

1925

E.AFRICA
KENYA

C.O.
55414
10 DEC 25

FROM: GOV. S. DEB. DENHAM, CONF. 211

DATE: 11th November 1925.

443

RE CIRCULATION:

Mr.
Mr.
Mr.
of U.S. of S.

LABORATORY STAFF.
STATUS UNDER NEW E.A.S.F.S. REGULATIONS.

Submitted by Director of Laboratory
with comments by Director of Medical and Sanitation
Services regarding -

U.S. of S.
U.S. of S.
Secretary of State.

Previous Paper

Dec 14/52361

(RAMS)
(copy)

MINUTES

See also to status of Director
in 1924/55522 for
F.R.

Rec'd in other points
when that is settled.

C.D. 30.11.25

Subsequent Paper

W

KENYA.

No. 211.

CONFIDENTIAL.



C.O.
55414
GOVERNMENT HOUSE,
NAIROBI,
KENYA.

11th September, 1965.

413

Sir,

OAC
48020
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I have the honour to refer to Kenya (Branch No. 191 (Confidential) of the 1st October and to transmit to you copies of a memorandum by the Director of Laboratory and the comments of the Director of Medical and Sanitary Services on the subject of the status of the Laboratory staff under the terms of the revised Regulations for the East African Medical Staff together with a copy of the letter referred to in the last paragraph of Dr. Gilke's letter.

2. I have no further comments to add to those of Dr. Gilke except as regards the extension of privileges accorded to Medical Officers who hold the Diploma of Public Health to qualified laboratory officers. I have further consulted Dr. Gilke upon this point and am informed by him that the crux of the matter is that whereas medical practitioners who qualify in public health receive a degree there is no corresponding qualification for those with the equivalent experience and knowledge of Laboratory work. The Director of Medical and Sanitary Services therefore suggests that the extension of similar privileges to those enjoyed by officers in the first named category to medical officers employed on the

random.

& S.S.'s
letters of
10.25

ditto -
11.6.25 &
enclos.

HONOURABLE
LIEUTENANT COLONEL L.C.M.S. AMERY, P.C., M.P.,
SECRETARY OF STATE FOR THE COLONIES,
DOWLING STREET,
LONDON S. W.

Laboratory

Laboratory Staff should be dependent upon the recommendation from the Director of Medical and Sanitary Services that such officers have attained a degree of experience and efficiency corresponding to that necessary for qualification for the Diploma of Public Health.

5. With this suggestion and the recommendations contained in the annexure I concur and I shall be grateful if you give them your favourable consideration.

I have the honour to be,

Sr.

most obedient, & true servant,

M. J. ...

GOVERNOR.

Medical Research Laboratory
Rangoon.

10th, September 1935

Hon. Federal Public Officer
Rangoon

Re: Your letter of the 2nd inst. regarding the Medical Service

I am sorry to hear that it is
not possible for you to visit
the Laboratory in person. I
am sure that you will be
interested to know that the
arrangement for the Laboratory
is being considered by the
Department of Health and
Publicity and the Ministry of
Health. It is understood that
in 1939 the Laboratory will
form a Division of the Medical
Department equal with the
Statistical and Veterinary
Divisions. This understanding
was given effect to by the
Medical Estimates headed
"Laboratory Division". On your
request as Principal Medical
Officer, I approached you
verbally on this subject, and
you informed me, also
verbally, that the arrangement
would continue, and it
has been on those lines that
the Laboratory has been

able to develop efficiently.

The new regulations suggest that this experiment should be made. However, it would appear that the first two regulations are not entirely correct. The second, which concerns the use of the laboratory facilities in the field, the licensing of the meat inspectors, I cannot believe that the experiment is worth the expense. New regulations are necessary for the purpose of the experiment. It is suggested that the experiment should be made in a limited way. The first regulation is that the use of the laboratory facilities should be limited to the purpose of the experiment. The second regulation is that the use of the laboratory facilities should be limited to the purpose of the experiment.

