

The JNA Effort toward Restoration Assistance following the Great East Japan Earthquake

1. The Great East Japan Earthquake and JNA's provision of in-person support – disaster relief nurses



Japanese Nursing Association

Introduction

The Great East Japan Earthquake occurred on March 11, 2011, causing unprecedented damage in Japan. We express our deepest sympathy for people who have been afflicted in this disaster.

After more than six years have passed, some people are still forced to live in shelters. However, measures have been taken toward reconstruction.

JNA has taken various initiatives to assist reconstruction ever since the occurrence of the Earthquake. Through this major disaster, we at JNA have refreshed the recognition of the importance and power of nursing in the continuous protection of people's health and life, through incessant efforts to prepare for and cope with disasters. We have also learned the importance of nursing links for mutual assistance, systems that support such links, and disaster education. In March 2017, we closed down the special department that we established to assist reconstruction. On this opportunity, we would like to review and share the relief activities that JNA undertook over these six years.



Reconstruction moving forward

Photo by courtesy of Otsuchi Town, Iwate Prefecture



1. The Great East Japan Earthquake and JNA's provision of in-person support – disaster relief nurses
2. JNA's effort for policy proposals, information collection/sharing/provision, and support to afflicted facilities/nurses (to be published shortly)

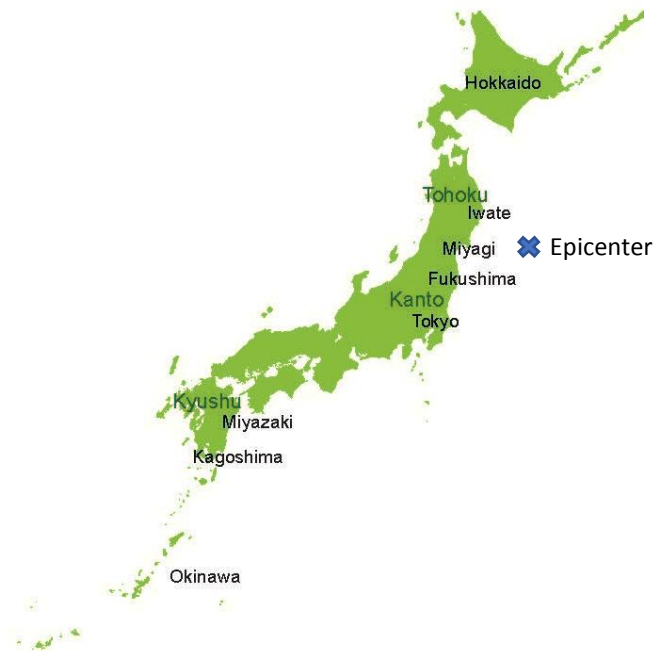
About the Great East Japan Earthquake



The Great East Japan Earthquake

Time of occurrence: March 11, 2011, 14:46

Scale: Magnitude 9.0 (moment magnitude)



The earthquake scattered the books.
Photo by courtesy of Sendai City, Miyagi prefecture

The Great East Japan Earthquake caused shakes by the huge scale of Magnitude 9.0, coupled with enormous tsunami with the wave height of 10 meters or more in some geographic areas, as well as liquefaction of ground, subsidence, and other types of damage. A complex disaster also resulted from an accident in the Fukushima Daiichi Nuclear Power Station of Tokyo Electric Power, which was caused by the impact of tsunami.

The Earthquake was observed at the JMA (Japan Meteorological Agency) seismic intensity scale of 1 or higher, in 45 out of 47 prefectures, only excluding Miyazaki and Okinawa Prefectures.

Tsunami was observed along the coast of the Pacific Ocean from Hokkaido to Kagoshima, centering around the Tohoku Region. Extensive areas of Japan were attacked by tsunami. Tsunami was also observed across the Pacific Ocean, at the height of more than two meters in the U.S. and Chili across from Japan.

