notice, and when seen a month after the operation, they had not recovered.

For the purpose of transferring lymph, the arm-to-arm process has, as much as possible, been adhered to. For this purpose, Rupees 23-9-6 were disbursed as batta to mothers to accompany the Vaccinators from one village to another during the year.

Of cases under one year of age, 4,629 have been operated on, being an increase of 1,303 over that of last year.

On the whole, I have been satisfied with the exertions of my staff. They have worked cheerfully, notwithstanding the frequent rebuffs

they received from the ryots. Vaccinator Mootoosawmy, No. 66, was suspended for one month for misconduct. Vaccinator Ramakistna, No. 39, resigned in August last, and was admitted as a Municipal Vaccinator at Salem. He is a man possessed of considerable persuasive powers, and the circle has lost in him its best hand.

No instance of small-pox, after unmistakable vaccination, came under notice during the year, but several instances of vaccination after small-pox have been performed. In these the results have been various. In many the operations totally failed; in some it partially succeeded, the vesicles in some poor and indifferent, in others good and genuine. Great aversion is manifested to vaccinating children after small-pox, under an apprehension that some evil was sure to follow.

The chest of medicines supplied has been of some service; but owing to the scanty quantity of the drugs, I have not been able to meet the wants of all who came to me.

In concluding this report, I beg to make mention of the material assistance rendered me by the Sub-Magistrate of Razipore, who took a personal interest in vaccination.

No. 8, OR BELLARY CIRCLE.

Deputy Superintendent MR. E. ATKINSON, Sub-Assistant Surgeon.

Establishment.

14 Vaccinators and 2 Peons.

Cost of Establishment, Rupees 5,105-9-7. Value of each case vaccinated, Rupees 0-4-6.

Total number vaccinated during the year	...	...	18,146
Percentage of success	...	...	85-60

This circle comprises fifteen talooks, with an area of 11,351 square miles, and an estimated population of 1,221,228.

In the annual Return the working of an entire year is shewn, and the following table exhibits the comparative numbers vaccinated during the past and previous years, shewing a decrease of 718, which may be accounted for by the inhabitants of very many villages in some talooks visited during the year being quite ignorant of vaccination, and consequently refusing to have their children operated on. In addition to this, several of the Vaccinators of the circle suffered from

irregular and frequent attacks of fever, which rendered them unable to perform a greater amount of work than they have done:—

	Year 1866.	Year 1867.
Vaccinated...	18,864	18,146
Decrease ...	...	718

The per-centage of success is 85-60, being a little higher than the past year.

The comparative number vaccinated by each Vaccinator differs. Vaccinator Chinnacasavaloo shews the largest number above one year, while Vaccinator Mecram Saib the largest under one year.

The entire staff of Vaccinators worked well during the past year, notwithstanding the great prevalence of fever, and the unwillingness of parents to have their children operated on. None of the staff have been punished by fines—a slight reprimand being all that was necessary when a tendency to carelessness was observed.

The obstructions to vaccination have been so fully given in previous annual reports, that I need not repeat them, excepting to state that they still exist in full force in several villages, especially those situated far from public roads, inhabited by a race of grossly ignorant people; it is in such like places that much time is lost, and great trouble experienced in endeavouring to overcome the prejudices of the people. In the talooks of Huvinhudgully and Hurpinhully, vaccination can scarcely be said to be known, and great trouble was experienced in almost every village; but with patience and perseverance great numbers were done in these talooks. The village officials, I am glad to say, as a rule, have rendered the staff every aid. Every talook in the Bellary District has now been visited, excepting Koodlaghy and Raidroog: these will be gone through ere the termination of the present field season. The inhabitants of the district will then be better able to appreciate the great benefits of vaccination, and there is every reason to hope that in future much trouble and time will be saved when the talooks are again visited; parents will have learned that nothing is to be feared from the operation, and that, on the contrary, the ravages of small-pox have greatly diminished.

Small-pox prevailed to some extent in the talooks of Bellary, Hindupur, Huvinhudgully, and Hurpinhully. Some few cases are reported to have proved fatal. In one instance only, to my knowledge, did the disease make its appearance after vaccination (three days), the vaccine vesicle at the same time running its course uninterruptedly.

The present mode of working, I think, is the most effectual for the rapid spread of vaccination, the Vaccinators being more immediately under supervision, and an entire talook is visited in a shorter space of time than it would be if Vaccinators were permanently stationed in each. The district is too extensive for the present staff to visit the whole in one working season. All I can recommend for the more rapid spread of vaccination is an increase of the staff and additional supervision.

No particular irregularity has attended the vaccine disease, excepting in some few cases which come under observation, where the vesicles slightly ulcerated; but this I attribute both to the filthy habits of the people, and their ignorance in applying irritating remedies to the parts, though they are always cautioned not to interfere.

The number of children vaccinated, under one year, has been 5,786.

I have seen only one individual bearing marks of small-pox, and good marks of vaccination. He stated that the small-pox succeeded the vaccination mildly.

It will be observed from the Return that the greatest number has been vaccinated from crusts and preserved lymph; this is owing to the unwillingness of parents to take their children from one village to another. The lymph if taken on glass plates and speedily used, proves very successful; the vesicles take a longer time to come to maturity in those vaccinated from crusts, but after lymph is set up, arm-to-arm operation is carried on, to ensure good genuine lymph.

No batta to mothers has been expended during the year.

One Vaccinator resigned during the year.

At the urgent request of A. Wedderburn, Esq., Collector, a Vaccinator was sent to Alur, as upwards of one hundred individuals in that talook were desirous of being operated on.

Many applications were made for medical aid, which was rendered as far as lay in my power, the chief ailment being fever of an intermittent type, which was very prevalent in the talooks of Madakseera, Huvinkudgully, and Hurpinhully.

The needle instrument has been used during the year as a vaccinator.

The lymph in use is good.

No. 9, OR CUDDAPAH CIRCLE.

Deputy Superintendent MR. T. WARD, Sub-Assistant Surgeon.

Establishment.

14 Vaccinators and 2 Peons.

Cost of Establishment, Rupees 5,338-4-1. Value of each case vaccinated, Rupees 0-13-4.

Total number vaccinated during the year ... 6,331

Per-centage of success... 77.42

This circle comprises sixteen talooks, with an area of 14,259 square miles, and an estimated population of 1,541,466.

There is a trifling increase of 812 cases for this year, as compared with the number vaccinated in 1866, and 4,137 less than in 1865.