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(over 1,000,000 doses of which have been made in the first eight months of this year), and plague vaccine for the Colony is carried out by the laboratory staff, as is the whole of the public health, medico-legal and clinical laboratory work for the country. The chemical section also performs important duties to the public, not least of which is the making of the virus call for the treatment of yaws, which has cost Government about £7000 a year, while in 1926 it is hoped to find ~~the~~ on investigation ~~is~~ a suitable ~~method~~ for the ~~live~~ population. These things you already know, but I venture to bring them to your attention ~~as~~ for I fear that they cannot be appreciated by those responsible for the new regulations. It will be seen that the post of C.C. Laboratory is largely that of a coordinator as well as a director of investigation ^{and} a considerable amount of administrative ability, as well as ^{specialist} knowledge. It cannot therefore be claimed that the appointment is a purely specialist one. It will also be seen that the laboratory deals with routine and research work in both clinical medicine and preventive medicine, and can therefore be placed neither in the medical division nor in the sanitation division, and for efficient working must be responsible directly to the Principal Medical Officer. It is therefore essential that the status of the Laboratory Division as a third Division of the Medical Department should be recognised, and this can only be done by making the pay and status of the C.C. Laboratory the same as that of the Deputy Directors of Medical and Sanitary Services. I cannot emphasize the importance of this question of status too much in the interests of the efficient working of

the Laboratory, especially as the Laboratory staff can usually only look for promotion within the limits of the Division.

A further point arises from a perusal of the new regulations. The expression "Medical Officers attached to the Laboratory" would suggest that the staff of the Laboratory should consist of medical officers temporarily attached for duty. It is absolutely essential that the Laboratory staff should consist wholly or partially of persons appointed by the Government, etc. I need hardly point out that special qualifications are necessary for laboratory work, even though it be routine work, and I would suggest that the privileges attached to the possession of a D.P.H. should be extended to officers in the Laboratory service who have had specific post-graduate experience in laboratory work, only so shall we get the type of man necessary for the best efficiency of the Laboratory Division.

I can naturally only speak for laboratory organisation in Kenya so it is the only E.A. Colony of which I have had experience and inasmuch as the Laboratory in this Colony is larger in scope and staff, it may well be that special provision in the organisation of the E.A.S.S. may be required for it.

The importance of these points is so great that I would ask that this letter may be forwarded for the consideration of the Secretary of State together with my letter No. 651/A.83/26 on Laboratory Policy and Organisation, a copy of which is attached.

W. H. James Esq
Senior Bacteriologist

MEDICAL DEPARTMENT,
HEAD OFFICES,
RAIPURI, 2nd October, 1925.

The Honorable,
The Acting Colonial Secretary,
R. A. I. P. O. B. I.

Re: Honorable Secretary, East African Medical Services.

The attached from the Director of Laboratory is forwarded for transmission to the Secretary of State in accordance with the request contained in the letter accompanying the same.

2. The fact that the duties of the Laboratory Staff are not defined in the new Regulations is one of the deficiencies of the medical and health services in the East African Territory. I presume, that the existence of a Laboratory organization has been recognized.

3. I agree with the Director of Laboratory that it is desirable that the importance of Laboratory work should receive due recognition in the Regulations. It is correct that in the Estimates as also in the Staff List there is a separate Laboratory Division.

4. It is undoubtedly true that the work of the Director of Laboratory involves a considerable amount of administrative work which is likely to increase very considerably. The several sections of the Laboratory itself have to be co-ordinated one with another and with the general work of the Department. The field work which is being undertaken at the moment must increase as staff and finance allow if disease is to be properly investigated.

lighted.

5. There is considerable weight in the suggestion that the post of the Director of Laboratory should be of the same status as that of the Assistant Director, on either the medical or sanitary side. The question of pay would naturally arise. At the present moment the pay of the Director of Laboratory is at the rate of £900 by £50 to £1000. In addition there is an allowance of £100 per annum in lieu of fees so that Dr. Hunter is actually drawing £1000 per annum more than either of the Assistant Directors of Medical and Sanitary Services.

6. If it is decided that the post of Director of Laboratory should, as I think it well might, be on the same grade as that of the Assistant Directors of Medical and Sanitary Services then I consider that the special allowance of £100 per annum should cease. Dr. Hunter himself sees and agrees with this argument.

7. The net result of the proposed change would be a saving of £100 per annum under the regulations as they exist at the moment. Should the proposals of the Secretary of State as to the salaries of the heads of the Medical Department be acceded to no additional expenditure would be incurred by the change in status of the Director of Laboratory.