Source: Website of JMA, http://www.data.jma.go.jp/svd/egev/data/2011_03_11_tohoku/ (Accessed on October 12, 2017)
Website of JMA, JMA Technical Report "Investigative Report on the 2011 Tohoku-Pacific Ocean Earthquake"
http://www.jma.go.jp/jma/kishou/books/gizyutu/133/gizyutu_133.html (Accessed on October 12, 2017)

The Great East Japan Earthquake

Aftershocks of the Great East Japan Earthquake (as of March 1, 2017)

Maximum seismic intensity 6 upper: 2
Maximum seismic intensity 6 lower: 3
Maximum seismic intensity 5 upper: 17
Maximum seismic intensity 5 lower: 50
Maximum seismic intensity 4: 299



Source: Fire and Disaster Management Agency, Ministry of Internal Affairs and Communications, "2011 Great East Japan Earthquake (Report No. 155)"
<http://www.fdma.go.jp/bn/155%E5%A0%B1.pdf>
(Accessed on October 12, 2017)

"Seismic intensity" refers to the level of intensity measured by JMA using seismic intensity meters. The measurement is indicated in a scale of ten (0, 1, 2, 3, 4, 5 lower, 5 upper, 6 lower, 6 upper, and 7).

Seismic intensity 0: Imperceptible to people

5 lower: Many people feel the need to hold onto something stable. Unsecured furniture may move.

5 upper: Walking is difficult without holding onto something stable.

6 lower: It is difficult to remain standing.

6 upper: It is impossible to move without crawling. People may be thrown through the air. Landslips are more likely to occur. Large landslides may be seen.

7: Reinforced-concrete buildings of low earthquake resistance are more likely to collapse.

JMA, <http://www.jma.go.jp/jma/kishou/known/shindo/index.html> (Accessed on October 12, 2017)

Many aftershocks followed the Great East Japan Earthquake. An earthquake of the maximum seismic intensity of 6 lower or stronger still occurred as an aftershock on December 28, 2016, more than five years from the Great East Japan Earthquake.

Description of Damage

Human casualties

- Dead: 19,533 Missing: 2,585 Injured: 6,230

Damaged residential buildings

- Completely destroyed: 121,768 Partially destroyed: 280,160
Partially damaged: 744,396
- Flooded above the floor level: 3,352
Flooded below the floor level: 10,230

Fires: 330

(As of March 1, 2017)

Source: Fire and Disaster Management Agency, Ministry of Internal Affairs and Communications, "2011 Great East Japan Earthquake (Report No. 155)", <http://www.fdma.go.jp/bn/higaihou/pdf/jishin/155.pdf> (Accessed on October 12, 2017)

Evacuees

Immediately following the Earthquake, 470,000 persons evacuated at the peak.

As of September 2017, the number of evacuees is approx. 84,000 persons.

Source: Reconstruction Agency, Evacuated People in Japan
http://www.reconstruction.go.jp/topics/main-cat2/sub-cat2-1/20170929_hinansha.pdf
(Accessed on October 11, 2017)

Description of Damage

Roads:

Roads in coastal areas were substantially damaged. Following the Earthquake, traffic was stopped in all expressways.



After inspection, expressways were opened only to emergency vehicles.

Two to three weeks after the Earthquake, all expressways were opened to general vehicles, except the sections under regulation due to the nuclear power station accident.

Railway:

On many routes that ran through coastal areas in the afflicted regions, station buildings and tracks were flowed away and/or inundated. In inland areas, landslides occurred and track beds were deformed.

Immediately following the Earthquake, train operation was suspended on many routes in the Tohoku and Kanto regions. Because tsunami warning was issued, train operation was also suspended in full or in part in coastal areas from Hokkaido to Kyushu.

Source: Ministry of Land, Infrastructure and Transport, "Records of the Great East Japan Earthquake - Disaster Response by MLIT", March 11, 2012, <http://www.mlit.go.jp/saigai/kirokusyu.html> (Accessed on October 12, 2017)

Description of Damage

Damage to the buildings of facilities of JNA members (As of May 1, 2011)

(facilities)

	Completely destroyed and/or flowed away	Partly destroyed	Inclined	Flooded above floor level	Evacuation due to the nuclear power station accident	Others	Total
Iwate	7	1	0	2	0	46	56
Miyagi	12	9	4	10	0	123	158
Fukushima	4	16	4	2	7	127	160
Total	23	26	8	14	7	296	374

Source: Japanese Nursing Association, Report "JNA efforts at the Great East Japan Earthquake", P87, May 2012.

