

# The 10th ASEAN & Japan High Level Officials Meeting on Caring Societies

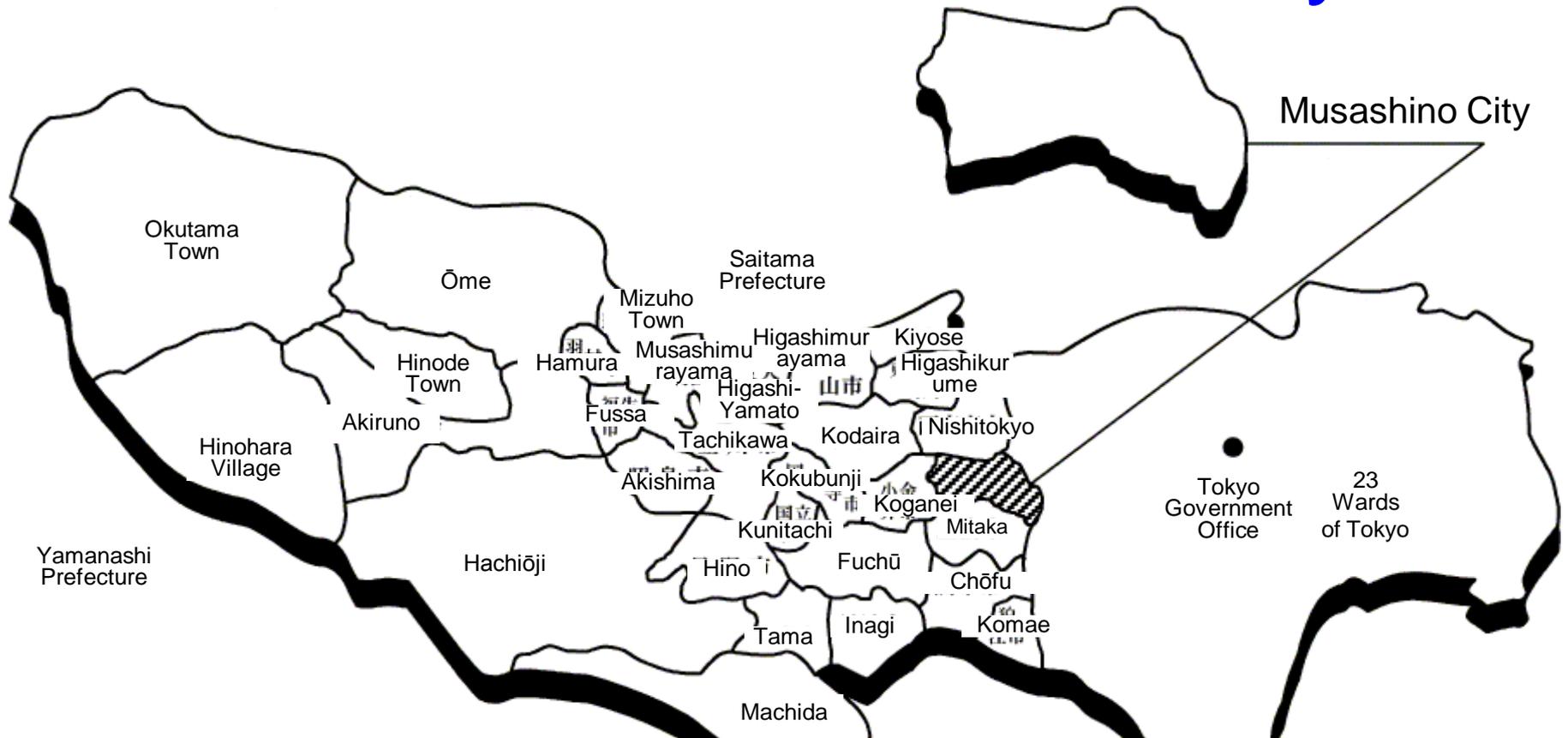
“Musashino City Disaster Countermeasures:  
Caring for the Vulnerable During a Disaster”

Wednesday October 24, 2012

Conference Room 811, Musashino City Hall

Hajime Sasai, Musashino City Director  
of Disaster Prevention and Public Safety Department

# Profile of Musashino City



**Musashino is a neighboring city of the Tokyo Special Wards and is located approximately 12km from the Tokyo sub-center (Shinjuku). It has a population of 138,616 over an area of 10.73km<sup>2</sup>.**

**Musashino is a lush residential city which has accumulated a high concentration of education, social welfare, health, culture, sports, information and other industries geared towards supporting lifestyles. Having developed into a harmonic “city centering on living”, Musashino has come to be known as “the most desirable city to live” in Japan.**

# I ) Musashino's Disaster Preparedness (1)

## 1. Emergency Preparedness for a Disaster

### ① Initial Response

The establishment of Preliminary Headquarter when earthquake level reaches weak-5 on the JMA seismic intensity scale.

Initial Response Team comprises city officers living in/near Musashino will take prompt action to each evacuation area/shelter.

