

# Displacement and older people

The case of the Great East Japan Earthquake and Tsunami of 2011



Japanese Red Cross Institute for  
Humanitarian Studies



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HelpAge International  
East Asia/Pacific Regional Office  
6 Soi 17, Nimmanhaemin Road  
Suthep, Muang, Chiang Mai 50200, Thailand  
Tel: +66 53 225440, Fax: +66 53 225441  
hai@helpageasia.org, www.helpage.org

Cover photo by Mark Stroud: An older couple eat rice balls for lunch at a shelter for displaced families on Oshima Island set up in the gym of the town's elementary school. The school was located on higher ground and avoided the fate of lower lying areas that were completely submerged by the wall of water. The school was serving as a shelter for 400 displaced families.

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# Preface

Since the East Japan Earthquake and Tsunami on 11 March 2011, recovery and reconstruction activities have been taking place. Due to unimaginable changes of circumstances, effects on the daily lives of older people have been dramatic. Countermeasures to support the living conditions of surviving local residents are needed. In this situation, the research team launched a survey to identify the needs and issues of older people who were affected by this catastrophic event. There were 217 older people over 60 years old who kindly cooperated with the survey. The purpose of this survey is to gain a detailed understanding of the impact of the disaster on older people a year on, and the vulnerabilities and challenges they faced and continue to face as a result of their displacement or their continued residency in affected areas where support and services are reduced. Also we explored how older people used their past experiences and wisdom at the time of the evacuation through this survey.

Lessons implied by the research can promote preparedness and specific measures to protect older people from future disasters in Japan and globally. Therefore, the result of the research may be beneficial recommendations about the policies of cities, municipalities and communities.

We would like to express the deepest appreciation to the older people who participated in the survey, relevant municipal officers and all the team members of the research group for their understanding and kind cooperation.

December 2013

**Nahoko Okamoto**  
**International Nursing & Disaster Nursing**  
**The Japanese Red Cross College of Nursing**

# Foreword

The images of the earthquake and the following tsunami in eastern Japan shocked the world and will certainly be remembered for centuries to come.

Although experience shows that older people tend to be disproportionately affected in disasters, this evidence reveals not only the high proportion of older people who lost their lives, but also the gaps in the immediate relief provided as well as older people's uncertainties about the future. This study also points at the resourcefulness and resilience of older people.

The lessons conveyed from this study highlight the importance of preparedness at personal, community and general institutional levels. These lessons, and the recommendations included, are not only valid for Japan, but most of them are also applicable elsewhere.

Our deep gratitude to Prof. Hiroshi Higashiura, Director, the Japan Red Cross Institute for Humanitarian Studies for his advice and guidance; Prof. Nahoko Okamoto, the Japanese Red Cross College of Nursing, the lead researcher and her team; Prof. Greiner Chieko, College of Nursing; Prof. Yoshiko Tsukada, College of Nursing; Prof. Shihoko Fujimura, Iwate Prefecture University; Prof. Ayaka Sobo, Iwate Prefecture University; and Prof. Hidenori Hashi Akita, Red Cross College of Nursing.

We are also indebted to the National Council of YMCAs of Japan and YMCAs in Ishinomaki and Miyako cities, who provided the venue and logistical support for older people taking part in this study. HelpAge provided technical support through Peter Morrison, Marcus Skinner, Jo Wells and others. Emi Kiyota and Mandy Heslop edited the study. Finally, we recognise HelpAge USA who worked tirelessly to facilitate the funding for this study.

December 2013

**Godfred Paul**  
**Senior Regional Programme Manager**  
**East Asia/Pacific Regional Office**  
**HelpAge International**

# Executive summary

The earthquake that occurred off the Sanriku coast of northern Japan on 11 March 2011 caused one of the most destructive tsunamis ever recorded. Aside from the devastating loss of human life and damage to physical infrastructure, 470,000 survivors were evacuated to shelters and as of December 2013, about 117,000 remain displaced in temporary accommodation.

This disaster took place in a country with the world's highest proportion of older people: over 23% of the population is 65 years and older. The immense impact of the disaster on this generation is signified by the fact that 56% of those who lost their lives were aged 65 and over. Understanding the experiences of older people who survived is crucial for addressing the needs and capacities of older people in future emergencies – in Japan and elsewhere.

The Japanese Red Cross College of Nursing and HelpAge International therefore conducted this study of the impact of the disaster and the access to assistance for older people in two of the most severely affected prefectures of Iwate and Miyagi.

The majority of older people in the survey (69%) were at home when the earthquake struck, and their evacuation time was slowed down as a consequence of power failures, lack of reliable information, physical frailties and being alone. Although half the respondents fled with family members, many, especially those with reduced mobility and those over 75 years old, faced difficulties reaching the evacuation sites and reported a range of barriers along designated evacuation routes. About 20% of older people did not know where the nearest evacuation sites were, or how to get there.

Life in the evacuation shelters, without usual support networks, proved highly challenging for older people. Distributions of basic items were often inappropriate or difficult to access, and respondents were challenged with unfamiliar food, ill-fitting clothes and water supplies too heavy to carry. Forty per cent of

The immense impact of the disaster is signified by the fact that **56%** of those who lost their lives were aged 65 and over.

respondents reported that toilets and bathing facilities were difficult to use and often lacked appropriate privacy. Access to medical care and treatment – severely compromised by the damage to hospitals as well as being overwhelmed by the emergency needs – was a major concern, particularly for those with chronic health conditions. Many older people with physical and cognitive impairments were obliged to live with reduced levels of support in ill-equipped evacuation shelters. While basic needs were increasingly met, their concerns about healthcare endured after their transition to temporary housing units.

The more positive experiences focused on their social interaction – developing new friendships, re-establishing connections with those in their communities and affirming their self-worth through sharing their knowledge with younger people in the shelters. Many expressed a heightened appreciation of the value of relationships in coming to terms with painful memories and losses.

Extensive infrastructural damage and shortage of suitable land for building prolonged people's stay in evacuation shelters, in some cases for up to five months. Having moved to temporary accommodation, many older respondents realised that they could remain displaced for longer periods than initially expected. On average, older people already comprise about half of all residents in temporary accommodation and they face greater challenges in moving on, partly due to their limited income and ability to access

reconstruction loans. Given the high proportion of older residents and their extended stay in temporary housing, it is imperative that both housing design and delivery of support are appropriate for this age group.

Prolonged displacement is likely to have serious consequences for the long-term health status of older people, with 10% of survey respondents in temporary housing reporting concerns for their health. Care and management of high risk health conditions such as cardiovascular diseases, stroke, diabetes and dementia continued to be severely compromised by disruption to health facilities and reduced ability to access available services. Volunteer health teams mobilised to address the gaps in the immediate aftermath of the disaster had ceased at the time of this study, yet the survey findings suggest that extending this service could considerably improve the wellbeing of displaced older people.

The experience of displacement implies a radical change in status: the loss of well defined roles and increased dependency may be harder for older people to overcome. The findings indicated that changes in environment and social activity often reduced the opportunities for human interaction, with important implications for psychological wellbeing and recovery. The transfer from evacuation sites to temporary accommodation separated many older people from neighbours and new friends they had made, disrupting support networks they had relied upon.

With displacement, many missed tending their vegetable plots or complained of lack of space to entertain family. While the majority of respondents interacted with others two to three times a week, 14% of older women and men felt that being unable to see old friends was one of the greatest challenges they faced.