In cooperation with the prefectural nursing associations of Iwate, Miyagi and Fukushima, JNA conducted a survey of the condition of afflicted members in May 2011, and identified damage to the buildings of facilities of JNA members. In the three afflicted prefectures, 78 member facilities reported the damage of buildings such as completely destroyed, flowed away, partly destroyed, inclined, or flooded above the floor level, or evacuation order due to the nuclear power station accident.

Nuclear Power Station Accident

- At nuclear power stations in areas with a large seismic scale, nuclear power reactors in operation were automatically stopped.
- The Fukushima Daiichi Nuclear Power Station was directly hit by the tsunami that immediately followed the Earthquake, and lost its power supply and water cooling / heat removal functions. Consequently, it became difficult to cool down the reactor core, resulting in damage to the core that caused the leak of hydrogen and radioactive substances.
- The Japanese government declared a Nuclear Emergency Situation, and ordered residents near the nuclear power station to evacuate or to take shelter indoors.

Although evacuation orders are still effective, the applicable districts of evacuation instructions have been reviewed. More and more districts are identified as the areas which allows residents to return. To minimize negative effect on human health, the decontamination process is in progress to remove radioactive substances that have been released to the air and adhered to soil, plants and buildings.

Source:

Website of Tokyo Electric Power Company Holdings, <http://www.tepco.co.jp/fukushima/review/index-j.html> (Accessed on October 12, 2017)

Ministry of the Environment, "Integrated Basic Materials concerning Environmental Impact by Radiation", FY2016, Ver. 2017001,

<http://www.env.go.jp/chemi/rhm/h28kisoshiryo.html> (Accessed on October 12, 2017)

Fukushima Prefecture, "Fukushima Revitalization Station", <http://www.pref.fukushima.lg.jp/site/portal/list271.html> (Accessed on October 12, 2017)



JNA efforts following the Great East Japan Earthquake



Structure of JNA

Set up of the task force for disaster response

Following the Great East Japan Earthquake, JNA set up the task force for disaster response, which promoted relief activities through liaison and coordination with prefectural nursing associations, related organizations, prefectural governments, and national government.

Establishment of departments dedicated to assistance for reconstruction

Because the Great East Japan Earthquake was a disaster of an enormous scale that caused damage in extensive areas, medium- to long-term support was required toward recovery and reconstruction. As the focus of needs shifted from emergency support to support for return to daily life, JNA established a special department dedicated to assistance for reconstruction from the Great East Japan Earthquake in May 2011, aiming to provide logistical support to activities led by the nursing associations of afflicted prefectures. After six years from the Earthquake, JNA closed down this special department dedicated to assistance for reconstruction at the end of March 2017.

JNA Efforts

In cooperation with the prefectural nursing associations, JNA supported afflicted people and nurses who undertook activities in afflicted areas.

- Provision of in-person support
- Policy proposals and information collection, sharing and provision
- Support to afflicted facilities and nurses





















Starting immediately following the Earthquake, JNA undertook initiatives in cooperation with the prefectural nursing associations of Iwate, Miyagi and Fukushima, other prefectural nursing associations, national government, municipal governments, and related organization. JNA also promoted supportive activities based on interviews and analyses concerning situation and needs in afflicted areas, and in line with changing situation.

The various activities promoted by JNA included the following:

Dispatching Disaster Relief Nurses with an aim to support afflicted residents and nurses; making policy proposals to competent authorities and ruling/opposition parties in order to respond to changing situation in afflicted areas; undertaking supportive and networking activities to retain nurses and improve the scarcity of nursing professionals, and requesting for securing human resources; promoting a nursing quality enhancement program, and supporting public health nurses in areas that required evacuation due to the nuclear power station accident, because it had been known that tasks and the sense of fulfillment would help afflicted nurses feel relieved.

