

# Tokyo Medical Association's Measures against Infectious Diseases

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## Introduction

The sense of danger regarding infectious diseases had been fading in recent years compared to the past as a result of progress made in immunizations and antibiotics. Lately, however, the growing worldwide threat of emerging infectious diseases such as SARS and new influenza and re-emerging infectious diseases such as tuberculosis and cholera has led to calls for the strengthening of measures against infectious diseases. The Ministry of Health, Labour and Welfare (MHLW) formulates national countermeasures to infectious diseases, which it offers as guidelines to be followed by the local governments.

The Metropolis of Tokyo has a much greater risk of infectious diseases than other local areas, owing its situation as a large city with a population of 12.8 million and the fact that it is a global city from which more than three million people travel abroad and which attracts over three million visitors from outside Japan each year. What is more, as the capital of Japan, the city needs to have measures for maintaining capital functions and addressing bioterrorism.

With the above in mind, the Tokyo Metropolitan Government (TMG) is aggressively promoting preventive measures against a wide variety of infectious diseases, including emerging and re-emerging types. The Tokyo Medical Association (TMA) is working with the TMG on measures against infectious diseases in order to protect the citizens of Tokyo from the threat of infectious diseases by acting within its capacity as an association of professionals on the medical front. The TMA's initiatives against infectious diseases are described below.



## The Threat of Emerging Infectious Diseases

### New influenza viruses

Recently, there has been a mounting threat of new infectious diseases—called emerging infectious diseases—including Severe Acute Respiratory Syndrome (SARS), West Nile virus, and highly-pathogenic avian influenza (H5N1), the prevalence of which has centered on Asia. Among them, the H5N1 flu has spread from Asia to Russia and Eastern Europe, and there have been reports of infection in humans and fatal cases mainly in Asia, including China, Vietnam, and Indonesia. If the highly-pathogenic avian influenza (H5N1) virus were to become able to spread efficiently from person to person, an explosive outbreak (pandemic) is anticipated to follow, causing a major health hazard, since most of humanity has no immunity to the virus.

No one knows when there will be an outbreak of a new influenza virus, and so countering such an outbreak is viewed as impossible. Moreover, it is difficult to prevent the influx of new viruses in this age when people and things move on a global

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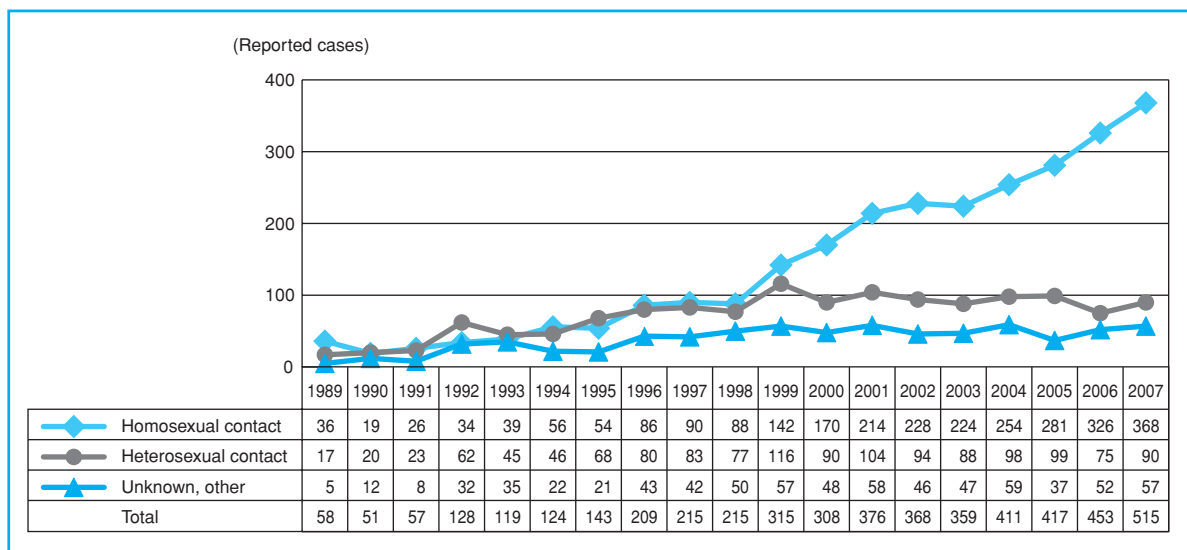


Fig. 1 Annual change in the number of reported cases in Tokyo by presumed infection route

scale. There is also concern that an epidemic in Tokyo would lead to social and economic chaos above and beyond the resultant health impact.

