

in the form of a ...  
which shows the ...  
...

Drafts  
AFRICAN  
966  
OFFICE

AFRICAN  
940

EAST AFR (PROT)  
W. Africa

36953  
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... relative efficiency  
of local and imported ...  
former appears to be much superior and the danger of  
introducing disease by ... is minimized ...

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Print - ...

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These see ...

... with ...

... of ...

... to ...

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2309  
2100

The following papers were circulated to members of the  
TAMS Committee 16 March 1911

Memo by Bottom

No 1611 - India

No 1763 - France

No 20196 - Spain

No 22224 - S Coast

No 26262 - Egypt

No 28851 - W.I. - Letter to them

No 33639 - The Key

No 36050 - S. Key

No 36450 - C.P.P.

The Fildian - Extract from Minutes of 21<sup>st</sup> Meeting of TAMS Committee 16<sup>th</sup> March 1911  
The question of the use of Lymph was in Tropical Africa was discussed together with a memorandum on the subject by the Medical Secretary. The Committee agrees that from the analysis of the results obtained from the West African Dependencies, dried lymph appears most suitable for use up country, and that lanced lymph has given good results and near the coast line. They accordingly recommended the use of dried lymph for all cases where it is considered that experiments should be made to ascertain if it would not be advantageous to transfer the lymph in metal thermos flasks, or packed in large boxes of saw dust. It was also decided that the Medical Secretary should make enquires as to whether dried lymph is manufactured and can be obtained, in this country.

W.B.N. 10/4

WHITEHALL GARDENS,  
S.W.

Facsimile

Alan B. Green Esq. M.A.

Leamington Lodge

Watton

Telephone Herts  
9 Watton

B. T. G. C. Esq. M.B. A. S.

~~M. S. L.~~  
Mr. Strachey  
Mr. Read

The preliminary enquiries are too small & Dr. H. H. ... the result is in hand I think the best ... for the ... draft the ... the ... of the ...

Proposed

M. S. L.

Jones

Mr. Hadden

I have had an interview this morning with Mr. L. H. ... of the ... who informs me ... The experience of colonies in other parts of the world is ... that ... is better than ...  
1. The experience of colonies in other parts of the world is ... that ... is better than ...  
2. ... can be ... from the ...  
3. They will ... enquiries as to ...  
Thermos, flask, a container, or similar articles.

near ...  
at ...

M. S. L.

Mr. [Name] called  
Dr. [Name] B. Green of the State Institute called  
at the [Name] meeting and discussed the question  
of [Name] for [Name] [Name]

[Faded handwritten text, mostly illegible]

Mr. [Name]  
Mr. [Name]  
Mr. [Name] Then I think the next  
step is to instruct C.A. that [Name]  
must always be sent out in [Name]  
[Name] [Name] [Name]  
of the [Name] request the department  
with [Name] [Name] to [Name] with  
[Name] [Name] [Name] [Name]  
[Name] [Name] [Name] [Name]  
[Name] [Name] [Name] [Name]  
[Name] [Name] [Name] [Name]  
[Name] [Name] [Name] [Name]  
[Name] [Name] [Name] [Name]  
[Name] [Name] [Name] [Name]  
[Name] [Name] [Name] [Name]  
[Name] [Name] [Name] [Name]

The TAMMS Committee was informed of the result  
of the interview with Dr. Green at the 23rd meeting on 2 May

Mr. [Name]  
I have drafted to [Name] [Name] for [Name]  
[Name] [Name] [Name] [Name]  
[Name] [Name] [Name] [Name]

Points of letter to [Name] in this paper, draft in this paper is all  
replied circulated to TAMMS Committee 11 Dec 1911

AT 25  
11/2/11

113  
GOVERNMENT HOUSE,  
NAIROBI,  
BRITISH EAST AFRICA  
November 5th 1910.

EAST AFRICA PROCEEDINGS

(Incl. 1)



36950

My Lord,

In reply to your Lordship's despatch No. 38 of January 24th last, I have the honour to transmit herewith a Report by the Principal Medical Officer, which, with its enclosures, deals fully with the question of the relative efficacy of local and imported supplies of vaccine lymph.