An overview of the initiatives of JNA is presented on the next page, followed by details in the separate sections.

Overview of JNA Initiatives

		Mar - May 2011	Jun 2011 - Mar 2012	FY2012	FY2013	FY2014	FY2015	2016 and after
	Crisis management structure							
		Task force for disaster response	Establishment of a department dedicated to assistance for reconstruction					
Provision of in-person support	Dispatch of Disaster Relief Nurse and its related activities							
		Dispatch	Training to develop trainers		Revision of dispatch guidelines	Agreement with prefectural nursing associations based on the dispatch guidelines		
Policy proposals and information collection/sharing/provision	Policy proposals and initiative reports							
		Policy proposals to the government and parties				Presentation at academic conferences		
	Status surveys							
		Status survey of afflicted members			Status survey of nursing professionals in afflicted areas			
	Participation in meetings and information collection/provision							
		Participation in the liaison council to support the health of afflicted people			Implementation report		Opinion exchange at the nursing associations of afflicted prefectures	
	Public relations							
		Holding reconstruction forums						
Support to afflicted facilities and nurses	Financial support to the establishment of infrastructure, etc.							
		Transportation of relief goods	Raising relief funds	Allocation of raised relief funds				
	Support to holding seminars, etc.							
		Support to holding meetings of administrators in afflicted areas			Support to seminars in afflicted prefectures			
	Support to nursing quality enhancement							
		Nursing quality enhancement project						
	Support to strengthening the practical capabilities of public health nurses							
		Support to strengthening the practical capabilities of public health nurses in afflicted areas			Support to promoting the allocation of supervising public health nurses to afflicted areas			
	Support to participation in academic conferences and to refreshing events							
		Support to participation in exchange meetings for each nursing professionals			Support to participation in academic conferences of the Japan Society of Nursing, and holding exchange meetings			

Initiatives of JNA: Provision of in-person support – disaster relief nurses



Dispatching Disaster Relief Nurses

Following the occurrence of the Earthquake on March 11, JNA promoted liaison and coordination with prefectural nursing associations, and information collection concerning situation of affected areas. Because unprecedented devastated damage was caused by the Earthquake and tsunami, and extensive areas were afflicted, JNA decided to dispatch Disaster Relief Nurses on a nationwide scale, and requested prefectural nursing associations to adjust the dispatch of Disaster Relief Nurses. Because the dispatch process involved problems such as damage to transportation infrastructure, and gasoline shortage in afflicted areas, JNA made arrangements for buses and other vehicles.

