

Role of Regional Medical Associations in Large-Scale Disasters

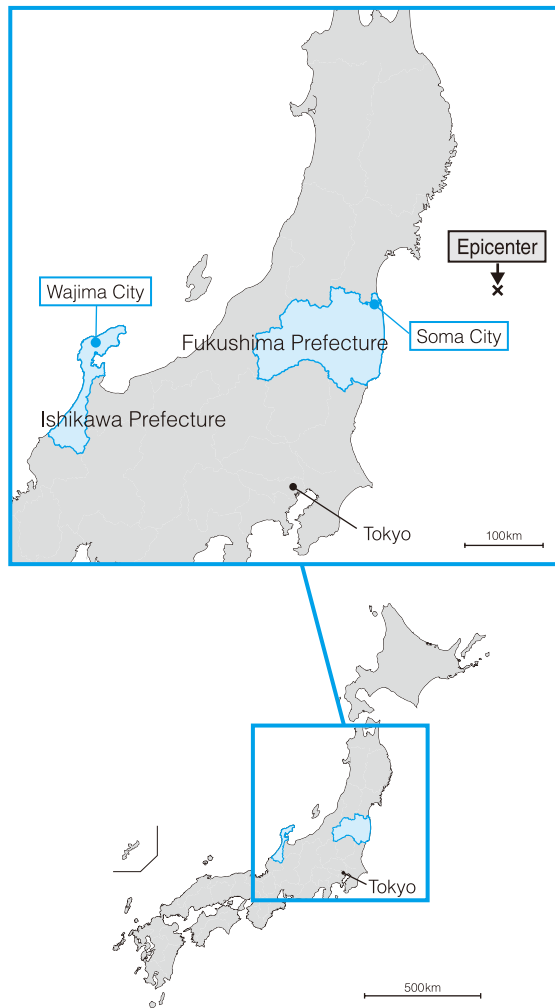
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Introduction

A large-scale earthquake massively damages the region hit by the quake, and produces many casualties. The Disaster Medical Assistance Team (DMAT) is a medical team designed to provide hyper-acute medical care within 48 hours after the occurrence of a disaster. Each DMAT team consists of 1 physician, 2 nurses and 1 coordination staff trained for activities in the hyper-acute stage of a disaster. The DMAT concept was proposed based on lessons learned from the Great Hanshin-Awaji Earthquake that occurred on January 17th, 1995, and the DMAT system was launched in Tokyo in 2004. DMAT began to be deployed in various parts of Japan to bring about their current success in saving the lives of many people.

Many people who escape injury in the hyper-acute stage of a disaster may have to stay for a while in refuges such as schools and community centers. Such evacuees can include children, elderly people, and patients with chronic diseases, and it is important to deal with the occurrence of new illnesses or worsening of preexisting diseases in the severe environment of the refuge. Because local medical facilities are also affected, and traffic accessibility is limited, providing medical services in refuges is a high-priority issue. The Japan Medical Association Team (JMAT) concept was proposed by the Japan Medical Association (JMA) in March 2010, as a team providing medical services in the acute and subacute stages. In principle, each JMAT team consists of 4 members, i.e., 1 physician, 2 nurses and 1 coordinator staff,



and can include a pharmacist if necessary. The team should be dispatched basically for 3 days to 1 week, and medical services should be continued to provide medical care if at all possible. The basic rule is to organize a self-contained team of medical professionals who bring medical

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supplies, foodstuffs, and bedding with them.

Many volunteers including JMAT and other people who can provide medical, nursing, or welfare services come to disaster areas. Circumstances of medical care, disaster prevention, and traffic vary among affected areas. To maximize cooperative efforts of healthcare teams, sharing of information and a leader who guides the information sharing are necessary. The author thinks that the body undertaking this role should be the regional medical association that has good knowledge of the situation in the area, and that prefectural medical associations and the JMA should give full support to the regional medical association in carrying out this role.

