

Over-all Functions and Objectives of the Laboratory Division

**Dr. S. E. Miller, Chief,
Laboratory Division**



Dr. Reider
i/c Special Services,
Laboratory Division



Dr. Frobisher
i/c Bacteriology
Branch

In 1944, the Committee on Teaching of the American Society of Tropical Medicine sent an urgent request to the Surgeon General of the Public Health Service asking that something be done to improve laboratory diagnosis in the field of parasitology.

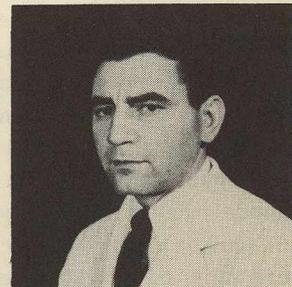
It was decided to start refresher training courses in the laboratory diagnosis of parasitic diseases for persons already employed in diagnostic laboratories, and to establish a national reference diagnostic center to which parasitic disease specimens could be sent for diagnosis.

Accordingly, in 1945 the Parasitology Laboratory was organized and began functioning. At the same time, it was realized that other diagnostic laboratory facilities and services were inadequate in many places throughout the country and that some assistance should be given them.

In 1946, the Virus and Rickettsial Branch Laboratories were set up in



Dr. Brooke
i/c Parasitology
Branch



Dr. Schaeffer
i/c Virus and
Rickettsial Branch

Montgomery, Ala. In 1947, the Bacteriology Branch Laboratories were set up in Atlanta. In 1948, a modest start was made toward a Pathology Branch which will include sections in pathology, hematology, and biochemistry. It will perhaps be easier to understand the work of this Division if we discuss first the general functions which apply to all branches.

The first function is to assist the Epidemiology Division of the Communicable Disease Center in field and laboratory investigations of emergency epidemic problems when called upon by any State health officer, and to give whatever laboratory assistance is needed to special epidemiological and control operations of the Communicable Disease Center.

The second function is to undertake methodology research to evaluate the sensitivity and specificity of the various diagnostic techniques now available, to improve these techniques where indicated, and to devise new techniques where there is a deficiency. We are not aiming at establishing "Standard U. S. Public Health Service Techniques," but are trying to evaluate the reliability of the various techniques as an aid to laboratory workers throughout the country in formulating and standardizing their own routines.

The third function of the Laboratory Division is to act as a reference diagnostic center, offering laboratory diagnosis on difficult specimens which local laboratories may not be equipped to handle or on which they wish consultation. Some techniques are demanded so infrequently or are so expensive that many individual laboratories cannot maintain them. This is a need which we are endeavoring to fill.

The fourth function is to offer supplementary training for ALREADY EMPLOYED laboratorians by means of short, intensive refresher courses to improve their performance of techniques now in use and to acquaint them with the newer techniques.

The fifth function is to offer consultation services to State and local public

health laboratories which request them. Assistance is offered in solving technical or administrative problems. When necessary, our personnel go directly to the requesting laboratory to give such aid.

When specifically requested, surveys are made of State and local health department laboratories. These surveys consist of exhaustive program and technical reviews, with specific recommendations for improvement of services. It is hoped that we can thus strengthen the programs of the various State public health laboratories and that they in turn will evaluate and strengthen the performance of all other laboratories within their State. In this way we hope to obtain the greatest increase in efficiency of laboratory diagnosis throughout the country in the shortest possible time.

We want to make clear that we have no desire to offer routine services which can, and should be, provided by the already established laboratories and institutions. Our aim is to render whatever additional help is necessary to improve diagnostic services in this country.