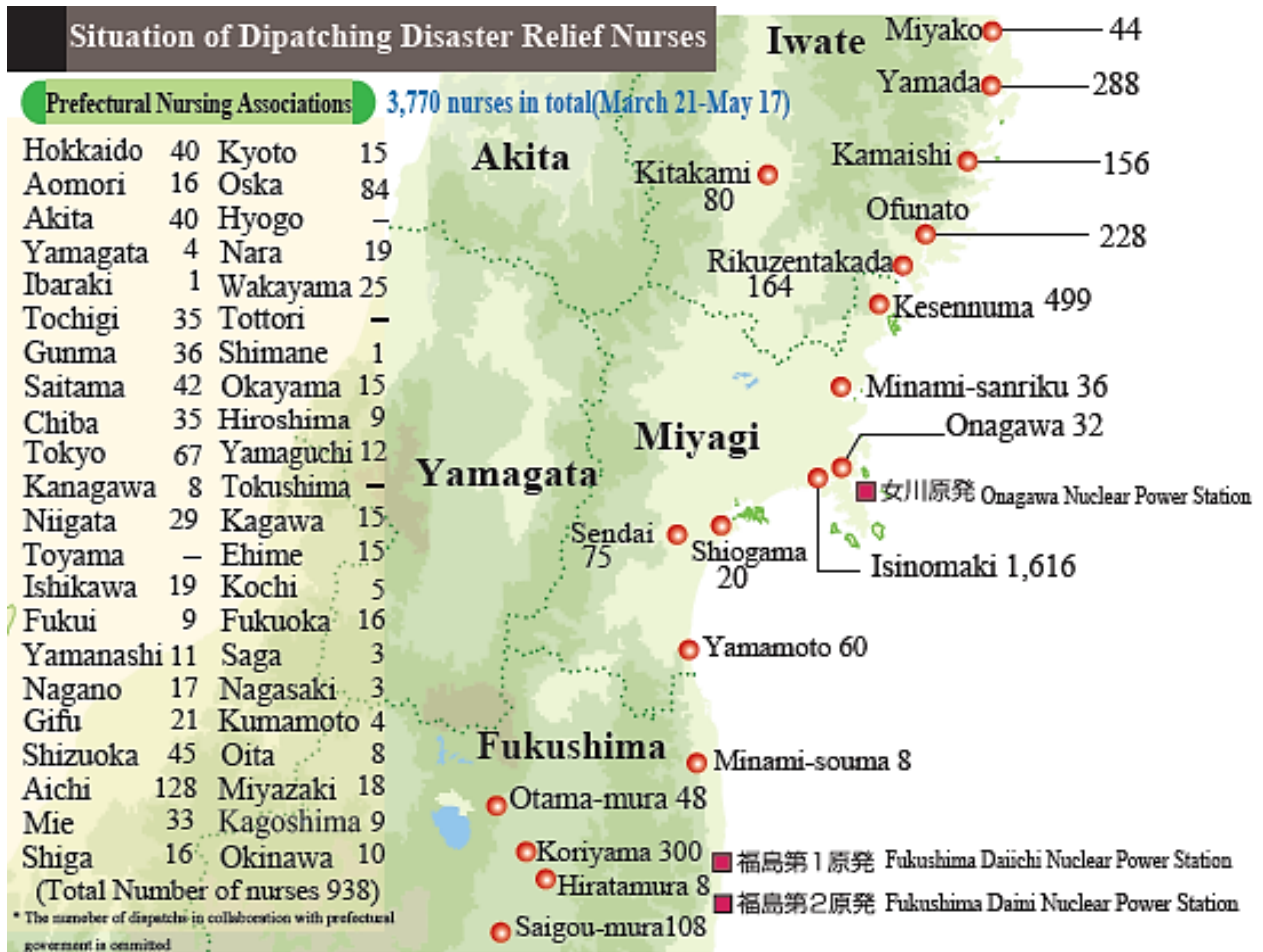


What are Disaster Relief Nurses

Disaster Relief Nurses have received seminars and training concerning disaster relief, and play the roles of providing appropriate healthcare and nursing so that afflicted people can maintain their health levels, as well as relieving and supporting afflicted nurses under mental and physical burden.

Following the Great Hanshin-Awaji Earthquake in 1995, which caused more than 6,000 deaths, JNA established a structure for nursing support activities following a disaster, in cooperation with prefectural nursing associations. Under this structure, Disaster Relief Nurses are dispatched to afflicted areas following a natural disaster under the collaboration with Japanese Nursing Association and prefectural nursing associations.

Dispatching Disaster Relief Nurses



From March 21 to May 17, 2011, 938 Disaster Relief Nurses (cumulative total: 3,770) were dispatched to 49 locations, including evacuation centers and afflicted healthcare institutions in Iwate, Miyagi and Fukushima Prefectures. Some prefectural nursing associations also dispatched Disaster Relief Nurses in a separate framework other than that of JNA.

On April 30, JNA completed the nationwide dispatch of Disaster Relief Nurses. Subsequently, the dispatch program was reduced to support from neighboring prefectures, and was continued until May 17. More than one month after the earthquake, the life in evacuation centers proceeded to the next stage, and the integration of evacuation centers was promoted. In addition, it became difficult to continue activities by volunteers as the post-disaster phase extended, and it became necessary to employ required nursing professionals.