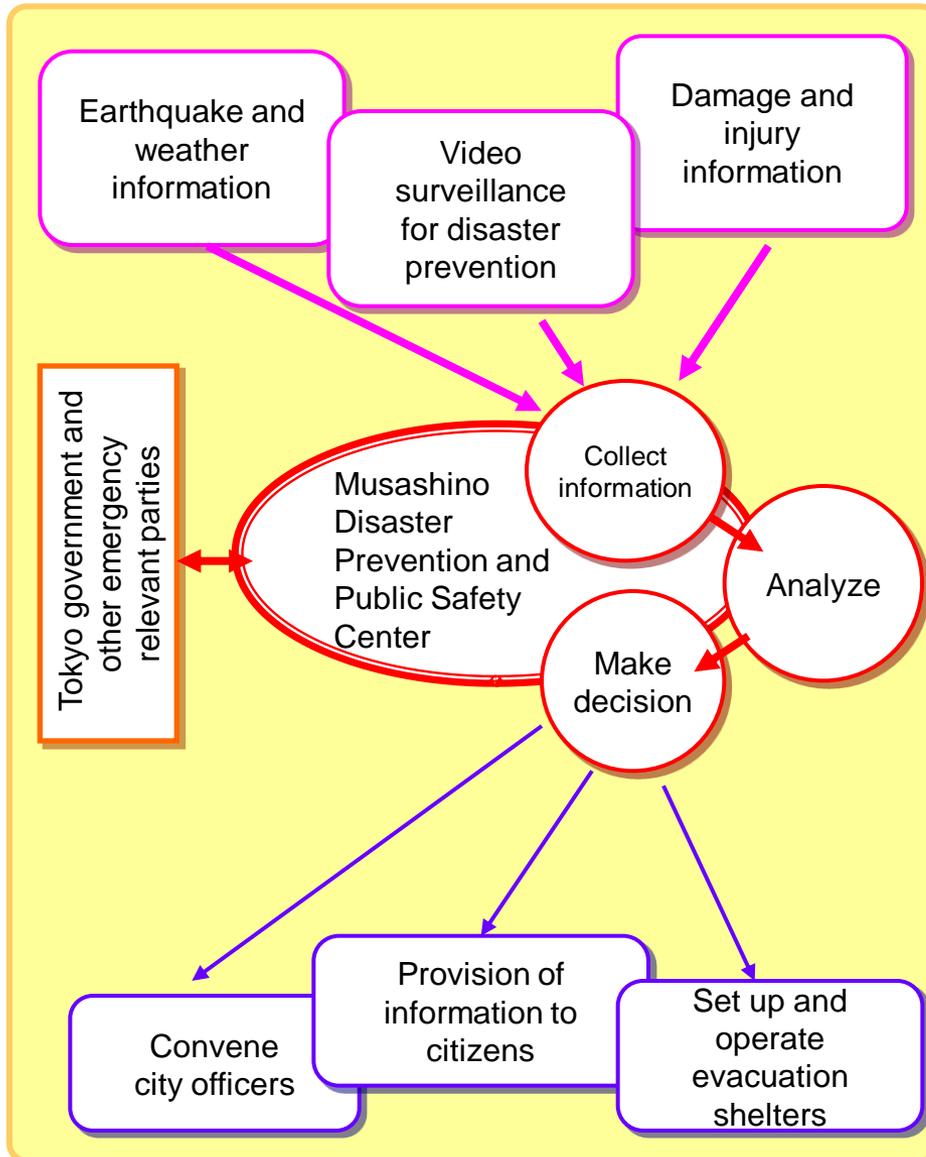
After the Great East Japan Earthquake (on March 11, 2011), we have increased the number of initial responders from 158 to 182.

① Preparation of Special Emergency Deployment when earthquake level reaches weak-6 on the JMA scale. (Currently under consideration for amending to earthquake level weak-5)

The establishment of Disaster Countermeasure Headquarter (with the Mayor works as the Chief of the Headquarter).

All city officers are required to assemble.

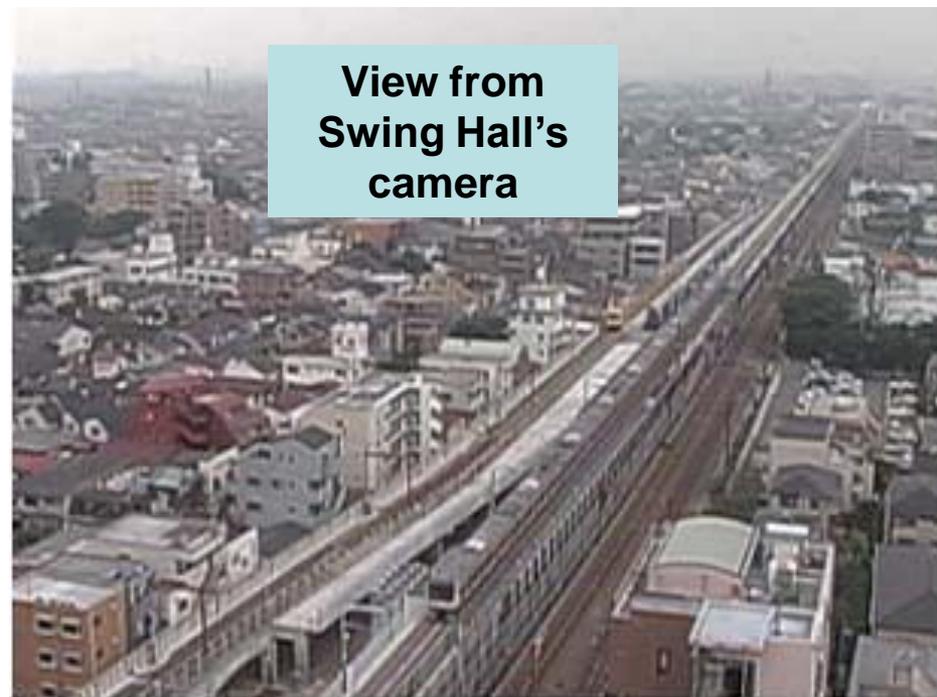
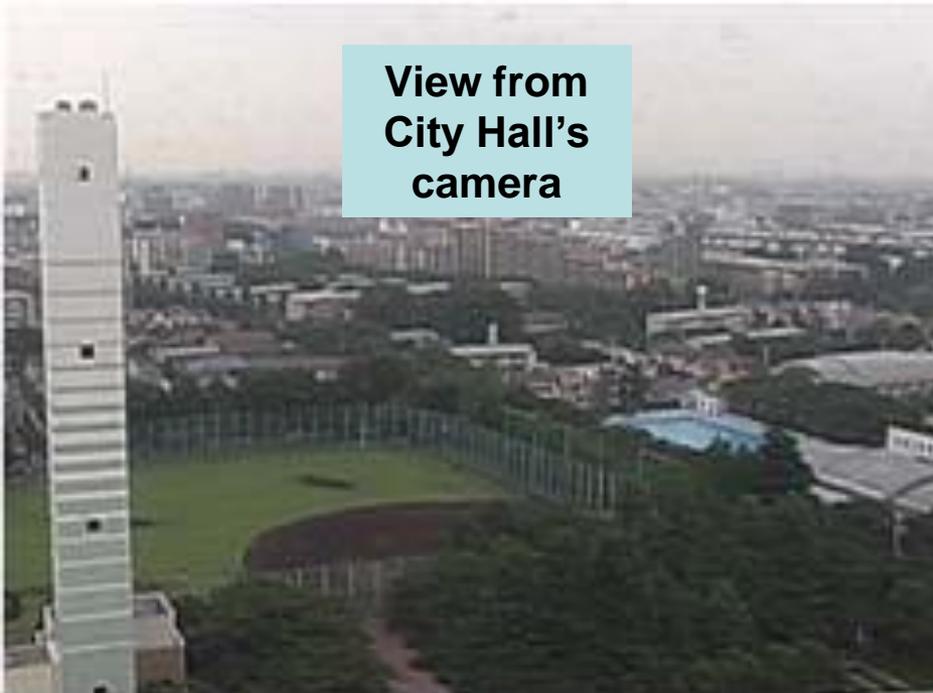
# How does the Disaster Prevention and Public Safety Center Function as a Command Post