For these reasons, the TMG established the “Tokyo Action Plan for Measures against New Influenza Viruses” in December 2005 and the “New Influenza Viruses Response Manual” in March 2007. Under the Tokyo government’s plan, simulations have been made of impact to be expected in an outbreak, taking into consideration the city’s characteristic features. Whereas the national government postulates an infection rate of 25% for new strains for influenza, for example, the Tokyo government assumes a 30% infection rate. Accordingly, as a countermeasure based on this figure, it is stockpiling four million doses of anti-influenza virus drugs (Tamiflu and Relenza) and 500,000 PPE sets (face shields, goggles, N95 masks, gowns, and shoe covers, etc.), and is considering increasing these reserves.

### Tokyo’s measures against new influenza viruses

Minimizing the impact of new influenza viruses requires thorough precaution and the advance establishment of specific actions to be taken by the government, health professionals, and relevant organs, respectively and in cooperation with each other, according to the stage of an outbreak. Based on the “Tokyo Action Plan

for Measures against New Influenza Viruses,” the TMG is strengthening its surveillance and inspection systems and has developed healthcare delivery systems tailored to the different stages of an outbreak, from the containment measures phase to the major epidemic (pandemic) phase.

Healthcare system preparation in the containment measures phase involves opening fever consultation centers and fever clinics, and efforts to secure cooperating medical institutions that can provide hospitalized treatment until a definite diagnosis is obtained. Measures for the pandemic phase are to secure an appropriate medical treatment system by gradually increasing the establishment of fever clinics. In addition, the Tokyo government established a new Tokyo Infectious Disease Treatment System Council, which has started deliberations in an attempt to reach a consensus regarding future healthcare systems.

### Re-Emerging Infectious Diseases/ Tuberculosis

Recently, the comeback of diseases that were thought to have been almost completely eradicated through progress made chiefly in antibiotics has become a problem. These re-emerging infectious diseases include tuberculosis, malaria, dengue fever, rabies, and infections cause by *Staphylococcus aureus*. It has been pointed out