Your Lordship will observe that the results given by the former appear to be much superior and that the danger of introducing disease by its use is considered remote, if not non-existent.

The delay in replying to Your Lordship's despatch is due to the time necessarily taken up in collecting the requisite data.

I have the honour to be,  
Your Lordship's humble,  
obedient servant,

GOVERNOR.

THE RIGHT HONOURABLE

THE EARL OF CREW, K.G.,

SECRETARY OF STATE FOR THE COLONIES,

DOWNING STREET,

LONDON, S.W.

10000-130

Enclosure No

ENCLOSURE

114

Despatch No. 1660

1916

REPORT

LANOLINATED LYMPH

Three samples of lanolinated lymph in all have been received by parcel post and tested in this country.

I. II. III.

Obtained from	Lister Institute of Preventive Medicine.		
Date of Despatch	8. 12. 10	8. 8. 10	21. 8. 10
Quantity	4 tubes = 48	8 tubes = 72	8 tubes = 72
Form of Despatch	Suffracted tubes, silver cap, packed in cotton wool, wooden containers.		
Duration of Voyage	Three weeks		
Conditions of Transport at Board	Not known		
Date of Arrival	25. 1. 10	29. 8. 10	14. 9. 10
Conditions of Storage in Country	No special precautions taken, lymph on store until tested.		
Conditions of Storage in the Country	Barrow point, over 2,000 feet to 4,700 and also to sea level.		
Number of persons vaccinated	24	32	32
Number of persons vaccinated	10	58	72
Result - Successful	9	22	40
Modified	8		
Failed	0	27	32

I attach the reports of the Medical Officers

as regards the difficulties and demands attendant on the production of vaccine lymph in tropical Africa. It is noticed that two of the Medical Officers prefer the lymph of local manufacture.

For the sake of comparison the vaccination results returned in the Annual Medical Report for 1909

are inserted:-

Successful	87,881
Withdrawn	115
Failed	780
Unknown	29,269

This gives a slight percentage of successful results, under the climatic conditions of Nairobi, its manufacture is quite safe.

Apart from the inestimable advantage of having immediately at command as much vaccine lymph as the conditions of the country require, there is the question of cost. The Crown Agents list the Laminated Lymph at 5/- a tube of 12 vaccinations.

Local lymph is sold at 1/- a tube of 12 vaccinations.

In the manufacture of the lymph here, the calves are hired from a local dairy farm, kept under observation (temperature taken, blood examined, &c.) for a few days before being bled and vaccinated. The only disease that has to be guarded against is Anthrax, as of the various blood diseases - trypanosomiasis, prioniasis, &c. - the parasites can

neither



neither resist treatment with glycerine nor drying

in vacuo.

to state that lymph sent from Nairobi to Uganda and Zanzibar (not packed on ice) has not given the good results detailed above, nor as good as those of the Bacteriological Institute in this Protectorate. The Bacteriologist in consequence has been experimenting with the preparation of vaccine dried in vacuo according to the method of Arhaine and Marie Philalix (Bull. Soc. Path. Exot. 1903, page 451 et seq.). Of two samples, one was prepared in a desiccator box in a person's hand for six months and was, over altitudes rising from 8,500 feet down to something under 2,000 feet, through almost every variety of country and climatic conditions that this Protectorate affords, including a month of sun-bitten lava-stricken desolation. It then lay on the laboratory table for three months more and, when used on a batch of 107 unselected subjects, gave 93 successful results. The other sample was the same as introduced, vaccination carried the

same as all previous attempts to send Bacteriological Institute, giving a percentage of success of 75. Perhaps this method may appear the best solution of the difficulty of conveying and keeping active lymph into those regions where it is practically impossible to obtain a supply.

A. D. Milne  
 PRINCIPAL MEDICAL OFFICER.

Nairobi  
 November 2nd 1910.

1000

117

Health Office.

No. C. 177.5

Mombasa, 18th August 1910.

In reply to your letter of 17th/8 dated 20/8 regarding the outbreak of typhoid, I have the honour to enclose the following figures:

Unfortunately a large number of persons who were treated cannot be traced.

