Lecture 2

Japan Medical Association's View of Disaster Measures and Practice*1

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Ongoing Health Support That Makes Use of the Strengths of the Japan Medical Association

In Japan, community healthcare is provided under the public health insurance and the respective medical systems in accordance with local characteristics. However, when a major disaster happens, the community healthcare structure might be destroyed. One of the missions of the Japan Medical Association (JMA) is to restore healthcare in the afflicted areas under these circumstances by bringing together the forces of doctors and medical personnel across Japan.

Currently, the number of elderly people, who are socially vulnerable, is increasing in Japan, making the continuity of healthcare support, not only during the actual disaster but also for some time after evacuation, a pressing issue. The predicted Tokyo Inland Earthquake or Nankai Trough Earthquake will strike major cities that especially face this aging issue, so a disaster preparedness plan must incorporate a long-term health support component.

In addition to natural disasters, we cannot ignore the possibility of complex disasters generated as a result of chemical disasters or nuclear power plants. In the Great Hanshin-Awaji Earthquake, 83.3% of the deaths were caused by building collapse. In the Great East Japan Earthquake, 92.5% of the deaths were from drowning. A combination of the two disasters is anticipated to occur in the Nankai Trough Earthquake. A Tokyo Inland Earthquake would result in enormous numbers of evacuees and a state of severed logistics.

The JMA is a professional organization consisting of member physicians in various medical specialties. It has a three-layered structure made up of prefectural and municipal medical associations, and covers the entire nation in a vertical direction through close collaboration at each prefectural and municipal level, and in a horizontal direction through information sharing such as by continuing medical education including disaster medicine.

By making full use of these characteristics, we can respond flexibly with diverse teams such as lifesaving at an ultra-acute phase to long-term support, until medical institutions in the affected areas recover. There are many things we can do and the range of JMAT*2 activities can be very broad.

Forming *i*JMATs*3 from the Need for Collaboration of Domestic and Foreign Assistants

The roles of JMAT are shown in **Table 1**. When the concept of JMAT was initially proposed, medical support measures were devised based on the assumption that local medical institutions would be back up and running after roughly three weeks from the onset of the disaster. The DMATs*4 are in charge of the acute phase and after their withdrawal, JMATs take over and continue medical support activities until the local medical associations and healthcare facili-

*1 This article is a translation of the presentation published in the Report of the JMA-PhRMA Joint Symposium held in Tokyo, Japan, on November 18, 2015.
*2 JMAT: Japan Medical Association Team.
*3 *i* stands for international.
*4 DMAT: Disaster Medical Assistance Team (organized by the government).

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Table 1 Roles of JMAT

- Medical care at shelters and first-aid stations
- Support medical practice of local hospitals/clinics

(1) Medical care in the affected areas and health management for disaster victims and local residents
(2) Public health management at shelters: Infectious disease control, health status of evacuees, diet management/improvement
(3) Medical care and health management of **home-care patients**
(4) Understand and evaluate the medical needs of the assigned areas
(5) Assess the local accessibility of medical care, and provide medical care in the area that lacks medical support (**"areas of no medical support"**) (e.g, mobile clinics)
(6) Collect/understand/share local information
(7) Support **the establishment of a liaison office for local healthcare professionals**
(8) Transport patients
(9) Transfer of duties to local hospitals/clinics after they recover their functions

