INTRODUCTION TO THE NATIONAL INSTITUTE OF HEALTH: ITS DEVELOPMENT IN THE PAST TWENTY YEARS

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The foundation of the National Institute of Health, which is now 20 years' old, dates back to May 21, 1947. The following is the history of those past 20 years with special emphasis on the circumstances under which the Institute was founded and the development that followed. Any advice or suggestion from the readers to help the Institute improve itself will be highly appreciated.

FOUNDATION OF THE INSTITUTE

When World War II ended on August 15, 1945, deaths from acute and chronic infectious diseases were prevalent in this country and were increasing in number day after day. The Disease Prevention Bureau of the Ministry of Health and Welfare devoted itself to eradicate such diseases with the assistance of the Public Health and Welfare Section (P. H. W.), General Head Quarter (G. H. Q), Supreme Commander for the Allied Power (S. C. A. P.). It was hardly possible, however, at that time for the responsible organizations that had been paralyzed nearly completely to carry out the disease control program as effectively as was desired. The plan for establishing the N. I. H. stemmed from a memorandum and orders issued by Colonel Crawford F. Sams, (Chief, Medical Corps, P. H. W., G. H. Q., S. C. A. P.) on September 22, 1945. His staff officers were ordered to investigate the possibility of establishing a national institute directly associated with the health administration. Colonel C. F. Sams’ picture of the institute seemed to be a copy on a reduced scale of two American institutes, the National Institutes of Health and the Communicable Diseases Center.

The most urgent task of the proposed institute was to establish laboratories for assay-ing various biological products. After conferring with the Ministry of Health and Welfare, Colonel C. F. Sams suggested that the Institute for Infectious Diseases, Tokyo University should serve for the purpose. The Ministry of Health and Welfare and the Institute for Infectious Diseases negotiated several times but never came to an agreement. Finally, Dr. S. Nambara, the President of Tokyo University, and Colonel C. F. Sams met on March 14, 1946. They made an agreement that the University would sacrifice one half of the space, facilities and personnel of the Institute for Infectious Diseases to organize the National Institute of Health. Thus, Colonel C. F. Sams’ plans for a national institute was partly materialized.

The memorandum shown below was signed by Colonel C. F. Sams on April 17 and the National Institute of Health was inaugurated on May 21, 1947.
MEMORANDUM:

APO 500 (17 April 1947)

SUBJECT: Information of General Application Pertaining to PHMJG-17 dated 17 April 1947, Subject: "Establishment of a National Laboratory Control Program."

1. With reference to the above subject memorandum, the following is published for the information of all concerned.

2. Subject memorandum has no objection to the request of the Imperial Japanese Government to carry out the following plans:
   a. To add a Laboratory Control Section to the Disease Prevention Bureau to attend to the administrative details of this program.
   b. To create a National Institute of Health under the Jurisdiction of the Ministry of Welfare staffed by skilled scientist to perform:
      (1) Research on the etiology, pathogenesis, prophylaxis and therapeutics of infectious diseases and other specific diseases.
      (2) The highly technical assay procedures on biologicals and antibiotics.
      (3) The production, standardization and distribution of sensitive unstable diagnostic sera and reagents.
      (4) The production and distribution of technically difficult items which are infrequently used, such as plague and rabies vaccine.
      (5) The production and distribution of various vaccines and sera which are produced for experimental evaluation.
   c. To draw up plans to incorporate various national research institutes as units of the parent organization, such as:
      (1) National Cancer Research Institute.
      (2) National Tuberculosis Institute.
      (3) National Cardio-Vascular Disease Institute, etc.
   d. To evolve a system of national and local inspectors to maintain surveillance over all biologics manufacturing and eventually all clinical diagnostic laboratories. The inspectors' functions will be to aid and instruct, in addition to checking for compliance with the official minimum requirements.
      (1) Periodic instruction courses shall be held for the local inspectors in Tokyo.
   e. To promulgate minimum requirements for all types of biologicals: prophylactic, therapeutic and clinical diagnostic.
   f. To arrange for the utilization of space, facilities and personnel of the Infectious Disease Institute of the Tokyo Imperial University to affect the aforesaid.
   g. To allocate ample funds to carry out this program and the delegation of the necessary authority to promptly initiate the aforesaid provisions.