The small number of operations for the present year is attributable chiefly to the opposition met with in three talooks of the Kurnool District, visited in January, February, and March, and in Jamalnadagu, Poddatur, Pulivendla, and Kadri, of the Cuddapah District, which were gone through for the first time since the re-organization of the department. Most of the villages in these talooks had never been visited by a Vaccinator in previous years, consequently the people were quite ignorant of the benefit of vaccination, and entertained the most absurd fears regarding the operation and its consequences, often deserting their villages on the approach of myself and staff, or when encamped in the vicinity of a village, the women and children were sent away to other villages till I quitted the place. Work was carried on in the Nundial Talook, during January, with very little success, only in the Cusbah town and a few villages a small proportion of children were vaccinated. The same remarks apply to the Koilkootla and Sirwell Talooks, which were successively visited in February and March, the latter especially seems to have been always a barren and unprofitable field, as, I believe, owing to the repeated want of success, no Vaccinator had been appointed to the talook for some years. In April, May, and June, Cuddapah was appointed the head-quarters during the recess, and one or two Vaccinators were detached to each of the larger towns in the circle. During this period, occasional visits were paid to some of the towns in which Vaccinators were located. On the opening of the itinerating season in July, work was commenced in the Camalapur division of the Cuddapah Talook, this having been gone through by the end of the

month, Jamalmadagu was next entered, being an extensive talook, and having been more successful in it than those previously seen, the staff were engaged in it till the 11th September, after which they were moved into Poddatur, comparatively a small talook, with few villages, and not many hamlets attached to each. In October the work was carried on in Pulivendla—the greatest amount of success was obtained in its south-west portion, and in a few villages in the neighbourhood of the Ousbah town; the same may be said of the Kadri Talook, especially of those bordering on Madnapally. The staff were engaged in Kadri and Madnapally during November and December, and quitted the latter talook on the 24th December for the head-quarters division of the Cuddapah Talook. The best results were obtained in Madnapally, both as to numbers and success of operations.

The greatest number of operations (1,049) in the circle, during the year, was performed by Vaccinator Venkatasawmy, No. 85, having nearly doubled his operations compared with the previous year.

The chief obstructions met with arise from the ignorance and apathy of the people, and the strong dislike they evince to adopt any thing which has not been the "custom" in past years; added to these is their indifference to the ravages committed by small-pox; they have been so accustomed to the disease, that they consider it inevitable, and vaccination is looked upon with suspicion. In some places the villagers fully believe that a tax is to be levied hereafter on all those "marked," and nothing would convince them that it is only a protection from small-pox. In places where work can possibly be done without the aid of the Village Magistrates, their assistance is not looked for, but in villages where all the inhabitants are quite opposed to vaccination, the co-operation of these officials would be of great service rendered earnestly; this is seldom the case, and will always be so, in spite of orders from the Talook and District authorities, until such time as the Village Magistrates themselves become alive to the benefits of vaccination. Besides these difficulties, the Vaccinators have to contend against prejudices and fears during each step of the operation—not only is there a great deal of time and labor spent in obtaining cases, but there is much more trouble again in getting their names, in being permitted to inspect them, and lastly, in removing lymph, either from arm-to-arm operations or for preservation. Frequently a man's work comes to a stand-still from this last cause. If some means could be adopted to make the Village Magistrates take

an interest in vaccination, many of these obstacles would soon cease to exist, but as matters stand, time and perseverance must be trusted to alone to overcome them; although, judging from the experience of the last three years, it will be a long time hence before vaccination is thoroughly appreciated.

A few slight cases of small-pox occurred in some villages, but no epidemic seems to have prevailed in either the Kurnool or Cuddapah Districts during the year.

The means that suggest themselves for the more effectual spread of vaccination, besides rendering it compulsory, are, that more time be allowed for completing work in each talook, to enable the Vaccinators to gain the confidence of the people, and to induce the men to work better and feel an interest in their duties; there should be a difference in their salaries, the higher appointments being held out as rewards for those who perform their work efficiently.

No irregularities in the progress of the vaccine disease, or ill effects after vaccination were observed, excepting one case in which a large ulcer was seen in the upper part of the arm, about three weeks after the operation, owing evidently to the child being weak and in bad health.

713 children, under one year, were vaccinated during the year.

In most of the instances of vaccination on those who have had small-pox, the operation has failed; sometimes the symptoms seem regular up to the fifth day, but after that the vesicles cease to be developed, and form thin small crusts which drop early.

Vaccinators Chellamiah, No. 23, Sasachellum, No. 29, Gungiah, No. 48, Venkatasawmy, No. 85, and Sooktan Saib, No. 88, have performed their duties very satisfactorily. Mahomed Hyath, No. 105, is a good workman, but having suffered frequently from fever and rheumatism he was not able to do much during the year. The remaining Vaccinators have not exerted themselves sufficiently, and I have frequently had occasion to find fault with their work.

Few changes occurred during the year. Vaccinator Veerasawmy, No. 150, was obliged to resign on account of ill health; and Vaccinator C. Thornton, No. 188, deserted shortly after joining the head-quarters of the circle at Cuddapah.

The demand for medical aid has been greater than in 1866, and would have been much more had I remained longer in each place.

No. 10, OR KISTNA CIRCLE.

Deputy Superintendent Mr. J. SAUSMAN, Sub-Assistant Surgeon.

Establishment.

14 Vaccinators and 2 Peons.

Cost of Establishment, Rupees 5,167-6-0. Value of each case vaccinated, Rupees 0-8-10.

Total number of cases vaccinated 9,311

Per-centage of success... .. 93-19

This circle comprises sixteen talooks, with an area of 10,306 square miles, and an estimated population of 1,372,596.

The commencement of the year found us at Singasamadur, in the Kundakur Talook of the Nellore District, where we arrived only two days before under orders from the Superintendent General, with instructions to work on towards Masulipatam, taking the villages *en route*, and those lying on either side to a distance of five miles or so. In this talook our endeavours were crowned with great success—the people understood and appreciated vaccination, and although at several places a little apathy and indifference were shown, they readily yielded to our persuasions, and our operations were highly satisfactory both as regards numbers, and the success of the operation itself. It is only in working in localities like these that all the advantages of the present plan of operation can be secured. Village after village was operated on; no difficulty was experienced in procuring lymph, and in carrying on the arm-to-arm operation: we were permitted to re-vaccinate the unsuccessful punctures, the cases were brought up for inspection readily, the villagers were very friendly with the Vaccinators, and the Vaccinators themselves worked willingly and cheerfully. Hundreds flocked to my camp for medical advice and treatment, and everywhere our presence was hailed with delight. As we proceeded onwards, similar success attended us, until we came to Ongole. Here the most determined opposition was shown us, owing, in a great measure, to the attitude which was assumed by the Tahsildar of the place. His conduct was brought to the notice of the Head Assistant Collector, who, I believe, reprimanded him; but we never recovered the check we received all the time we remained in this talook. We had just removed into the Baupetta Talook, when the headquarters was ordered into Masulipatam for the recess. During these three months the Vaccinators were distributed by twos to different