## Disaster Prevention Information Systems

- City officers Convening System
- Disaster Geographical Information System
- Damage and Injury Information Collection System
- Evacuation Area Management System
- Relief Goods Management System
- Confirmation of Safety Information Management System
- Disaster Information Provision System
- Weather Observation System
- Damage and Injury Prediction System
- Disaster Countermeasure Navigation System
- Video Surveillance System

# High-altitude Cameras For Assessing the State of Disasters



**Cameras have been installed in four locations: City Hall (52.5m/north of City), Swing Hall (46.8m/west of City), Coppice Kichijoji (52.8m/east of City) and Musashino Towers (114.4m/south of City).**

**These cameras ensure early discovery of fire (smoke), assessment of building collapse during earthquakes and for the observation of rain cloud movement during heavy rains.**

# I ) Musashino's Disaster Preparedness (2)

## 2. Evacuation Areas

- Temporary evacuation sites and evacuation areas: 20 (18 municipal elem. and junior high schools, and 2 high schools)
- Welfare evacuation centers: 17
- Large-scale evacuation sites: 5
- Fire prevention spaces: 5 (to prevent fire from spreading and serve as small-scale emergency bases)



The evacuation area sign on the western side of Kyounan Elementary School

# I ) Musashino's Disaster Preparedness (3)

## 3. Location-fixed Emergency Administrative Radio Station

- Broadcasting began as a method of relaying heavy rain warnings and other information to citizens in 1984
- Outdoor loud speakers have been installed at 47 locations (elementary and junior high schools, etc.) around Musashino
- The broadcast of emergency information is carried out from City Hall

## 4. Emergency Multi-Channel Access (MCA) Radio System

- Broadcasting began in March 2011
- 180 radio systems have been installed at municipal facilities and emergency relevant parties in Musashino
- Simultaneous broadcasts, group broadcasts and individual broadcasts are possible

## 5. Emergency Stocks

### ■ Emergency Stocks:

A 3-day supply food is stocked for the estimated 49,000 evacuees (35% of the Musashino population)

Emergency stocks are stored in 27 storages around the city including City Hall and evacuation shelters.

# Disaster Response Based on the Needs of Women and Their Children

## ■ Emergency stocks for women and their children

|                      |             |   |
|----------------------|-------------|---|
| Powdered milk (350g) | 1,008 cans  | Evacuation shelters and the Health Center       |
| Feeding bottles      | 600 bottles | The Health Center                               |
| Children's nappies   | 64,119 pcs  | Evacuation shelters and the Health Center       |
| Sanitary products    | 16,812 pcs  | The emergency warehouse and the Health Center   |
| Private spaces/tents | 35 sets     | Evacuation shelters and the emergency warehouse |

## ■ Evacuation shelters should be managed to consider the needs of women and their children

- Operating teams of each evacuation shelter should comprise of woman responders.
- Private spaces for breast feeding and clothes changing should be considered.
- Care given to the vulnerable such as children, the elderly by the first aid team
- Priority given to children and the elderly in handing out of emergency supplies (reference: "Evacuation Center Management Guide")

# II) Major Issues Directly After a Disaster Occurs

## ★ Drinking Water

## ★ Preliminary Fire Fighting

## ★ Toilets



- Citizens are called upon to keep at least 3L of drinking water per person for the first three days (3L x 3 days = 9L) after an earthquake occurred.
- The city will maintain emergency water supply facilities (30 locations), and work together with privately owned water wells (36 locations)

- To encourage self-support, subsidy for purchasing household fire extinguishers is applied to residents.
- To encourage co-support, Musashino motivates fire fighting drills among emergency volunteer groups.
- Fire extinguishers are installed at an intended interval of 60m along municipal roads

- 252 emergency toilets are maintained in parks and other locations
- Citizens are recommended to stock portable toilets

# Three Main Principles for Building a Disaster Resistant Community

Disaster prevention strategies relying solely on government (public organizations) are at their limits

## Self-support

Individual and household readiness

The key phrase is "Cooperation with Authorities"

## Co-support

The creation of strong relationship among neighborhood acquaintances, friends, emergency volunteer groups, evacuation center operating groups, etc.

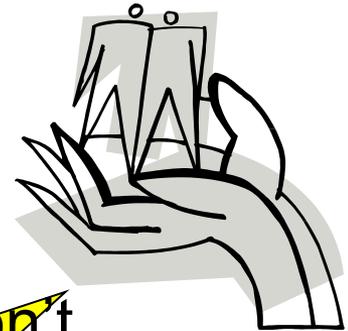
## Public-support

Disaster preparedness in public organizations

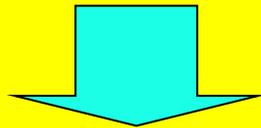
### III) Approach to residents (1): Preparation for “self-support” against a strong local earthquake

Do you know these keywords?

“Within 15 minutes”,  
“Approximately 90%” and  
“Stay at Home”



Evacuations and emergency supplies don't mean anything if you have already lost your life! Protect your own **life** is the most important thing!



For this reason, **always being ready** for earthquakes (reinforcing your home against earthquakes, preventing furniture from toppling, etc.) is of great importance for every household!