8. I cannot find in the new regulations the expression "Medical Officers" attached to the Laboratory. There does appear "Medical Officers who hold Laboratory appointments" I agree that the Laboratory staff should be appointed definitely as such and the posts should have a distinctive designation. There should be no suspicion that a Laboratory staff can be created from medical officers for whom possibly no use could be made elsewhere.

9. The letter referred to by the Director of Laboratory/

of Laboratory in his last report and forwarded to
you under cover of this Office No. 15/1399/7A of the
12th June 1925.

J. H. H. H.

DIRECTOR OF MEDICAL & SANITARY SERVICES.

76

No.15/1179/74.

457

Medical Department,

Head Offices,

Nairobi.

11th June, 1926.

The Hon'ble Colonial Secretary,
Nairobi.

Establishment - Medical Department.

With ref. to this Office No.15/1179/64 of 18/5/26
and No.15/1186/35 of 26th May.

I forward herewith a memorandum
from the Senior Bacteriologist which sets forth
the position now obtaining in the Laboratory and
demonstrates the urgency of the immediate appointment
of an Extra European Laboratory Assistant.

Yours faithfully,
PRINCIPAL MEDICAL OFFICER.

Medical Research Laboratory

P.O. Box 141, Nairobi

28th. May 1925

Hon. Principal Medical Officer
Nairobi.

458

Re: Laboratory Policy and Organisation

Per: Requested Increase of Staff for 1925.

With reference to our conversation of 16th May 1925, it would be desirable to clarify ideas on the above subject in a paper before you on paper the present position of the Laboratory.

I will first detail the work required from the various sections into which for administrative purposes the laboratory is divided.

1. ROUTINE BACTERIOLOGICAL DIVISION.

A. Self Lymph Section. Our average production of self lymph works out at 9,000 doses weekly.

This amount can be properly supervised and the results controlled by one of the bacteriologists in addition to his other duties. It has been customary to maintain a reserve of 100,000 doses which it was thought would ensure that the lymph remained in cold storage for three months after manufacture before issued, this being the minimum period I consider safe, for any shorter one entails a certain amount of risk which is not eliminated by increasing the length of time the lymph is chloroformed. Recent events have shown however that a reserve of 100,000 doses is not

sufficient

sufficient to attain this aim with certainty in the face of a sudden epidemic, and that only a reserve of 600,000 doses could be deemed safe.

The Chief Sanitation Officer has asked me to guarantee production of calf lymph of 36,000 doses weekly over and above the 5,000 doses normally made. This the laboratory staff contrived to do since January last in the face of the outbreak of smallpox in Monks and Fort Hall, but the stock of calf lymph was reduced at one time to zero, and even now it was only near to 15,000 doses, a figure just under 25% of that we hope to maintain in the future. In the case of April, 1925 the monthly average issue of calf lymph this year has been 45,000 doses, but this included the first three weeks of January when only 5,000 doses were demanded. This means that lymph is remaining at the end of the month in cold storage. The production of this amount of calf lymph has been done in a considerable time service of one European laboratory assistant, and it has been impossible for the bacteriologist responsible for the work adequately to supervise or control the calf lymph production.

Two facts stand out in regard to this matter therefore. Firstly the demands for calf lymph have been increased to such an extent as to necessitate issue before the minimum safe period of cold storage has elapsed. Secondly, the production of calf lymph has had to be

entrusted

entrusted almost entirely to a non-European laboratory assistant with only very limited supervision by a bacteriologist.

B. Clinics Laboratory Section. Here routine examination of blood slides and slides of feces, sputum, pus and other pathological discharges is made, and is normally carried out by a non-European laboratory assistant who is at present on leave. It has consequently been necessary to transfer the trained European laboratory assistant from his assignment to those of this section, and as it is impossible to relieve him of certain supervisory tasks in regard to the experimental animals, dogs, guinea pigs, etc., the examinations in this section have suffered unavoidably in thoroughness, and being only one partially trained African laboratory assistant in preparation for doing other work, he also fails to do some of this section. The bacteriologist in charge of this section is to be relieved of his present duties and confirming his duties and identifying any unknown organisms.