Total number of Successful & Modified & Killed  
specimens.

Of the 700 specimens, 100 had been vaccinated 2 years previously.

Of the 700 specimens, 200 had been previously vaccinated.

Of the 700 specimens, all had received fairly abundant.

This compares unfavourably with the results seen up to date from CAMP 30.

I have the honour to be,  
SIR,

The Principal Medical Officer,  
Mombasa.

Civil Hospital,

Kisumu.

31st October 1910.

Sir,

In reply to your letter No. 80/187/S of 30th August inst., I have the honour to forward the following results of vaccination obtained by using inactivated vaccine lymph.

Total number vaccinated	55
Successful	28
Unsuccessful	27
of pustules	108
Injections	280

None of those vaccinated had had Small Pox, four had been vaccinated previously unsuccessfully. A case showing two or more pustules was counted as successful.

I have etc., etc.

The Principal Medical Officer,

Nairobi.

1910

October 21st 1910

TO THE BUREAU OF ANIMAL INDUSTRY

Dear Sir, I have the honor to inform you that I have used the vaccine prepared by you in the treatment of lambs in the State of Iowa.

The results are as follows: 1. All lambs vaccinated with the vaccine prepared by you have recovered from the disease.

2. The lambs vaccinated with the vaccine prepared by you have recovered from the disease in a shorter period of time than those vaccinated with the vaccine prepared locally.

These results are not so good as those obtained with the vaccine prepared locally, which gave me 30 per cent in the first 72 vaccinations.

The conditions were identical, as far as the admission to the pen, etc.

The instructions sent with the vaccine were fully carried out.

In conclusion, I may say that I wish to pay the amount of account of the vaccine prepared by you in the amount of \$10.00. The amount of \$10.00 is required in the amount of \$10.00. As in this country, every person is required to pay the amount of \$10.00.

USA

MEMORANDUM

On Vaccine Lymph used in West Africa.

The subject of the proposed manufacture of a vaccine lymph in West Africa has been under discussion for some time. On account of practical difficulties, the proposed manufacture was not successfully tried in West Africa. The limitations of this experiment were noted in the various reports of the various offices and replies were received from the various offices with some practicality entirely in favour of the vaccine lymph rather than manufactured vaccine lymph in West Africa.

On the other hand the formation of a vaccine lymph in West Africa is not a simple matter. In the West African Provinces, and in a local context, the vaccine lymph is not a simple matter. It is a complex matter and consequently forwarding it by air in a glass flask or food-container,

In the West African Provinces, vaccine is manufactured locally and used with instructions for instance in the case of 1,000 vaccinations of smallpox. The vaccine lymph was not used in the West African Provinces and the vaccine lymph were failures.

In January 1910, a letter from the Director of Health was addressed to the West and West African High Commissioner (Sierra Leone) stating that it was not thought advisable for the present to institute local vaccine farms until further information had demonstrated the success of



Discriminated lymph, Dried Lymph, Ivory points, and  
 ... in local ...  
 ... clearly defined ...  
 ... of the ...  
 ... of inoculations performed ...

... from the Incorporated Institute of Comparative  
 Pathology, Liverpool, the latter ...  
 ...  
 ... on its value for vaccination in various parts  
 of ...

... as far as possible the effect on the lymph of its dis-  
 tribution to centres more or less removed from the  
 African Coast-line, and with this object I have ap-  
 pointed to tabulate the percentages of the ...  
 ... results ...  
 ... from the ...  
 ... at which the inoculations were  
 performed.

...  
 ...  
 ...

The figures given in the table are the per-  
 centages of failures in each group.