3. Because the control of biologic manufacturing and clinical diagnostic laboratories was inadequate previous to the war and deteriorated even further during the war, it is imperative that this program be promptly initiated and carried out along the above lines in order to protect the public health and welfare of the Japanese people.

CRAWFORD F. SAMS,
Colonel, Medical Corps,
Chief.
EARLY PERIOD OF THE INSTITUTE

The Institute began functioning on May 21, 1947 with only 86 personnel. Dr. Rokuzo Kobayashi was appointed Director and Dr. Saburo Kojima Vice Director by the Minister of Health and Welfare. The Institute consisted of the Department of Research, the Department of General Assay, the Department of Test Production and the Section of General Affairs. Soon afterwards, the Committee of Library and Editing was added. The Committee published the first issue of the Japanese Journal of Medical Science and Biology on April 15, 1948, with the purpose of introducing to foreign countries the information obtained through the research activities in this Institute.

On June 3, 1947, two weeks after the inauguration, the U. S. Atomic Bomb Casualty Commission (A. B. C. C.) of the U. S. National Academy of Sciences – National Research Council proposed a co-operative investigation of the casualties of the atomic bombs. In response to the proposal, the Branch Laboratories were established in Hiroshima and Nagasaki on August 31, 1948, to investigate the injuries to human beings caused by the atomic bombs. The organization of the Institute during the period shortly after its opening is shown in Chart 1.

At its inception the Institute’s personnel, the space and other facilities were originally part of the Institute for Infectious Diseases. The future plan for functions of this institute was a broad one, but the following four projects had to be carried out immediately: (1) to develop plans for and to conduct general researches into the whole field of public health and medical science. This included not only work on such infectious diseases as tuberculosis, typhus fever Japanese encephalomyelitis, and ekirī* but also investigation into the genetics of the injuries caused by the atomic bombs; (2) to establish the official minimum requirements for such biological products as immune sera and improve the quality of such domestic products through conducting assays on the products; (3) to fulfil the important task of collecting recent medical information from foreign countries and to re-establish communication between Japanese researchers and researchers throughout the world which had been disrupted during World War II; (4) to initiate the pilot production of various biological products. The pilot production entailed distribution of various standard biological products such as standard sera, standard toxins, standard antibiotics, standard diagnostic reagents, standard strains, etc., production of such products that producers could not or would not manufacture from technical or economical reasons, and pilot production and application of newly developed products to examine whether they were actually effective or not. When a new product had been proved to be more effective or easier to be produced than the conventional ones, the Institute was to give the producers the information to help them manufacture the product on a commercial scale.

EARLY GROWTH OF THE INSTITUTE

By March 31, 1948, about a year after the Institute opened, the number of personnel had increased from the original 86 to 318 to cope with the rapidly expanding activities. The space originally provided by the Institute for Infectious Diseases was outgrown and

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* Occasionally caused by Shigella infections in children of an age range from 1 to 7 years with a high case-fatality rate. It is characterized by convulsions and some other nervous symptoms rather than intestinal disorders.
Chart 1. Organization of the National Institute of Health (1948)

DIRECTOR ··········· ROKUZO KOBAYASHI, M. D.
VICE-DIRECTOR ····· SABURO KOJIMA, M. D.

I. RESEARCH DEPARTMENT
(Chief: R. KOBAYASHI, M. D.)
- Div. of Bacteriology I
- Div. of Bacteriology II
- Div. of Virus Diseases
- Div. of Rickettsial Diseases
- Div. of Sero-Immunology
- Div. of Tuberculosis
- Div. of Leprosy
- Div. of Venereal Diseases
- Div. of Parasitology
- Div. of Medical Entomology
- Div. of Veterinary Diseases
- Div. of Pathology
- Div. of Biochemistry
- Div. of Food Control
- Div. of Antibiotics
- Div. of Type Cultures
- Div. of Atomic Energy Influence