Unsurprisingly, symptoms of stress relating to the disaster and displacement were evident

among respondents two years later, and were manifested in disruptive sleeping patterns, signs of depression and fear of proximity to the disaster area. Over a third of respondents reported that their main method of coping was talking with friends and family, and slightly fewer managed their symptoms mainly through physical exercise.

Looking toward their future recovery, the large majority, 65%, of older people understandably expressed the desire to secure somewhere to live in a safe area. Some expressed concerns that, unless they could rebuild their own homes, they would be obliged to move into multi-storey apartment blocks, raising fears that their familiar socialisation activities, such as meeting to chat in informal spaces and gardens, would be once again disrupted. The experiences of older people indicate that inclusion of appropriate spaces for social interaction, as well as consideration of accessible transport to health and care services in the design of permanent accommodation blocks, could enhance the psychological wellbeing and recovery of older survivors of this disaster.

Opportunities for developing age inclusive disaster response and recovery activities are outlined in more detailed recommendations at the end of this report.

## **The importance of preparedness**

**Approximately 20% of respondents reported not knowing where the nearest evacuation sites were, or how to get there. As one older person said, “I simply did not know what to do by myself.”**

# 1. Older people in the Great East Japan Earthquake and Tsunami of 2011

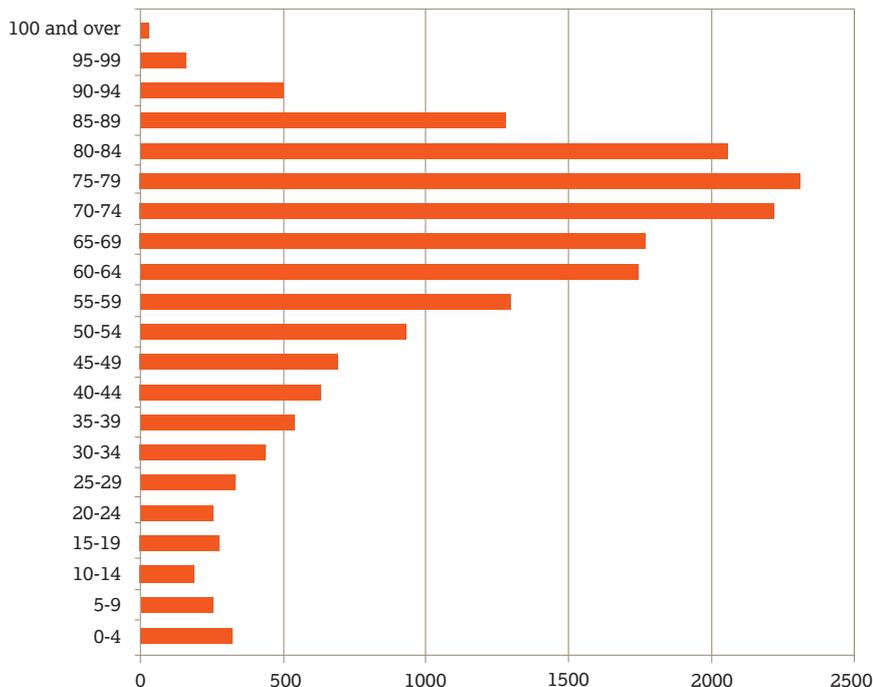
Japan has the world's highest proportion of older people. While the overall population of Japan is expected to decline due to low fertility rates, the proportion of older people is projected to increase significantly. In 1989, only 12% of the population was 65 years and older, yet it is estimated that by 2030, a staggering 32% of the population will be over 65, rising to 40% by 2050. This change is happening faster than in any other country in the world, and, as in other countries in the region, is characterised by 'feminisation of ageing' with growing numbers of women outliving men. Due to changes in family care practices and urban migration, many older people, particularly older women, increasingly live alone.

On 11 March 2011, the Great East Japan Earthquake (GEJE) struck off the Sanriku coast of northern Japan. Measuring 9 on the Richter scale the earthquake caused one of the most devastating tsunamis in recorded history, with the most severe consequences in

Iwate, Miyagi and Fukushima prefectures. The wave affected 561 km<sup>2</sup> of Japan's coastline, killing 15,883 people, destroying over 126,600 houses, and damaging the nuclear reactor at Fukushima – the worst nuclear accident since Chernobyl. Combined with the nuclear accident, a total of 470,000 people were initially displaced, and 8,000,000 houses lost power, paralysing basic communication and infrastructure systems in the region.

The crisis was significant not only due to the combination of the earthquake, tsunami and nuclear power plant failure, but also aggravated because it occurred in a country experiencing a rapid increase in the numbers of older people and declining numbers of young people, creating additional challenges for disaster relief and reconstruction efforts. The impact of the GEJE on the older population cannot be ignored; 56% of those who lost their lives during the disaster, and 89% of the post-disaster related deaths were among people aged 65 years and over.<sup>1</sup>

**Figure 1: Age distribution: Number of deaths (n = 18,877)**



Source: Ministry of Health and Welfare, Japan. 2012, National demographic data

Note: Estimates of the death toll fluctuated during the aftermath, with the initial estimates of 15,883 deaths rising to over 18,000 later on. This discrepancy, as time went on, was due to many deaths being initially accounted as "disappeared".

## 1.1 Rationale for the study

The disaster in Japan, and the demographic shift experienced by the country, highlights the imperative of understanding the situation of older people displaced by the crisis, to support on-going assistance efforts and to contribute to future emergency response planning. While the GEJE occurred in a context with highly developed disaster preparedness and response systems in place, many of the concerns reported by older people reflect findings of analyses conducted by HelpAge in developing world emergency responses. Humanitarian responses often fail to recognise the vulnerabilities, needs and capacities of older people, even though they perform crucial roles in their communities before and during a crisis.

The study aimed to examine the challenges older people faced and continue to face as a result of their displacement, and to assess the impact of the disaster on their wellbeing and the forms of support available to them. By drawing on the experience of Japan and evidence from HelpAge programmes in other contexts, it is hoped that this report will contribute to supporting the delivery of emergency and recovery assistance which is both accessible to, and appropriate for, older people.

## 1.2 Methodology

The survey was conducted in two cities in Iwate and Miyagi prefectures, selected for the severity of impact of the tsunami and the high concentration of older people. Data was collected between December 2012 and March 2013. At this time, 70% of respondents were living in temporary housing facilities and 25% lived in their own homes.

A structured questionnaire, with multiple choice and open-ended questions, was carried out with 206 older people in Miyako and Ishinomaki cities. Information was gathered through face-to-face interviews, and through group discussions and self-recorded questionnaires during organised events in temporary housing units.

**Limitations:** Resource restrictions did not allow for the collection of a sample large enough to produce statistically robust findings. Rather, the focus was on trends in the experiences of survivors. Men were under-represented in the sample: largely due to their absence from temporary accommodation during daytime when most interviews were conducted.