Distance

NOV 1970

T.A. [unclear]

WARR, I and J. [unclear]

Canada

MISSOURI  
STATE

at 80  
24  
hours  
of  
day

1-B  
1574

1-14  
1574

1-14  
1574

to  
Coastal  
Forest

6.3



In the last three groups of the table, that is to say, in those where vaccine is transported distances of 500 miles, 1,000 miles, and more, the vaccine has been subjected to the ordinary conditions of transport, and the results are, in all cases, of a nature to indicate that the vaccine is not viable at the end of the journey. The conditions are such that, even though the efficiency of the vaccine is of course affected by the length of time it is kept before use, and in the case of vaccines on the Gold Coast, the lymph is said to have been kept in the station four months and that found to be viable, is so, only after a long and laborious process of re-consideration of the various results in estimating the percentage of failure of the vaccine. It would be quite unfair to condemn a lymph which did not arrive alive as of your vaccine in the same way, as it is an important matter.

The lymph of lymph fall into two places, heat and dried, and to be considered separately.

Refrigerated Lymph.

In the Gold Coast there is an increasing number of refrigerators, and the longer journey, together with the fact that the vaccine is kept in a cool place, three weeks before use, etc.,

In Southern Nigeria, the statistics available do not afford much help. It is not clearly indicated in all cases, but the vaccine is said to have arrived from dried lymph of lymph in some cases.

As mammals can be gathered however the failures were not so great.

In Northern Nigeria, only one lot of lymph failed lymph (by red blood cell agglutination) was used at Kano. With it 100% of the population was successfully vaccinated. After it had been in use for forty-one days and been kept in a "cool" giving a failure percentage of 0.

In Kano (lymph by inland air service on a motor steamer) of a fortnight's duration the failures were 0.

In East Africa (Protectorate) within one day's journey from the shore the failures were as much as 10.

In Senegal (lymph forwarded in cold storage of ocean steamer) up to 100000 were failed the failures were only 5.

In the Gambia, a total of 100000 was supplied to the Gambia and Sierra Leone.

In the Gambia, at Banjul, on the coast line the failures have only been about 5, but it is stated that the lymph was not successful up country, where no statistics are available.

In Sierra Leone, for distances up to 200000 up country the failure amount to 2.

(In the case of both the Gambia and Sierra Leone, the lymph was carried in the "cool-box" of the ocean steamer).

In

In Northern Nigeria, it was forwarded from England by registered letter post and used as Bactchi, after travelling about 20 days by ordinary and remaining 3 weeks in a "colder" climate. It gave 100% failures - with a shorter travel, however, it gave 100% success.

Ivory Points, was extensively used in Southern Nigeria and appear to have produced 100% of failures, but, as I have said above, the statistics are not sufficiently clear to allow of certainty on this point.

In Nigeria vaccine lymph started on Ivory Points has been discontinued in favour of bacillated lymph, as it was not found satisfactory.

Ivory points do not appear to be in use in the other Colonies. Some information is available concerning them.

Wired Lymph has been in use in the Gold Coast and in Western Nigeria. In the Gold Coast, the Institute of Therapeutic Bacteriology, Lagos, was 100 miles distant from the country, where 1000 people were vaccinated with it, it gave 100% failures, but on the other hand with a much larger number of vaccinations, with even more of the country, it gave only 10% failures, still at a distance of 100 miles. The journey (by carrier) with the vaccine was the same as only amounted to 20.11.

In Northern Nigeria, dried lymph from the Bacteriological Institute was widely used and at varying distances from the coast. It was used in the Northern Nigeria, and in the Northern Nigeria, and in the Northern Nigeria. Dried lymph was not used in the Northern Nigeria.

Comparison. Glycerinated lynch has given good results in the coast-line of the Atlantic. The lynch is packed in boxes, which it has not been ascertained whether it is possible to pack in boxes, falling off in Africa, especially in the case of the lynch, which is liable to be brought on a ship, from the Coast. The result, however, compares well with those obtained in Gulf Coast and days' journey, with lynch and lynch, and with lynch, and with lynch, in Southern Nigeria, but it must be remembered that the latter colonies are more distant, also that in the case of the lynch, the lynch is mainly obtained from England by parcels post and not therefore in the case of the ocean steamer.

In this connection the Crown Agents state: "All lynch if sent in cold storage as a general rule. The extensions are ivory points which are sent by registered letter post and, very occasionally, in tubes which are specially packed to be sent by post."