Medical associations in Japan are constructed in a three-layer fashion corresponding to the level of administration. More specifically, the three layers consist of regional medical associations formed for each municipality, prefectural medical associations formed for respective prefectures, and the JMA which is a nationwide association. Although these organizations function in cooperation with one another, each is basically managed as an independent structure. Regional medical associations cooperate and negotiate with respective municipal governments to bear a part of the responsibility for health services and preparation for natural disasters in the community. Prefectural medical associations correspond to prefectural governments, and the JMA corresponds to the national government.

In Ishikawa Prefecture, the Noto Peninsula Earthquake occurred on March 25th, 2007. In response to the Great East Japan Earthquake that occurred on March 11th, 2011, JMAT was sent from the Ishikawa Medical Association (IMA) to Soma City in Fukushima Prefecture at the request of the JMA. Based on the experience with these two disasters, the author will discuss the role of regional medical associations at the time of large-scale disasters.

Noto Peninsula Earthquake¹

An earthquake of magnitude 6.9 occurred in the Japan Sea 40 km west-southwest and offshore from Wajima City, Ishikawa Prefecture, at 9:42 am on March 25th, 2007. The earthquake killed one person and injured 358 others. It also completely destroyed 684 houses while partially destroying 1,732 others, and damaged 26,901 houses. The

most heavily damaged area was Monzen (7,792 population, 47.6% of people 65 years of age or older) of Wajima City.

Immediately after the earthquake, medical facilities in that region provided all possible medical services despite having suffered damage and injury themselves. DMAT dispatched from various parts of the country began medical rescue activities on the night of the 25th.

The day after the earthquake, Dr. Takashi Komori, president of the IMA, visited the Monzen area, and conferred with Dr. Mitsuru Yamagishi, president of the Northern Noto Medical Association, about subsequent measures to be taken. Monzen town, where 321 houses were completely destroyed, had about 1,700 evacuees in 18 refuges. Many people in refuges were elderly and presumed to require long-term health management. Therefore, it was necessary to obtain information about where and how great their medical needs were and the extent of medical resources available to respond to those needs. In addition, although many organizations offered support in an early stage after the earthquake, it was necessary to formulate a system to enable cooperative medical activities in the field. In this regard, we set up the Monzen Medical Rescue Teams Liaison Committee chaired by Dr. Mitsuru Yamagishi to hold regular meetings, and the IMA was to provide full support for the committee. Meetings were held twice a day at 9:00 am and 5:00 pm to ascertain the medical circumstances around the refuges and to share necessary information. A system was developed to place a fixed first-aid station in 3 refuges that had larger numbers of evacuees, and to have traveling medical teams visit refuges that had no first-aid station. In refuges where no first-aid station was set up, clinical nurses or public health nurses dispatched from various organizations were resident. In addition, we cooperated with a number of volunteers including mental health care teams, dental associations, pharmaceutical associations, and rehabilitation teams to deal with healthcare for evacuees. In the Monzen area, although damage from the disaster was fairly serious, a worrisome spread of influenza and infectious gastroenteritis was prevented without a single loss of life, and mental illness due to the disaster and aggravation of chronic disease from the stressful living situation were favorably controlled.

With efforts of a great number of concerned

people, evacuees who had to live in refuges decreased, and local medical facilities gradually restored normal functioning. The role of the medical rescue team liaison committee formally ended on April 24th.

Great East Japan Disaster²

An earthquake of magnitude 9.0 took place in the Pacific Ocean 130 km east-southeast off shore from the Oshika Peninsula in Miyagi Prefecture at 2:46 pm on March 11th, 2011. This was the strongest earthquake recorded since seismic observations began in Japan. It caused a massive tsunami with a wave height of more than 10 meters in some places and running up to 40.5 meters high at maximum, resulting in extensive damage to Pacific coastal areas of the Tohoku and Kanto areas. The consequences of the disaster included about 20,000 dead or missing people, more than 270,000 totally or partially destroyed constructions and more than 400,000 evacuees at the peak period. In addition, on March 12th, a hydrogen explosion occurred in reactor 1 of the Fukushima Daiichi nuclear power plant, followed by another hydrogen explosion of reactor 3 on the 14th, producing a radiation accident of level 7. During the period from the 11th to the 22nd of March, approximately 340 DMAT teams (about 1,500 members) were dispatched from various parts of Japan to disaster areas to carry out their designated activities.