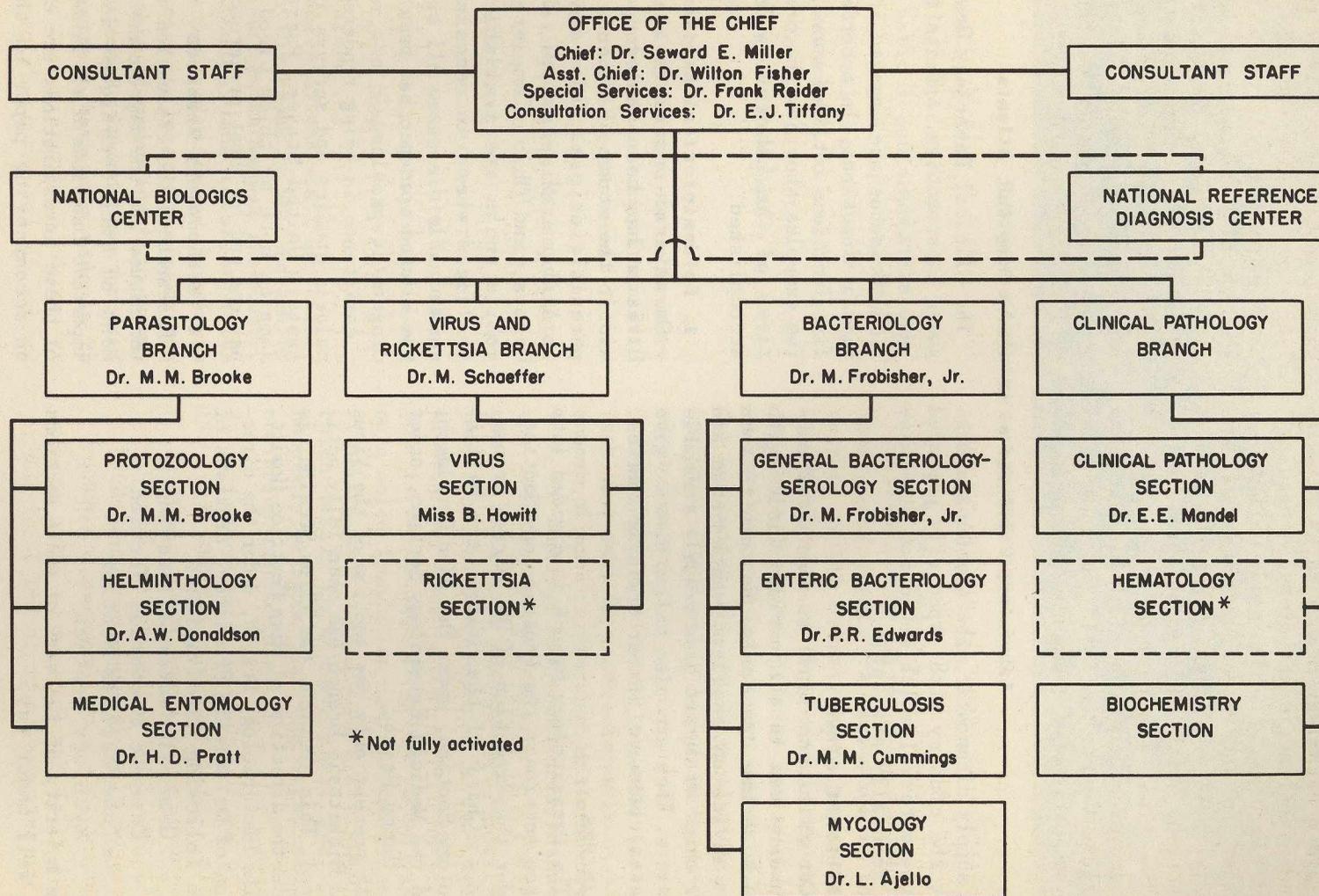
The organization we are creating to render these services (see chart) is as follows:

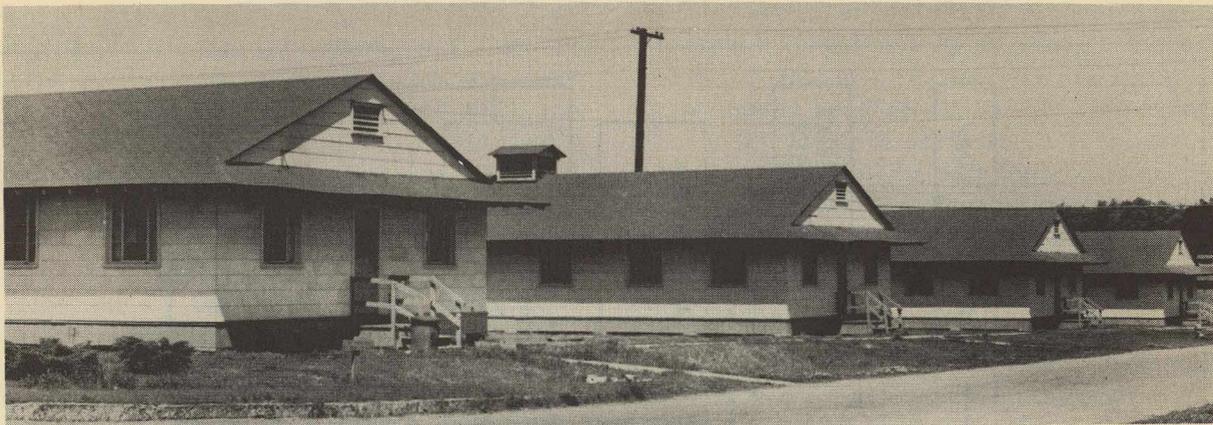
OFFICE OF THE CHIEF

The headquarters office is concerned with planning and setting up the programs and organization of the entire Division. All the administrative details of personnel, budget, and supply are handled by this office. Dr. Wilton Fisher, the Assistant Chief of the Laboratory Division, handles all out internal administrative and operational problems.