**Table 1: Research sites: demographic features**

Demographic features	Miyako city Iwate prefecture	Ishinomaki city Miyagi prefecture
Total population (land area in km <sup>2</sup> )	99,885 (2,672)	163,216 (555)
% of total population 65+	30.2	27.2
% of older population that are couple both 65+	23.1	10.8
% of older population who live alone	21.7	9.3

**Table 2: Respondents: age and gender**

City	Total	Women (60-74)	Women (75+)	Men (60-74)	Men (75+)	Total Women	Total Men
Miyako	111	53	36	9	13	89	22
Ishinomaki	95	36	29	15	15	65	30
Total	206	89	65	24	28	154	52

## 2. Immediate evacuation response

### 2.1 The evacuation

About 70% of the survey respondents were at home when the earthquake began. They described their alarm at being unable to stand up and fears of injury from falling belongings or the collapse of their houses as the tremors intensified. Reports on the severity of the tsunami were initially unclear and many older people remained in their homes tidying up and waiting for family members to return. While in many cases neighbours urged older people to leave their homes, some were unable to move immediately due to their physical or mental frailty. Consequently, older people who were not at home at this time were quicker to evacuate to higher ground, including those in functioning residential care homes who were immediately assisted.

More than half the respondents moved to their assigned evacuation sites. Others went to higher ground such as mountainsides, temples and multi-storey buildings, judging these areas to be safer than the evacuation sites or to be the nearest place of safety.

Almost half of respondents in both cities evacuated with family members, indicating the large numbers of older people living with or near to family members. However, further analysis highlights regional differences in the proportion who escaped alone; a third of respondents in Miyako city, compared to 16% in Ishinomaki city. This finding could be explained by the higher proportion of older people living alone in Miyako city (22% compared to 9% in Ishinomaki), as well as established city-wide evacuation drills encouraging 'Tsunami tendenko' with the slogan 'Run to higher ground and save yourself first'.

In many cases, historical and cultural experience of tsunamis appears to have been key in older people's decision making. Over a third of respondents in Miyako city reported that stories of previous tsunamis were most useful in guiding their actions, while 28% reported that city-wide evacuation drills were critical. In comparison, respondents in Ishinomaki city reported warnings from neighbours most frequently (25%), followed by stories from the past (16%).

### The role of previous tsunami experience

The two prefectures involved in this study have historical experience of tsunamis, including the Meiji Sanriku earthquake and tsunami of 1896 in which 21,959 people lost their lives, and more than 10,000 homes were damaged. In living memory, the 1933 Showa Sanriku earthquake and tsunami killed 3,064 people and damaged 9,769 houses.<sup>2</sup> In both cases, Iwate prefecture was more heavily affected leading to a greater prominence of tsunami stories and local knowledge within families and communities that were carried through the generations. Consequently, those living in Iwate were better prepared for tsunami evacuation.<sup>3</sup>

### 2.2 Challenges of evacuation

#### Access to information

An immediate consequence of the earthquake was a loss of power, preventing access to television, which was the usual source of news. While some respondents obtained updates from the radio, conflicting reports about the strength of the impending tsunami confounded their attempts to gain an understanding of the situation. Although tsunami warning sirens were activated, in many areas systems were damaged by the earthquake, affecting the clarity of messages relayed through speakers. This situation was exacerbated for respondents with hearing impairments who reported being unable to hear the sirens or evacuation instructions.

A report by the World Bank<sup>4</sup> cited three similar reasons for the delay in the emergency evacuation: inaccurate initial prediction of the severity of the tsunami slowed down evacuation behaviour; electrical failure affected television and radio access to information; and malfunction of tsunami warning systems left many with no evacuation information.

The limited information older people had regarding the immediate response to this emergency is striking. Approximately 20% of respondents reported not knowing where the nearest evacuation sites were, or how to get there. As one older person said, "I simply did not know what to do by myself."

## Frailty and mobility

Older people with poor mobility, especially those over 75 years of age, reported difficulty fleeing. Many respondents who attempted to reach their evacuation site reported barriers along evacuation routes such as steps, limited numbers of handrails and uneven or missing pavements. For some, this situation was compounded by a lack of assistance to reach safety.

Frail older people who lived alone were particularly vulnerable. A report from the city of Rikuzen Takada<sup>5</sup> found that many younger people returned home to help their family members, delaying their own evacuation and sometimes perishing in the process. The lasting grief and sense of guilt for family members who could not reach their elderly relatives was expressed by one 60-year-old daughter in this study: *“I knew my mother would be in trouble because she lived alone, but I could not possibly get there because the road was filled with cars at that time. I was able to save my life but could not help my mother. I still do not know if I made the right decision.”*

## People with physical and cognitive disabilities

Figures published by the government on the evacuation of people with physical and cognitive disabilities, although not age disaggregated, are likely to include a high proportion of older people. Sixty percent of deaths among this group occurred at home and 21% occurred on the way to evacuation sites. Those who survived relied mainly on information from evacuation warning systems (18%) and from neighbours (12%), relatives (12%) and care organisations (12%). Very few obtained information from television, radio, city workers, firefighters or police.

*Source: Ministry of Land, Infrastructure, Transport and Tourism*

Measures to improve survival rates of vulnerable groups also have an important impact on the safety of family members and carers, as this example demonstrates:

*“We had an evacuation drill a few weeks before the tsunami, and had learned that older people with dementia would be scared and would not like to move.*

*We decided to lift older people with dementia and run immediately when the earthquake occurred. We would have lost some older people at our day service if we were not prepared in that way. Effective evacuation for people with dementia is critical, otherwise young caregivers could also die.”*

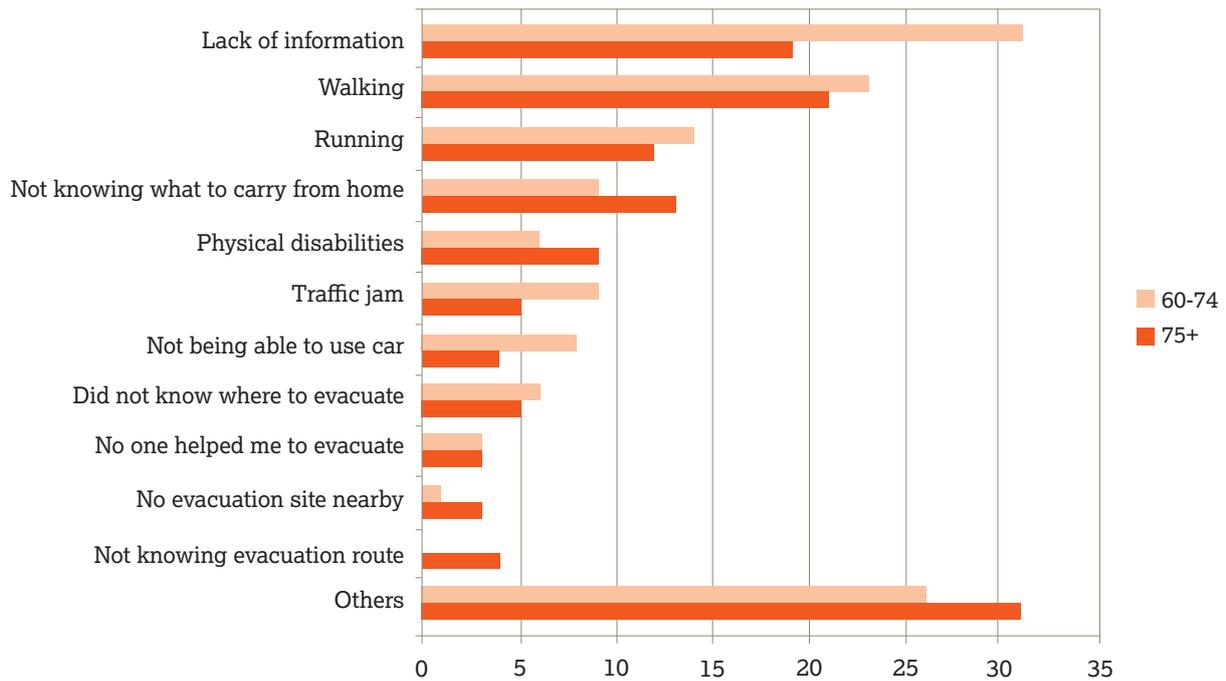
**Long-term care worker for older people, Ofunato city**

## Evacuation sites

Some of the designated evacuation sites were not located high enough to survive the unprecedented reach of this tsunami. For those who successfully reached evacuation sites, a lack of preparation created further immediate challenges and risks. Many had left without important documents or daily medication for chronic conditions. Later on, a major concern for many older people and their families was that clinical care and medicines were not available at evacuation sites.