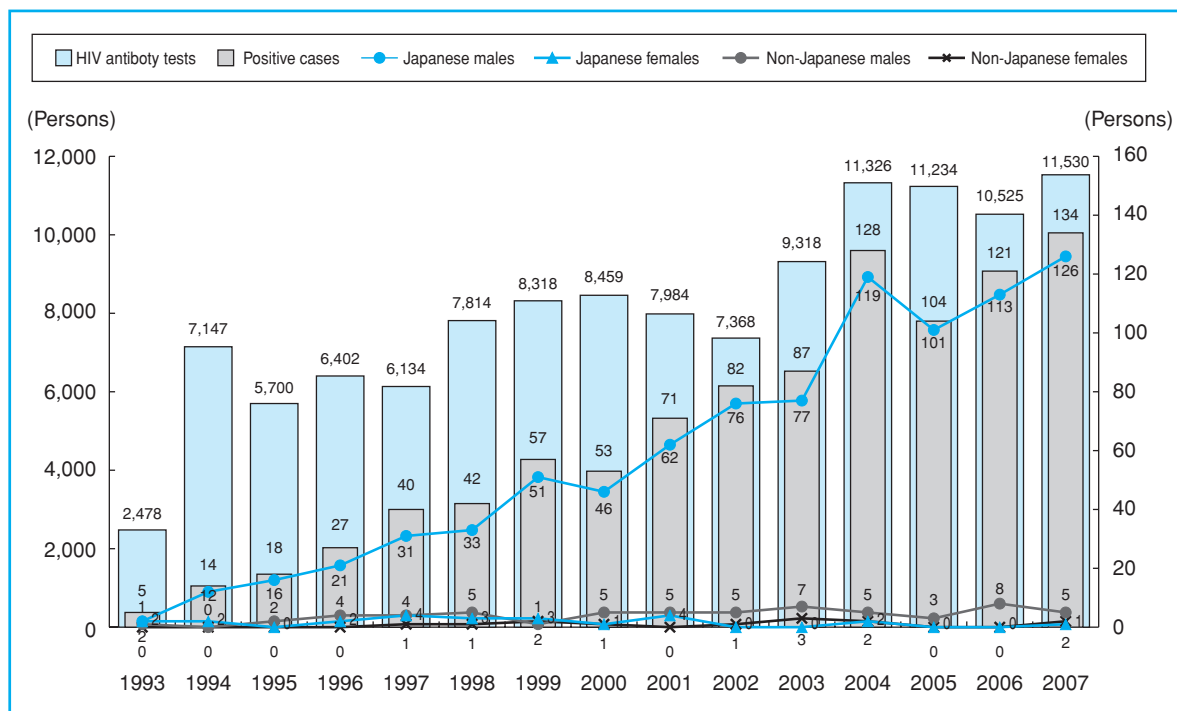


Fig. 2 Number of tests and positive cases at the Tokyo Metropolitan Minami-Shinjuku HIV/AIDS Testing and Consultation Center

that these diseases are showing signs of making a worldwide resurgence as a result of an increase in antibiotic-resistant bacteria, global warming-induced ecosystem changes, and the development of global transportation.

Among these diseases, tuberculosis had once been so rampant in Japan as to be called the national affliction, but it had been slipping out of memory in recent years. However, in the late 1990s the infection rate started to increase again. Today, this re-emergence is showing features such as being widespread among young people, having a high incidence of group infection, and increasing numbers of patients among people with no fixed address and the foreign population, particularly in large cities with numerous confined spaces such as cram schools and internet cafés. And so, it is now stealing up on Tokyo residents. As the nation’s capital, Tokyo has therefore taken the lead and established the Tokyo Tuberculosis Prevention Plan as a guideline for taking action to conquer this modern, urban form of tuberculosis.

## HIV/AIDS

### Operation of the Tokyo Metropolitan Minami-Shinjuku HIV/AIDS Testing and Consultation Center

HIV infection causes hardly any subjective symptoms, and so people do not know whether they are infected unless they get tested. The number of persons in Japan infected with HIV is still rising despite the educational and PR campaigns carried out by the government and other relevant organizations. Nearly 40% of new infections are reported to occur in Tokyo, and infections are spreading at a rate of about one person per day.

On the other hand, progress made in anti-HIV drugs has transformed HIV from an “incurable disease” to a “controllable disease.” In that sense, testing is important for the purpose of early identification of infections.

On commission from the TMG, the TMA runs the Tokyo Metropolitan Minami-Shinjuku HIV/AIDS Testing and Consultation Center.

### High positive rate at the Tokyo Metropolitan Minami-Shinjuku HIV/AIDS Testing and Consultation Center

In 2007, there were 515 newly reported cases of HIV infection and AIDS patients in Tokyo, an all-time high (Fig. 1). In addition, the number of telephone consultations increased at all health centers and AIDS hotlines in Tokyo, and the number of HIV tests conducted at health centers in Tokyo have increased in recent years.

These figures are also increasing across Japan. Although the number of infected persons in Japan is low on a global basis, Japan is said to be the only developed country where infections have been following an upward trajectory in recent years.

The Tokyo Metropolitan Minami-Shinjuku HIV/AIDS Testing and Consultation Center run by the TMA stays open during nighttime hours on weekdays and in the afternoon on weekends to provide people with easy access to testing and consultation. This is why the center conducts the highest number of tests and has the highest positive rate among testing centers in Tokyo (Fig. 2).