# The Great Hanshin-Awaji Earthquake (West Japan)

M7.3, 5:46 a.m. on Tuesday January 17, 1995

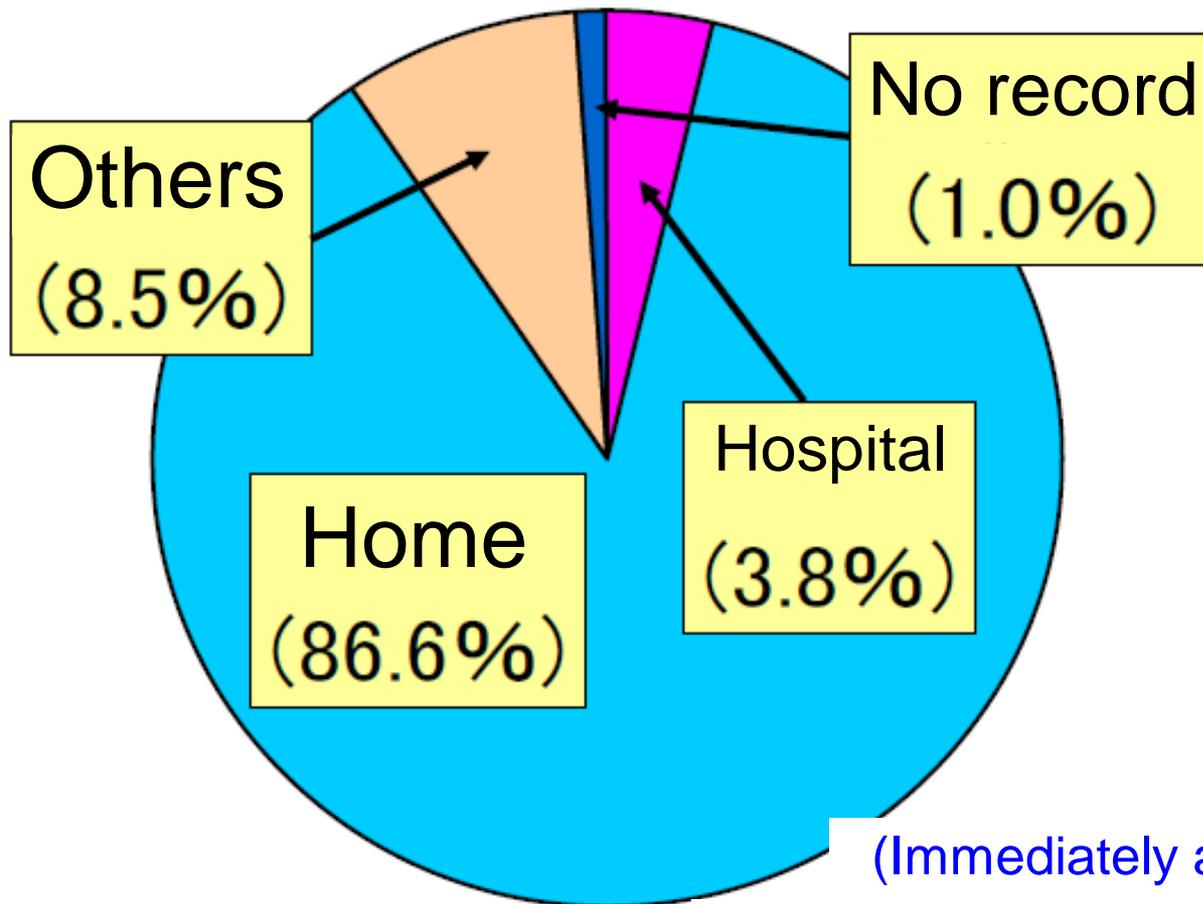


## The Estimated Time of Death at the Great Hanshin-Awaji Earthquake (within Kobe City)

| Time of Death |              | Number of Deceased |                  |              |                  | Total Number of Deceased |
|---------------|--------------|--------------------|------------------|--------------|------------------|--------------------------|
|               |              | Coroner            | Cumulative Total | Physician    | Cumulative Total |                          |
| 1/17          | ~6:00        | 2,221              | 2,221 ( 91.9 %)  | 719          | 719 ( 58.2 %)    | 2,940 ( 80.5 %)          |
|               | ~9:00        | 16                 | 2,237 ( 92.6 %)  | 58           | 777 ( 62.9 %)    | 3,014 ( 82.6 %)          |
|               | ~12:00       | 47                 | 2,284 ( 94.5 %)  | 61           | 838 ( 67.9 %)    | 3,122 ( 85.5 %)          |
|               | ~23:59       | 12                 | 2,296 ( 95.0 %)  | 212          | 1,050 ( 85.0 %)  | 3,346 ( 91.6 %)          |
|               | Time unknown | 110                | 2,406 ( 99.6 %)  | 84           | 1,134 ( 91.8 %)  | 3,540 ( 97.0 %)          |
| 1/18          |              | 5                  | 2,411 ( 99.8 %)  | 62           | 1,196 ( 96.8 %)  | 3,607 ( 98.8 %)          |
| 1/19          |              |                    | 2,411 ( 99.8 %)  | 13           | 1,209 ( 97.9 %)  | 3,620 ( 99.2 %)          |
| 1/20          |              | 2                  | 2,413 ( 99.9 %)  | 8            | 1,217 ( 98.5 %)  | 3,630 ( 99.4 %)          |
| 1/21          |              | 1                  | 2,414 ( 99.9 %)  | 6            | 1,223 ( 99.0 %)  | 3,637 ( 99.6 %)          |
| 1/22          |              | 1                  | 2,415 ( 100.0 %) | 1            | 1,224 ( 99.1 %)  | 3,639 ( 99.7 %)          |
| 1/24          |              |                    | 2,415 ( 100.0 %) | 1            | 1,225 ( 99.2 %)  | 3,640 ( 99.7 %)          |
| 1/25          |              | 1                  | 2,416 ( 100.0 %) | 1            | 1,226 ( 99.3 %)  | 3,642 ( 99.8 %)          |
| 1/26          |              |                    | 2,416 ( 100.0 %) | 2            | 1,228 ( 99.4 %)  | 3,644 ( 99.8 %)          |
| 1/27          |              |                    | 2,416 ( 100.0 %) | 1            | 1,229 ( 99.5 %)  | 3,645 ( 99.8 %)          |
| 1/28          |              |                    | 2,416 ( 100.0 %) | 1            | 1,230 ( 99.6 %)  | 3,646 ( 99.9 %)          |
| 2/4           |              |                    | 2,416 ( 100.0 %) | 1            | 1,231 ( 99.7 %)  | 3,647 ( 99.9 %)          |
|               | No date      |                    | 2,416 ( 100.0 %) | 4            | 1,235 ( 100.0 %) | 3,651 ( 100.0 %)         |
| <b>Total</b>  |              | <b>2,416</b>       |                  | <b>1,235</b> |                  | <b>3,651</b>             |