localities in the circle, and as small-pox was very prevalent in several parts, they were ordered from time to time to such places from which application was received for their services, or where I thought they would be profitably employed; except in those places where small-pox was raging, the work of the Vaccinators was not at all satisfactory. At Masulipatam, my head-quarters, although there was still a deal of apathy and indifference evinced, we had nothing like the active opposition we had to contend against on a former occasion. In July the whole of the establishment commenced operations in Ongole, and after a time we succeeded in overcoming, in a slight degree, the obstacles which were experienced on the last visit; but on proceeding to the other parts of the talook, I was surprised at the way in which we were received. The people would not listen to us at all; the Vaccinators were not allowed to enter the villages, were abused, threatened, and on a few occasions some of them were beaten. When I visited the villages, all the doors were closed against me, and the people quite excited. I could not account for all this, until I found out that an old Vaccinator (Chittumbram, a Brahmin, dismissed under the reorganization of the department) had been very industrious in spreading false reports about us, viz., that all the vaccinators were Pariahs, that our manner of operating was so severe, that several children had died, and a lot of other trash, which the people only too readily believed. This man practised small-pox inoculation formerly, and was serving his own interests while vilifying us; for it came out after all from the people themselves, that they could at any time secure his services if there were any necessity for them. As it was highly desirable to shew these people the real nature of our operations, I stayed longer in this talook than I otherwise would have done, and succeeded in vaccinating a few in several villages, which I trust will be productive of good hereafter. In October the establishment was removed into the Cuddapah District, but little or no work could be done in the Sidhout Talook. In November we removed to the Budvail Talook, where we are working at present. Nearly the whole of the villages have been visited, but only in a few, here and there, have we been successful. In some villages the opposition is very fierce; while in others, all the children are hid on our approach, and we are received with indifference. The greatest difficulty is experienced in inspecting the cases that have been vaccinated, and in procuring lymph; the children being either sent away to other villages, or concealed in their own—even my

representations to the Tahsildar and village officials are of no avail, and our work in consequence is very much impeded.

The annual Return exhibits 9,311 as the total number of operations performed, being an increase of 2,162 over the number shewn in the Return for the year 1866. This small increase is chiefly attributable to the greater prevalence of small-pox in the circle, consequently the application for Vaccinators have been more numerous: altogether twenty-six applications were received during the year, and, with two exceptions, the Vaccinators that were sent succeeded in vaccinating nearly all the unprotected.

In comparing the work of the Vaccinators one with the other, allowance must be made for the different circumstances under which they performed their duties. Only ten out of the fourteen were present with the establishment throughout the year, and of these two were unable from sickness to do any thing for four months. Then, again, some of them gained considerable advantage over the others by being sent to those places where small-pox was raging, and where they were able to increase their numbers much quicker; and although I endeavoured to give all an equal chance, several of them were too young and inexperienced to be trusted by themselves. Altogether, I have every reason to be satisfied with the exertions of the staff, and if some of them had been more successful and showed more numbers than the others, it was chiefly owing to the causes mentioned above, together with a better manner and address and powers of persuasion.

More and more am I convinced that the prevalence of small-pox inoculation is the most serious obstacle to the spread of vaccination in this circle. There can be no question as to its being extensively practised—almost every talook has in it two or three Inoculators. Vaccination has only existed in name, and its nature not at all understood. What wonder is it then if, when we visit a village, the people get excited, hide their children, and oppose us in every way possible. They can only associate our visit with misery, suffering, and death, and cannot be made to understand the need for vaccination when it is explained to them; for it is only during the prevalence of small-pox that they will permit even inoculation. It is true we do contrive to get a few children here and there, but it is generally among the poorer classes, who think it useless to resist. But during the prevalence of small-pox they will readily seek for protection, and although they prefer inoculation, and will ask the Vaccinator to use small-pox virus,

and even offer money for that purpose, yet they willingly bring up their children to be vaccinated.

Small-pox has been very prevalent throughout the year. My only sources of information are the local Gazettes, and the applications for Vaccinators that I receive. The notices in the Gazettes are practically useless, as they refer to some three or four months previous. It is a pity, I think, that all outbreaks of small-pox are not made known to us as early as possible. The Vaccinators could not be more profitably employed than in working in such localities.

Can nothing be done to prevent small-pox inoculation? Short of compulsory vaccination, I know of nothing that will assist us so much. And why should inoculation not be made punishable? It will not interfere in the least with any caste or religious prejudice. The people have faith in it, simply because they know nothing of vaccination, and there is no fear but that if vaccination were thoroughly understood, the people would prefer it. In inoculation and vaccination the operation is precisely similar, and there can be no question of their being equal in affording the requisite protection. But here all similitude ceases. In vaccination the results are constant and certain, viz., a few vesicles and a little constitutional disturbance; whereas in inoculation, the least we may hope for is a modified form of a loathsome and infectious disease, but as practised in this country with terrible results—deprivation of eye-sight, contractions of the extremities, loss of speech, and a fearful per-centage of deaths. Present both fairly to the people, and I am positive there will be no hesitation in preferring vaccination; but the evil is that, under existing circumstances, it will take some time before vaccination can be thoroughly understood, and in the meanwhile thousands are being sacrificed by a set of unscrupulous Brahmins and ignorant Barbers, who do all they can to keep up the practice for their own gain, and this too while there are efficient and competent men who are only too glad to avail themselves of every opportunity to extend the blessings of vaccination. The present staff of Vaccinators is quite sufficient to meet all demands that may be made, and will be more so in a short time when the number will be increased. As it is, a great portion of our time is being frittered away in passing on from village to village, vainly endeavouring to overcome the ignorance, prejudice, superstition, and indifference of the people.

The lymph in use is good, and produces a well-marked vesicle,

running a regular course, and attended with the usual constitutional disturbance. Bearing on the question "whether the vaccine lymph loses much of its efficacy by being transmitted from person to person," which I took up in my last annual Report, I have to bring forward that out of 2,638 cases vaccinated during outbreaks of small-pox, only 24 cases took the disease, and in no instance did it prove fatal. I have not noticed any ill effects from vaccination.

565 children, under one year old, were vaccinated during the year.

I have not seen any case of small-pox after successful vaccination, but we have vaccinated several cases who have had small-pox, and in very many the operation was successful.

On the whole, the conduct of the Vaccinators has been generally satisfactory. Vaccinators H. Emberamar, No. 108, and D. Baupaniash, No. 159, have preserved the good opinion I formed of them last year. N. Sashiah, No. 130, has been more active. P. Venkatasawmy, No. 157, has fully come up to what I expected of him. C. G. Cothundaram, No. 170, and V. Rungasawmy, No. 172, have worked zealously and well. P. Ettirajaloo, No. 171, exerted himself and gave satisfaction until he fell sick. G. Moothaloo, No. 184, has had very bad health, but he tried his best to keep up with the others. K. Parthasardhi, No. 138, still does not come up to my expectations, although latterly he has improved considerably. R. Thornton, No. 190, and Nursingh Bhan, No. 193, are young and inexperienced, quite new to the work, and as yet unable to cope fully with the difficulties that present themselves; however, I hope to be able to report more favorably of them hereafter. T. Armoogum, No. 101, has only been a short time with the establishment, being removed from Bangalore, but promises well. P. Appadoo, for a young hand, has done very well.

No. 11, OR GODAVERY CIRCLE.

Deputy Superintendent Mr. E. A. MORRIS, Sub-Assistant Surgeon.

Establishment.

14 Vaccinators and 2 Peons.

Cost of Establishment, Rupees 5,069-9-10. Value of each case vaccinated, Rupees 0-6-2.

Total number vaccinated during the year ... 13,053

Per-centage of success... 77-32

This circle comprises fifteen talooks, with an area of 9,982 square miles, and an estimated population of 1,842,708.

