The National Epidemiological Surveillance of Infectious Diseases in Compliance with the Enforcement of the New Infectious Diseases Control Law (Japan)

By National Institute of Infectious Diseases

The National Epidemiological Surveillance of Infectious Diseases (NESID) in Japan started in 1981 consists of 1) sentinel surveillance for occurrence of patients of 27 kinds of infectious diseases other than legally notifiable diseases, and 2) infectious agents surveillance. The surveillance, however, has not been based upon any legal basis.

In April 1999, the Communicable Disease Prevention Law in effect since 1897, the Venereal Disease Prevention Law since 1948, and the AIDS Prevention Law since 1989 have been abrogated and the Law Concerning the Prevention of Infectious Diseases and Medical Care for Patients of Infections (hereafter referred to as the new Infectious Diseases Control Law) is being enacted. In this new law, the NESID program is defined as one of the main objects. Intensifying the surveillance system based on notification from physicians, collection, comprehension and analysis of the incidence and the trend of infectious diseases, and feedback of such information are proposed; moreover active surveillance has been introduced for epidemiological investigation. Since the information of infectious agents is essential for providing adequate medical care to patients and important to prevent and control the spread of infectious diseases, it is necessary to collect, analyze, and publish the information on infectious agents. It is required that these information published benefit the general public as well as those working in medical fields.

The purpose of the new NESID program is settled in compliance with the new Infectious Diseases Control Law to promote effective and accurate infectious disease control measures by reinforcing and expanding the conventional surveillance system, restructuring the computer-network system to obtain, analyze, and quickly publish the information on a nation-wide scale and conducting active surveillance. Government and local governments (prefectures and cities including special wards having health centers) are responsible for conducting the surveillance.
**Target diseases:** In the new Infectious Diseases Control Law, all infectious diseases of new categories I through IV are designated as the targets of the NESID (Table). All category I through III infectious diseases and 33 kinds of category IV diseases are required notifying all the cases, and 28 kinds of category IV are surveyed on the basis of the reports from the sentinel clinics and hospitals. With regard to all category I and four kinds of category II infectious diseases (cholera, shigellosis, typhoid fever, and paratyphoid fever), patients, suspected cases, and asymptomatic carriers are the targets. Of category II infectious diseases, patients and asymptomatic carriers of diphtheria and acute poliomyelitis and those of enterohemorrhagic *Escherichia coli* infection of category III are the targets.

**Organization of the surveillance system:** As the organization to play a central role in the national surveillance, the national infectious disease surveillance center has been organized. The Infectious Disease Surveillance Center (IDSC) of the National Institute of Infectious Diseases (NIID) fulfils the function. A district infectious disease surveillance center has been organized by each local government, and it is placed mainly in the prefectural/municipal public health institute (referred to as PHI) to conduct the surveillance within the district. In each prefecture, one of district infectious disease surveillance centers is assigned for the key district infectious disease surveillance center, which collects and analyzes the information from the whole area of the prefecture and forwards the results to the rest of district infectious disease surveillance centers. With participation of experts on infectious diseases in different fields, a national committee of infectious disease surveillance is organized in the Ministry of Health and Welfare and a district committee of infectious disease surveillance in the local government.

**Surveillance for category I, II and III infectious diseases:**

**Physicians diagnosing target infectious diseases** The physician who has diagnosed any of the target infectious diseases must report immediately the name, age and sex of the patients and other information on the reporting form to the nearby health center. When the health center requires tests for the etiological agent, the physician will send the available specimens and/or the information on the infectious agent to the PHI.

**Health centers** The health center must immediately forward the patient information to the health department of the local government (local health department) and the district infectious disease surveillance center via computer-network system. When necessary, the health center will ask the
physician to send the specimens and/or information on the etiology of the infection to PHI.

The health center must also distribute the information on the incidence of target diseases and their infectious agents obtained from the district infectious disease surveillance center to the municipalities, the medical institutions concerned, the Medical Association, the Board of Education, etc. through weekly and monthly reports or other media.

The health center receiving any notification on category I to III infectious diseases must inform the incident (except for the information on the patient’s privacy) to the above-described organizations.

**PHI**

PHI conducts the laboratory tests requested and sends the results to the physician through the health center. The information on the infectious agents sent by the physician and the results of the laboratory tests must be sent to the health centers, the local health department, and the district infectious disease surveillance center.

Any tests difficult to conduct at PHI are transferred to the NIID.

**NIID**

The NIID conducts the laboratory test requested and reports the results to the PHI and the national infectious disease surveillance center.

**Local health departments**

Upon receiving the patient information from a health center by electronic telecommunication, the local health department must send the information to the national infectious disease surveillance center through the computer-network system. The information on the infectious agents including the results of the tests sent from the PHI should also be reported immediately to the national infectious disease surveillance center.

**District (key district) infectious disease surveillance centers**

The district infectious disease surveillance center should collect and analyze the information on incidence of target diseases and their infectious agents (including that on the results of the tests conducted by PHI) and convey the information to health centers and other institutions concerned through weekly report or other media together with the published information on the whole country obtained from the national infectious disease surveillance center. The key district infectious disease surveillance center must furnish the information in the prefecture to the district infectious disease surveillance centers and other organizations together with the information on the whole country.
National infectious disease surveillance center The national infectious disease surveillance center must immediately compile, analyze and evaluate the patient information received from the local health departments and send the information on incidence of target diseases in the whole country to the local health departments through weekly report or other media together with that of category IV infectious diseases. The information on infectious agents are analyzed and evaluated, and the results are to be sent immediately to the local health departments and, if necessary, published in weekly report or other media.