(Reference from Hyogo Prefectural Coroner)

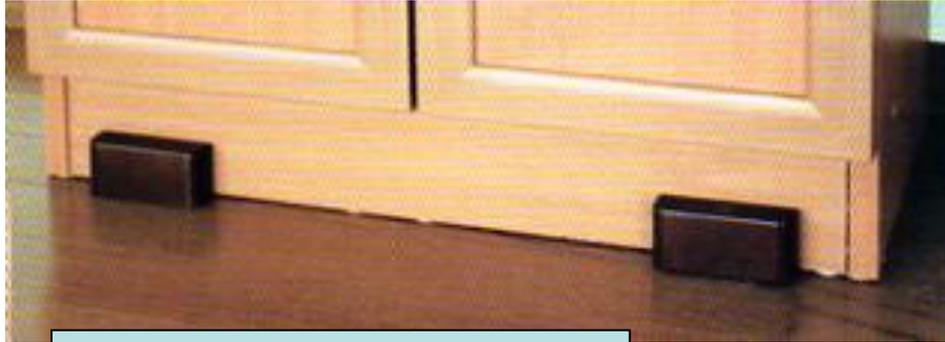
# Location of the Deaths (within Kobe City) at the Great Hanshin-Awaji Earthquake



(Immediately after the Earthquake,  
Hyogo Prefectural Coroner Inquiry)

# Self-support

Prevent furniture from toppling, prepare emergency essentials, store emergency food



Equipment for preventing furniture from toppling



Anti-shatter window film



Multi-function flashlight radio

3-day emergency essentials (e.g. drinking water and food, clothes, towels, blankets, household medicine, etc.)

# Making Use of Community Radio (Musashino FM)

Collect Information ;  
be informed & to inform ;  
the spirit of self-support,  
co-support &  
public-support



- Tune onto community radio FM 78.2MHz during a disaster!!
- To get first-hand information on newly set up evacuation shelters and other useful information.
- Community-based emergency alerts, detailed warnings and safety information relevant to the Musashino community will be broadcast.
- Simultaneously broadcast (Internet radio) since October 1, 2011

### III) Let residents to be informed (2): encourage the spirit of “co-support” and the importance of local community



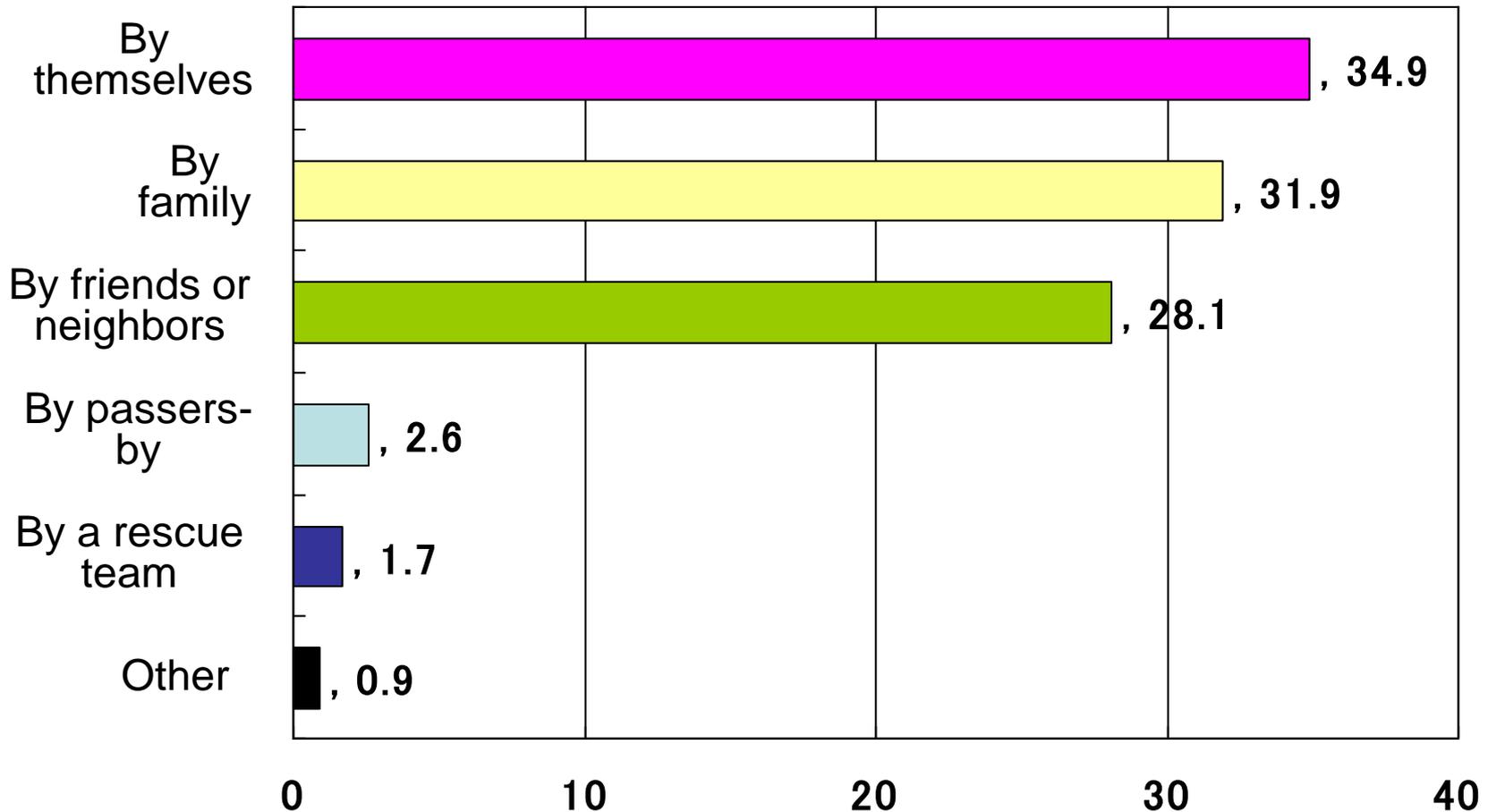
After experiencing major earthquakes, the importance of a “co-supported” response has been identified.