The comparative numbers vaccinated during the past and previous years, are given below:—

Year 1866.	Year 1867.
6,008	13,053

showing an increase of 7,045 cases, upwards of double the number of operations of last year. The Return would have exhibited a still larger number of operations, had it not been for the Vaccinators being distributed to different talooks during the recess months, during which time, owing to my illness, there was scarcely any supervision of their work: the Vaccinators also labored under the erroneous impression that much work was not required of them during recess time. Our success this year was also due to the people having been frightened by the ravages caused by the prevalence of small-pox in 1866, and to plenty being in a measure restored. During the year under review the Vizagapatam, Godavery, and Ganjam Districts were worked in successively; the end of the year finds a large number of the staff working in the Hill Tracts of Orissa, where I fear much work has not to be done, as almost all the Hill tribes have suffered more or less from small-pox, our operations will, therefore, have to be confined to the very youngest, or infants of a few months old.

The comparative number of operations performed by each Vaccinator varied considerably, the highest (1,453) being by Vaccinator Gopauloodoo, and the lowest (507) by Vaccinator Lutchmenarsiah. Vaccinator Soobaroydoo, who hitherto shewed the largest number of operations, has, during the past year, been very careless and indifferent; though not a high caste man himself, he has very much caste prejudice, which deters him from handling and operating on the outcast Pariahs.

Vaccination not being fully understood, there is some difficulty in carrying out operations in the Ganjam District—where I expected the greatest resistance, I met the least opposition: the Zemindary Vaccinators are considerably removing our difficulties; if the other Zemindars in the Ganjam District would but follow the laudable example of the Zemindar of Mandeesa, there will be no necessity for the Government staff of Vaccinators visiting the Ganjam District; as it is, vacci-

nation is spreading far and wide in this district; although the order has been published in the local Gazette that "Inoculation is not penal," still I have not, since my arrival in this district, seen a recent case of inoculation; a little more perseverance and itineration on our part will finally do away with inoculation.

Small-pox, though it prevailed to an alarming extent last year, has this year almost disappeared; it was reported to prevail only in the Ammaney villages, and that to a very slight extent.

The present method of rapid itineration, I consider to be the only means of spreading vaccination—aided by the Zemindary Vaccinators, vaccination will, before long, be thoroughly understood and appreciated in the most remote villages and hamlets.

I have not observed any thing unusual or irregular in the progress of the vaccine disease.

523 children, under one year of age, have been vaccinated during the year. Great prejudice exists among the people of this district in vaccinating infants: no amount of reasoning can overcome their blind prejudice.

No instances of small-pox occurring after vaccination have come under my notice during the year under review.

The conduct of the Vaccinators (with few exceptions) has been good; but their zeal for work, I regret to state, has not been very satisfactory, with the exception of Vaccinators Juggiah, Lutchmenarsiah, Ramchundradoo, Gopauloodoo, and Narraina, the others have been sadly deficient in zeal. Needles have been the only instruments for conducting our operations.

Report on Vaccination by Medical Subordinates for the year 1867.

The vaccine Returns of the Medical Subordinates have been received with greater regularity. Those Medical Subordinates who have had the greatest facilities for propagating the prophylactic, have not exerted themselves sufficiently as yet.

The number of vaccine operations during the year, throughout the Madras Presidency by Medical Subordinates, is 14,299, shewing an increase of 2,647, with a per-centage of 81.27, which is also greater than 1866 by 12.59.

The operations in the Presidency and Northern District stand highest; next follows Mysore and the Ceded Districts. The lowest is

shewn as coming from the Hyderabad Subsidiary Force—very few Returns have been received from this Force. No Returns have been received from the Pegu Division during the year.

The following Medical Subordinates shew the largest number of operations:—Mr. Dyce has exerted himself very creditably in the cause of vaccination; 2nd Dresser Takeran, shews a large number operated on, but not one proves successful. He states them to be re-vaccinated cases. The Jail at Kurnool shews a large number of operations, but the name of the subordinate is not given. This remark also applies to the 12th Regiment Native Infantry at Kamptee, and the Jails at Cuddapah and Kurnool.

RANK AND NAMES.		General Number.	Station.	Number vaccinated.	Successful.	Ratio per cent.
Apothecary	L. L. Dyce	...	Kotagherry.	300	291	97
Asst. do.	C. M. Antonio	...	Vellore	132	91	68.94
Do. do.	T. Dixon	...	Bangalore	111	55	49.56
Do. do.	T. Conquest	...	Mercara	109	92	84.40
Do. do.	C. R. Meneaud	...	Bellary	105	90	85.61
Do. do.	S. E. Carrapiett	...	Trichinopoly	101	77	68.94
2nd Dresser	Takeran	508	Bellary	368	...	...
3rd C. H. Asst.	Bartholwar	678	Nellore	351	267	76.05
1st Dresser	Chutter Sing	224	Chittoor	295	281	95.25
2nd do.	Teroovengadasawmy	406	Gunttoor	290	208	71.03
2nd do.	A. Lutchmenarraido	365	Rajahmundry	234	170	75.88
2nd do.	Daveod Beg	402	Mangalore	196	190	96.93
3rd C. H. Asst.	A. Ragavalee	689	Bellary	147	137	93.19
2nd Dresser	Govindarajalee	556	Mercara	140	130	92.85
2nd do.	C. Rhamany	...	Salem	136	100	73.52
1st do.	Madanaigum	...	Do.	132	112	84.84
2nd do.	P. Ragavalee	354	Cuddalore	129	103	80
2nd do.	Joseph	...	Tanjore	127	107	84.17
2nd do.	Teroomaliah	351	Do.	109	79	72.47
3rd C. H. Asst.	Vurdarajalee	...	Trichinopoly	105	87	82.84
Jail	12th Regiment N. I.	...	Kamptee	140	121	86.42
Do.	Kurnool	...	Kurnool	715	26	3.63
Do.	Cuddapah	...	Cuddapah	175	56	32

JOHN SHORTT, M.D., Surgeon,
Superintendent General of Vaccine,
Madras Presidency.

Annual Return of Vaccination of the Vaccine Circles of the Madras Presidency for the year 1867.

