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Function and Structure of the Laboratories in Iran

by

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I LABORATORIES OF IRAN - PAST AND PRESENT

Laboratory Services in Iran started about half a century ago with the establishment of The Pasteur Institute for the production of some biological materials for human use.

Over the years, other units in the line of diagnostic, public health and educational laboratories were established and developed. The foundation of the modern public health laboratories dates back to 1950.

The main institutions and laboratories at present fall into three categories:

(a) Public Health and Associate Institutions

1. Diagnostic and public health laboratories (provincial)
2. Reference laboratory
3. Environmental health laboratories
4. Institute of Public Health Research (with public health function)
5. Pasteur Institute
6. Razi Institute
7. Institute of Food and Nutrition
8. Food Control Laboratory
9. Drug Control Laboratory
10. Medico-Legal Laboratory

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(b) Educational institutions

1. Institute of Public Health Research (with educational and research functions)
2. Taj Institute (Cancer Research Institute)
3. Teaching and research laboratories of various universities

(c) Private laboratories

1. Hospital laboratories
2. Medical clinic laboratories
3. Independent diagnostic laboratories

II PRESENT STRUCTURE OF HEALTH LABORATORIES AND LEGISLATION

The Department of Public Health Laboratories as a general department is part of the Ministry of Health, functioning under the administration of the Technical Deputy Minister (one of the deputies of the Minister).

This department consists of the following three divisions:

1. Diagnostic and public health laboratories
2. Environmental Health laboratories
3. Reference laboratory

These divisions are under the supervision of a Director-General. The Director-General, as a senior officer of the Ministry of Health, is appointed by the Minister to ensure the co-ordination of laboratory activities with the various other public health programmes. He has direct contact with the Minister and his deputies.

Each of the three divisions in the General Department has its own particular responsibilities which consist of activities undertaken by the various laboratories in the fields of public health, diagnosis, training and research work respectively. Within each division there are different laboratories, each one assigned with a specific purpose.

The functions of each division can be summarized as follows:

1. Diagnostic and public health laboratories

There is a network of 204 diagnostic and public health laboratories all over the country belonging to the Ministry of Health. With the exception

of provincial laboratories which function independently, these are located in the Government hospitals and clinics, and carry out routine diagnostic as well as public health work. The laboratories situated in the provincial centres direct and control the work of the other laboratories in the area. They also undertake public health laboratory work and some are used as training centres for auxiliary personnel.

In addition, the Health Corps groups, who function in the rural areas, have small public health laboratories which are managed by the Health Corps personnel, specially trained for field work. These laboratories are technically under the supervision of the Department of Laboratories.

It should also be mentioned that all private hospitals, clinics and independent laboratories are licensed by the Ministry of Health and controlled by this Department.

2. Reference laboratory

This laboratory is located in Teheran and is used as a Central Reference Laboratory for diagnostic and public health work carried out in the rest of the country. Its functions are to standardize the techniques employed in other laboratories and to act as a control centre for the provincial laboratories by exchanging specimens and results. This laboratory receives a certain percentage of specimens used in the provincial laboratories and, in return, regularly sends specimens to them. To some extent, the Reference Laboratory is used as a training centre for post-graduate students enrolled at the Medical School of the University of Teheran. The training of auxiliaries engaged in medical diagnostic work, as well as the undertaking of research projects, are carried out in this laboratory, which also works in close collaboration with the World Health Organization and the Central Treaty Organization. Some joint research projects of mutual interest to the Iranian Ministry of Health and other foreign countries are being carried out in this laboratory at the present time.

Other organizations engaged in laboratory work, both those connected to the Ministry of Health and those belonging to other governmental units, also enjoy a very friendly relationship and close co-operation with this laboratory.

3. Environmental Health laboratory

Another function assigned to the Directorate-General is the supervision of environmental health laboratory affairs. For this specific purpose, an Environmental Health Laboratory was established in the School of Sanitary Engineering, which is located on the outskirts of Teheran.

This unit has recently been transferred to Teheran, and is located in the same building as the Reference Laboratory. At present this laboratory is used for training purposes, as well as routine work.

Food and Pharmaceutical Control Laboratories

In most of the provinces a Food Control Laboratory has been established. Most of them are located in the provincial centres. Their functions are directed to meet the needs of that particular area. The Teheran Food Control Laboratory is used as a centre to control the technical work carried out in the other laboratories. It also functions as a training centre and a centre for standardizing new techniques employed by the provincial laboratories.

The future plan is to set up a food control laboratory in all the provinces that do not, as yet, possess such facilities.

There is only one National Pharmaceutical Control Laboratory in Teheran which is responsible for the control of all pharmaceuticals manufactured in the country, as well as those imported from abroad.

Both the Food and the Pharmaceutical Control Laboratories are administratively under different General Directorates, independent from the Department of Laboratories.

III TRAINING OF PERSONNEL

Before 1952 there was no formal training programme in Iran in the laboratory field. The establishment of modern public health laboratories and the need for trained personnel necessitated the introduction of formal curricula at two levels:

1. A course for laboratory technologists at the University of Teheran, with one year's formal training as a post-doctoral programme, for candidates

with a doctorate degree in medicine, pharmacy or veterinary sciences. Later this course was changed to a three-year programme.

2. A course for laboratory technicians, at the Ministry of Health and various universities, with one year and later two years of formal training for candidates with a high school diploma.

It should be mentioned that a few years ago some of the universities changed their two-year curriculum to a four-year programme, offering a B.S. degree in laboratory science. As a result, an intermediate category of laboratory personnel has been created.

IV FUTURE PLANS OF DEVELOPMENT

In brief, the goal is the improvement of laboratory services in Iran, both quality- and quantity-wise.

Within the last two years, the Ministry of Health has established 80 new health centres throughout the country with a laboratory in each of them. Currently, 40 other health centres are in the process of establishment, each with a laboratory.

In addition to the provision of trained personnel for these laboratories and the expansion of the schools for laboratory technicians, the Government is in the process of setting up a higher school for medical technologists, offering a B.S. degree similar to a university course.

It is of interest to mention that, due to the lack of space for laboratory work, the Government is planning to build a larger Central Reference Laboratory. In consultation with WHO experts, the building project has been prepared and submitted to the Ministry, and it has been approved by the higher authorities. This building will be used for a Diagnostic Public Health Laboratory, as well as for the Control of Biological Materials, and will also serve as a Training Centre which would produce at least 150 technicians per year for laboratories all over the country.