- ❑ The “Citizens’ Disaster Prevention Association” and the Emergency Volunteer System were established in 1993. Residents and City Government work together to broaden knowledge about disaster prevention/response as well as carrying out safety inspections, etc.
- ❑ In 1997, Musashino started the “Project for Emergency Support to the Vulnerable” to ensure that the safety of pre-registered elderly and the disabilities (i.e. those socially vulnerable) will be checked by their neighbors (responders).
- ❑ Encourage the formation of more emergency volunteer groups.
- ❑ A “Emergency Volunteer Center” will be set up in major disasters!

# In the Great Hanshin-Awaji Earthquake...

## Co-support

<Method of rescue after being trapped or buried alive (%)>



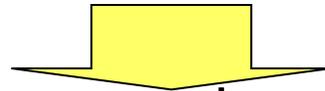
Reference from the "Investigative Report into Fires in the South Hyogo Prefecture Earthquake," Japan Association for Fire Science and Engineering Inc.

## The Role of Emergency Volunteer Groups



“Our own lives should be protected by ourselves”

“Our living places (communities) should be protected by all of us”



For these reasons, training exercises and awareness activities are carried out autonomously across the community (to set up a local disaster-responsible-community)

<Currently, we have 29 active volunteer groups work at disaster preparedness/response issue.>

# IV) Medical and Nursing Care in Musashino During a Disaster

February 2009

Contrived a “Musashino Basic Plan for Medical Preparedness in a Disaster”

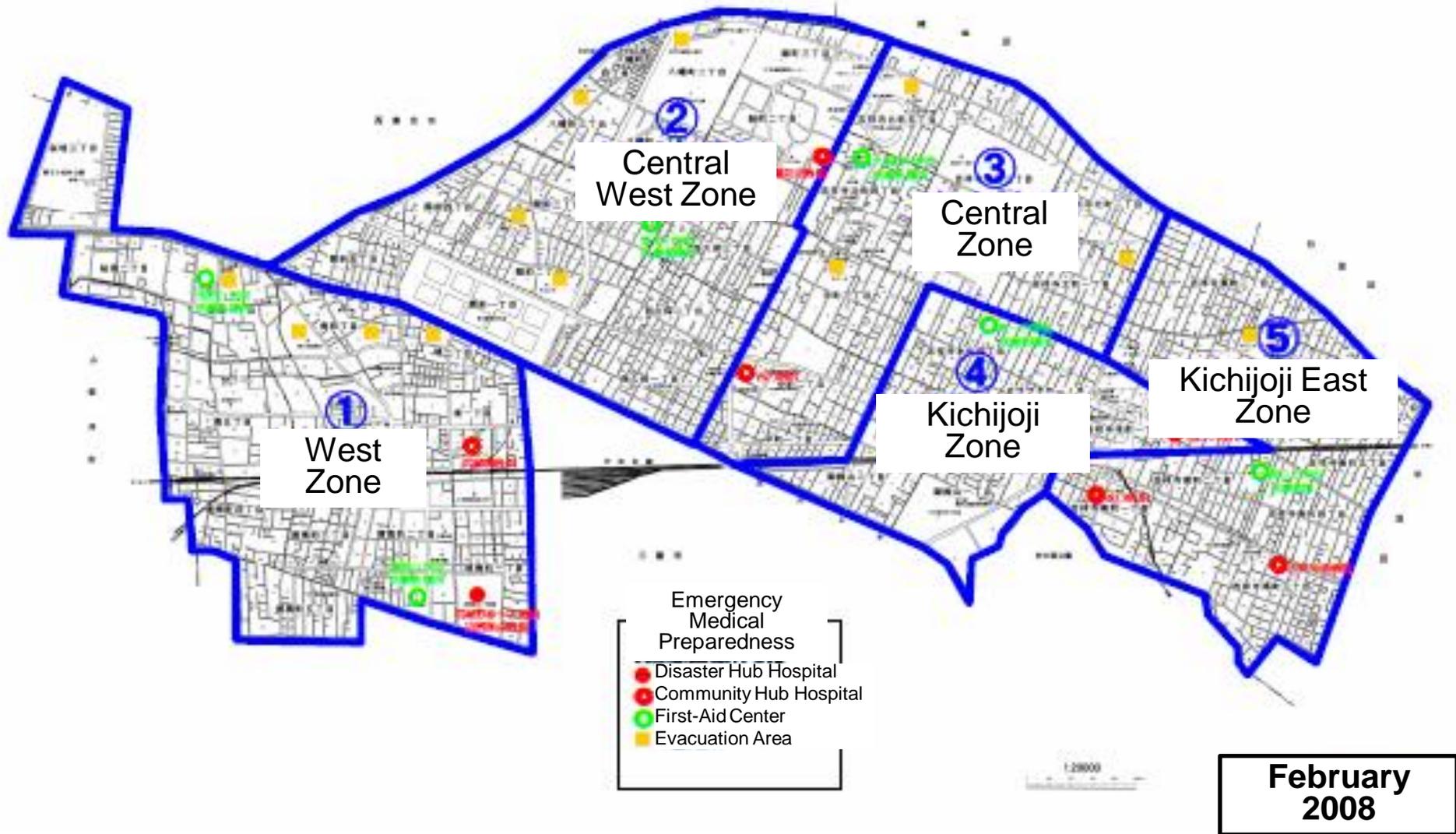
Concluded a "Memorandum on **emergency medical response** in Musashino in the event of a major disaster“ among