UNDER ONE YEAR OF AGE.												
CIRCLES &c.	Europeans and East Indians.		NATIVES.				TOTAL.		Result of operations.		Compared with the previous Return.	
	Males.	Females.	Hindus.		Mahomedans.		Males.	Females.	Successful.	Unsuccessful.		
			Males.	Females.	Males.	Females.						
No. 1, or Madras Circle.....	144	147	670	648	103	82	917	875	1,731	61	658	Decrease
" 2, or Carnabore Circle.....	9	6	3,023	2,806	46	43	3,077	2,854	5,403	528	1,232	262
" 3, or Malabar.....	27	14	252	252	208	55	326	277	553	59	...	455
" 4, or Madras.....	3	4	1,316	1,143	21	27	1,340	1,174	2,494	90	...	...
" 5, or Tanjore.....	...	1	2,208	2,184	102	97	2,310	2,273	4,189	393	1,038	...
" 6, or North Arcot.....	8	12	674	669	43	37	725	708	1,417	16	184	...
" 7, or Salem.....	6	2	2,141	2,091	104	85	2,251	2,178	4,233	408	1,303	...
" 8, or Bellary.....	...	6	2,830	2,841	438	273	3,266	3,220	5,171	615	...	1,413
" 9, or Cuddapah.....	4	2	306	290	53	58	363	350	577	136	...	119
" 10, or Kistna.....	1	3	263	270	14	14	278	287	538	27	...	188
" 11, or Godavary.....	8	7	248	244	11	12	267	268	436	94	...	14
Total.....	218	204	13,930	13,991	981	763	15,129	13,958	26,968	2,225	4,405	2,391
Vaccine Depot, Madras.....	17	23	425	499	25	33	467	545	903	110	...	500
Cantonment of Bangalore.....	48	36	261	255	64	72	373	363	721	15	24	...
Do. of Secunderabad.....	47	62	597	763	153	86	797	917	1,332	382	...	934
Do. of Kamptec.....	23	3	502	198	24	12	549	213	755	7	388	...
Total.....	135	124	1,785	1,711	266	202	2,186	2,038	3,710	514	...	1,022
General Total.....	353	328	15,715	14,702	1,247	966	17,316	15,996	30,579	2,739	4,817	3,413

Annual Return of Vaccination of the Vaccine Circles of the Madras Presidency for the year 1867—(Continued).

ABOVE ONE YEAR OF AGE.															
No.	CIRCLES, &c.	Europeans and East Indians.				NATIVES.				Total.		Result of operations.		Compared with previous Return.	
		Males.		Females.		Hindus.		Mahomedans.		Males.	Females.	Successful.	Unsuccessful.	Increase.	Decrease.
		Males.	Females.	Males.	Females.	Males.	Females.								
1, or Madras Circle.....		650	202	2,325	1,608	310	913	3,195	2,023	4,994	224	1,585	...	...	
2, or Coimbatore Circle...		7	12	18,966	11,415	200	155	13,573	11,582	22,318	2,842	1,491	...	...	
3, or Malabar		245	152	12,240	6,093	3,008	838	15,473	7,073	10,746	2,760	5,976	...	...	
4, or Madura		15	6	9,351	7,354	166	99	9,532	7,459	16,455	636	2,328	...	...	
5, or Tanjore		2	2	12,000	11,431	486	276	12,468	11,809	22,926	2,371	6,436	...	...	
6, or North Arcot		199	56	14,563	12,315	349	247	15,111	13,618	27,965	764	15,242	...	...	
7, or Salem		9	8	8,499	8,072	327	280	9,835	8,360	15,375	1,620	3,487	...	...	
8, or Bellary		23	12	6,836	4,844	620	423	7,251	5,079	10,302	1,998	695	...	...	
9, or Ondcaphan		20	10	2,775	2,145	399	269	3,184	2,421	4,326	1,292	931	...	...	
10, or Kistna		21	32	4,395	3,823	221	193	4,637	4,060	8,080	607	2,220	...	...	
11, or Godavery		40	26	7,776	4,567	76	38	7,892	4,631	9,757	2,766	6,376	...	...	
Total...		1,231	518	98,918	74,467	6,162	3,121	102,211	78,108	162,530	15,780	46,765	...	...	
Vaccine Depot, Madras &c.....		61	48	1,478	2,454	149	105	1,688	2,607	4,095	200	1,180	...	...	
Cantonment of Bangalore.....		27	26	323	297	80	53	429	376	699	106	...	...	...	
Do. of Secunderabad.....		68	35	1,381	1,919	141	65	1,590	1,119	1,773	936	175	...	...	
Do. of Kamptee.....		14	2	383	138	17	9	414	149	553	10	...	...	...	
Total...		170	111	3,664	5,908	287	232	4,191	4,251	7,120	1,252	976	...	...	
General Total...		1,401	629	102,382	78,375	6,549	3,253	106,332	82,359	169,659	17,032	47,741	...	...	

Circles, &c.	GENERAL TOTAL.											
	Europeans and East Indians.		NATIVES.				All Classes.		Successful.	Unsuccessful.	Grand Total of Males & Females.	Ratio per cent. of Success.
			Hindus.		Mahomedans.							
			Males.	Females.	Males.	Females.						
No. 1, or Madras Circle.....	794	349	2,905	2,254	413	396	4,112	2,806	6,725	285	7,010	95.95
" 2, or Coimbatore Circle.....	16	18	16,388	14,370	946	136	16,450	14,436	37,716	3,370	31,066	89.15
" 3, or Malabar do	272	166	12,472	6,201	3,064	863	15,536	7,350	20,339	2,619	23,168	87.74
" 4, or Madura do	18	10	10,667	8,497	187	136	10,853	8,633	18,963	626	19,495	96.79
" 5, or Tanjore do	2	3	15,208	13,615	598	463	15,793	14,081	37,115	2,764	39,879	90.74
" 6, or North Arcot do	207	63	15,237	13,964	293	274	15,536	14,336	39,392	780	30,162	97.41
" 7, or Salem do	15	10	10,640	10,253	421	325	11,066	10,738	19,798	2,026	21,824	90.62
" 8, or Bellary do	31	18	9,468	6,866	1,048	696	10,516	7,566	15,438	2,613	18,146	85.80
" 9, or Cuddapah do	24	12	3,081	2,425	452	337	3,533	2,774	4,903	1,428	6,331	77.42
" 10, or Kistna do	22	35	4,658	4,393	235	207	4,810	4,601	8,677	634	9,311	93.19
" 11, or Godavery do	48	33	8,024	4,811	67	50	8,159	4,894	10,193	2,860	13,053	77.32
Total...	1,449	722	108,638	87,680	7,139	3,848	117,226	97,220	186,250	20,205	208,455	89.26
Vaccine Depot, Madras.....	78	71	1,903	2,943	174	138	2,155	3,152	4,997	310	5,307	94.10
Cantonment of Bangalore.....	75	62	583	558	144	125	727	739	1,420	121	1,541	92.14
Do. of Secunderabad.....	115	97	1,978	1,788	294	151	2,367	2,036	3,106	1,318	4,423	72.46
Do. of Kamptee.....	37	5	885	336	41	21	963	362	1,308	17	1,385	96.72
Total...	305	235	5,349	5,619	653	435	6,307	6,989	10,830	1,766	12,596	84.35
General Total...	1,754	957	113,987	93,279	7,791	4,283	122,532	98,519	200,080	21,971	222,051	89.28

TABLE OF AGES.

Return of Vaccination during the year 1867, shewing the number below and above one year of age.