Cold weather on the evening of 11 March 2011, combined with power failure, left survivors struggling to combat the cold. While some reported using hot water bottles at evacuation sites, many spent the night in wet clothes and blankets.

**Figure 2: Challenges faced during the evacuation  
(multiple answer: n=265)**



### 3. Conditions at evacuation shelters

The extensive damage to essential infrastructure caused by the earthquake and tsunami displaced 470,000 people to evacuation shelters.<sup>6</sup> A total of 2,182 evacuation shelters in schools, libraries, community centres or city halls provided immediate safety. However, due to the scale of the disaster, in some cases private houses, hotels and nursing homes were also used. Immediately following the disaster survivors found it difficult to get information, contact relatives or to understand the scale of the disaster and many older people were forced to live without their usual support networks.

#### 3.1 Addressing basic needs

In both Miyako and Ishinomaki cities, nearly a third of older people (31%) reported their major challenge in evacuation centres to be the slow distribution of basic items such as water, food and clothing. Once goods were made available, older people reported further age-specific challenges accessing these distributions. For example, food was unfamiliar and hard to eat; water, provided in large bottles, was difficult to carry; and often clothes did not fit. Toilet and bathing facilities

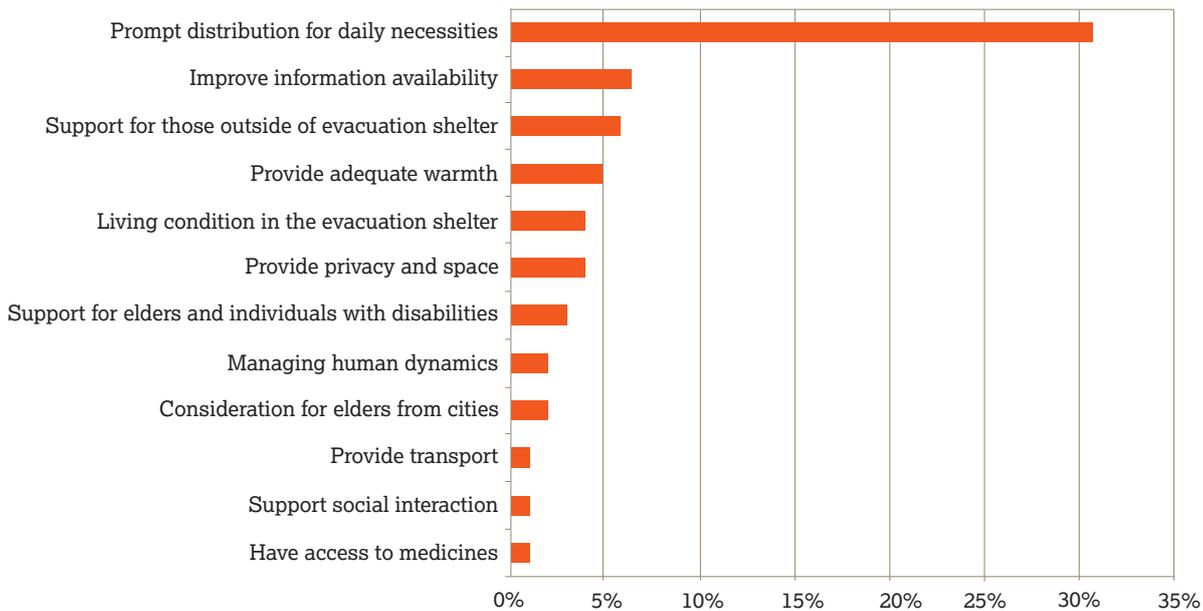
were not adapted or accessible for older people and were reported to be hard to use by 40% of those surveyed.

One older woman reported, *“The clothing did not fit, because they were made mainly for young people.”*

Another respondent, 53-year-old male in Rikuzentakada, observed: *“Carrying water for older people can be a challenging task. They could only carry a few bottles of water. We should have thought about providing more assistance before they suffered.”*

Informal conversation during the data collection also revealed difficulties faced by those who chose to stay in their homes. Access to basic goods was more limited for them, as all distributions took place at evacuation centres. Their living conditions were made difficult due to the prolonged absence of electricity or mains water. As one older person reported, *“I could not get enough supplies because I was not living in the evacuation sites. I needed to live with limited supplies and without electricity for a long time.”*

**Figure 3: Suggestions to improve the experience of immediate evacuation response at the evacuation shelters (multiple answers: n=206)**



## Accessible distributions: HelpAge experience in Uganda

In Gulu district, northern Uganda, protection monitoring by UNHCR highlighted the challenges facing older people in accessing food distribution. Older people reported that food distribution often lasted all day, forcing them to wait in the hot sun with limited shade in the dry season, and in cold, wet conditions during the rains. Lack of access to latrines or water during this lengthy process contributed to anxiety and ill health. Some, particularly older women, reported difficulty carrying heavy food items to their huts.

In response to this, protection and food distribution agencies modified the distribution procedures. They set up a separate distribution line for older people and those with disabilities, and a proxy collection system, where younger able-bodied relatives or neighbours could collect the food on the person's behalf. Information on the proxy persons was recorded on the registration card or with the agency to ensure they could access distributions and to avoid fraudulent collection of this assistance.

### 3.2 Addressing health and care needs

Meeting health needs also proved challenging for older people living in cramped and overcrowded evacuation shelters. Difficulties were reinforced by the specific nature of the Japanese health system, which provides limited primary healthcare access, resulting in a heavy reliance on hospitals to treat all ailments, irrespective of severity. In the heavily affected areas of Miyagi, Iwate and Fukushima prefectures the destruction of many medical and care facilities by the powerful waves resulted in limited healthcare access.<sup>7</sup>

Hospitals were overwhelmed by the influx of emergency patients as well as those with non-urgent but important needs, such as treatment of hypertension, diabetes and gastroenteritis.<sup>8</sup> Volunteer health teams helped address the initial service gaps in the aftermath of the disaster, yet 27% of those surveyed reported difficulties in obtaining medical assistance and 29% reported difficulties accessing hospitals. Additional volunteer health services have now ceased, posing challenges for those who find it more difficult to reach central medical facilities.

Furthermore, it proved extremely difficult to accommodate and care for older people with physical and cognitive impairments within evacuation centres due to the limited access to proper care services. Only 34% of the affected cities had facilities in evacuation shelters for individuals requiring special care. As a result, many older people with physical and cognitive impairments lived with the general public in the same evacuation shelters with limited specialised support.

### 3.3 Changing needs of older evacuees

As older people’s stay in evacuation centres lengthened, their concerns increasingly focused on ensuring a degree of comfort and privacy. One older woman reported that, “*It was tiring not to have privacy during the time when I was at the evacuation shelter and not being able to take a bath for a long time was difficult*”.