Key Activities of Disaster Relief Nurses

Activity policy

Disaster Relief Nurses are stationed at evacuation centers, hospitals and other locations on a 24/7 basis, and directly support afflicted people and afflicted nurses.

Key activities

- Dealing with medical crisis of evacuees, and assist them visit healthcare institutions
- Providing necessary healthcare and long-term care to evacuees at the evacuation centers
- Assessing infectious diseases, improving environmental hygiene, and preventing the spread of infection
- Monitoring and collecting information concerning living environment of evacuees at evacuation centers and making suggestions to improve the environment
- Collecting information concerning goods in shortage, and procuring and providing such goods
- In healthcare institutions, support nursing activities, including those in the midnight shift, at emergency outpatient units and at general wards



Activities of Disaster Relief Nurses



- Disaster Relief Nurses 1) were stationed at evacuation centers in afflicted areas on a 24/7 basis, in order to help afflicted people maintain their health and prevent their deterioration; and 2) undertook nursing activities at hospitals in afflicted areas, thereby relieving burden of nurses in afflicted areas, who were also afflicted people. The background conditions that necessitated activities by Disaster Relief Nurses included 1) that healthcare professionals were in shortage, because enormous damage was caused across extensive areas; 2) that healthcare teams were permanently stationed in only a few evacuation centers; 3) the traveling hours of healthcare teams were mainly limited to daytime; and 4) that fatigue was remarkable among public health nurses, nurses, and municipal officials in afflicted areas.
- In evacuation centers, many residents lived at a high density in a large space. This involved a risk of rapid expansion of infectious diseases, and therefore preventive measures were taken. At the same time, the activity of elderly people tends to decline in evacuation centers, because they have nothing to do other than eating and going to the toilet, and because they often lose self-help devices in the evacuation process. To avoid inactivity, Disaster Relief Nurses also took measures to prevent decline in the ADL of elderly people who lived in evacuation centers away from their normal living environment.

Training to Develop Trainers for Disaster Relief Nurses

From 2011 to 2013, JNA held seminars to develop trainers for Disaster Relief Nurses.

Prior to the Great East Japan Earthquake, JNA had been planning to develop trainers for guiding Disaster Relief Nurses. Following the Great East Japan Earthquake, participants increased in disaster nursing seminars, and more Disaster Relief Nurses were registered, calling for more trainers.

Therefore, JNA implemented seminars to develop trainers for guiding Disaster Relief Nurses capable of effectively functioning for afflicted people in afflicted areas.

Revision of the Dispatch Guidelines for Disaster Relief Nurses

Key sections in the Dispatch Guidelines for Disaster Relief Nurses

1. General Provisions: objectives and basic concepts
2. Disaster Relief Nurses: requirements, duration of dispatch, locations of activities, expenses required for activities, compensation for accidents
3. Response following a disaster: information collection, procedure for dispatching Disaster Relief Nurses
4. Response at normal times

In 2014, JNA developed the “Dispatch Guidelines for Disaster Relief Nurses”, which specified structures and procedures for dispatching Disaster Relief Nurses following a large-scale natural disaster, and enabling them to practice disaster relief activities flexibly in response to needs in afflicted areas.

An unprecedented need for the dispatch of Disaster Relief Nurses arose following the Great East Japan Earthquake. Based on this experience, these Guidelines were developed in order to enable more effective relief activities.

These Guidelines not only indicate the structure for dispatching Disaster Relief Nurses, requirements for Disaster Relief Nurses, their identification, and response following a disaster, but also describe the respective roles of JNA and prefectural nursing associations at normal times.

Based on the Dispatch Guidelines for Disaster Relief Nurses, JNA has concluded agreements with the 47 prefectural nursing associations concerning the registration and management of Disaster Relief Nurses, support systems and the dispatch of Disaster Relief Nurses following a disaster, and collaboration to realize the dispatch of Disaster Relief Nurses as prescribed in the Guidelines.