CIRCLES, &c.	AGE.		DIFFERENCE.		Total number vaccinated.
	Under one Year.	Above one Year.	Under.	Above.	
No. 1, or Madras Circle.....	1,792	5,218	...	3,426	7,010
" 2, or Coimbatore do.....	5,931	25,155	...	19,224	31,086
" 3, or Malabar do.....	612	22,546	...	21,934	23,158
" 4, or Madura do.....	2,514	16,981	...	14,467	19,495
" 5, or Tanjore do.....	4,582	25,297	...	20,715	29,879
" 6, or North Arcot do.....	1,433	28,729	...	27,296	30,162
" 7, or Salem do.....	4,629	17,195	...	12,566	21,824
" 8, or Bellary do.....	5,786	12,360	...	6,574	18,146
" 9, or Cuddapah do.....	713	5,618	...	4,895	6,331
" 10, or Kistna do.....	564	8,747	...	8,183	9,311
" 11, or Godavery do.....	530	12,523	...	11,993	13,053
Total.....	29,086	180,369	...	151,283	209,455
Vaccine Depot, Madras.....	1,012	4,295	...	3,283	5,307
Cantonment of Bangalore.....	736	805	...	69	1,541
Do. of Secunderabad.....	1,714	2,709	...	995	4,423
Do. of Kamptee.....	762	563	199	...	1,325
Total.....	4,224	8,372	199	4,347	12,596
General Total.....	33,310	188,741	199	155,630	222,051

ABSTRACT.

11 Vaccine Circles.....	29,086	180,369	...	151,283	209,455
Vaccine Depot.....	1,012	4,295	...	3,283	5,307
3 Military Cantonments.....	4,224	8,372	199	4,347	12,596
Total.....	33,310	188,741	199	155,630	222,051

General Return of Vaccination by Medical Subordinates for the year 1867.

Divisions and Forces.	Town.		Regiment.		Regimental Lines.		Regimental Bazaar.		Bazaar.		Cantonment.		Parade Ground.		Jail.		Village.		Total.		Successful.	Unsuccessful.	General Total Males and Females.	Ratio per cent. of success.
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.						
Presidency and Northern Districts.	...	...	184	31	91	26	...	78	47	743	260	13	4	1,871	50	1,815	293	4,309	825	4,144	974	5,119	80	96
Southern Division	8945	...	225	124	...	...	2	8117	26	507	200	1011	733	74	311	239	1,963	796	2,223	536	2,779	87	23	
Mysore and Ceded Districts	24	9	194	144	63	...	32	30	711	421	4340	1,486	43	994	695	3,529	1,389	4,038	945	4,918	82	05		
Hydrabad Suby. Force.	...	...	...	80	64	...	...	...	62	42	5	8	...	...	...	153	106	206	59	265	77	73		
Nagpore Subsidiary Force	...	...	824	205	44	33	4	26	26	20	3	33	3	...	...	...	951	268	1,041	173	1,219	85	30	
Total	10654	1,427	554	267	183	6	7253	125	2,048	1,016	10661	3,590	175	3,123	1,462	10,912	3,397	11,647	2,652	14,299	81	27		

Note.—No Returns have been received from the Pegu Division during the year.

Statement exhibiting the Strength and Pay of the present Establishment of the Vaccine Department (and expenditure incurred on account of Batta, &c.) during the year 1867.

(and expenditure incurred by the Government of Madras, 1900-1901)																	
How Employed.	NUMBER OF EACH.						Salary per mensem of each Grade.	Amount of Salary drawn during the year.			RICE ISSUED.			Batta.			
	Supr. Gent.	Depy. Supr.	3d Class.	Assis. Insp.	Vaccl. Insp.	Comp.		RS.	A.	P.	Mar. cala.	Rs.	A.	P.	Rs.	A.	P.
Attached to the following Circles.																	
Supr. Gent. of Vaccine.....	1	...	...	...	...	...	Supr. Gent. 1,360 0 0	16,320	0	0	...	...	...	...	...	...	
No. 1, or Madras Circle.....	...	1	...	...	4	...	{ Depy. Supt. 185 0 0 Vaccinator 18 0 0 Peon..... 8 0 0	3,293	7	10	...	...	...	...	159	0	0
Vaccine Depôt.....	...	...	...	...	1	...	{ Vaccinator 18 0 0 Peon..... 7 0 0 Sweepst. 3 8 0	544	8	0	1,723	7	2,161	2	...	...	...
" 2, or Coimbatore Circle...	...	1	...	...	14	...	{ Depy. Supt. 185 0 0 Vaccinator 18 0 0 Peon..... 6 0 0	5,274	12	1	...	...	...	...	...	...	...
" 3, or Malabar do....	...	1	...	...	13	...	Do. do. do.	5,109	2	9	...	...	...	...	19	6	11
" 4, or Madura do....	...	1	...	...	11	...	Do. do. do.	4,379	13	6	...	...	...	...	0	12	0
" 5, or Tanjore do....	...	1	...	...	14	...	Do. do. do.	5,378	12	4	...	...	...	...	4	12	0
" 6, or North Arcot do....	...	1	...	...	13	...	Do. do. do.	5,163	5	9	...	...	...	...	4	15	0
" 7, or Salem do....	...	1	...	...	14	...	Do. do. do.	6,309	5	4	...	...	...	...	23	9	8
" 8, or Bellary do....	...	1	...	...	14	...	Do. do. do.	5,105	9	7	...	...	...	...	...	...	...
" 9, or Chuddapah do....	...	1	...	...	14	...	Do. do. do.	5,334	15	1	...	...	...	...	3	5	0
" 10, or Kistna do....	...	1	...	...	14	...	Do. do. do.	5,145	0	0	...	...	...	...	22	6	0
" 11, or Godavery do....	...	1	...	...	14	...	Do. do. do.	5,069	1	10	...	...	...	...	0	8	0
MILITARY CANTONMENTS.																	
Bangalore	...	...	...	...	1	...	Do. do. do.	440	0	0	...	...	...	...	1	0	0
Secunderabad	...	...	...	...	2	...	Do. do. do.	432	0	0	...	...	...	...	...	...	...
Kamplée	...	...	...	...	1	...	Do. do. do.	216	0	0	...	...	...	...	...	...	...
Total	1	11	...	...	141	25		73,355	14	1	1,723	7	2,161	2	239	10	5

Miscellaneous Returns of Vaccination in

ZEMINDARIES, DISPENSARIES, MUNICIPALITIES, &c.	UNDER ONE		
	Europeans and East Indians.		NA
	Males.	Females	Hin Males.
Volunteers of Circles...	...	...	29
ZEMINDARIES.			
Ramanad...	...	...	26
Shevayunga...	...	...	632
Poonganoor...	...	...	158
Bimdoor...	...	...	26
Pittapur...	...	...	6
Nuzsed...	2	2	...
Tuni...	...	...	22
Vizagapatam...	...	...	446
Ganjam...	...	...	11
Poodocottah...	...	...	132
Venecatagerry...	1	...	...
No Returns received.			
Total...	2	2	1,480
Madras Railway ...	3	7	44
DISPENSARIES.			
Cuddalore ...	2	4	16
Negapatam ...	1	2	79
Manargudi ...	...	...	96
Combaconum ...	...	...	147
Nellore...	1	...	...
Old Town, Cuddalore...	...	1	...
Total...	7	14	391
MUNICIPALITIES.			
Bimlipatam ...	3	2	...
Vizagapatam ...	11	11	65
Cuddapah ...	1	...	26
Trichinopoly ...	6	4	185
Cochin...	...	...	1
Guntoor...	...	...	4
Nellore...	...	1	3
Bellary...	8	6	42
Tanjore...	...	...	7
Dindigul ...	...	...	4
Chicacole ...	1	1	...
Total...	30	25	337
General Total...	40	41	2,217

the Madras Presidency for the year 1867.