While the distributions improved their access to basic needs, older people continued to report problems accessing toilet facilities and medication. One older person reported,

*“It was challenging to go to places like the hospital because transportation was not easily available for the people who did not drive.”*

Quality of food also persisted as an issue of concern for 21% of respondents.

### 3.4 Roles of older people during evacuation

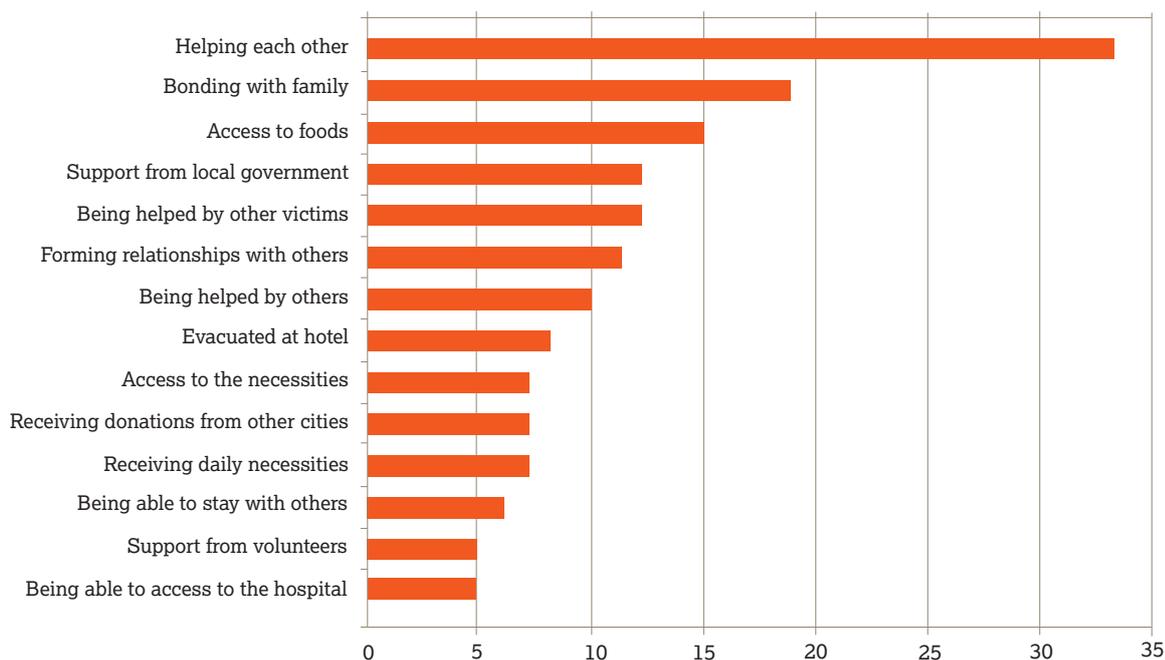
Challenging though life was in the evacuation shelter, older people also mentioned positive aspects of the experience.

They reported being able to develop new friendships and re-establish close relationships with those in their community. Some felt that their roles were valued, and they appreciated being able to share their wisdom and experience and to teach younger generations to live with limited resources. For example, older people were able to show others how to use a bicycle pump to draw petrol when there was no electricity, to cook rice with a *kamado* (traditional stove), and where to find edible plants in mountain areas when they did not have enough food. As two respondents said:

*“I lost everything on that day, but I still have people around me,”*

*“I am so grateful when people say ‘thank you’ for the simple things that I did.”*

**Figure 4: Positive aspects of life in the evacuation shelter (multiple answers: n=206)**



## 4. Current living conditions: temporary accommodation

The level of destruction to housing and infrastructure, combined with limited availability of land that was suitable for constructing temporary housing facilities, meant that in some cases it took up to five months for evacuees to move from evacuation shelters to temporary accommodation. New temporary housing facilities have been built in safe areas on higher ground where the tsunami did not reach, or in areas considered safe while tsunami protection walls were being rebuilt. These are often sited on existing school playgrounds<sup>9</sup> and in many cases, some distance from local amenities.

Today, approximately 117,000 of those who lost their homes are housed in 53,000 temporary house units built in Iwate, Miyagi, Fukushima, Ibaragi, Tochigi, Chiba and Nagano prefectures, or in one of the 80,000 apartments provided by the government for those who were displaced. At the time of data collection, 70% of survey respondents were living in temporary housing facilities and 25% in their own homes.

Historical precedent suggests that affected populations will be living in temporary accommodation for many years. Following the Hanshin Awaji (Kobe) earthquake, the last residents of temporary housing left the facilities only five years after the disaster. While public housing units are projected to be available in several cities by 2015-2016, the limited access of older people to reconstruction loans will, in practice, mean that older people will have no option but remain displaced for a longer period.

### 4.1 Addressing health and care needs

Older people are at high risk of cardiovascular disease, stroke, diabetes and dementia. They may also require palliative care and end-of-life pain management. This makes them particularly sensitive to disruptions in healthcare access. Evidence from conflicts and natural disasters shows that a high degree of excess morbidity and mortality results from exacerbation of existing non-infectious diseases such as hypertension,

diabetes and cancer.<sup>10</sup> The displacement in Japan has had consequences for the lives of older people, with 10% of those surveyed reporting concerns for their health. The centralised nature of Japan's healthcare system continues to cause access difficulties for older people, particularly those without access to transport, or with limited family support.

The northern regions of Japan experience cold winters. Older people's ability to maintain good health by keeping warm is severely compromised in the poorly insulated temporary shelters. In older age minor conditions such as arthritis and joint pain can be worsened by exposure and rapidly become debilitating if not properly treated.

Post-disaster related deaths, not as a result of the tragedy itself, but of disaster-induced fatigue, psychological trauma, or the aggravation of existing chronic diseases, caused numerous deaths. The severity of this situation is illustrated by the fact that following the initial emergency, 2,034 people suffered post-disaster related deaths and 47% of these were related to conditions developed while living in evacuation centres.<sup>11</sup>

### The impact of disasters and displacement on older people's health: Hurricane Katrina, USA, 2005

A study conducted by the Johns Hopkins University<sup>12</sup> found that in the year following Hurricane Katrina, the health of survivors aged 65 and over declined by nearly four times that of a national sample of older adults not affected by the disaster; morbidity rates increased 13% compared with 3% nationwide.

Researchers found a significant increase in the prevalence of cardiac diagnosis, congestive heart failure and sleep problems in people over the age of 65. Emergency department visits increased 100% in the month following Katrina and by 21% over the next year compared to the pre-Katrina year. Hospitalisation rates increased 66% in the first month after Katrina and maintained an increase of 23% over the ensuing year. Based on analysis of patients' locations, the researchers concluded that displacement had a major impact on declining health status.

The importance of understanding the long-term consequence of the crisis on older people's health status is further reinforced by experience from other developed world emergencies where it has been possible to monitor the longer-term health needs of older people.

The evidence from Hurricane Katrina indicates a likelihood that the GEJE will have a long-term health impact on the older population. Monitoring and assessment of this will be crucial for planning longer-term care needs of the older population in affected areas. Currently, however, national disease survey data at city level is not disaggregated by age. Moreover, data from the heavily damaged cities has not been included in available data sources. Unless this data gap is addressed, it will be impossible to monitor or understand the long-term impact of the crisis on older people's health status.

