

STATENS SERUMINSTITUT: PRESENT ACTIVITIES AND FUTURE TRENDS

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Introduction

Statens Seruminstitut (The Danish State Serum Institute), Copenhagen, was founded in 1902 primarily for the production and distribution of diphtheria antiserum. Professor Dr. Carl Julius Salomonsen and Dr. Thorvald Madsen were the first directors.

Productions of other sera and vaccines were soon initiated, and diagnostic microbiological and serological tests were added. Blood grouping, diagnostic endocrinology, blood fractionating, immunology, mycology and parasitology, as well as epidemiology, biostatistics, and hospital hygiene were taken up later.

In the early twenties, the first international workshop on standardization of laboratory tests was held in Copenhagen, to be followed in 1935 by the establishment of the Department of Biological Standardization and, step by step, by several International WHO Collaborating Centres for Research and Reference.

Present functions and organization

The State Serum Institute is the central laboratory for human bacteriology, virology and serology, etc. (law of May 1975), serving Denmark, Faroe Island, and Greenland.

The main purpose of the Institute is to assist in prevention, diagnosis, treatment and research of infectious diseases in man, in close co-operation with health Authorities, hospitals and practitioners.

The present activities are summarized in Table 1, and include: routine microbiological diagnostic functions at the Institute and at 6 regional laboratories for clinical microbiology, one at the University Hospital, as well as a central screening laboratory for congenital disorders and early diagnosis of cancer; epidemiological studies, registration of infectious diseases, and surveillance of immunization programmes and hospital hygiene; production and quality control of vaccines, sera, blood products, reference standard preparations, media and laboratory animals; development and research with emphasis on analysis of antigens and their purification for the development of new diagnostic tests and new vaccines. Reference and control functions, as

well as postgraduate education are also carried out. Finally, extensive international activities include co-operation with WHO, Council of Europe and EEC.

The Institute is a governmental agency under the Ministry of the Interior (for Health), which nominates a supervising council (Fig. 1). There are two directors, enjoying the same status, one is a medical doctor for diagnostic procedures, production, development and research, the other a lawyer for administration, personnel, finance and construction. The directors are assisted by a specialized planning group, and by a co-operation committee, respectively.

The staff comprises 135 graduates (in medicine, pharmacy, veterinary medicine, engineering, biochemistry, biology), 540 laboratory technicians and 569 in administration and service departments, a total of 1,244 co-workers. The Institute covers 57,000 m²

Table 1. - State Serum Institute, Copenhagen

Central Laboratory for Denmark (pop. 5 mill.), and regional hospital laboratories
Total staff: 1244 Graduates: 135
Routine diagnostic functions:
Infectious diseases
Blood grouping, Immunology
Endocrinology
Screening for congenital disorders
Epidemiological center for Denmark
Registration of infectious diseases
Close relation to health Authorities, hospitals and practitioners
Immunization programmes
Hospital hygiene
Production vaccines, sera,
blood products
reference standard preparations
media, cell lines, laboratory animals
Control functions: quality, sterility, filters, clean rooms
Development and research
Reference centers: standard antigens, sera
Postgraduate training
International relations

floor-space placed on a site of 11 hectares, giving ample possibilities for expansion.

Co-operation with users. – It is an over-all aim to integrate the Serum Institute in the health system, and therefore, the Institute has a natural duty of informing and advising its users: the medical profession and the patients, the National Health Service, ministries, county Councils and municipal Authorities, as well as DANIDA and international organizations. In this relation valuable roles are played, among others, by the Diagnostic Departments and by the Regional Departments for Clinical Microbiology, and by the Departments of Epidemiology, of Hospital Infections and Hospital Hygiene, and of Control of Sterilization. Furthermore, a series of *Publications and Instructions* for users on diagnostic methods and on subjects in relation to Hospital Hygiene have appeared.

Reference and control activities are performed by the Institute nationally as well as internationally. WHO International Laboratory for Biological Standardization and eight WHO/FAO Collaborating Centres for Research and Reference are placed in Copenhagen.

International research and education. – Besides the above mentioned WHO Collaborating Centres and Laboratories, the Institute co-operates closely with WHO, Council of Europe and EEC on research projects, on postgraduate education and on work in developing countries.