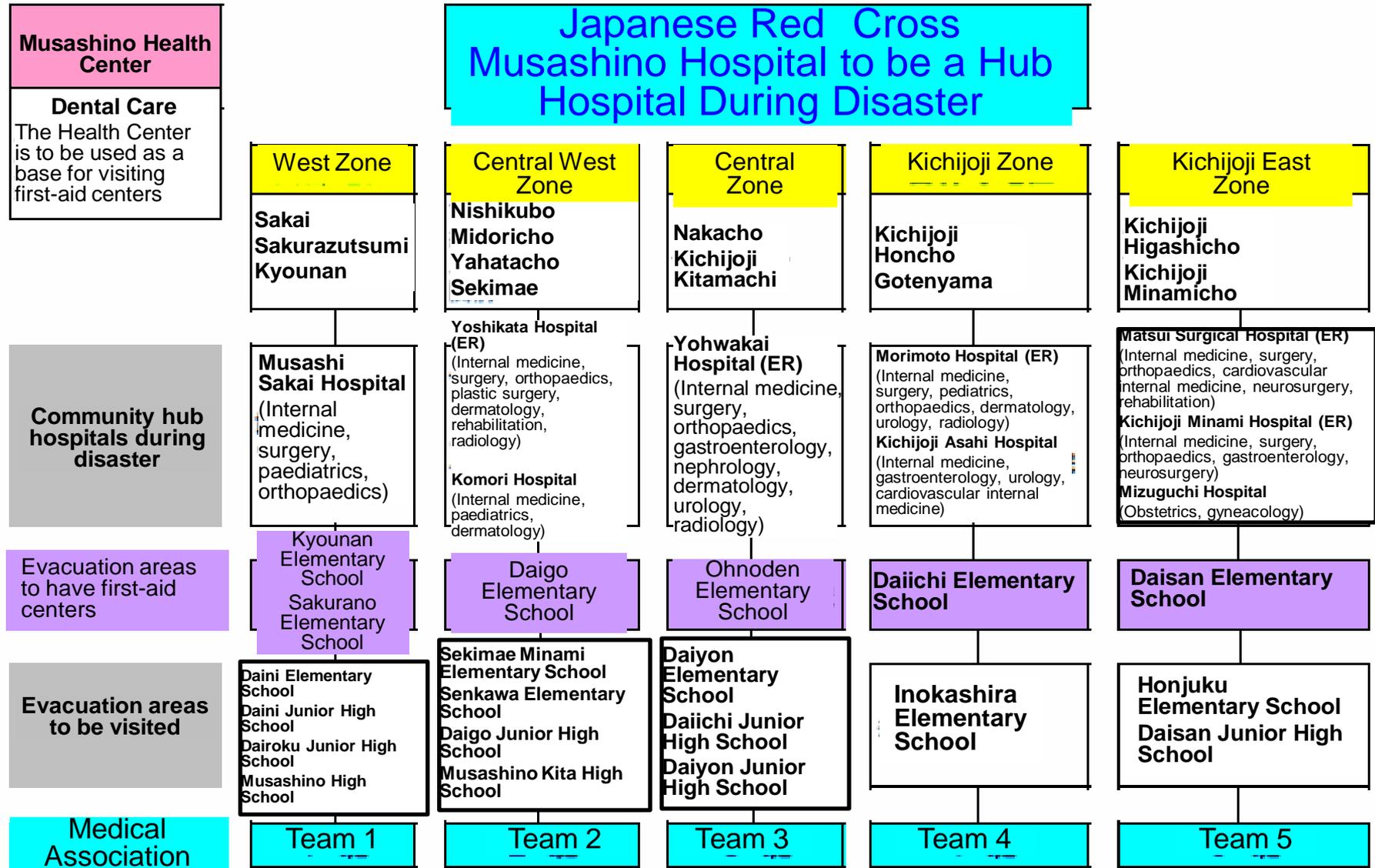
(1) Musashino City (2) Japanese Red Cross Musashino Hospital (3) Musashino Medical Association (4) Musashino Tokyo Dental Association (5) Musashino Pharmacist Society (6) Musashino Bonesetter Society (7) Musashino Fire Department



- This memorandum ensures a prompt and appropriate emergency medical response in a major disaster to be carried out by the relevant parties under a co-supported protocol.

# Emergency Medical Response in Musashino in a Major Disaster





“Community hub hospitals during disaster” refers to the nine hospitals in Musashino excluding Japanese Red Cross Musashino Hospital.

# Welfare Evacuation Centers (Aged Care Facilities)

Facilities with which  
agreements have been  
concluded as of April 1, 2011

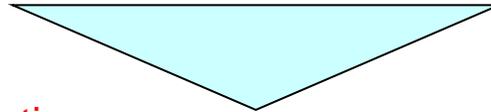
| Facility Name                              | Type of service   | Address                    |
|--|---|----------------------------|
| Kichijoji Nursing Home                     | Health care facilities for the elderly requiring long-term care | 2-9-2 Kichijoji Kitamachi  |
| Yutorie                                    | Health care facilities for the elderly requiring long-term care | 4-25-5 Kichijoji Minamicho |
| Musashino-shi Sakurazutsumi Care House     | Care home   | 1-9-9 Sakurazutsumi        |
| Kunugien                                   | Health care facilities for the elderly requiring long-term care | 1-9-7 Sakurazutsumi        |
| Musashinokan                               | Health care facilities for the elderly requiring long-term care | 2-16-5 Sekimae             |
| Oyanoie                                    | Health care facilities for the elderly requiring long-term care | 3-4-18 Yahatacho           |
| Care Court Musashino                       | Health care facilities for the elderly requiring long-term care | 5-10-7 Kyounancho          |
| Sakuraen                                   | Health care facilities for the elderly requiring long-term care | 2-8-31 Sakurazutsumi       |
| Koureisha Sougou Center Day Service Center | Adult daycare center  | 2-4-1 Midoricho            |
| Kitamachi Koureisha Center                 | Adult daycare center  | 4-1-16 Kichijoji Kitamachi |
| Goodwill Kyounan                           | Adult daycare center  | 3-25-4 Kyounancho          |
| House Green Park                           | Health care facilities for the elderly requiring long-term care | 2-1-33 Midoricho           |
| Anzuen                                     | Health care facilities for the elderly requiring long-term care | 1-18-5 Sakai               |
| Anzuen Anex                                | Health care facilities for the elderly requiring long-term care | 1-19-20 Sakai              |

Musashino has also concluded agreements with five other facilities for the disabilities (as of March 1,,2010)

# Enhancement of Measures for the Emergency Support to the Vulnerable as well as Functioning Welfare Evacuation Centers

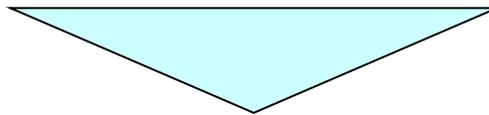
## Events and responses during the Great East Japan Earthquake

- Evacuees who need advanced triage were mingled with general evacuees in evacuation areas/shelters.
- Lack of beds and nursing care equipments at welfare evacuation centers.
- Lack of initial staff to set up welfare evacuation centers.