#### **4.2 Social connectivity**

As a result of displacement, many older people experience a radical change in status: from being a respected older person with a clear role within a community to living in unfamiliar surroundings as a dependant and a perceived burden on other family members. It is also important to remember that some of the older respondents in this survey were still of working age, or highly active within their communities. Many of those in the affected community had lost their jobs, particularly those connected with the fishing industry. Many others expressed concerns about the loss of land they formerly used for growing vegetables, further increasing their dependence on others.

*"I used to grow vegetables but I don't have the space to do so."*

*"It is hard to go grocery shopping at the supermarket because I don't drive. I rely on the mobile grocery truck that comes twice a week."*

Social and support networks are important for older people, particularly in contexts of high migration of younger populations, where family support structures are weakened. In emergencies these networks often become fractured, increasing the risk of isolation among older people. This can have serious

consequences for psycho-social and mental health and more starkly on their ability to meet their own basic needs.

Older people living in temporary accommodation reported their most common daily activity was watching television (87%). For older women cooking (75%) and cleaning (74%) form a large part of their daily routine. The survey illustrated the particular challenges faced by men and women over 75 years old in conducting daily activities such as cooking, cleaning and shopping.

It is clear from the responses that many of the daily activities now undertaken by older people are individual tasks, with opportunities for socialising reduced. Older people specifically reported a lack of space to entertain their families. While the majority of older people do interact with neighbours 2-3 times a week, the density of housing in temporary accommodation and limited space for group activities suggests more could be done to support interaction among older people and between generations.

In the case of the GEJE, the transfer of displaced people from evacuation shelters to temporary accommodation often resulted in older people being separated from friends, neighbours and new friends they had made, undermining the support networks upon which they relied. Both female and male respondents felt that one of their greatest challenges was not being able to see friends and relatives. Slight gender differences were apparent in the priority given to different social interactions, with men most concerned with declining interactions with friends (17%) and women concerned with family and neighbour contact (13%).

Evidence from the Hanshin Awaji (Kobe) earthquake of 1995 provides historical precedent for this finding. In this case temporary housing was organised in neighbourhood groupings which appears to have favoured the maintenance of social connections among women who had stronger connections at neighbourhood level. In contrast, men had developed friendships and connections in the work place, which were not maintained in the temporary housing due to the loss of their means of income.

## Addressing social isolation: Experience from the Democratic Republic of Congo (DRC)

An estimated 1.7 million internally displaced persons (IDP) live in Eastern Congo and the older people among them face enormous individual, social and economic challenges in meeting their basic needs. They report isolation or exclusion from their communities and being unable to access support from the Congolese government and humanitarian community. In 2010-11, HelpAge constructed 'social spaces' or community centres, managed by associations of older people in camps and return areas, to provide meeting places for older people, facilitate advocacy within communities and to provide for livelihood support. Older people reported a number of positive impacts, including:

- Reduced isolation through being able to share experiences and challenges
- Representation in the community and increased credibility supported by their ownership of the centres
- Ability to register for other support services
- Increased knowledge of older people's rights with which to address discrimination (through organised forums within communities)
- Greater intergenerational understanding

In the current survey, age differences were also evident, with men and women over 75 years more often reporting reduced interaction compared to those aged 60-74. While contributing factors are likely to include their reduced mobility, this finding reinforces the need to initiate activities to encourage social engagement of all age groups.

### 4.3 Psycho-social impact of the disaster

The overall loss of status deriving from displacement, combined with bereavement, the loss of homes and belongings, an inability to provide for families and the hardship of displacement have major psychological consequences, not least for older people. Whereas younger generations may be occupied with jobs, older people are often excluded and therefore have more time to dwell on their current plight.

The magnitude of the disaster in Japan undoubtedly caused high levels of stress within affected communities. Older people

reported difficulty coming to terms with the loss of family members, homes and items of sentimental value, as well as coping with their social isolation.

Survey results suggest that stress was manifested in three main ways: disrupted sleeping patterns (inability to sleep, nightmares); depressive symptoms (lack of motivation to talk to others, mood swings, irritability); and fear of being close to the disaster area. The findings indicate that female respondents suffered more symptoms than men, and that the younger cohorts of older men were the least affected; however, interpretation of these findings should recognise a tendency for men to report such issues less than women, particularly to female researchers.

*"I often have dreams about the black cloud coming toward me, and it always wakes me up. I wish I could get rid of the memory."* (Older woman)

While a third (33%) of respondents reported coping with stress by talking with family and other relatives or engaging in physical exercise, the results show gender and age differences. More older women than men reported speaking with family and friends. In contrast, younger older men expressed a preference for physical exercise. While 28% of men under 75 reported drinking and gambling as coping mechanisms, less than 2% of older women reported drinking and none gambled.

A report published by the city of Kobe following the 1995 earthquake noted that alcohol addiction was linked to disaster related deaths over time from conditions such as heart failure, liver disease and suicides.

*"When I hear the tsunami warning alarm, it brings back the memory of the day. My heart beats so fast, and I realise that I have not coped with the stress from losing everything I owned on that day."*

A respondent, 60 years old  
Iwate prefecture

## Post-traumatic stress disorder: The experience of displaced older people in Darfur, Sudan

A study of post-traumatic stress disorder (PTSD) among the displaced population in Darfur<sup>13</sup> revealed a particularly high rate of PTSD among older people. This is attributed to difficulties faced by older displaced persons in their efforts to cope with the new social environment, particularly the loss of status they had enjoyed in their community before the war, and to poor quality of life in the camps. High levels of PTSD were also closely linked to lack of employment, lack of security and to unsuitability of food items.



### 4.4 Addressing social isolation

The findings on social connectivity of older people suggest that stress resulted both from the disaster itself and from changes in lifestyle and social interaction caused by displacement. These findings and lessons from other disasters highlight the importance of social connections in dealing with stress.

Numerous studies conducted in Japan have explored links between older people's mortality and their social relationships. One study<sup>14</sup> demonstrates that social participation has a strong indirect impact on mortality, through its links with chronic disease.

In the Japanese context the most recent experience and evidence comes from response to the 1995 Kobe earthquake. In the 18 years following the earthquake social withdrawal and isolation of affected populations was identified as a major concern, with the cause of 1,011 *Kodokushi*<sup>15</sup> being attributed to reduced family and social connections.

In response to the Kobe earthquake attempts were made to establish support systems with paid coordinators hired to organise events encouraging residents to leave their temporary homes and meet and integrate with their neighbours. Men and women were attracted to such events for different reasons with men preferring events focused on music, singing and food, while women preferred physical exercise, crafts and tea events.

Similar sentiments were expressed by older men displaced by the GEJE: One reported, *“As a man, I don’t go to tea gatherings. We don’t want to sit around.”*

It is critical therefore that attempts to integrate older people into social activities are based on a clear understanding of how people engaged before the disaster and their cultural interests.

### Empowering older people to contribute their knowledge and experience: Ibasho Café, eastern Japan

Central to minimising the effects of displacement on the erosion of family support and psychological wellbeing, is to recognise the huge contributions that older people can and do make to society. The Ibasho Café, which opened in June 2013 next to a large temporary housing site, provides a means for older people to play a meaningful role in their community. Older tsunami survivors and residents were actively involved in planning, designing and constructing the café and are now responsible for its management and operation.

The Ibasho Café was developed in partnership with the community as a place for people of all ages to gather, socialise and enjoy traditional food and drink in an informal setting. The project contributes to community recovery by supporting and building social connections and providing roles and responsibilities for groups at risk of isolation.