II. ASSAY DEPARTMENT
(Chief: S. KOJIMA, M. D.)
- Lab. for Diphtheria Toxoid
- Lab. for Diphtheria Antitoxin
- Lab. for Tetanus Antitoxin
- Lab. for Substitute Disinfectants
- Lab. for Typhus vaccine
- Lab. for Typhoid-Paratyphoid & Cholera vaccines
- Lab. for Penicillin
- Lab. for Chemical Analysis
- Lab. for Small-pox & Rabies Vaccine
- Lab. for Tuberculin

III. TEST PRODUCTION DEPARTMENT
(Chief: H. YAOI, M. D.)
- Div. of Bacteriology I
- Div. of Bacteriology II
- Div. of Virus Diseases
- Div. of Rickettsial Diseases
- Div. of Sero-Immunology
- Div. of Tuberculosis
- Div. of Venereal Diseases
- Div. of Antibiotics

IV. ADMINISTRATIVE DEPARTMENT
(Chief: M. HIRAO)
- General Affairs Section
- Research & Assay Business Section
- Budget & Finance Section
- Accounts Section
- Purchase Section
- Supply & Store Section
- Laboratory Animals Section
- Building Maintenance Section

V. LIBRARY AND INFORMATION COMMITTEE
(Chief: H. YAOI, M. D.)
- Library
- Editorial Work
  (Japanese Medical Journal, Annual Report, etc.)
new facilities were sought. The attempt was unsuccessful except for the obtaining of small animal quarters in the yard of the Institute for Infectious Diseases and the branch laboratories for research on tuberculosis and assay of BCG vaccines and of tuberculin in the Second Tokyo National Hospital, about 5 km far from the main Institute.

On October 1, 1952, the 3 departments, Department of Research, Department of Assay and Department of Test Production, were abolished and the Institute was re-organized as shown in Chart 2. Departments handling different etiological agents of infectious diseases or specialized in particular areas were set up. Each department was assigned research work, assay and pilot production in connection with one or more etiological agents.

In 1955, the Institute was given the buildings that had been the Naval Academy. More than half of the whole Institute started to move into the new place from the Institute for Infectious Diseases and the Second Tokyo National Hospital in March, 1955. In the meantime, the first Director, Dr. Rokuzo Kobayashi, was transferred from the Institute to the newly established National Institute for Leprosy Research as the first Director. Dr. Saburo Kojima succeeded him.

In March, 1958, the Department of Dental Research was established to conduct research work on the prevention and treatment of dental disturbances. Dr. Saburo Kojima retired in May of the same year and the Vice Director, Dr. Keizo Nakamura, succeeded him. The author himself was promoted from the Chief of the Department of Tuberculosis to the Vice-directorship. Four months later, the Pilot Production Laboratory of Poliovaccine (Salk vaccine) of 350 m² was built in the premises. Production was started a month later.

In March, 1959, a new 5-story building of 4,500 m² was built in the yard adjacent to the main building. The new building cost ¥162,000,000 of which ¥27,000,000 was granted by the Rockefeller Foundation for the laboratories of Arbor viruses. The work on Arbor viruses that had previously been performed in this Institute was highly regarded by the Foundation. A cobalt-60 irradiation laboratory with an animal quarter for irradiation experiments was also completed at the back of the new building. Thirteen years after the foundation, all the laboratories except the animal quarters and the pilot plant of the Department of Antibiotics gathered together in the new place.

In April, 1961, new laboratories of 673 m² were built in the back yard of the Institute to meet the intensification of research work and assay of Salk vaccine. At the same time, other new laboratories of 1,468 m² for the Department of Enteroviruses were built at Murayama, about 40 km away from the Institute, mainly for performing research work and assays using monkeys. Since it became necessary for the Department of Enteroviruses to be involved in research work on and the assay of attenuated live poliovaccines, the Murayama Branch Laboratories were enlarged to 2,310 m² in 1963. The
Chart 2. *The Organization of the National Institute of Health (1952)*