C. Pathological Section. The mounting of pathological specimens has been abandoned owing to pressure of other work. There are at present about 50 specimens waiting attention, besides a series required by the Medical Officer of Health for the Public Health Museum. This work should be the duty of a European laboratory assistant, but has so far been carried out by one of the bacteriologists owing to lack of sufficient subordinate staff.

Post-mortem examinations are carried out at the mortuary by the Assistant Bacteriologist and records of them have to be kept by him as most of the cases have a medico-legal aspect, and a considerable amount of report making and correspondence is thereby entailed. It is difficult to realize the length of time a complete post-mortem with a report takes, and to do anything less is a waste of time. At present a very large amount of clinical material is lost, because a proper post-mortem with a complete histological examination of the organs does not take place at death. I venture to say that one case completed in this way is more valuable for the elucidation of disease than ten cases with only clinical notes. Unfortunately the staff of the laboratory is not large enough to do post-mortem examinations on all cases dying in hospital, and such examinations are only of value when carried out by a trained pathologist.

Specimens of pathological tissues for examination and report have also suffered from the pressure of other work. The actual embedding, cutting and staining of sections is normally the duty of the European laboratory assistant, while the microscopic examination and report is made by one of the bacteriologists. The bacteriologist has now had to take over the whole of this work, and as he is overwhelmed with other duties, there are at present some fifteen or twenty specimens awaiting reports.

D. Routine Bacteriological Section. In this section, the routine making of cultures from blood, faeces, throat exudates, abscesses, etc., and the identification of organisms obtained is in the hands of a bacteriologist. This is a most important section from the point of view of public health as it deals with the diagnosis of many of the epidemic infectious diseases. The work makes a very considerable demand on the time of the officer concerned, and also on the media-making section, while for the serological tests necessary for the identification of organisms isolated, the serological section has to supply a large quantity of sera. Up to the present we have continued to deal with all special substrata.

E. Routine Serological Section. Here are dealt with all serums sent in for examination by the Widal, Wassermann or Sigma tests, which are carried out by one of the officers with, normally, the assistance of the trained European laboratory assistant. This assistance is now withdrawn, which means that the bacteriologist must now prepare all his materials as well as carry out the actual tests, of which the Sigma and Wassermann examinations alone demand the whole time of the officer for one day a week. When it is realised that the materials for the various tests, the agglutinable cultures, the antigens, the antibacterial sera, the haemolytic sera, the precipitin sera, have also to be constantly prepared, involving many animal inoculations, it will be seen that this section of the division is greatly understaffed,

and cannot be expected to function efficiently.

F. Medico-legal Section. This section is almost entirely concerned with the testing of stains for human blood. Such cases require the attention of a bacteriologist and necessitate a lengthy technique, incidentally making a demand for precipitin sera on the serological section. Reports dealing fully with the findings have to be submitted to the police, and such correspondence and interviews are entailed, while every now and then the bacteriologist, as a result of his investigation, is called on to give evidence in court.

Bacteriological Section. The idea of a bacteriological examination of water for the first time in the province is being carried out by the Government, the Government having undertaken an extensive daily for a week. His work is being done by him of the bacteriologist. The tests also require a very large amount of media. This section has been closed down temporarily, although the Director of Public Works is asking, very rightly, for bacteriological examination of the proposed new water supply for Kisumu.

G. Vaccine Section

- (1) Typhoid Vaccine. The stock vaccines prepared here are mostly those from the typhoid group of bacilli, and from the plague bacillus, the production of the latter being on a large scale. Normally the making of the plague vaccine is in the hands of one of the bacteriologist, but

as the officer detailed for this duty, has taken over much of the European laboratory assistant's work, the preparation of this vaccine has ceased. At present there are 50,000 doses in stock, but this cannot be considered an adequate reserve, seeing that indents for 50,000 doses weekly are common when plague recrudesces in a place. It may be noted that the manufacture of other vaccines suitable for media for media from the media maker.

(2). Antigenous Vaccines: The isolation of the organisms for these vaccines is done out by a bacteriologist, but the actual manufacture of the vaccines is usually done by the European laboratory assistant. This subsection conducts one of the most important and successful activities of the laboratory in its relation to the general public. Unfortunately we have had to discourage applicants for vaccines recently as it had been impossible to devote the necessary time to them. The preparation of these vaccines also requires a considerable amount of media and is therefore a strain on the section responsible for the manufacture of these.

