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<THE TOPIC OF THIS MONTH>**Mass Gathering Event (Tokyo 2020 Games) and Measures against Infectious Diseases in Japan****Mass Gatherings and Public Health Measures**

The World Health Organization (WHO) defines a “mass gathering” as “an event characterized by the concentration of people at a specific location for a specific purpose over a set period of time and which has the potential to strain the planning and response resources of the country or community”. Unlike events where people gather unintentionally and accidentally, planned mass gatherings require systematic preparations and securing sufficient resources to ensure the safety of the event participants as well as to avoid negative impacts on the community as a result of holding the event.

In past mass gatherings, preparation of the medical care system has been emphasized from the viewpoint of ensuring the safety of the participants, but in recent years, the impact on the medical care and public health of the area hosting the event has also become a point of emphasis. In particular, the nature of mass gatherings, in which many people congregate from various locations, have close contact with people they do not normally have contact with for a certain period of time, and then return to their respective places of residence, may lead to the introduction of infectious diseases that do not occur in the region, the formation of clusters, and the source of geographic spread of infectious diseases. Outbreaks of meningococcal disease associated with the Islamic pilgrimage (Haji) are often cited as notable events. With respect to sports-related events, outbreaks of measles, influenza, and norovirus infections have been reported.

International Mass Gatherings and Pre-event Preparations in Japan

Japan has experienced various international mass gatherings (including high-profile events attended by heads of state and others) over the past 20 years (Table 1).

At such international mass gatherings, enhanced surveillance has been conducted for the purpose of early detection of health crisis events, including rapid increases in infectious diseases and bioterrorism. Enhanced surveillance refers to surveillance that aims to increase detection sensitivity and detect unusual situations earlier than usual by increasing the reporting frequency or sensitivity of routinely conducted surveillance or by conducting additional surveillance that is not normally performed. To date, when holding international mass gatherings in Japan, in addition to routine surveillance by the National Epidemiological Surveillance of Infectious Diseases (NESID) system, surveillance has been conducted by strengthening the reporting system and utilizing various sources, including media information. In recent years, enhanced surveillance has been conducted at the G20 Osaka Summit in 2019 and the Rugby World Cup 2019 in Japan.

An example of an infectious disease event related to an international mass gathering in Japan is the World Scout Jamboree that was held in Yamaguchi Prefecture in 2015, in which there was a report of a case of meningococcal disease in a participant after the participant's return to the home country (IASR 36: 178-179, 2015). The conference organizers, participating organizations, local governments, and relevant countries coordinated in a rapid fashion, sending out alerts and sharing information in response. In addition, in 2019, there was a case in which a man from overseas visiting Japan as a spectator for the Rugby World Cup 2019 developed meningococcal disease in Japan.

COVID-19 and the Tokyo 2020 Games*

In September 2013, it was decided that the 2020 Olympic and Paralympic Games would be held in Tokyo. This is an event that attracts great attention worldwide, and with more than 140,000 individuals* involved in the Games* (excluding athletes) expected to visit Japan, with the addition of spectators and other visitors, a large number of international visitors were expected to enter Japan during a short time period. In addition, it was assumed that the number of travelers would increase not only in the host city but also in other parts of Japan due to the pre-event camps, etc. Among the various potential public health risks considered, the occurrence of infectious diseases that are not endemic in Japan, in particular, was raised as one of the risks. Therefore, risk assessment was conducted based on incidences of infectious diseases in each country, the number of visitors to Japan from the respective countries, and the impact posed if the disease occurred (see p.155 of this issue); measures such as strengthening surveillance systems and vaccination had been promoted while weighing the countermeasures for each disease. In August 2019, the “Action plan to manage infectious diseases in preparation for the Tokyo 2020 Olympic and Paralympic Games” was formulated. Surveillance systems had been strengthened both at the national level (see p.155 of this issue) and at the

Table 1. International mass gatherings in Japan since 2000

Year	Event
2000	Kyushu-Okinawa Summit
2002	2002 FIFA World Cup Korea/Japan
2008	G8 Hokkaido Toyako Summit
2010	APEC Japan 2010
2016	G7 Ise-Shima Summit
2019	G20 Osaka Summit
	Rugby World Cup 2019
2021	Tokyo 2020 Olympic and Paralympic Games

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subnational level (see p.156 of this issue). Furthermore, vaccination against measles, rubella, and meningococcal meningitis had been promoted to event organizers and others engaged in work that entails frequent contact with foreign visitors to Japan (see p.158 of this issue).

However, due to the COVID-19 pandemic, the Tokyo 2020 Games were postponed for one year from the original schedule. The Olympic Games were planned from July 23 to August 8, 2021, with 339 events in 33 sports, and the Paralympic Games from August 24 to September 5, 2021, with 539 events in 22 sports, in total involving 43 venues. In terms of public health activities, the biggest task was to protect the safety of participants and spectators from COVID-19, minimize any impact on the epidemic in the country, and ensure the safety of the local community. COVID-19 countermeasures for the Tokyo 2020 Games were discussed at the "Coordination Meeting for COVID-19 Countermeasures at the Olympic and Paralympic Games Tokyo 2020 (Coordination Meeting)". The Coordination Meeting was established under the inter-ministerial liaison committee on Tokyo 2020 Olympic and Paralympic Games, chaired by the Deputy Chief Cabinet Secretary, and held seven meetings with the participation of the Tokyo Metropolitan Government, the Organizing Committee, the Japanese government (relevant ministries and agencies), the Japanese Olympic Committee, the Japanese Para Sports Association Japanese Paralympic Committee, as well as infectious disease control experts acting as advisers. Amid the rapidly changing situation due to such factors as the emergence of SARS-CoV-2 variants, based on the "Interim Summary" compiled at the time of the 6th meeting in December 2020, the organizers, the national government, and subnational counterparts had collaborated to establish measures regarding immigration control and transportation methods; infection prevention measures at venues, etc.; thorough notification enforcement and strict compliance with the rules by creating the "Playbook"[†] and establishing operational procedures of the events; and a rapid response system in the event of a COVID-19 case occurrence.