### Tokyo's Measures against Infectious Diseases and the TMA

#### Tokyo Infectious Disease Trends Surveillance Program

This surveillance program started in 1981, adopted an on-line computer system in 1987, and has striven to provide beneficial information for preventing disease outbreaks by working with the TMG in an effort to monitor the status of the incidence of infectious disease within the city.

The purpose of the program is to enable necessary measures to be taken to prevent the spread of disease by monitoring and analyzing information about the incidence of infectious diseases and providing/disclosing those findings to the residents of Tokyo and healthcare professionals. Data from the Infectious Disease Trends Surveillance Program is available for searching on the website of the TMG Infectious Disease Surveillance Center. The data is updated weekly.

#### Tokyo Metropolitan Government Intensive Strategy to Urge Viral Hepatitis Patients to Undergo Treatment

Viral hepatitis is currently the biggest infectious disease in Japan. In 2007, the TMG institute the

“TMG Intensive Strategy to Urge Viral Hepatitis Patients to Undergo Treatment” in order to prevent progression to liver cirrhosis and liver cancer through early detection and treatment of this disease.

Patients with hepatitis B or C who undergo interferon treatment can receive a subsidy that covers some of the treatment costs. The strategy is being implemented intensively for a short period limited to five years, and is promoting healthcare collaboration between clinics and hospitals based on a network for hepatitis examination and treatment so that patients can receive early screening and appropriate treatment during the period.

#### Improvement and promotion of viral hepatitis screening

- Local medical institutions (family doctors), health centers, and others conduct viral hepatitis screenings.

#### Establishment of a network for hepatitis treatment

- Family doctors and health centers refer patients to liver specialists.
- Liver specialists determine a treatment policy and provide treatment with the cooperation of the family doctor.
- If interferon treatment is to be given for hepatitis B or C, patients submit an application for financial support for medical fees at the municipal office together with a medical certificate from the liver specialist.

#### Measures against measles

In the spring of 2007, there was an outbreak of measles mainly among teenagers and people in their 20s, leading to numerous school closures and a resultant social problem. Factors behind this outbreak are thought to be the fact that nowadays there are many teenagers and people in their 20s who have not been vaccinated for the measles and who have no history of measles infection and the fact that the infected persons did not have sufficient antibodies to prevent onset of the disease, since there are people who could not obtain immunity through the first vaccination and because of a lower frequency of receiving the booster effect (immunity-enhancing effect) provided by natural infection.

The measles, which spreads easily from person to person, is a serious disease that is sometimes even fatal. The World Health Organization