**DIRECTOR** ............... ROXUZO KOBAYASHI, M. D.
**VICE-DIRECTOR** .......... SABURO KOJIMA, M. D.

**DEPARTMENT OF BACTERIOLOGY**

Chief: HIDEO FUKUMI, M. D.
Division of Bacteriology I (Enteric bacteriology)
Division of Bacteriology II (*S. typhosa, Vibrio cholerae*)
Division of Bacteriology III (*Bordetella pertussis, Streptococcus*)
Division of Bacteriology IV (*Pasteurella pestis*)
Division of Disinfectants
Division of Phage Typing

**DEPARTMENT OF RICKETTSIOLOGY & VIROLOGY**

Chief: MASAMI KITAOKA, M. D.
Division of Rickettsiology I (Typhus)
Division of Rickettsiology II (Q-Fever, Scrub Typhus, Trachoma)
Division of Virology I (Vaccinia)
Division of Virology II (Rabies)
Division of Virology III (Influenza)
Division of Virology IV (Arthropod-borne viruses)
Division of Virology V (Polio, Hepatitis, Herpes, Rubella)
Annex (Spirochaetaceae Laboratory)

**DEPARTMENT OF SEROLOGY**

Chief: KEIZO NAKAMURA, M. D.
Division of Immuno-serology
Division of Leprosy
Division of Diphtheria
Division of Tetanus

**DEPARTMENT OF TUBERCULOSIS**

Chief: KEN YANAGISAWA, M. D.
Division of Epidemiology
Division of BCG
Division of Tuberculin
Division of Chemotherapy

**DEPARTMENT OF GENERAL BIOLOGICS CONTROL**

Chief: KIYOSHI ANDO, M. D.
Division of Blood & Blood Products
Division of Safety & Pyrogen Tests
Division of Sterility Tests
Division of Biological Products

**DEPARTMENT OF ANTIBIOTICS**

Chief: HAMAO UMEZAWA, M. D.
Division of Mycology
Division of Biology of Antibiotics
Division of Chemistry of Antibiotics
Chart 2. (Continued)

Division of Assay of Antibiotics Drugs
Division of Pilot Plant

DEPARTMENT OF PARASITOLOGY
Chief: YOSHITAKA KOMIYA, M. D.
Division of Parasitology I (Nematodes & Protozoology)
Division of Parasitology II (Nematodes)
Division of Parasitology III (Trematodes & Cestodes)

DEPARTMENT OF MEDICAL ENTOMOLOGY
Chief: SHOJIRO ASAHINA, Ph. D.
Division of Medical Insects
Division of Insecticides

DEPARTMENT OF VETERINARY SCIENCE
Chief: YOSHIO TAJIMA, D. V. M.
Division of Veterinary Public Health
Division of Experimental Animals
Division of Animal Control

DEPARTMENT OF FOOD CONTROL
Chief: YUZO TOYAMA, Ph. D.
Division of Food Hygiene I
Division of Food Hygiene II

DEPARTMENT OF PATHOLOGY
Chief: YASUYUKI EGASHIRA, M. D.
Division of General Pathology
Division of Pathological Examination

DEPARTMENT OF CHEMISTRY
Chief: DENICHI MIZUNO, Ph. D.
Division of Biochemistry
Division of Biophysics
Division of Chemical Biologics Control

LIBRARY
Chief: ISAMU NAGAI, M. D.
Library Unit
Translation & Editing Unit

ADMINISTRATION SECTION
Chief: TAKESHI SAKAKIBARA
General Affairs Division
Planning & Assay Division
Accounting Division

HIROSHIMA BRANCH
Director: HIROSHI MAKI, M. D.

NAGASAKI BRANCH
Director: HIROSHI MAKI, M. D.
importance of virus diseases necessitated the establishment of the Central Virus Diagnostic Laboratory, which required a new building of 495 m² at the Murayama Branch. The establishment of these Departments in 1963 added another 110 personnel.

In the meantime, a general animal quarter, some laboratories for the Department of Enteroviruses and the pilot plant of the Department of Antibiotics were built on the premises of the main Institute. The whole Institute finally moved into the Meguro Main Institute or the Murayama Branch Laboratories from the Institute for Infectious Diseases 17 years after the foundation.

In July, 1965, the Department of Measles was established to develop and assay measles vaccines. These laboratories, of 1,005 m², were built in the premises of the Murayama Branch Laboratories.