[†] Playbook: A set of COVID-19 rules to be followed by participants at the Tokyo 2020 Games, prepared by the Organising Committee and the International Olympic Committee/International Paralympic Committee.

To strengthen measures against infectious diseases, the Tokyo 2020 Organising Committee* established the Infectious Diseases Control Center (IDCC)* (see p.159 of this issue), which was responsible for the following: public health surveillance; health monitoring of and support for athletes, etc.*; and information sharing, communication, and coordination in the event of a positive case among athletes, etc. or game personnel. The Tokyo Metropolitan Government established the Tokyo Base for Tokyo 2020 Games Health Support* (see p.159 of this issue) to assist the public health centers in the Tokyo jurisdictional area with COVID-19 response related to the Tokyo 2020 Games.

In order to enhance its surveillance and response support system, the National Institute of Infectious Diseases (NIID) strengthened its cross-divisional response structure by operationalizing the Emergency Operations Center (EOC) for the first time (see p.161 of this issue). According to the provisional summary by NIID immediately after the Tokyo 2020 Olympics, a total of 453 COVID-19 cases met the definition of "athletes, etc." and "Games personnel," with 80 (18%) of them being athletes, etc. and 373 (82%) being Games personnel. By place of residence, 147 (32%) were travelers from overseas, and 306 (68%) were domestic residents (<https://www.niid.go.jp/niid/ja/diseases/ka/corona-virus/2019-ncov/2484-idsc/10581-covid19-54.html>). The number of notifications of COVID-19 cases among athletes, etc., the majority of whom were travelers from overseas, peaked 3 to 5 days after the peak in the number of arrivals, while cases were reported continuously for Games personnel, believed to reflect the situation of infection spread in Japan, including Tokyo. During the Tokyo 2020 Paralympic Games, stricter measures were taken, including increasing testing frequency; all staff members who access the athletes' village were tested daily instead of once every four days as was the case during the Tokyo 2020 Olympic Games, and other staff members who were hitherto tested once every seven days were tested once every four days.

In this issue, we report on events involving detection of COVID-19 cases associated with the Tokyo 2020 Games. For the event involving a broad geographic area detected thanks to enhanced surveillance, it led to rapid information sharing among relevant municipalities (see p.163 of this issue). The outbreak detected at an athletes' accommodation facility was detected early by periodic screening tests, and the results of haplotype network analysis of the viral genome, in addition to epidemiologic studies, ruled out the event as one involving transmission among athletes within the facility (see p.164 of this issue). In the context of expecting some COVID-19 occurrence, this event was believed to have prevented a large-scale chain of transmission, thanks to early detection through enhanced surveillance and multilayered infection control measures. In addition, we report on imported infectious diseases during the Tokyo 2020 Games, which was the biggest concern before the emergence of COVID-19 (p.166 of this issue).

As there is a global need to improve the capacity to cope with health crises, the preparatory process for "mass gatherings" planned during the time of the COVID-19 pandemic is seen as an important opportunity, and it is strongly hoped that the experiences and lessons learned from the Tokyo 2020 Games will be shared and utilized widely in the future.

*For official names and definitions of terms, please refer to Table 2.

Table 2. Official terminology, abbreviations and definitions of terms used in this issue

Abbreviation	Official name, etc.
Tokyo 2020 Games	Tokyo 2020 Olympic and Paralympic Games
Tokyo 2020 Organising Committee	Tokyo Organising Committee of the Olympic and Paralympic Games
Infectious Diseases Control Centre (IDCC)	Tokyo Organising Committee of the Olympic and Paralympic Games Infectious Diseases Control Centre
Tokyo Base for Tokyo 2020 Games Health Support	Tokyo 2020 Games Health and Hygiene Support Tokyo Base
Athletes, and others	All athletes competing in the Tokyo 2020 Games (athletes) and those belonging to the International Olympic/Paralympic Committee (IOC/IPC), International Federations (IF), or National Olympic/Paralympic Committees (NOC/NPC) who work together with Athletes [referees, instructors (managers, coaches), trainers, training partners, caddies, staff members, doctors, para-athlete caregivers].
Games personnel	Organizers (IOC/IPC, NOC/NPC, IF, marketing partners and dignitaries); media (Olympic Broadcasting Organization, broadcasting rights holders, media companies); Games staff (officials, Games volunteers and contractors); and others who are issued an Olympic ID and accreditation card or Paralympic ID and accreditation card or who are recognized by the Organizing Committee as essential for the preparation and operation of the Games.

The statistics in this report are based on 1) the data concerning patients and laboratory findings obtained by the National Epidemiological Surveillance of Infectious Diseases undertaken in compliance with the Act on the Prevention of Infectious Diseases and Medical Care for Patients with Infectious Diseases, and 2) other data covering various aspects of infectious diseases. The prefectural and municipal health centers and public health institutes (PHIs), the Department of Environmental Health and Food Safety, the Ministry of Health, Labour and Welfare, and quarantine stations, have provided the above data.

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