The IMA established the IMA Disaster Countermeasures Liaison Committee on March 12th, i.e., the day after the disaster. On March 15th, Dr. Katsuyuki Haranaka, president of the JMA requested that each prefectural medical association dispatch JMAT, and the IMA was requested to send JMAT to Fukushima Prefecture. Although it was the first time for the IMA to carry out JMAT activities, we had a smooth launch because the support destination was clearly specified by the JMA, which allocated areas of responsibility to each prefectural medical association. The first JMAT departed on March 18th, and started their medical rescue activities in a refuge in Fukushima City the next day. On the 21st, the team moved to Soma City in response to a request from the Fukushima Medical Association. Thereafter, for 82 days until withdrawal on June 10th, the IMA provided medical services mainly in refuges in Soma City, by

dispatching 23 teams consisting of 98 members in total.

Soma City is located in the northern part of the Hamadori area in Fukushima Prefecture. The city has a population of 38,054 (as of February 28th, 2011). Coastal communities of the city were particularly severely damaged by the earthquake and tsunami. The number of dead and missing reached 459 (as of October 10th, 2011). On March 12th, 3,849 Soma citizens evacuated to 24 refuges, and 547 people who escaped from Minami-Soma City were housed in the former Soma Girls High School building.

In Soma City, physicians from the Soma County Medical Association and the Soma City Medical Association took charge of medical care of people in refuges by rotation, starting immediately after the earthquake, despite being sufferers themselves. Thereafter, various healthcare providers joined them and also performed relevant activities. They included JMAT teams from the IMA, Shizuoka Medical Association, and other prefectural medical associations nationwide, the All Japan Hospital Association, Tokyo Medical University, etc.; healthcare teams from dental associations, pharmaceutical associations, and nursing associations nationwide; public health nurses; physiotherapists; and mental health care teams. However, initially, we did not have the environment necessary to promptly realize the needs and requests of evacuees in each refuge. Therefore, in response to the proposal by Dr. Takashi Komori based on the experience of the Noto Peninsula Earthquake, the Soma City Medical Association Medical Rescue Teams Liaison Committee chaired by Dr. Hiroshi Sugimoto, the president of the Soma City Medical Association, was formulated. Committee members held meetings regularly at 8:30 am and 5:00 pm every day to discuss issues concerning medical care in each refuge and to share information. In close communication with the Soma City Disaster Countermeasures Office, the Liaison Committee served as the venue for promptly resolving problems.

Although one JMAT was replaced by another in about 1 week, the Liaison Committee enabled continuous provision of medical services, and sharing of information with other professionals allowed efficient cooperative activities. At that time, cold weather continued, and common colds were frequent. Although there were outbreaks of influenza, they were quickly terminated by

understanding the patients' clinical conditions and isolating them and by preventive administration of Tamiflu to people who had contact with patients. In addition, through proposals for better eating environments in refuges and coordination with mental health care teams, JMAT contributed to environmental improvement and health management of people who had to live in refuges for prolonged periods. As a result, there were no disaster-related deaths among evacuees in refuges in Soma City, despite the prolonged evacuations.

Because evacuees in refuges decreased due to the efforts of many concerned persons, and local medical facilities gradually restored normal functioning, JMAT activities of the IMA were closed on June 10th. Charitable contributions from medical associations nationwide were sent to medical associations in disaster areas via the JMA.

Conclusion

The aim of medical associations is to protect the lives and health of the public. In Japan, every prefecture has a prefectural medical association, and every municipality has regional medical associations. The presence of good infrastructure was demonstrated through the two disasters described herein. Although a number of problems arise in affected areas, regional medical associations familiar with situations in the areas are in the best position to address such problems. Saving local residents and securing their lives was, is, and always will be the paramount mission of regional medical associations. It is important to further enhance the system of support for regional medical associations by prefectural medical associations and the JMA.

I would like to express my deepest condolences for the people who died in the Noto Peninsula Earthquake and the Great East Japan Disaster, and extend sympathy to all those affected by disaster.

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