Media Manufacturing Section. It will be noted above how almost all other sections of the routine bacteriological division of the laboratory involve the production of media, and it will therefore be understood how important a section

the one under consideration is. Up to this year the making of media has been entrusted to a non-European laboratory assistant who has now been transferred to the calf lymph section. Media-making has therefore been handed over to the European laboratory assistant learner who, only having had five months training up to the present, knows very little about it, and has to be constantly taught and supervised by one of the bacteriologists. Before he will be fit to take entire responsibility for media-making, I estimate that three more months will have passed, and if he is really to be given a sound training as a full-round laboratory assistant, he should then be transferred to another section to learn the technique there. Each while a very part of the time of one of the bacteriologists is being occupied in this supervision of the work of media-making.

Besides all the above activities, a number of general duties require the attention of the staff of the routine bacteriological division, as for example, the supervision of the experimental animals as regards breeding, feeding and isolation; the supervision and keeping of records of the working of the iceplant and gasplant; the supervision of the work and payment of the African laboratory staff; the supervision of the cleaning of the laboratory rooms; the checking of the laboratory stores; the preparation of indents for laboratory apparatus and stores; the issue of vaccines and curative sera, and the keeping of records thereof; etc. Most of these duties are normally carried

out by the European laboratory assistant in the absence of a proper laboratory office superintendent, but some of the duties have now to be undertaken by one of the bacteriologists.

J. The Training of African Laboratory Assistants.

This work is a very important activity of the laboratory which is the first department of the Government, I believe, to provide a definite schedule of subjects for training, a definite instructional syllabus, and definite grades of pay based on the results of examination. The duty of teaching these African boys has been shared by all the Europeans in the laboratory, but of necessity, the greater part of it has fallen on the European laboratory assistant. Under the present stress of work we have endeavored to maintain these instructional duties, but there is little doubt that the boys have suffered as it has been impossible to spend time in repetition work or on detailed explanations of technique. It is of course a vicious circle, for if these boys were being properly trained, they would become able to take over more and more of the duties at present carried out by fully trained assistants who would then have more time to devote to other work and further instruction.

II. ANALYTICAL CHEMISTRY DIVISION.

This division deals with all routine chemical analyses and public health chemistry. A considerable amount of extraneous work also devolves on the Government Analyst who, not having a European laboratory assistant, has to spend much

time in cleaning and setting up apparatus himself.

III. BIOCHEMICAL DIVISION

It is to this division that we look for the elucidation of those questions concerning distarias which have aroused so much debate in this Colony. Investigation of this subject should enable the most economical as well as the most suitable diet for native labour to be determined with certainty. Unfortunately the post of bio-chemist is now vacant, and this enquiry must await the appointment of a new officer, who must have proper qualifications both in training and experience, for the past year has been of any practical use. Meanwhile the routine work of this division, which includes renal efficiency tests, blood sugar tests, etc., must be carried out as far as possible by one of the bacteriological staff, and the most important work can therefore be undertaken.

IV. ENTOMOLOGICAL DIVISION

This division was only recently been established and up to the present the Entomologist has been employed on trypanosomiasis work in the South Kavirondo district. Fortunately for himself the Entomologist is only qualified to carry out entomological work, so cannot share any of the work of the bacteriological division, but even so there is an immense field requiring immediate investigation by him to aid the public health department in formulating effective measures to combat malaria, plague and trypanosomiasis. How one man is to deal with the whole of this task

I fail to see, but there is no doubt whatever that until it is done, public health work will be considerably hampered and much money wasted on measures which further entomological, and possibly bacteriological, investigation will show to have been unnecessary.

V. RESEARCH DIVISION.

I put this as a separate division, because for the purpose of undertaking an investigation into a specific problem it is important that a specially selected staff, intimate with research methods and convinced of the importance of dealing with facts and not mere impressions and surmises, should be available, free from the trammel of routine duties. I understand, though I have not actually seen the dispatch, that the Secretary of State has proposed in the suggested new regulations for the conduct of the medical service that a staff should be entirely devoted to investigational work of this character. I trust that it will be remembered in connection with this that unless a sufficiency of subordinate staff is also provided for this division, a considerable proportion of my time will be wasted in work which is properly the sphere of a trained laboratory assistant. However with the amount of routine work in the laboratory, and with the present staff, the research division may be considered non-existent in practice.