Disaster Relief Nurses are registered with prefectural nursing associations, and collaboration between JNA and prefectural nursing associations is indispensable for their dispatch. The agreements have been concluded to ensure efficient dispatch.

Structures for the Dispatch of Disaster Relief Nurses



Disaster Relief Nurses

Disaster Relief Nurses refer to:

Nursing professionals who, as members of nursing associations, play the roles of relieving and supporting afflicted nurses under mental and physical burden, as well as providing appropriate healthcare and nursing so that afflicted people can maintain their health levels. Disaster Relief Nurses need to be registered with prefectural nursing associations.

In principle, Disaster Relief Nurses should undertake nursing support activities following a disaster in a self-contained manner.



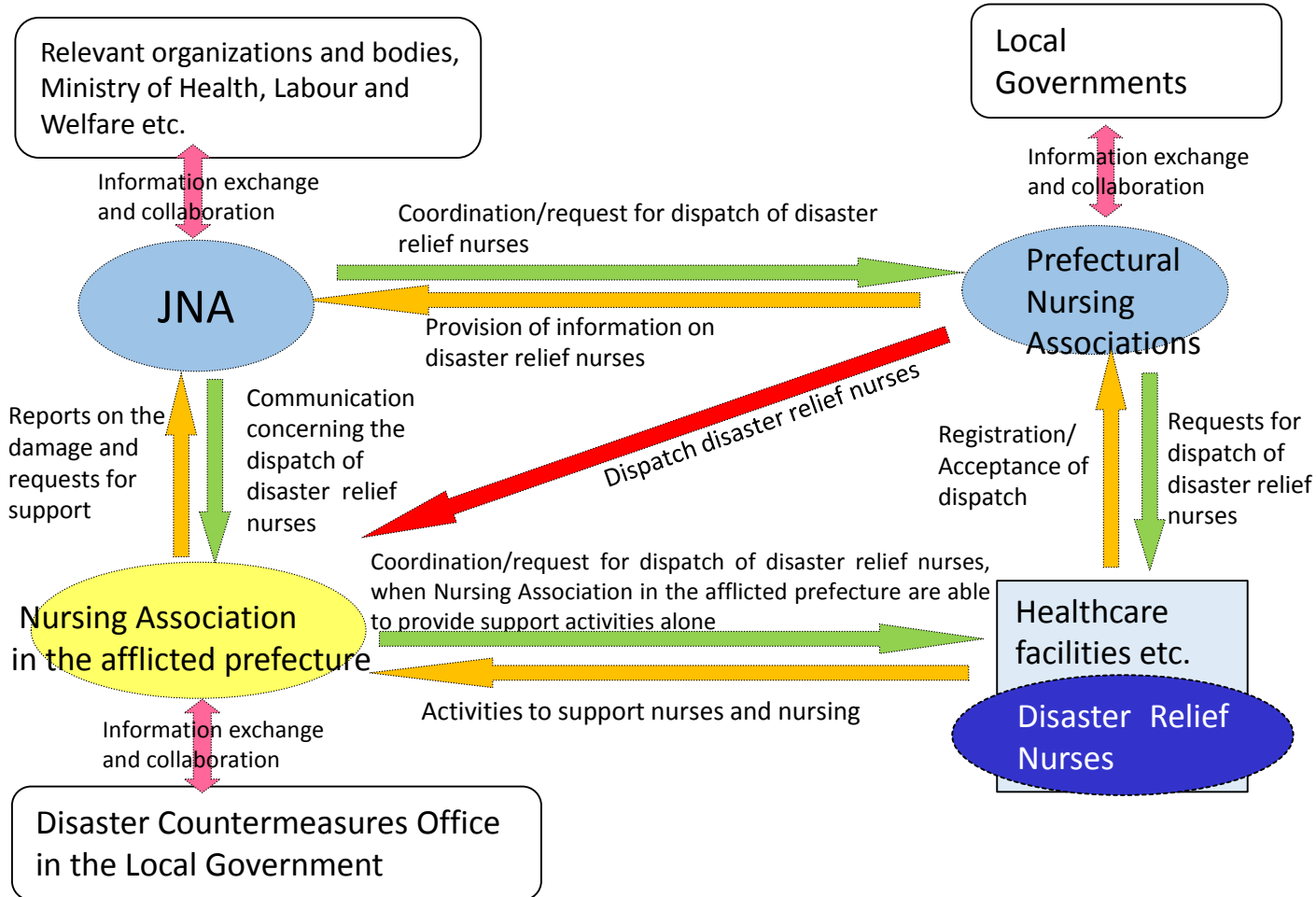
Following a disaster, Disaster Relief Nurses are dispatched and undertake activities in afflicted areas as requested.