YEAR OF AGE.						
TIVES.			Total.		Result of Operations.	
do.	Mahomedans.				Successful.	Unsuccess- ful.
Females.	Males.	Females.	Males.	Females.		
24	...	...	29	24	52	1
35	4	3	30	38	67	1
429	32	13	664	442	1,055	51
204	...	2	158	206	359	5
21	4	1	30	22	49	3
5	...	...	8	7	15	...
15	...	...	23	15	37	1
339	...	...	446	339	685	100
8	...	...	11	8	17	2
135	1	3	137	138	267	8
No Returns received.						
1,215	44	23	1,536	1,240	2,603	173
28	3	5	50	40	70	20
14	4	...	22	18	30	10
83	2	5	82	90	146	26
103	1	...	97	103	172	28
125	4	...	151	125	260	16
17	8	3	18	20	37	1
..	...	1	...	2	2	...
370	22	14	420	398	717	101
5	...	...	3	7	8	2
45	7	6	83	62	115	30
22	14	11	41	33	50	24
179	84	63	275	246	446	75
...	...	...	1	...	1	...
4	4	2	8	6	14	...
5	10	7	13	13	23	3
65	19	27	69	98	160	7
6	...	1	7	7	14	...
8	...	...	4	8	12	...
...	...	...	1	1	1	1
339	138	117	505	481	843	142
1,924	204	154	2,461	2,119	4,163	416

Miscellaneous Returns of Vaccination in

ZEMINDARIES, DISPENSARIES, MUNICIPALITIES, &c.	ABOVE ONE		
	Europeans and East Indians.		Na Hin
	Males.	Females.	Males.
Volunteers of Circles...	...	...	110
ZEMINDARIES.			
Ramnad...	...	...	290
Sheragunga...	2	1	2,110
Poonamanoor...	1	...	426
Sundoor...	...	...	196
Pittapur...	1	...	1,066
Numbad...	...	3	61
Tuni...	...	...	1,313
Vizagapatam...	...	...	4,409
Ganjam...	2	...	1,164
Pudocootah...	...	...	1,576
Venkatagerry...	...	...	No Returns received.
Total...	4	4	12,651
DISPENSARIES.			
Cuddalore...	4	3	100
Negapatam...	4	4	144
Manargudi...	2	1	541
Combaconum...	...	...	509
Nellore...	1	2	372
Old Town, Cuddalore...	2	1	...
Total...	15	12	1,836
MUNICIPALITIES.			
Bimlipatam...	3	...	163
Vizagapatam...	17	21	606
Cuddapah...	...	...	149
Trichinopoly...	...	...	733
Cochin...	0	6	61
Guntur...	2	8	39
Nellore...	...	1	43
Bellary...	1	...	60
Tanjore...	11	11	239
Dindigul...	5	...	48
Chicacole...	...	1	12
Total...	48	48	1,503
General Total...	67	64	16,899

the Madras Presidency for the year 1867—(Continued.)

YEAR OF AGE.						
TIMES.			Total.		Result of Operations.	
Jan.	Mahomedans.				Successfu ^l .	Unsuccess ful.
Females.	Males.	Females.	Males.	Females.		
96	...	...	110	96	197	9
255	20	27	242	283	514	11
1,442	41	36	2,152	1,499	3,519	132
533	...	...	426	325	735	19
133	21	32	218	165	344	39
757	38	19	1,104	779	1,760	133
26	...	1	61	27	76	12
1,017	5	4	1,318	1,021	2,258	81
2,823	18	...	4,427	2,823	6,050	1,200
562	...	...	1,164	562	1,481	245
1,475	31	28	1,607	1,503	3,026	64
No Returns received.						
8,932	174	147	12,829	9,083	19,950	1,965
88	20	9	130	100	190	40
127	10	4	158	135	269	34
532	15	11	558	544	986	116
575	3	1	602	576	1,014	164
279	6	9	382	290	614	54
40	23	17	84	58	129	13
11	8	6	24	18	31	11
1,652	85	57	1,839	1,721	3,221	438
115	...	...	166	115	273	8
231	41	12	654	264	755	173
47	54	21	203	68	174	97
437	202	130	944	573	1,212	365
43	5	...	68	51	66	53
21	19	10	58	32	75	15
25	96	58	140	83	164	39
75	33	28	104	114	205	13
158	23	22	317	178	485	10
32	4	2	52	34	73	13
8	...	...	12	9	13	8
1,190	477	283	2,728	1,421	3,415	734
11,774	736	487	17,495	12,225	26,586	3,137

Miscellaneous Returns of Vaccination in

ZEMINDARIES, DISPENSARIES, MUNICIPALITIES, &c.	GENERAL				
	Europeans and East Indians.		NATIVE		
			Hindus.		Maho
	Males.	Females.	Males.	Females.	Males.
Volunteers of Circles...	...	...	139	120	...
ZEMINDARIES.					
Ramnad...	2	1	246	290	24
Shevagunga...	1	...	2,742	1,892	73
Poonganoor...	...	...	584	529	...
Sundoor...	1	...	229	184	26
Pittapur...	2	5	1,072	782	38
Narasid...	...	...	61	26	...
Turai...	...	...	1,326	1,032	5
Visagapatam...	...	...	4,856	3,182	18
Ganjam...	...	...	1,175	870	...
Poodocottah...	1	...	1,708	1,610	35
Vanastagberry...	...	...	No Returns received.		
Total...	7	8	14,140	10,147	218
DISPENSARIES.					
Cuddalore...	6	8	160	141	14
Negapatam...	3	3	820	615	17
Manargudi...	...	...	685	672	4
Combaconum...	1	2	522	404	16
Nellore...	3	2	66	57	21
Old Town, Cuddalore...	2	2	14	11	6
Total...	22	27	2,220	2,022	107
MUNICIPALITIES.					
Rimlipatam...	6	2	163	120	...
Visagapatam...	28	32	671	276	48
Cuddapah...	1	...	175	60	63
Trichinopoly...	15	10	918	616	286
Cochin...	2	8	62	43	6
Guntur...	...	1	43	25	23
Nellore...	1	1	46	30	106
Bellary...	19	17	162	140	52
Tanjore...	5	...	206	162	23
Dindigul...	...	...	52	40	4
Chicacole...	1	2	12	8	...
Total...	78	73	2,540	1,582	515
Grand Total...	107	106	18,900	12,698	940

the Madras Presidency for the year 1867.—(Concluded.)