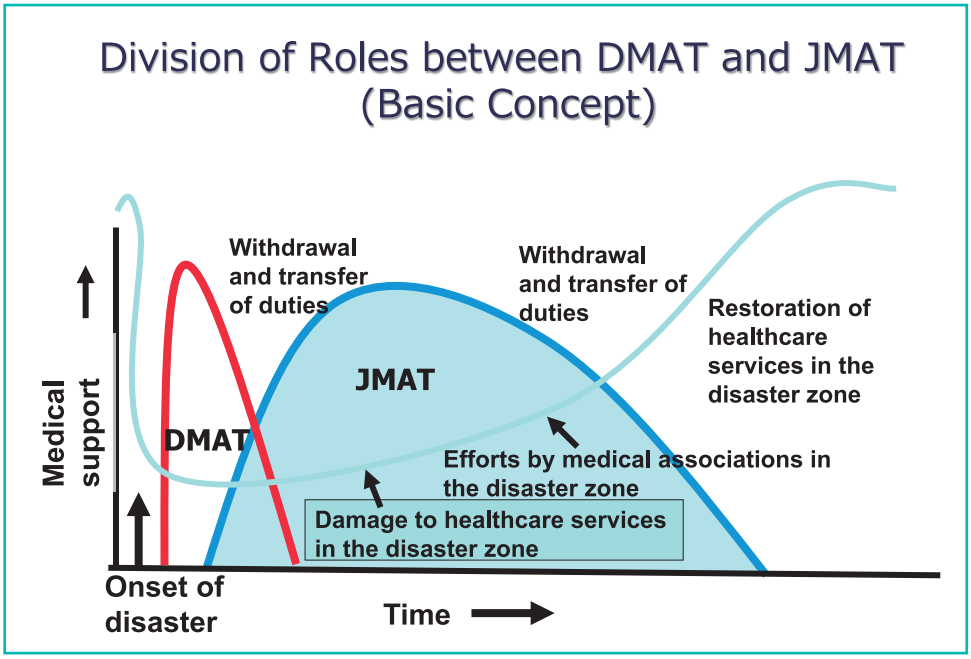

Fig. 1

ties recover, at which time they withdraw and transfer the duties (**Fig. 1**).

However, in reality, reconstruction of the affected areas is still inadequate five years after the Great East Japan Earthquake. More than 250 DMATs were dispatched to the field for emergency activities starting from the day of the incident. After that super-acute phase of life-saving emergency care, JMATs were dispatched under the coordination of the JMA, and the number of dispatched teams increased, with a peak of 100 one month later, and reduced in accordance with local demand. By July 15, 2011, 1,398 teams had been dispatched to the four prefectures including Ibaraki. After that, 1,200 teams were dispatched as JMAT II to the three prefectures, Iwate, Miyagi, and Fukushima, aiming at providing support to medically deprived areas with a large number of elderly.

In the Great East Japan Earthquake, Disaster Management Headquarters were placed within the prefectural governments of the

affected areas to ease cooperation with all involved parties. In the central government, the Disaster Victims Health Support Liaison Council was established consisting of concerned ministries and agencies, and major organizations related to health, medical, and nursing care, with the JMA serving as the overall coordinator. This council is still active and prepared to take immediate action when a new disaster takes place.

One week after the disaster, a serious shortage of drugs was reported to the JMA. By collaboration with the Japan Pharmaceutical Manufacturers Association and the US military, pharmaceuticals and medical supplies were transported to Sendai Airport and Hanamaki Airport. That day, there was another request from Fukushima Prefecture and pharmaceuticals secured by the Aichi Prefecture Medical Association were transported by a private jet belonging to Mitsubishi Heavy Industries and by land by the Self-Defense Force. The JMA received many other offers from abroad to provide assistance, but had little capacity to accept them without a system for acceptance of foreign medical assistance. From this experience, the JMA formulated *i*JMAT, an "agreement between the Japan Medical Association and foreign medical associations concerning mutual consent on dispatching physicians and assistance systems for medical relief assistance in disaster situations." In the dust explosion accident that occurred in Taiwan in July 2015, six specialists were dispatched in response to a request for emergency medical assistance from Taiwan. Soon after that, an *i*JMAT agreement was signed with the Taiwan Medical Association.

Ensuring Means of Sharing Information through the Internet in Collaboration with JAXA

During a disaster, it is essential to instantaneously share information among the local people in charge, great numbers of medical teams, individuals, and related organizations. In 2015 a disaster drill for a possible Nankai Trough earthquake was held using a cloud type information system provided by the satellite Kizuna (WINDS) with the cooperation of the Japan Aerospace Exploration Agency (JAXA) and the National Institute of Information and Communications Technology (NICT) (**Fig. 2**).