To become a Disaster Relief Nurse, a nurse needs to satisfy the following requirements, and register herself/him with the prefectural nursing association that presides her/his facility.

- The nurse should be a member of the prefectural nursing association.
- The nurse should have experience of five years or longer in practice.
- If the nurse belongs to a facility, the registration requires approval by the head of the facility.
- The nurse should have completed a course for the development of Disaster Relief Nurses.

In principle, Disaster Relief Nurses should undertake activities in a self-contained manner, without depending on afflicted areas.

Structures for the Dispatch of Disaster Relief Nurses



Following the Great Hanshin-Awaji Earthquake in 1995, JNA established the structure of disaster relief activities in cooperation with prefectural nursing associations. This structure is aimed at dispatching Disaster Relief Nurses following a large-scale natural disaster, and enabling them to practice nursing support activities flexibly in response to needs in afflicted areas. Based on lessons learned from the Great East Japan Earthquake, the structure was reorganized to enable more efficient operations.

At the time of a large-scale disaster, JNA or prefectural nursing associations coordinate the dispatch of Disaster Relief Nurses at specified levels and in specified methods (see details in the following pages), in accordance with the scale of disaster.

Levels of Disaster Relief

Level of required relief	Nursing associations that dispatch Disaster Relief Nurses	Coordination for dispatch
Level 1 (independent relief) Nursing support activities are possible only by the nursing association of the afflicted prefecture	Nursing association of the afflicted prefecture	Nursing association of the afflicted prefecture
Level 2 (assisted by neighboring prefectures) Relief is difficult or inadequate only by the nursing association of the afflicted prefecture, and assistance is required from the nursing associations of neighboring prefectures	Nursing association of the afflicted prefecture, and nursing associations of neighboring prefectures	Japanese Nursing Association
Level 3 (requiring assistance from extensive areas) Relief is difficult or inadequate only by the nursing association of the afflicted prefecture and the nursing associations of neighboring prefectures, and extended activities seems to be necessary	Prefectural nursing associations across Japan	

Three levels (Levels 1 through 3) are specified concerning the scale of required disaster relief.

Even in Level 1, where only the nursing association of the afflicted prefecture coordinates and implements dispatch, JNA continuously monitors changing situation until the dispatch of Disaster Relief Nurses is completed, and maintains close cooperation with the nursing association of the afflicted prefecture.

Starting immediately following a disaster, the Japanese Nursing Association collects information concerning the disaster and resultant damage, and provide the collected information to prefectural nursing associations.

Activities of Disaster Relief Nurses

Locations of activities

In principle, afflicted healthcare institutions, social welfare facilities, and evacuation centers (including welfare evacuation centers) should be prioritized.

Period of activities

Over about one month from three days after a disaster

Duration of dispatch

In principle, individual Disaster Relief Nurses should be dispatched over three nights and four days, including the traveling time.

Expenses required for activities

In Level 2 or 3, when JNA coordinates the dispatch of Disaster Relief Nurses, required travel and accommodations expenses, as well as per diem, should be paid at the responsibility of JNA.

Compensation for accidents

In Level 2 or 3, when JNA coordinates the dispatch of Disaster Relief Nurses, possible accidents during disaster relief nursing activities (including traveling between the starting point and the afflicted area) should be handled by the domestic travel accident insurance with natural disaster risk endorsement that is subscribed by JNA.

The end of the first volume. To be concluded in the next volume.