TOTAL.						
TIVES.	All Classes.		Successful.	Unsuccess- ful.	General Total Males and Females.	Ratio per cent. of Success.
medans.	Males.	Females.				
Females.	Males.	Females.				
...	139	120	249	10	259	96.13
30	272	321	581	12	593	97.95
49	2,816	1,941	4,574	183	4,757	96.15
2	584	531	1,094	21	1,115	97.84
33	248	187	393	42	435	90.57
19	1,112	806	1,785	133	1,918	92.99
1	61	27	76	12	88	86.66
4	1,341	1,036	2,295	82	2,377	96.55
...	4,873	3,162	6,725	1,300	8,025	83.82
...	1,175	870	1,498	247	1,745	85.27
31	1,744	1,641	3,293	92	3,385	97.28
No Returns received.						
169	14,385	10,322	22,573	2,134	24,707	92.83
14	180	140	260	60	320	81.27
4	180	153	289	44	333	86.78
16	640	634	1,122	142	1,274	88.85
1	699	679	1,166	192	1,378	86.08
9	533	415	874	74	948	92.19
20	101	79	166	14	180	92.22
7	24	20	33	11	44	75
71	2,347	2,120	3,940	537	4,477	Average 86.05
...	169	122	281	10	291	96.56
18	747	326	870	203	1,073	81.08
32	244	101	224	121	345	62.02
193	1,210	819	1,658	380	2,038	81.04
...	69	51	67	53	120	55.83
12	66	38	89	15	104	85.55
65	163	96	207	42	249	83.13
55	173	212	365	20	385	97.40
23	324	185	499	10	509	98.02
2	56	42	85	13	98	86.73
...	13	10	14	9	23	60.86
400	3,233	2,002	4,359	876	5,235	Average 80.75
640	19,945	14,444	30,872	3,547	34,419	Average 88.94

Table shewing the Disbursements of Vaccine Lymph in the several Vaccine Circles of the Presidency, during the year 1867.

CIRCLES.	Vaccine subjects.	Capillary tubes.	Plates of glass.	Ivory points.	Crusts.	Lymph bottles.
Vaccine Depot, Madras.....	189	426	356	133	138	12
No. 2, or Coimbatore Circle	...	84	32	...	...	...
" 3, or Malabar do...	6	82	20	...	...	...
" 4, or Madras do...	...	12	...	...	...	...
" 5, or Tanjore do...	...	29	2	...	...	...
" 6, or North Arcot do...	...	...	...	...	...	...
" 7, or Salem do...	...	21	...	...	...	...
" 8, or Bellary do...	...	82	122	...	21	...
" 9, or Cuddapah do...	...	93	6	...	20	...
" 10, or Kistna do...	...	25	...	...	...	...
" 11, or Godavery do...	...	80	6	...	...	...
Total...	194	939	544	133	189	12

Table exhibiting the Casualties which occurred in the Department during the year 1867.

CIRCLES, &c.	Vaccina- tors re- signed.	Vaccina- tors dis- missed.	Vaccina- tors de- serted.	Vaccina- tors died.	Hospital Assistants removed.
No. 1, or Madras Circle.....	...	...	...	1	1
Vaccine Depot Bangalore.....	...	...	...	...	1
" 2, or Coimbatore Circle.	...	1	1	...	1
" 3, or Malabar do...	...	1	1	1	...
" 4, or Madras do...	4	...	1	...	...
" 5, or Tanjore do...	...	...	...	1	...
" 6, or North Arcot do...	...	...	...	...	...
" 7, or Salem do...	1	...	...	...	...
" 8, or Bellary do...	1	...	...	...	...
" 9, or Cuddapah do...	1	...	1	...	...
" 10, or Kistna do...	1	1	...	...	1
" 11, or Godavery do...	...	...	...	...	...
Total...	6	3	4	3	4

General Abstract of Vaccination in the Madras Presidency for the year 1867.

	TOTAL NUMBER VACCINATED.	RESULT OF OPERATIONS.		General Total Males and Females.	Ratio per cent. of Success.
		Successful.	Unsuccessful.		
11 Vaccine Circles	117,225	180,250	20,205	209,455	89.26
Vaccine Depot	2,155	4,997	310	5,307	91.10
3 Military Cantonments	4,152	5,833	1,456	7,289	87.77
5 Divisions and Forces	10,912	11,647	2,652	14,299	81.27
Volunteer Vaccinators	139	249	10	259	96.13
Zemindaries...	14,236	22,304	2,124	24,428	91.50
Railway	180	260	60	320	81.27
Civil Dispensaries	2,177	3,680	477	4,157	89.67
Municipalities...	3,233	4,359	876	5,235	80.75
Total...	154,399	242,579	28,170	270,749	87.63

JOHN SHORTT, M.D., Surgeon,
Superintendent General of Vaccine,
Madras Presidency.

PUBLIC DEPARTMENT.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

Read the following letter from the Inspector General, Indian Medical Department:—

(Here enter 29th April 1868, No. 160.)

ORDER THEREON, 21st October 1868, No. 1,322.

With the letter above recorded the Inspector General, Indian Medical Department, submits the Report of the Superintendent General of Vaccination, showing the results of the operations of the Vaccine Department during 1867.

2. Compared with the two preceding years, there has been a

1865.	1866.	1867.
191,394	194,509	270,749
<i>Number of persons vaccinated throughout the Madras Presidency.</i>		
Vaccine Department.....		222,310
Medical Subordinates.....		14,299
Gminidaries, Local Municipal Associations, Civil Dispensaries, and Railway.		*34,140
		Total... 270,749
* 34,419 is the number given in the table, p. 98.		
<i>Total number vaccinated within the several Circles.</i>		
In 1867.....		214,762
" 1866.....		164,689
		Excess... 50,073

considerable increase in the number of persons vaccinated during the period under review; but the advantage of the new system of operations, which was fairly tested in 1867, is best seen by contrasting the amount of work performed in the several Circles during that and the preceding year. This is given in the margin, and the result,

as it does an excess of 50,073 over the number vaccinated in 1866, is satisfactory.

3. In reviewing the Report of the Acting Agent at Vizagapatam upon the administration of Jeypore and the Hill Tracts for the year 1867, the Government had occasion to notice the very unsatisfactory account given by that Officer of the working of the Vaccine Department in that charge. It is observed that special arrangements have, since the date of the Agent's Report, been made to ensure a complete visitation of the Khond Hills by a competent staff of Vaccinators.

4. The Government desire to call the attention of the Superintendent General of Vaccination to the quarterly reports received from the Sanitary Commissioner for 1867, from which it will be seen that the total number of fatal cases of small-pox in the Town of Madras during that year was 623, and that there was a very large mortality from this disease among the East Indian population. The inadequacy of the Vaccine Establishment to meet the requirements of the Town of Madras was also noticed. The Government trust that, under the recent organization of the establishment, better results will, for the future, be exhibited, and that no effort will be spared to bring the benefits of vaccination within the reach of every class of the inhabitants.

5. The Government notice with pleasure the active aid afforded by several Zemindars in the cause of vaccination by the employment of Vaccinators on their estates, more especially by the Zemindar of Mandessa, in the Ganjam District, whose exertions in promoting vaccination are, as remarked by the Deputy Superintendent, worthy of imitation by other large land-holders in that district.

6. The Government concur in the acknowledgment made by the Inspector General of Dr. Shortt's zeal and energy in the performance of the duties of his office, and in attributing to his efforts the progress which vaccination has made within the Madras Presidency.

7. Copies of the present, and of all future Annual Reports of Vaccination, will, as suggested by Dr. Shortt, be furnished to the several Zemindars and Municipal Commissions by whom Vaccinators are employed.

(True Extract.)

(Signed) R. S. ELLIS,
Chief Secretary.



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