It is believed the general experience that, for a certain time, lynch is more liable to glycerinate, and the lynch, which is obtained as the lynch, after a six weeks' storage in the cold storage of the lynch, and the lynch, which is obtained (where no special precautions are taken as to the storage of the lynch) is liable to glycerinate, and the lynch, which is obtained from lynch, is liable to glycerinate.

In the memorandum in Colonel Fildes'...

which was forwarded by the West African Trade Association to the Colonial Office in September 1916 (1917) it will be seen that inoculated lymph is found to be more satisfactory than glycerinated lymph in India, and it is stated "Glycerinated vaccine cannot compete with inoculated vaccine in the tropics."

Comparing the dried forms of lymph with the others, it is seen that in the Gold Coast at twenty one days up country, the dried lymph proved far more satisfactory than the inoculated, while in Northern Nigeria it was much better than the glycerinated lymph although the inoculated lymph (with which only fifteen vaccinations were performed) gave no failures. In Southern Nigeria where ivory points were chiefly used, little comparison is afforded with other kinds but the results obtained with this form are not particularly good, and altogether it appears that ivory points are less useful than dried lymph hermetically sealed in glass tubes.

On the whole therefore, it is probable that either variety of lymph is able to withstand the sea journey and arrive on the coast alive if any of them from the African continent in fairly good condition, provided it has been preserved in cold storage. Deterioration however is liable to occur when transported up country under the ordinary tropical conditions with no artificial cold and in these circumstances the dried lymph apparently withstands the climate better than the other varieties.

In French Senegambia, to the north and west of the northern Territories of the Gold Coast, vaccine

is made locally and transported in tightly closed felt or cloth covered receptacles, of which the outside is kept continually moist. By this means the insect population of the receptacle is lowered, and the vaccine kept active, but the method could hardly be successfully applied to lymph carried for three weeks or longer in the ordinary way, on the head of a Native carrier.

#### LOCAL VACCINE FARMS

No results have been sent from the Gold Coast giving information as to the success, since the inauguration of the vaccine farm started at Accra in 1904.

In the East Africa Protectorate, considerable success appears to have resulted from the formation of such a farm and attention should be directed to the letter of the Principal Medical Officer, East Africa Protectorate, contained in 35926. No details are given as to the method of drying vaccine in vacuo, which is referred to and I regret that at present I have been unable to refer to the listin mentioned.

A.E.H.

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WHITEHALL GARDENS.

S.W.

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and the ...

to ...

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31.9.50/10  
E. A. P.

No 90  
No 207  
No 299  
No 11  
No 253  
No 102  
No 102

Downing Street,  
London, W.C. 2

DRAFT

With reference to my predecessor's despatch

requesting a report on the consignments

- (Gambia) No. 14 of 1st January, 1910
- (Sierra Leone) No. 25 of 14th "
- (Gold Coast) No. 22 "
- (C. Nigeria) No. 43 "
- (N. Nigeria) No. 31 "
- (E.A.F.) No. 33 "
- (Uganda) No. 24 "
- (Nyasaland) No. "

requesting a report on the consignments

of vaccine lymph forwarded to you from

this country within the subsequent three

months, and

(Gambia) your despatch No. 60 of 7th May, 1910

(Sierra Leone) Mr. Leslie Probyn's despatch No. 267 of 18th June, 1910

(Gold Coast) Mr. J. A. Strickland's despatch No. 470 of 1st July, 1910

(Southern Nigeria) Mr. Thorburn's despatch No. 725 of 7th November, 1910

(Northern Nigeria) Mr. Hesketh Bell's despatch No. 10 of 4th October, 1910

(East Africa Protectorate) your despatch No. 666 of 31st November, 1910

(Uganda) Mr. Russell's despatch No. 249 of 25th July, 1910

Nyasaland

MINUTE

Mr. Dr. Horn  
Mr. Ellis  
Mr. Strachey  
Mr. Read  
X Mr. Fidler  
Mr. Tait

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Mr. Gos  
Mr. C. Lucas  
Mr. Lucas  
Mr. Sany  
Mr. Harcourt

Further notes required

Copy of 20/10/50

Standard  
Major Pearce's despatch, 11 of 12th  
1910

you have, together with those obtained  
from other Colonies and Protectorates of  
East and West Africa, been analysed and  
referred to the Advisory Committee and  
Temporary Committee for Tropical Africa for  
their consideration.