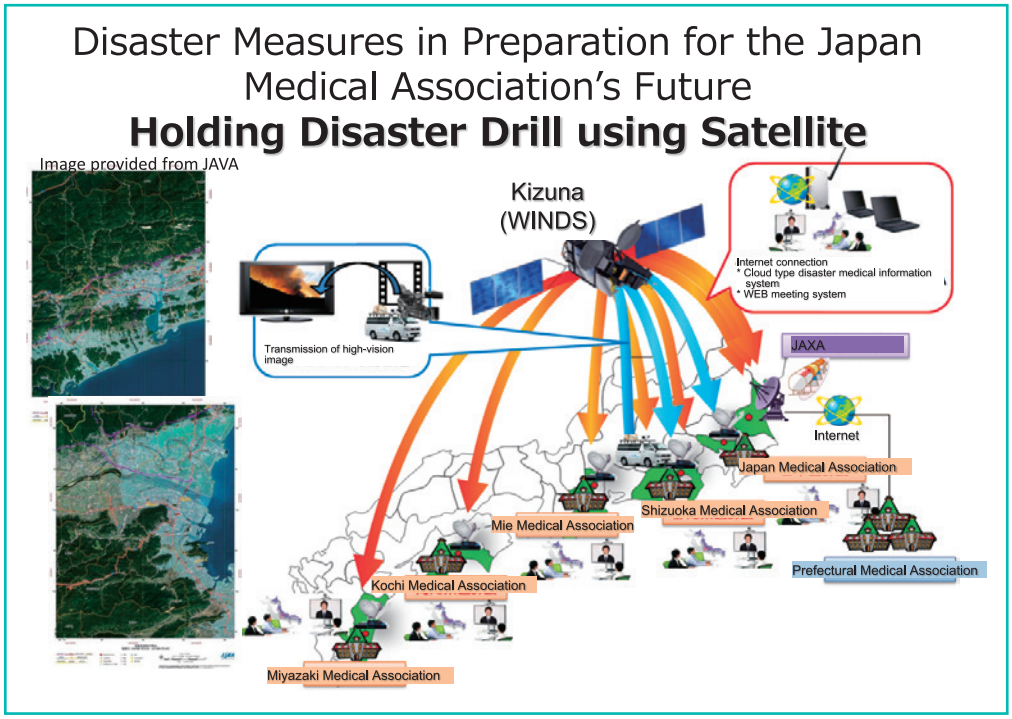

Fig. 2

Results showed that Kizuna makes it possible to see the continually changing disaster situation with high-definition imaging, and the cloud type disaster information system allows medical associations of each prefecture to share information about evacuation centers and patients, making communication smooth during dispatch team replacements when exchanging information and reporting.

This type of collaboration and information sharing requires a coordinator who is familiar with medical care in the community and makes adjustments between the dispatching organization including the JMA and the accepting medical institution. The JMA started Disaster Medicine Coordination Training in 2014. Every year, five people from 47 prefectures receive training and now there are 10 disaster medical coordinators in each prefecture. When the Kinugawa dike collapsed on September 10, 2015, the instructors who underwent this training excelled as actual coordinators with outstanding results.

For the future, we need algorithm to move the system smoothly. In the United States, the Incident Command System (ICS) is functioning. Some of its characteristics include the delegation of authority to incident commanders on-site and the standardized basic structure in crisis management and emergency response. Its use is not limited to disasters and can be applied to criminal cases, pandemic incidents and major events such as the Olympics. The system should be widely used in Japan as well.

Personally, I have the impression that mutual relations deepen as we get more involved in all kinds of aspects of community healthcare, including disaster response. We need to work on steadily to widen and thicken our circle of collaboration.

Designated Remarks

Takashi NAGATA[2]

Reflecting on the insufficient cooperation between the DMAT and JMAT during the Great East Japan Earthquake, we have seriously studied ICS. The Disaster Medicine Coordination Training introduced by Dr. Ishii not only taught us about ICS, but also led us to meaningful discussions on how to make an action plan in advance and how to organize and effectively respond to disasters with limited resources. A lot of efforts have been paid, and when the Kinugawa levee collapsed in 2015, we were able to provide disaster medical care quite effectively. I believe that we are slowly moving forward.

On the other hand, when I witness incidents such as the terrorist attacks in Paris on November 13, 2015, I can imagine the difficulty how we respond if something similar happens in Japan. As the Tokyo Olympic and Paralympic Games is upcoming in 2020, it is particularly important that we prepare for countermeasures toward mass gathering events.

The Boston Marathon bombings of April 2013 is a good example. Preparedness was thorough including ICS. By using ICS, first responders could work well with smooth chain of command and delegating authority from the top command to the chief police officer immediately after the tragedy occurred. However, currently in Japan, the main interest of the police is to control and investigate the criminal, while medical professionals are obviously focused on victims we can save. Considering this situation, we need to discuss whether it is possible to cooperate with the police. Hopefully we can share and learn from the US experience.

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