I wish to point out here what this last statement means, and the grievous loss which the Colony, and more especially the natives in the Colony, are suffering. In many ways this enforced

abandonment of scientific investigation is uneconomical, because the basis of much of the native lassitude is chronic disease, and we cannot determine the best method of dealing with such disease unless it is thoroughly investigated.

There is little doubt that in the minds of most, if not all, laymen and of not a few medical men, research is a word which, being misunderstood, is anathema. "Give us the practical man" says the short-sighted economist, forgetting that the object of research is the elucidation of the cause or causes of disease, and ~~the~~ the discovery of the often pointed directly to the most economical method of preventing such disease. It is known, for example, that many of the diseases which occur in the temperate zones also occur here but with slightly different symptoms. Investigation of these in all aspects would reveal the essential differences and the advisability or not of applying the treatment, therapeutic and preventive, already worked out in other more civilised countries. Without investigation, the disease as it occurs locally may receive a new name, and we may flounder for years in a sea of preventive expedients before we seize the one known for long as the correct one for the older disease. Research again may provide us with a new and cheap drug for the treatment of a well-known complaint, as has happened in the case yaws where investigation in France and here has resulted in the production of a bismuth compound at a cost to Government of under one cent a dose, which effectually replaces novarsenobillon which costs 8/- a dose. A similar result has been obtained in regard

to calf lymph. Investigation into recommended techniques in the laboratory here has not only disproved statement made by other observers, but has resulted in the elaboration of a method whereby a very efficient calf lymph is produced at a cost to Government of 2 cents a dose.

Contrast with this, the sum of nearly £2000 paid by the Government of Nigeria to the Lister Institute for 250,000 doses, and the price at which calf lymph, prepared in South Africa, was offered to the Medical Department of this Colony recently.

The staffing of the ~~State~~ division intimately wrapped up is that the ~~State~~ division, for unless the ~~State~~ is ~~unaffected~~ against all contingencies, the funds will be ~~utilized~~ to do routine work in time of emergency, and months of ~~valuable~~ experimentation may be thereby wasted.

There are several diseases of the utmost importance to the welfare of the Africans, and because this reaction on the available labour supply of this Colony, to the welfare of the Europeans in Kenya. Some of these diseases are epidemic in character, and because they lead to the elimination of a large number of individuals at once, they are rightly feared. The diseases, however, which are most to be dreaded, are not these, but those which while causing a considerable amount of disability, yet leave such a measure of health that the person affected can work, but not as he should be able to. Indirectly these disabling diseases cause a rise of infant

mortality for debilitated parents are likely to produce weakly, if not diseased, offspring, who readily succumb to intercurrent affections.

I propose to deal shortly with the diseases which I suggest urgently require investigation to discover the best method of control.

First and foremost of these I place malaria. I do not think I have met more than two or three people in this country who have realised adequately the enormous sanitary damage effected by this disease locally. It is perhaps too much to say that the general standard of the African in malarious districts is entirely due to malaria, but it is certainly a factor from the truth. In this, the disease spreading from the districts formerly considered non-malarious as a result of the repatriation of African labourers from the Nyasa-Tanganyika coast, which are harbouring malarial parasites. Meru, I am told, is now a hotbed of malaria for this reason. Not only are African labourers spreading malaria, but they are spreading malaria of the worst type known in this country. For the Tanganyika district shares with the Nyasa-Tanganyika and Zululand the unenviable reputation of being one of the main centres in this country of black-water fever. It is interesting to note that malaria in these districts seems to be the result of infection with *P. tenax*, a special form of the subtertian malaria parasite. It is essential we should learn by what has happened in other countries. Dr. Thomson told me of the disaster malaria has wrought in Southern Rhodesia, even resulting in the abandonment

of high farms in the heavily infested areas. In the Southern States of America the disease has sapped the energy of the farmers until a condition of economic ruin has been brought about. At a some time we must beware of falling into the same pitfalls that other communities have done. In, for example, the Malay States, where by the removal of conditions favourable to the common malaria-carrying mosquito, the new conditions suited a more dangerous mosquito and caused a ~~marked~~ increase of malaria. For we would not to avoid such errors by manufacturing our own into the vicissitudes of the malaria-carrying mosquito. By applying the results of our research to the control of malaria, only shall we avoid finding ourselves in a worse health and finance as a result of such blunders.