## 5. Recovery from the disaster

More than two years after the disaster people are expecting to see the progress of recovery and reconstruction and older people are no exception. Unsurprisingly, the majority of those interviewed (65%) stated that their primary concern was to secure somewhere safe to live and to move out of temporary accommodation. However for many of those living on fixed income pensions and with limited access to bank loans, rebuilding their homes will prove difficult. An older person in Miyako city reported his concerns:

*“I don’t know where to go from here. I am too old to build my house one more time.”*

Informal conversations during data collection revealed that older people are worried by the prospect that if they cannot rebuild their own homes they will be forced to move to multi-storey apartment complexes. Similar concerns were also raised after the Kobe earthquake. They fear a further erosion of their natural way of socialising, which is often meeting to chat in informal spaces such as gardens. They are equally anxious about their potential access to basic services. Having lived in temporary housing where access to local amenities and health services is challenging for those with limited mobility, they are keen to avoid this situation in the future. It is important, therefore, that newly developed residential areas ensure easy access to such amenities, with inexpensive and convenient public transport systems.

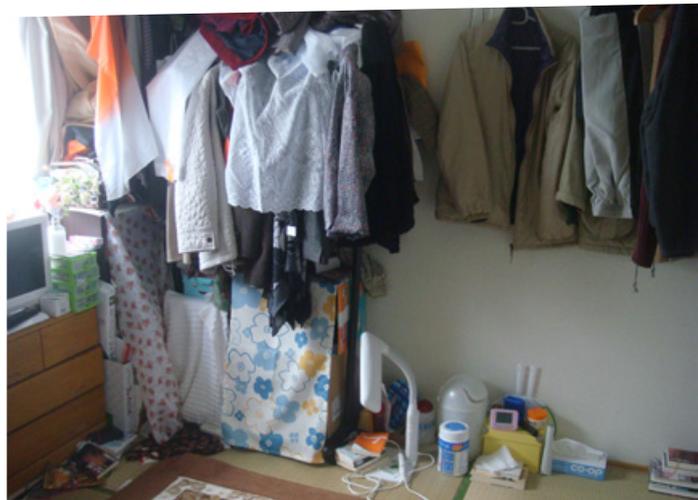
A specific concern in the Japanese context is the ability of the welfare system to provide support for older people during the longer-term recovery. Older people play a strong role in family life and the Japanese have a relatively robust tradition of family care. In 2010 the proportion of older people living with a child was 41%. While this has declined from 80% in 1960, and the numbers of older people living alone or in institutions has risen, residency of older people with children in Japan remains far higher than in other developed nations and this arrangement is widely considered normal in Japanese culture.

While levels of family care in Japan are high, the loss of family members and the need to focus on economic recovery will likely place greater pressure on institutional and home care schemes such as the public long term care insurance, (which has already come in for some criticism surrounding the quality of home care provided).<sup>16</sup>

Furthermore, prior to the crisis, an official Japanese survey found high levels of neglect and some abuse of frail older relatives. This is attributed partly to shrinking numbers of care-givers and the heavier burdens placed upon them, and reflects changes in demographic and residence patterns, gender roles and employment practices. Persistent social pressures surrounding family obligations compound these difficulties. It is likely that these issues will intensify following the crisis and long-term displacement. For those older people who have lost families and social support networks, the quality and availability of long-term care is understandably a major concern.

*“I don’t think I can build my house, because I am too old to be qualified for a mortgage. Moreover, I am living on my pension and cannot afford it.”*

An older person in Ishinomaki city



## 6. Recommendations

The significant and growing older population in Japan, combined with evidence of exclusion of older people from response and recovery efforts, requires National and Local Government, humanitarian response agencies, NGOs and civil society to understand how older people are affected by crises and how their needs can be more effectively addressed. The recommendations that follow are intended to address specific conditions faced by older people displaced in Japan, but draw upon the wider evidence base of HelpAge emergency and disaster risk reduction programmes.

### 6.1 Evacuation

#### Evacuation plans

Evacuation plans should account for the specific needs of older people and the level of support they are likely to receive from family and community members:

- Basic plans on a community level to identify older people who are living alone without family support, who are alone during the day-time, and those with physical and cognitive impairments
- Develop an effective community communication system to warn the people well in advance of an impending disaster
- Establish community and neighbourhood groups, including healthy older people and neighbours, to be responsible for disseminating information and supporting vulnerable older people to reach evacuation centres
- Develop municipal and community level plans to coordinate transport for those older people with mobility issues to reduce the number of cars on the road
- Coordinate evacuation efforts with acute care hospital and elder care organisations to provide appropriate support for older people with serious chronic diseases, mobility problems and dementia

#### Evacuation training

Disaster preparedness and training should build confidence and encourage older residents to take immediate and appropriate action in an emergency:

- Establish mandatory regular municipal practice evacuation drills, employing neighbourhood groups to support active participation of older people, particularly those at risk of social isolation. Provide resources in accessible formats
- Training should cover:
  - What to do in the case of an earthquake and/or tsunami
  - What to bring when evacuating
  - Where the nearest evacuation centres are, and how to get there
  - What support older people should expect
  - Where people should plan to meet friends and family during or after evacuation
  - Location of nearest help desk for assistance
- Neighbourhood and community groups regularly review plans with older people ensuring they reflect any changes in their situation
- Place older people at the centre of community training so they can share their experience with younger people and contribute to community training materials

#### Evacuation sites and routes

- Ensure evacuation areas are easy for older people and their carers to reach, e.g. for older residents in low-laying areas, use multi-storey buildings with elevators and back up generators
- Print and distribute community evacuation maps to each household to display prominently in the house, just like they do in each hotel room
- Re-assess evacuation routes and ensure accessibility for people with physical, sensory and cognitive impairment. Adaptations may include:
  - Pavements suitable for people with mobility aids and away from traffic
  - Minimise steps and gaps in pavements on evacuation routes
  - Provide handrails and benches especially on steps and steep slopes
  - Provide clear visual markers suitable for people with visual and hearing impairments

## Information dissemination

- Access to information should respect principles of dignity, equality and non-discrimination and must be accessible to older people with visual, aural and mobility difficulties
- Re-examine procedures for conveying critical information in light of communication systems that will be available. Prepare community level mechanisms to back up high technology systems
- Develop networks of people responsible for conveying information face-to-face, particularly with isolated community members
- Ensure multiple methods of alert are in place including visual warnings such as lights for people with hearing impairments

## 6.2 Evacuation centres

### Basic needs

Older people and people with reduced physical mobility find it hard to reach distribution points and to transport the goods they receive. Distributions methods must be made age-friendly through simple low cost adaptations:

- Identify older people who have difficulty reaching distributions and put in systems to ensure assistance reaches them
- Establish separate queues for older people and people with disabilities
- Establish proxy collection mechanisms enabling registered and trusted persons to collect items on older people's behalf
- Ensure that those who do not move to evacuation centres can access services, and provide outreach services where necessary
- Make older people aware of their entitlements and services available to them, providing information that is accessible to people with limited mobility, visual and aural capacity

## Non-food items

- Where necessary ensure the distribution of age-appropriate non-food items such as:
  - Water collection and storage containers. HelpAge recommends providing 5 litre jerry cans to minimise carrying difficulties
  - Washable/disposable adult diapers for people with incontinence
  - Bedpans/urinals for people with restricted mobility
  - Basic clothing for women and men, including underwear, in age-appropriate sizes
  - Walking sticks for people with mobility difficulty
  - Blankets in cold weather conditions and sleeping mattresses
  - Reading glasses

## Food items

Older people need adequate nutrition to maintain good health and improve their ability to survive and recover from disasters:

- Ensure timely distribution of food that meets their specific nutritional and energy needs, such as low sodium, easy to chew and high nutrient density foods

## Healthcare

Access to appropriate healthcare is crucial for older people, particularly those with chronic medical conditions:

- Make basic health support and medication available in evacuation centres, and provide separate queues or clinic times to ensure older people can get to them
- Provide transport to hospitals for older people who do not drive or have someone who can take them
- Disseminate information in accessible formats, about health service availability and the time of transport to hospitals
- Ensure adequate care services are available for those with specialised care needs. Develop and mobilise a team of professional caregivers in case of disaster, and dispatch them to the evacuation shelters to care for older people with physical and cognitive impairments

## Toilet and washing facilities

Older people require accessible and private toilet facilities.