**Surveillance for category IV infectious diseases (required notifying all the cases):**

Physicians diagnosing target infectious diseases The physician who has diagnosed any of the target infectious diseases must report within 7 days the age and sex of the patient and other information on the reporting form to the nearby health center. Infectious agent surveillance will be conducted by request from the health center in the same way as for the infectious diseases in categories I-III.

Health centers The health center must forward as soon as possible, at the latest within 7 days the information to the local health department and the district infectious disease surveillance center through the computer-network system. Concerning the target diseases for infectious agent surveillance among category IV infectious diseases marked with * in the Table, the health center will ask the physician to send specimens for the microbiological tests and/or the information on the infectious agent to PHI, if necessary.

The health center must also regularly distribute in the same way as for the category I-III infectious diseases information on incidence of target diseases and their infectious agents retrieved from the district infectious disease surveillance center.

PHIs Similar to the category I-III infectious diseases.

NIID Similar to the category I-III infectious diseases.

Local health departments Within 7 days after the health center has received information, the local health department must send it to the national infectious disease surveillance center through the computer-network system. The information on the infectious agents sent from PHI should also be transmitted immediately to the national infectious disease surveillance center.
District (key district) infectious disease surveillance centers Similar to the category I-III infectious diseases.

National infectious disease surveillance center The national infectious disease surveillance center must immediately compile, analyze and evaluate the patient information sent from the local health departments and send the information on incidence of target diseases in the whole country to the local health departments through weekly reports or other media together with that on category I-III infectious diseases and category IV infectious diseases to be reported by the sentinel clinics and hospitals. The information on infectious agents are treated in the same way as for that on the category I-III infectious diseases.

Surveillance for category IV infectious diseases (required to be reported by the sentinel clinics and hospitals):

Sentinels The number of sentinel clinics and hospitals is decided depending on the relative population of the jurisdiction of each health center and on consideration enabling comprehending the incidents in the whole area of the prefecture. The sentinel clinics comprise those for pediatric diseases (about 3,000 pediatrics in the whole country), those for influenza (3,000 pediatrics as mentioned above plus about 2,000 internal medicine), those for eye diseases (about 600 ophthalmology in the whole country), those for STD (about 900 STD clinics including gynecology, obstetrics, urology, and dermatology in the whole country). The sentinel hospitals primarily targeting inpatients (about 500 hospitals having more than 300 beds providing medical care in pediatrics and internal medicine in the whole country).

About 10% of sentinel clinics for pediatric diseases, influenza and eye diseases and all the sentinel hospitals serve as sentinels for infectious agent surveillance. The target diseases for infectious agent surveillance are shown with a mark * in the Table.

Reporting from sentinels The incidents of the pediatric diseases, influenza and eye diseases found at sentinels are reported every week to health centers. Those of the target diseases at sentinel hospitals except for drug-resistant bacterial infections are also reported every week. Those of STD at sentinel clinics and drug-resistant bacterial infections at sentinel hospitals are reported every month to health centers. Specimens for etiological tests are sent from sentinels for infectious agent surveillance to PHI.

Health centers Health centers send the information on incidence of infectious diseases obtained from sentinels to the prefectural health
department and the district infectious disease surveillance center via computer-network system (weekly reports are sent by Tuesday of the next week and monthly reports by the 3rd of the next month).

The health center must also feed back the information on incidence of target diseases and their infectious agents obtained from the district infectious disease surveillance center in the same way as for category I-III infectious diseases.

**PHIs** Similar to the category I-III infectious diseases.

**NIID** Similar to the category I-III infectious diseases.

**Local health departments** As soon as the information is received from the health center, the local health department must forward it to the national infectious disease surveillance center through the computer-network system. The information on the infectious agents received from PHI should also be reported immediately to the national infectious disease surveillance center.

**District (key district) infectious disease surveillance centers** Similar to the category I-III infectious diseases.

**National infectious disease surveillance center** The national infectious disease surveillance center must immediately compile, analyze and evaluate the patient information received from the local health departments and send the information on incidence of target diseases in the whole country to the prefectural health departments by weekly report or other media together with that on the category I-III infectious diseases and the category IV infectious diseases required to comprehend all the cases. The information on infectious agents is treated in the same way as that for the category I-III infectious diseases.

**Active surveillance:** Active surveillance for epidemiological investigation is introduced so that the governor of the local government can operate when any of the category I-III infectious diseases occurs or the incidence of category IV infectious diseases show an unusually different trend. Understanding and cooperation with close connection of people concerned may be necessary for operation of active surveillance. The Field Epidemiologist Training Program to educate experts participating in active surveillance is being held at the NIID from the fiscal year of 1999.

For adequate treatment, prevention and control of infectious diseases on personal and district levels to the national level, high-quality
surveillance accurately comprehending the trend of the diseases and the infectious agents is essential. To realize this purpose, we ask those in many different fields for the understanding and cooperation in operating the NESID program.

Source: http://idsc.nih.go.jp/index.html