Next on the list of preventable diseases is malaria, a disease of malarial infections. The observations made by the British and other workers during the war in the tropics believe that infestation with malarial parasites is very rare amongst the natives of this Colony, and, by causing a certain amount of toxæmia, is sapping their vitality. Unfortunately no general vermifuge has yet been discovered, so that before an infected person can be properly treated, the nature of the parasite must be determined.

In this Colony we have devoted a considerable amount of money to the treatment of yaws. We still do not know however what the nett result is. Has the

disease diminished or not? Only the general impressions, notoriously unreliable, of medical officers are available as data, but there are no definite figures other than those afforded by lessened attendances at yaws centres, and these are capable of more than one explanation. We still need to investigate the results of treatment of the disease on the spot.

Trypanosomiasis is causing a considerable amount of disability amongst the inhabitants of the districts on the shores of Lake Victoria Nyanza. So far comparatively few cases of the disease have been discovered, but recent investigations have tended to show that this is probably the result of insufficient enquiry and lack of knowledge of actual village conditions. It is urgent therefore that careful investigation should be made into the subject in and around those parts of the Colony where trypanosomiasis is known to exist, and this will require close cooperation between the bacteriologist, the entomologist, the clinician and the sanitarian.

Tuberculosis has ~~received~~ received comparatively little attention in this country except in the Coastal area where it has caused considerable ravages amongst the indigenous population. Certain observations made at post-mortem examinations on African carriers at Mombasa Carrier Depot Hospital at the close of the War, lead to the suspicion that this disease may also be causing mortality, or at least morbidity, amongst the natives of the up-country reserves, which is being attributed generally to pneumonia or other acute chest disease.

It must not be forgotten that the African has little or no immunity to the bacillus of tuberculosis, so that this infection in the native is apt to be of the acute rather than of the chronic type. We have had experience of the way in which the disease can spread in the police depot in Nairobi in 1919, and it is urgent that investigation should be made into the question of the existence of tuberculosis amongst natives in the Colony, and it should obtain such a hold that no measures would be able to prevent the decimation of the population.

Pneumonia should receive attention along with tuberculosis. It is still the reported cause of the largest number of deaths in labour camps, and it is to our shame that we have failed to profit by the experience of mine compounds in South Africa where prophylactic inoculation has reduced ^{markedly} the incidence and mortality of the disease. Were the disease once thoroughly investigated here, it might be possible to produce a vaccine similar to that used for mine labour in South Africa. Even if as useful as there is reason to think it would be, the cost of the investigation would be covered by the reduced costs of labour due to the lowering of overhead charges for hospitalization and loss of time from sickness.

The last disease I wish to bring to notice is plague. The loss to the Colony of adult labour from this disease and the possible economic damage to the Colony should it affect the grain traffic have been recognized by medical opinion here, and resulted in the proposal, mooted in the spring of 1924, to detail a team of scientific workers to

investigate

investigate plague locally. In pursuance of this idea I have recently visited South to enquire into plague epidemiology in that country, and one of the main lessons learnt was that the results of investigations of a disease in another land cannot be applied elsewhere without first enquiring whether all the factors are the same in both places. This lesson is most applicable to our Colony. We do not know whether we have to use methods of combatting plague evolved for South African conditions, or those evolved for Indian conditions, or whether we must evolve our own new ones to meet the requirements of our country.

The Government has been advised by the Commission of Enquiry into the Plague in the Colony that the Government should consider the possibility of instituting a system of quarantine for the Colony, and larger ports, and the present population of this Colony, and will have to be considered in the light of the being laid on for the purpose of other goods, and preventing their transport overseas except under stringent conditions, a most serious calamity, and that it is to these articles that the Colony looks for its bulk exports.

It must not be considered that these few diseases exhaust the list of medical investigations urgently required. They are probably the most important, but there are other problems connected with food and water supplies, and with sewage disposal which are almost as worthy of solution. Indeed in this Colony the employment of a laboratory staff of ten times our present size would in the end be found to have

been

been a true economy. The importance and value of research, as I have said, little realized, and it shows a great want of foresight to crowd scientific investigation into health problems by shortage of staff.