Future trends

It is the overall strategy to further integrate the Institute in the National Health System; to decentralize, when possible, diagnostic procedures to Regional Clinical Microbiological Laboratories; and to centralize at the Institute the difficult, complicated, rare, and expensive tests, and also screening procedures for congenital disorders and for early diagnosis of cancer, as well as coming screening tasks in medicine and biology, which advantageously can be performed at a central laboratory.

Research and development will be strengthened, one of the aims being development of new rapid, sensitive, specific and simple tests for direct demonstration of antigens, and of production of new vaccines.

Production will be rationalized and modernized and biotechnological procedures are being introduced, when possible in co-operation with industries.

During the long span of years the State Serum Institute has acquired a vast amount of knowledge and experience by combining in a unique way, within the same framework routine clinical work, epidemiological studies, and biological productions, with applied and fundamental research. Experience and results gained in one or more of these fields have stimulated work in the laboratory, and vice-versa.

The Institute, therefore, is well prepared for the biotechnical era, and as a central laboratory can take up new tasks within medicine and biology.

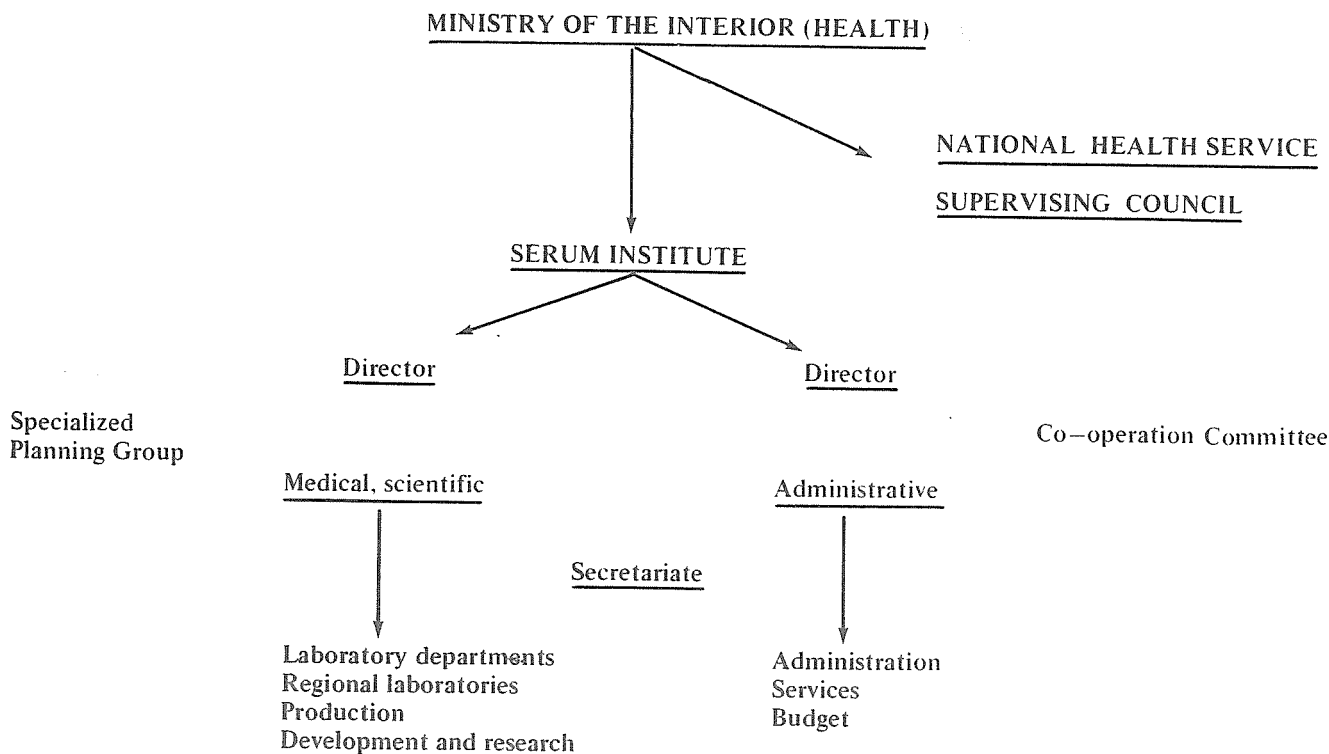


Fig. 1. – The flow-chart of the Institute