The development of the National Institute of Health in terms of annual budget, personnel and floor space is tabulated in Chart 3.

The figures in Chart 3 increase year after year. No substantial increase in research budget, however, has been made in the past 5 years because of the rise in the consumers' price and in the salaries of the personnel and of the governmental policy not to fill up the vacant positions.

**THE PRESENT STATUS OF THE INSTITUTE**

The number of the personnel as of April 1, 1967 is 558, including 75 physicians, 6 dentists, 65 veterinarians, 49 pharmacologists, 24 biologists, 21 chemists and physicists, 2 engineers, 216 technicians, and 100 clerical and maintenance staff members.

In addition to 16 research Departments, the Laboratory of Radiation, Library, the Administration Section, Nagasaki Branch and Hiroshima Branch are attached to the Institute. The latter two Branches are in close association with A. B. C. C. All the Departments, Department Chiefs and the Subdivisions are listed in Chart 4.

It would be relevant here to review the research activities in each of the Departments, Laboratories and Branches but the task will be performed in reviews which will be

**Chart 3. The Development of the National Institute of Health**
**in Terms of Annual Budget, Personnel and Building**

<table>
<thead>
<tr>
<th>Financial Year</th>
<th>Floor Space</th>
<th>Budget</th>
<th>Consumer’s Price Index</th>
<th>Regular Staff</th>
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<tr>
<td>1947</td>
<td>3,524 m²</td>
<td>18,037,544 Yen</td>
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<tr>
<td>1948</td>
<td>“</td>
<td>69,917,145</td>
<td></td>
<td>370</td>
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<tr>
<td>1949</td>
<td>5,078</td>
<td>109,828,647</td>
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<td>430</td>
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<tr>
<td>1950</td>
<td>“</td>
<td>163,568,000</td>
<td></td>
<td>470</td>
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<tr>
<td>1955</td>
<td>5,111</td>
<td>179,779,000</td>
<td></td>
<td>407</td>
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<td>1960</td>
<td>16,304</td>
<td>332,800,023</td>
<td>100</td>
<td>444</td>
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<tr>
<td>1961</td>
<td>16,452</td>
<td>495,131,596</td>
<td>105</td>
<td>542</td>
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<tr>
<td>1962</td>
<td>18,780</td>
<td>629,019,000</td>
<td>112</td>
<td>543</td>
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<td>1963</td>
<td>19,821</td>
<td>624,997,617</td>
<td>121</td>
<td>554</td>
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<td>1964</td>
<td>21,015</td>
<td>730,007,824</td>
<td>126</td>
<td>554</td>
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<td>21,163</td>
<td>703,114,927</td>
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<td>1966</td>
<td>21,425</td>
<td>741,639,748</td>
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<td>560</td>
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<td>1967</td>
<td>21,425</td>
<td>776,726,000 (estimate)</td>
<td></td>
<td>558</td>
</tr>
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</table>

360 yen = 1 dollar.
### Chart 4. The Organization of the National Institute of Health (1967)

**DIRECTOR**........... YOSHITAKA KOMIYA M.D.  
**VICE-DIRECTOR**...... KEN YANAGISAWA, M.D.

#### DEPARTMENT OF BACTERIOLOGY I

**Chief**: HIDEO FUKUMI, M. D.  
- Division of Bacteriology I (Enteric bacteriology)  
- Division of Bacteriology II (*S. typhosa, Vibrio cholerae*)  
- Division of Bacteriology III (*Bordetella pertussis, Streptococcus*)  
- Division of Bacteriology IV (*Pasteurella pestis*)  
- Division of Disinfectants  
- Division of Phage Typing

#### DEPARTMENT OF BACTERIOLOGY II

**Chief**: RYOSUKE MURATA, M. D.  
- Division of Bacterial Toxins  
- Division of Biochemistry  
- Division of Antitoxins  
- Division of Immuno-serology  
- Division of Spirochaete

#### DEPARTMENT OF VIROLOGY & RICKETTSIOLOGY

**Chief**: MASAMI KITAOKA, M. D.  
- Division of Rickettsiology (*Typhus, Scrub typhus*)  
- Division of Virology I (*Vaccinia*)  
- Division of Virology II (*Rabies*)  
- Division of Virology III (*Influenza*)  
- Division of Virology IV (*Arthropod-borne viruses*)