Dr. Frank Reider maintains our contacts and relationships with the various State and local health departments. Other important functions of this office are the survey of State and city health department laboratories at their request, recruitment of students for the various training courses offered by the Division and the Extension Service. The Extension Service was developed

LABORATORY DIVISION





Laboratory buildings at Lawson VA Hospital, Atlanta.

to supply diagnostic laboratories throughout the country with especially prepared study material which would not otherwise be generally available.

CONSULTANT STAFF

Our consultant staff is made up of outstanding men in the various fields with which we are concerned. We turn to them for advice on problems which arise and for which we do not have readily available answers. They are also called upon to give special lectures in our training courses.

BRANCHES

The Parasitology Branch is divided into three sections: the Protozoology Section, under the direction of Dr. Marion Brooke, who is Chief of the Branch; the Helminthology Section, under Dr. Alan Donaldson; and the Medical Entomology Section, under Dr. Harry Pratt.

At present only one section of the Virus and Rickettsia Branch has been fully activated. This section, the Virus Section, is under the direction of Miss Beatrice Howitt.

The Bacteriology Branch, under the direction of Dr. Martin Frobisher, consists of the following subdivisions:

- General Bacterial Section
- Enteric Bacterial Section
- Tuberculosis Section
- Mycology Section

The majority of the work of these sections is well under way.

The Clinical Pathology Branch is still under construction, and its functions are just starting.

All Branches are engaged in essentially similar functions. In accordance with the five functions outlined above, the following examples show how the over-all objectives of the Laboratory Division are accomplished.

1. Epidemiological Assistance

On several occasions the Laboratory Division has been called upon to render aid in the study of enteric diseases of parasitic origin. Units have been sent to Alabama, Mississippi, Texas, North Dakota, and Ohio. Completely equipped mobile units are available to go into the field whenever necessary to study communicable diseases. All too frequently the alleged epidemic has been a laboratory diagnostic problem.

Assistance is being rendered in several malaria studies and surveys in the southeastern United States, Puerto Rico, and Jamaica both by thick blood film examinations and by "host preference" serology.

2. Methodology Research

Research in the evaluation of diagnostic techniques and the improvement and development of such techniques is one of the important functions of all Branches. Details of these investigations are enumerated in an accompanying paper on this subject.



Laboratory buildings at Montgomery.

3. Reference Diagnosis

Reference diagnostic services are being rendered to various public health laboratories in this country for the identification of difficult specimens. Also, we receive many arthropods from widely scattered sources for species determinations. An accompanying article adequately describes these services.

4. Training

Our objective is to improve laboratory diagnosis. We are not in competition with universities or other educational institutions, since we accept only already employed individuals who have completed their formal education, and merely give them short refresher courses to improve their proficiency on their respective jobs. To keep these students "on their toes," an extension service has been operating for the past 3 years.

5. Consultation

Various members of the staff are available to other Divisions of CDC and public health organizations throughout the country for both technical and administrative assistance. Several surveys for State health departments regarding problems in the diagnosis of communicable diseases have been completed. In addition, program reviews or surveys have been made in 23

of the 48 State laboratories.

6. Evaluation

The final step in our plan to improve laboratory diagnostic medicine in this country is the evaluation of performance by the 48 State public health laboratories and their branches, with the understanding that they then will assume the responsibility for evaluating all the local clinical and hospital diagnostic laboratories within their States.

This job, of course, is a continuing task that must be repeated yearly. A vast amount of work is involved in the development of improved diagnostic techniques, the training of personnel, and finally the evaluation of performance in all our public health laboratories. No such ambitious plan, despite its great need, can hope to be successful unless it is built on a solid foundation and staffed by outstanding key individuals, all working relentlessly to achieve their goal. We honestly believe that the organization now being assembled will:

1. Render outstanding services to all CDC programs it serves.
2. Make a rapid start toward the goal of improving laboratory diagnostic medicine throughout this country.