- Make small and relatively inexpensive adaptations to water and sanitation services, for example:
  - Doors wide enough for wheel chairs and large enough to enable carers to support people during use
  - Ramp access and grab rails
  - Space underneath the basin to allow use by those in wheel chairs
  - Non-slip floor surface
  - Emergency call system
  - Lever handles to allow easy opening of doors instead of regular doorknobs
  - Non high-tech toilets to ensure familiarity with use

## 6.3 Temporary accommodation

Both immediate and long-term needs of older people must be addressed, especially since older people have often been the last to leave temporary housing facilities:

- **Accessibility:** Ensure resources are available to adapt temporary housing units to meet the changing needs of older people, including physical, sensory and cognitive conditions. For example, accessibility for wheel chairs and other mobility devices, support with daily activities such as cooking, shopping and cleaning
- **Social isolation:** Provide spaces for older people to socialise and consult with them to develop age and gender appropriate activities. Organise intergenerational activities to strengthen community cohesion and intergenerational bonds
- **Stress and trauma:** Provide activities to help older people deal with the stress and trauma of the disaster. For example, exercise activities, group and individual counselling, support to enable them to meet with family
- **Healthcare:** Provide transport for those needing hospital treatment. Provide mobile outreach teams for those unable to travel and medical support in the home

- **Basic needs:** Provide regular transport to shops and local amenities for those who do not drive, or do not have families to support them. Ensure that services and deliveries made to temporary housing meet nutritional and other basic needs of older people

## 6.4 Recovery and reconstruction

Reconstruction efforts must be founded on good understanding of older people's needs and concerns, and result in environments conducive to supporting the independence of Japan's growing older population. For many older people, reconstruction will only be possible with financial support and it is vital that they are able to access bank loans.

### Housing

Future housing plans should encourage independence and facilitate access to services, and therefore should apply universal design concepts to both the micro and macro levels of infrastructure planning:

- Equip multi-storey apartments (which may be a necessary solution) with lifts and lower floor access where possible
- Consider availability of inexpensive public transport to provide access to services
- Provide, where possible, social spaces and gardens to support older people's physical and psychological wellbeing
- Consult with older people on what design features would best support their independence

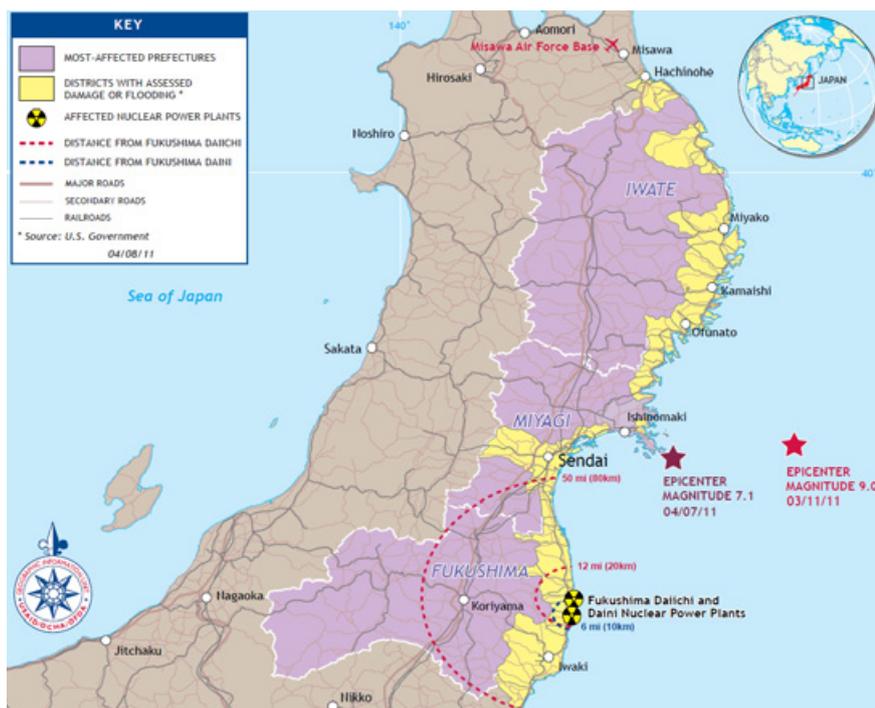
### Health needs

The lack of age disaggregated disease surveillance data undermines attempts to understand the long-term impact of the emergency on older people. Efforts must be made to fill this gap and ensure that the information available is of sufficient depth and quality to allow accurate monitoring of older people's long-term health status, in order to inform longer-term care and assistance planning.

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Map of affected areas:  
the Great East Japan Earthquake and Tsunami in 2011



Source: <http://ihrr.files.wordpress.com/2011/04/usaaid-map-japan-aid-map.jpg>



Warren Antiola

The impact of the Great East Japan Earthquake on the older population cannot be ignored; 56% of those who lost their lives, and 89% of post-disaster related deaths were aged 65 years and over.

### The long road to “normality”

As of 24 December 2013, 58% (274,088 people) of those initially displaced are still living in temporary accommodation.<sup>17</sup>



*“I lost everything on that day, but I still have people around me.”*

*“I am so grateful when people say ‘thank you’ for the simple things that I did.”*

Two respondents reflect their views on how they were able to develop new friendships and re-establish close relationships with those in their community.

HelpAge International helps older people claim their rights, challenge discrimination and overcome poverty, so that they can lead dignified, secure, active and healthy lives. Our work in over 75 countries is strengthened through our global network of like-minded organisations – the only one of its kind in the world.



Some older people felt that their roles were valued, and they appreciated being able to share their wisdom and experience and to teach younger generations to live with limited resources.

**The Japanese Red Cross College of Nursing**

4-1-3 Hiroo, Shibuya-ku  
Tokyo 150-0012, Japan  
Tel: +81 3 3409 0163, Fax: +81 3 3409 0589

**The National Council of YMCAs of Japan**

7 Honshio-cho Shinjuku-ku  
Tokyo 160-0003, Japan  
Tel: +81 3 5367 6640, Fax: +81 3 5367 6641  
[www.ymcajapan.org/english/](http://www.ymcajapan.org/english/)

**HelpAge International**

**East Asia/Pacific Regional Office**

6 Soi 17, Nimmanhaemin Road  
Suthep, Muang, Chiang Mai 50200, Thailand  
Tel: +66 53 225440, Fax: +66 53 225441  
[hai@helpageasia.org](mailto:hai@helpageasia.org), [www.helpage.org](http://www.helpage.org)