#### DEPARTMENT OF ENTERO-VIRUSES

**Chief**: ISAMU TAGAYA, M. D.  
- Division of Entero-virus I (*Poliovirus, Tissue culture*)  
- Division of Entero-virus II (*Poliovaccine, Safety test*)  
- Division of Entero-virus III (*Poliovaccine, Potency test*)  
- Division of Entero-virus IV (*Poliovirus, Epidemiology*)  
- Division of Entero-virus V (*Coxsackie viruses, ECHO viruses*)

#### DEPARTMENT OF MEASLES

**Chief**: AKIRA SHISHIDO, M. D.  
- Division of Measles I (*Measles Vaccine Control, I*)  
- Division of Measles II (*Measles Vaccine Control, II*)  
- Division of Measles III (*Etiology and Epidemiology of Measles*)  
- Division of Measles IV (*Rubella and other viruses*)

#### CENTRAL VIRUS DIAGNOSTIC LABORATORY

**Chief**: REISAKU KONO, M. D., M. P. H.  
- Division of Laboratory Examination  
- Division of Antigens and Antisera

#### DEPARTMENT OF TUBERCULOSIS

**Chief**: TOYOHO MUROHASHI, M. D.  
- Division of Epidemiology
Chart 4. Continued)

Division of BCG
Division of Tuberculin
Division of Chemotherapy
Division of Acid-fast bacteria

DEPARTMENT OF GENERAL BIOLOGICS CONTROL
Chief: MASAMI KUROKAWA, M. D.

Division of Blood & Blood Products
Division of Safety & Pyrogen Tests
Division of Sterility Tests
Division of Biological Products

DEPARTMENT OF ANTIBIOTICS
Chief: HAMAO UMEZAWA, M. D.

Division of Mycology
Division of Biology of Antibiotics
Division of Chemistry of Antibiotics
Division of Assay of Antibiotics Drugs
Division of Pilot Plant

DEPARTMENT OF PARASITOLOGY
Chief: TATSUSHI ISHIZAKI, M. D.

Division of Parasitology I (Nematodes & Protozoology)
Division of Parasitology II (Nematodes)
Division of Parasitology III (Trematodes & Cestodes)
Division of Parasitology IV (Physiology)

DEPARTMENT OF MEDICAL ENTOMOLOGY
Chief: SHOJIRO ASAHINA, Ph. D.

Division of Medical Insects
Division of Insecticides
Division of Pest Control

DEPARTMENT OF VETERINARY SCIENCE
Chief: KIYOSHI IMAIZUMI, D. V. M.

Division of Veterinary Public Health
Division of Experimental Animals I
Division of Experimental Animals II

DEPARTMENT OF FOOD RESEARCH
Chief: KOMRI MIYAKI, Ph. D.

Division of Food Toxicology
Division of Food Microbiology
Laboratory of Botulism
Laboratory of Mycotoxicosis
Laboratory of Food Chemistry

DEPARTMENT OF PATHOLOGY
Chief: YASUYUKI EGASHIRA, M. D.

Division of General Pathology
published in this Journal in the near future. A summary of the research activities at Nagasaki and Hiroshima Branches will appear in the following section.

The Institute publishes an Annual Report in Japanese, which does not contain original papers but only the short abstracts of all the works performed in each year. The Japanese Journal of Medical Science and Biology, which is published bimonthly by the Institute, does not necessarily contain all the original reports from all the Departments, Laboratories and Branches. Many reports from the Institute have been published in different journals. The main journals in which the original reports from the Institute have been published are listed in Chart 5.