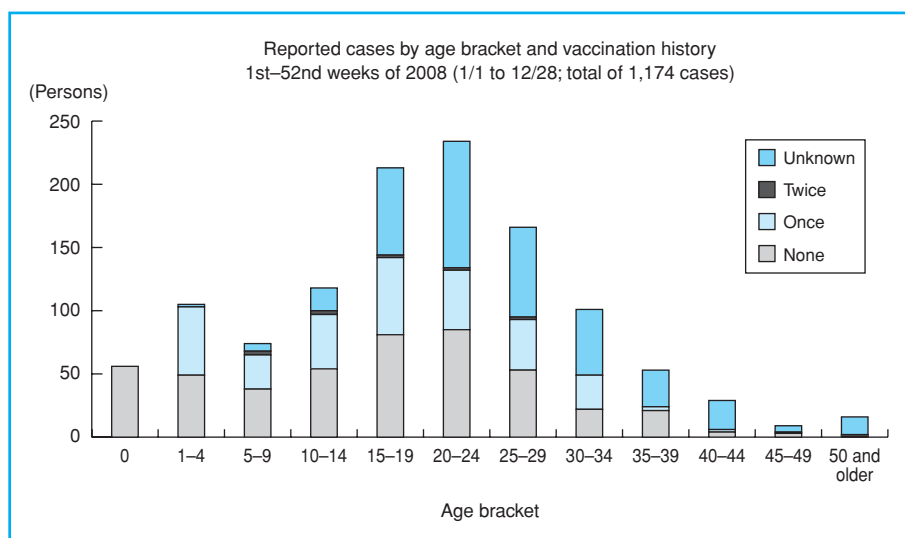


Fig. 3 Measles patients by age bracket and vaccination history

(WHO) set the goal of “measles elimination by 2012 in the Western Pacific Region, including Japan.” In response, the MHLW drew up a Measles Elimination Plan that has the goal of eliminating the occurrence of the measles in Japan by 2012 and maintaining its elimination thereafter. As part of the plan’s concrete initiatives, the target scope of routine vaccinations for the measles and rubella has been expanded from the current first phase (one-year olds) and second phase (children in the year before entering elementary school) to include a third phase (children of the age equivalent to 7th graders) and fourth phase (children of an age equivalent to 12th graders), during which routine vaccinations are being given for a limited period of five years starting from April 1, 2008.

#### **Incidence of the measles in Tokyo**

On a graph showing the relationship between the age of measles patients reported in Tokyo in 2008 and their history of vaccination, those who reported never having been vaccinated accounted for nearly half (Fig. 3).

It is thought that vaccination would have prevented a significant proportion of infections and onsets of the measles during this period. It is suggested, however, that even if one is vaccinated, a one-time vaccination may have an insufficient effect, or the vaccination effect may drop with the passage of time from the date of vaccination.

#### **Infectious Disease Prevention Review Committee**

The TMA has been commissioned by the TMG to carry out the Tokyo Infectious Disease and Tuberculosis Trends Surveillance Program. This program is carried out by fixed medical institutions that monitor trends in the incidence of infectious diseases and an Infectious Disease Prevention Review Committee, which analyzes and evaluates the incoming data. The program gathers, analyzes, and provides data on all infectious diseases from category 1 to category 5. In fiscal 2007, the number of fixed medical institutions was increased to strengthen the Tokyo-wide infectious disease trends survey and the monitoring network for new influenza viruses.

The Infectious Disease Prevention Review Committee discusses, analyses, and evaluates the information gathered from the fixed medical institutions on the incidence of infectious diseases in Tokyo. This information is then provided to members of the TMA via various means, including through the TMA’s journal and its newsletter.

#### **Vaccination-related Program Committee**

Vaccinations are either routine or optional. Routine vaccinations have been prescribed by law and are advisable to receive at certain ages. Routine vaccinations cover the measles, rubella, DPT (diphtheria, pertussis, and tetanus), BCG,

Japanese encephalitis, and polio. These diseases are highly infectious, are often severe if contracted by an infant, and have no other effective means of prevention and treatment other than vaccination. Optional vaccinations can be received voluntarily, taking into consideration the environment and family circumstances surrounding an infant. Optional vaccinations are given for the mumps, chickenpox, influenza, and hepatitis B. Vaccinations for these diseases are given by family doctors on an individual basis to those who wish to be vaccinated. Optional vaccinations are not covered by health insurance and so the cost is an out-of-pocket expense.

In August 2005, the MHLW issued a notification urging local governments to consider the cost burden for vaccinations that are not subject to the national Preventive Vaccination Law. Accordingly, Chofu City, Fuchu City, Hachioji City and some other municipalities within the Greater Tokyo Area call these vaccinations “vaccinations not stipulated in law” and refer to vaccinations specified in the national Preventive Vaccination Law as “vaccinations based on law” or “legally designated vaccinations.” Within

the 23 wards of Tokyo and other municipalities, some areas refer to these vaccinations as “public expenditure optional vaccinations” or “transitional measures.”

The TMA’s Vaccination-related Program Committee studies policies and educational approaches for raising the awareness of Tokyo residents in order to increase the vaccination rate, and conducts various activities with that goal in mind. Of particular note, the lectures about vaccinations planned by the Committee and given for daycare and kindergarten staff members are always a great success; they are well attended and give these key persons a better understanding of the importance of vaccinations as the most effective policy among the measures against infectious diseases in children. What is more, this year we enhanced the vaccination-related sections of the TMA’s website. In the site for Tokyo residents, we present information about vaccinations in a clear manner, provide answers from the Committee to questions asked by the citizens in a Q&A format, making efforts to actively disseminate information.