2. From a consideration of the  
entire results thus obtained, I am advised  
that the Committee concludes that, of the  
imported varieties of lymph, the most  
satisfactory results have been obtained by  
the use of Dried Lymph forwarded in

hermetically sealed glass ampoules, and  
percentage of successful results  
obtained with the same, as compared with  
up-country to which the same is sent  
by air to be obtained lymph, lymph dried  
on land.

3.

3. Next in efficacy to dried  
lymph is sterilized lymph, and it is  
shown by the analysis of the results  
obtained from it, that in most cases, it  
becomes progressively less efficacious  
with the length of the journey to  
country to which it is subjected, and  
the period of exposure to "dew" does not  
appear to have been so successful as  
dried lymph, though it does to the  
sterilized lymph, which is very  
constant. It is concluded lymph may  
be used to a great extent, as successful  
in colonies not far removed from and  
and where it has been necessary to use  
without being subjected to any  
inland. As a result, I may mention,  
is in accord with what found in India,  
and also in other tropical colonies.

4. I am also advised that an impor-  
tant factor in prolonging the life and  
activity of the lymph is that it must be

be maintained at a temperature as long as

should therefore, in all cases,

of the ocean around,

instead of by letter or parcel, and every

care should be taken, on receipt of the

least, when it is opened in the coldest

place attainable.

of a pair of boots, and of the very

trading conditions under which these articles

are usually to be transported in-country

for many days, or even weeks' journey, and

that it is largely in consequence of

these conditions, and which is also

exposed to the tropical heat, that its

utility is so frequently impaired. The

question of obtaining some form of

protection for the storage of the

articles during these journeys has been

considered by the Committee, particularly

the adaptability of Thermos Flasks or

containers for this purpose, but I am informed

that, even with an extreme degree of cold,

such

DRAFT

such apparatus has not been found to be

affordable.

for a longer period than four days, it

is therefore apparent that these flasks

or containers are not generally suitable

for this purpose, owing to the frequent

length of the inland journey, and the

tropical conditions which prevail.

It has, however, been suggested by

the Committee, and has been adopted by

the Committee, that the American should

locally to a certain extent, the

method of transportation in the

country which best tends to preserve its

activity, having regard to the fact that

the use of the Thermos flask

is not practical in the conditions suggested by

the Committee for trial, is the packing of

the equipment in a box, with a view to

protection against, or other non-conductors of heat, in

a comparatively large box, with a view to

protection

...of trial  
...of course be equal to the  
local conditions.

I shall be glad, therefore, if in  
future, unless you have an objection to the  
proposal, you will direct that tried & exp.  
hermetically sealed in glass tubes as

satisfactory form of which may be obtained  
from the Kistler Institute, London, S.W.)

should be obtained for general use up-country,  
while Lanolipated Lymph should be used, if  
thought advisable, in other situations.

and that, in all cases, the Lymph should

be preserved in the same state of

being shipped.

It is not intended by this despatch

that the local vaccine lymph locally, which has

been in force in the Gold Coast,  
East Africa Protectorate

should be superseded by the use of

Imported

Imported vaccines, but it should be

considered as being in force in

the Gold Coast, East Africa Protectorate

The Secretary

(Signed) H. H. H. H.

To Gold Coast

East Africa  
Protectorate

Sw  
36950  
70

400

DRAFT

May 1911

Gentlemen,

our Agents

I have to thank you

MINUTE

Mr. Jewell 24/5

Mr. Ellis

Mr. Piddley

Mr. Juss

Mr. Cox

Sir G. Lucas

Lord Lucas

~~Mr. ...~~

Mr. Harcourt

24/5/11

Ans'd 24/5/11

for your information and guidance

the six copies of a draft which

has been addressed by the O.P.G. of

the ...

Prohibitors on the subject of

vaccines lymph

I would request that

50280-120