## Improvement, analysis and evaluation

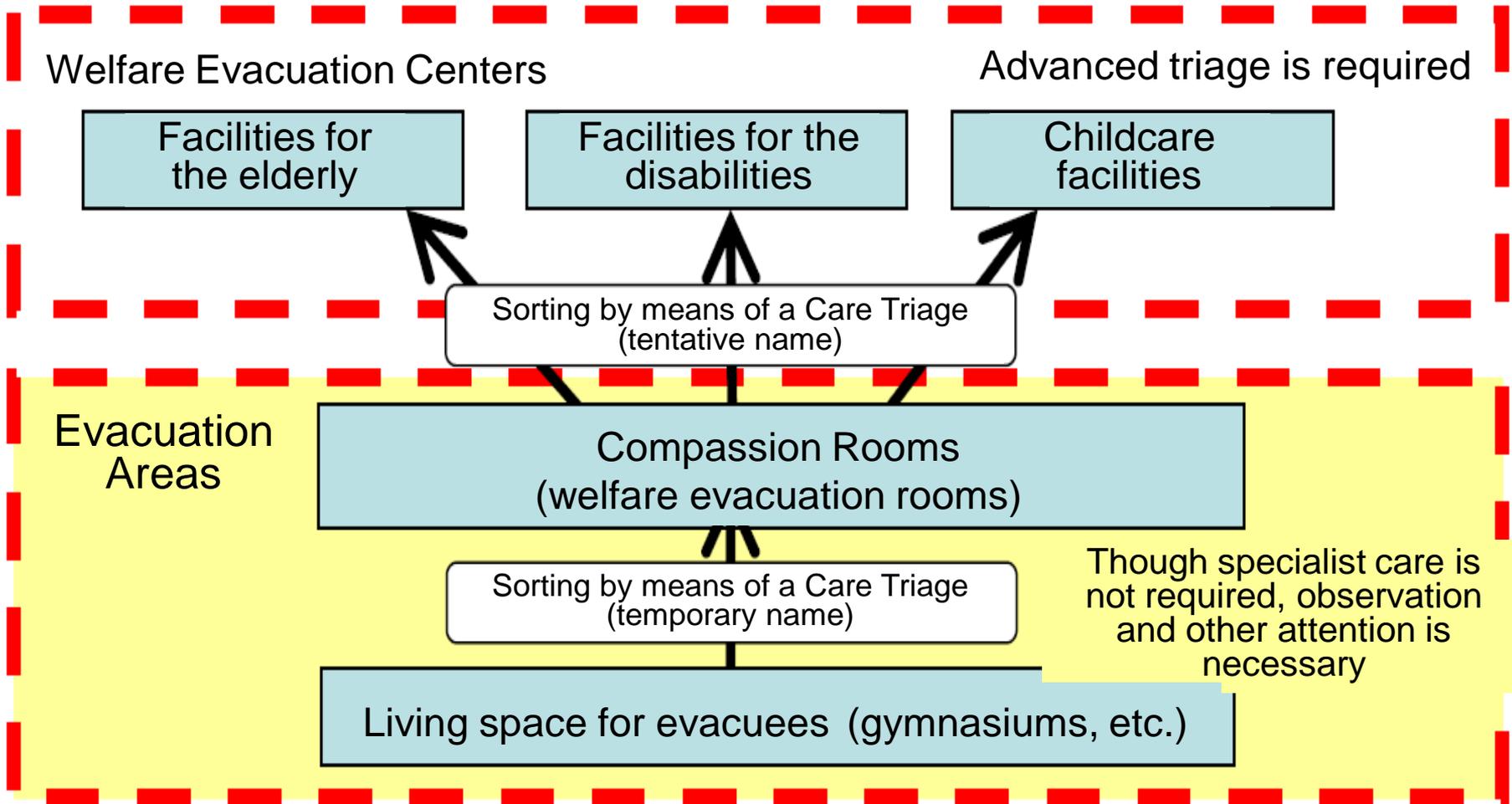
- It is necessary to clarify the roles of general evacuation shelters and welfare evacuation centers.
- It is necessary to systemize the supply of emergency food stocks and nursing care equipment.
- It is necessary to have a BCP for facilities which will become welfare evacuation centers and secure initial staff in the setup period.



## The direction of future support

- Consider the collaboration of general evacuation shelters and welfare evacuation centers; "Care Triage (tentative name)" for sorting the eligible of "Compassion Rooms (welfare evacuation rooms)" and "Welfare Evacuation Centers".
- Decentralize storage of emergency food stocks for the vulnerable as well as systemizing the supply of nursing care necessities through agreements with suppliers.
- Strengthen the framework of cooperation between community social welfare groups and individual volunteers during disasters.

Diagram 2  
Diagram illustrating support for the vulnerable



# Advance Collaboration of Medical and Nursing Care during a Disaster

- **Other than medical triage, nursing care triage (tentative name) is another necessary category.**
- **Outreach support in the form of collaboration between medical and nursing care responders for caring the vulnerable who are left behind at their homes or in temporary homes.**
- **Information sheets to accurately deal with real-time needs of the evacuees.**
- **Accumulation and interaction of regular training to enhance community engagement**
  - Naturally, it is difficult for an abrupt collaboration between medical and nursing care responses to be smoothly carried out in a natural disaster.
  - In Musashino, a comprehensive disaster preparedness drill is held every August to strengthen the interaction of residents and relevant parties, and ensure a smooth collaboration between medical and nursing care responders.
  - Here is the video taken from the comprehensive disaster-preparedness drill held on Sunday August 26, this year