The Institute was nominated as the National Influenza and the Salmonella Centers in 1948 and one of the Regional Centers for Poliomyelitis in 1955 by the World Health Organization. The latter was renamed by the WHO as the WHO Regional Reference Laboratory for Enteroviruses and the activities expanded to cover all enteroviruses. In
INTERNATIONAL CO-OPERATION AND EXCHANGE OF PERSONNEL

1956, the W H O Leptospira Reference Laboratory in connection with the Leptospira Subcommittee, the International Association of Microbiological Sciences, was established in the Institute. In 1958, it was nominated as the National Center of Enteric Phage Typing to maintain correspondence with the International Association of Microbiological Sciences and also as the National Shigella Center of W H O. It was nominated as the W H O Regional Center for Arthropod-borne Viruses in 1961 and as the W H O Regional Center for Respiratory Viruses in 1962. Since 1962, the Institute has been taking part in the W H O co-operative project on isolation and identification of Mycobacteria from human sources in tropical and sub-tropical areas.

Our research staff members were sent to the Virus Research Institute, Department of Medical Sciences, Thailand by the Japanese Government. The Institute also participated in the Philippine-Japan Co-operative Studies on Cholera. It also served as the W H O Medical Consultant to cooperate with Korea and Taiwan in virus research projects.

We always have at least 5 staff members studying in the United States or other advanced countries for a period of one or two years. We have had visiting fellows from the U. S. A., West Germany and Thailand. The author wishes that international co-operative research and exchange of personnel would be practiced much more extensively.
so that the most up-to-date information and knowledge can be exchanged promptly with scientists in other countries and be applied for the improvement of the health and welfare of all the mankind.

**FUTURE PROSPECT OF THE INSTITUTE**

This Institute has no doubt contributed a great deal to preventive and therapeutic medicine in the past two decades. In view of the recent enormous development and advancement in science and technology, the Institute requires more personnel, more facilities and a much larger amount of funds for applied and basic researches. The Central Virus Diagnostic Laboratory and the Department of Food Research require immediate expansion; a Department of Blood Research and Department of Respiratory Viruses should immediately be established.

As described before, Colonel C. F. Sams must have expected the Institute to become one similar to the National Institutes of Health, Bethesda, U. S. A., when he suggested that this Institute should be established by and belong to the Ministry of Health and Welfare. The Japanese National Institute of Health today, however, is entirely different from the U. S. National Institutes of Health. The subdivisions possessed in common by both the Institutes are only the Division of Biologic Standards, the National Institute of Allergy and Infectious Diseases and the National Institute of Dental Health. The sizes of each common subdivision, however, are quite different. The National Cancer Institute and the National Institute of Mental Health, both belonging to the Japanese Ministry of Health and Welfare, are independent of this Institute.

The author hopes that all the Japanese Research Institutes dealing with projects of health of national importance shall be united together by a centralized administration. When this is accomplished, such projects as should be carried on with the co-operation of two or more institutes may get more effective instruction as to where more emphases should be placed. When such a central administering board is established, a central laboratory to deal with the epidemiology of infectious diseases must be included in the united institutes. The epidemiology of infectious diseases in this country has been by far unsatisfactory. An institute to deal with apoplexy and another to deal with heart diseases, both of which are ranked high in the main causes of deaths in this country, will also have to be established.

Furthermore, the present situation in this country where industries are developing rapidly and the population is being concentrated in the large cities may require a sanitary engineering research institute.

The amount of research grants currently available is by far smaller than that in many other developed countries. It is a matter of regret that the total amount of the research grants that the Institute is now getting from our own Government is smaller than that of the foreign research grants. Some politicians in this country who speak of the urgent need to develop science so the people can reap the ultimate reward of research but who do little to support the development of science should reappraise their actions. It is of the utmost importance that the amount of the budget for research grants be increased and the salaries of the research workers be raised to assist the scientists to perform more creative work.

Should these essential requests be neglected, the tragic situation will materialize that more research workers with valuable talents will probably move away from this Institute and other institutes to some other country where creative ideas are more highly regarded
and scientists are better paid to make the best use of their talent. This is one of the biggest problems for not only this Institute but also for other research institutions in Japan. International exchange of scientists should be encouraged but drainage of scientists be discouraged. If the draw of scientists continues, the future growth of science in Japan and with it the enormous benefits to be provided to the Japanese people will be curtailed.

To close this review, the author is very grateful for the numerous domestic and foreign supports given to this Institute during the past two decades and should like to ask for further support in the future.