VII. ADMINISTRATIVE DIVISION.

(a) Clerical Section. The duties of this section have been cut down as far as is possible, but while the scientific staff of the Laboratory has been reduced that certain important work has had to be abandoned. Some work cannot be diminished without correspondence and records and accounts work is under the control of the Senior Clerk. He has had to do a considerable amount of work which in an economically arranged organization would be carried out by a staff of clerks.

(b) Library. A system of card indexing of important articles in medical journals has been started. At present the onus of this extremely important work lies on one of the bacteriologists, but unless more staff becomes available, this new departure will probably have to be abandoned.

THE POLICY OF THE LABORATORY DIVISION.

The Laboratory Division of the Medical Department exists primarily to assist the Medical and Sanitary

Divisions of the same Department and through them the inhabitants, African and Europeans, of this Colony, and secondarily to assist the Empire as a whole, by the carrying out of essential routine clinical and public health examinations, and of investigations into the nature and means of control of diseases which occur in this country, and by manufacturing calf lymph and plague and other vaccines for use in public health preventive measures in Kenya. The part of this policy concerned with routine investigation and the manufacture of calf lymph and vaccines has always been carried out as far as staff would permit. The part concerned with research has been practically a dead letter; at the laboratory has rarely been sufficiently well staffed to enable to spare any man to devote to it.

Laboratory policy is intimately bound up with that of the other divisions of the Medical Department. An expansion of the medical or sanitary services naturally entails a corresponding increase of laboratory staff. The laboratory can only carry out work as it has staff. When the latter is inadequate, the work must be cut down, and for guidance as to which sections of its duties must be abandoned, it must depend upon the direction of the Principal Medical Officer in consultation with the administrative head of the laboratory. The actual arrangement of the staff is a matter of internal economy for which the administrative head of the laboratory is responsible, but it must be recognized that it is essential that the scientific staff, the assistant technical staff and the clerical staff must bear relation to each other, and that it is uneconomical to ask the scientific staff to do work which could be equally, if not better, done by the assistant technical staff

or the clerical staff. From the preceding description of the existent conditions in the laboratory, it will be obvious that the balance between the sections of the lab has been lost. For the moment, the urgent need is for a trained European laboratory assistant, and a bacteriologist to replace Dr. Clearkin. In my opinion the position in the Laboratory at present is not only unbalanced, but is absolutely unsafe. Too much ^{has} depended on the non-European assistant and the European bacteriologist and mistakes may easily be made which might involve a tragedy. If such were to happen no blame could attach to the laboratory staff as it has but done its best under existing circumstances, but in our own interests we must, as the staff is augmented as suggested, reduce the safe limit of production those portions of the work where most danger lies, namely, the manufacture of cholera lymph and of plague vaccine. Even with the increased staff suggested, we shall not be able to do all the work required of us and the additional staff I have requested for 1926 is absolutely essential if the laboratory division is to assist the medical and sanitary divisions to the full extent of its powers.

As a general policy for its work, it will be the aim of the laboratory to be thorough, and this may entail the curtailment of the amount of work accepted, but it is felt that some of the ineffectiveness of the laboratory in the past has been due to its attempt to deal with everything that came in, even at the expense of thoroughness. In regard to investigation into disease, and other problems, it is the aim of the laboratory to cooperate where

necessary

of the European Hospital on several occasions amounting in all to about four months, and had to provide an anaesthetist and an assistant to the Surgeon at all operations on Europeans at the hospital during this period. In addition there was a heavy load of microscope amongst the Laboratory persons in the years 1921 and 1924. Inadequacy of staff and deviation of that staff to other duties must explain largely the small amount of research work carried out in the years 1919 to 1924. It is hoped that the future will see a great increase in the amount of valuable investigations work worked out, but this can only be done if a better balanced and more adequate staff is provided, capable of doing properly the routine work detailed above and with such a sufficiency of persons as to enable those engaged in investigation to give their undivided attention to it. It is perhaps not realised that we make more cholera, typhoid and plague vaccine than many other laboratories, and having double the total number of our present staff.

ed/ W.H. Kauntze

Senior Bacteriologist