

Early Evidence, Challenges and Their Practice Implications in Disaster Counter-measures for People with Special Needs Following the 2011 Eastern Japan Earthquake¹⁾

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Three reconnaissance missions in March and April 2011 identified three major challenges for counter-measures for people with special need in times of disaster (PSND): 1) In order to identify people at risk, a shift must occur from the maximum probable event (*MP_rE*) to the maximum possible event (*MP_pE*) framework. 2) More detailed guidelines for sheltering/housing need to be developed. 3) Further elaboration and education was needed on the utilization rather than protection of personal information of people with functional needs during a disaster period among people with disabilities (PWD) and their families, community residents, NPOs and local government administrators.

Issues of people with special needs in times of disasters (PSND) have been one of the most neglected themes in disaster research in English and Japanese literature up until recent years (e.g., Friedsam, 1960; Tierney et al., 1988; Twigg et al, 2011; Tatsuki, 2013). Japan was one of a few countries where nation-wide initiatives on PSND have been planned among almost all municipalities and have been implemented among about one-fifth of them (e.g., Cabinet Office, 2005, 2006; Fire and Disaster Management Agency, 2011). The objectives of this paper is to examine how these disaster countermeasures as prescribed by the Cabinet Office's Evacuation/Sheltering Assistance Guideline for PSND (2005, 2006) worked or did not work in one of the better prepared societies in the world during the 2011 Eastern Japan Earthquake disaster, to learn lessons from the local practices, and to suggest the next actions to be taken toward better management of issues associated with PSND. In order to answer the research questions, three reconnaissance missions to Miyagi municipalities were conducted by the author's team in March, April and June of 2011. Follow-up trips were conducted in May and June of 2012. The reconnaissance team visited both general designated shelters and specially designated shelters

for PSND in Miyagino and Wakabayashi wards in Sendai, Ishinomaki and Kesennuma city. The 2012 follow-up interviews focused on those who were in charge of specially designated shelters for PSND in public and NGO/NPO sectors. During field visits, unstructured interviews were held with shelter operators. Interviews were also held with key informants in public administration (at Miyagi prefecture office, Sendai, Kesennuma, and Ishinomaki city offices) as well as in the NGO/NPO sector (Sendai City Welfare Association for the Disabled and Japan Disability Forum Miyagi branch). The length of the interviews was generally one hour and they were audio-recorded with the permission of the interviewees. Field notes were then created and they provided the basis for the reconnaissance and follow-up reports (Tatsuki and Ishikawa, 2011; Tatsuki, Ishikawa, Matsumoto, and Kawamura, 2011; Tatsuki and Matsumoto, 2012). Miyagi was chosen as the field visit site because the author has long-term relations with Hyogo prefecture that sent support teams to assist Miyagi prefecture emergency operations and with Kobe city that sent teams to assist Sendai city operations. Both Hyogo and Kobe teams supported the author team to make appointments with key informants in public and NGO/NPO sectors. Because the reconnaissance and

follow-up field trips covered only a few sites in Sendai, Kesenuma and Ishinomaki, the findings are limited in terms of the generalizability. In order to triangulate the findings, NHK ETV production materials concerning the issues of PSND were also used as a source of data for this paper (the author acted as a consultant for and collaborated with every NHK ETV programs on PSND issues since February 2012). Based on the data collected directly by the author team or indirectly from NHK production team, at least three major challenges were identified in responding to surviving PSND. Those were, namely: (1) challenges in identifying people at risk by re-thinking “correct” hazard estimates; (2) challenges on pre-planning specially designated shelters for people with special needs; and (3) challenge on utilizing personal information on PSND (Tatsuki, 2011). Each challenge is explained in the following sections.

CHALLENGES ON IDENTIFYING PEOPLE AT RISK: RE-THINK “CORRECT” HAZARD ESTIMATES

Recent developments in preparedness measures for PSND in Japan have been uncritically relying on the assumption that hazard maps represent “correct” estimates of future hazardous events. As Figure 1 below illustrates, this turned out to be a very wrong assumption. Hazard maps were created according to a maximum probable event (MP_E) framework. In reality, however, a maximum possible event (MP_oE)



Figure 1. Tsunami hazard map and actual inundation east of Rokugo Junior high school, Wakabayashi ward, Sendai city.

occurred in the Tohoku region. This has tremendous implications for fundamentally re-thinking the entire hazard estimation process from an MP_E to an MP_oE framework (Tatsuki, 2011, 2012).

Tatsuki and Comafay (2010, 2012) introduced the person-in-environment model of hazard vulnerability (V) which defined hazard vulnerability as a function of hazard (H), person (P) and environment (E) factors or $V = f(H, f(P, E))$. In practice, the hazard factor was estimated by a maximum probable event framework and therefore the model could be represented as $V = f(MP_E, f(P, E))$. The challenge here is to replace the maximum probable event hazard estimate with an alternative hazard estimate by incorporating a maximum possible event framework. The modified person-in-environment model will therefore be represented as $V = f(MP_oE, f(P, E))$.

Central Disaster Prevention Council (2012) published the first report on damage estimation of the Nankai trough earthquakes on August 29, 2012. Unlike the previous damage estimation reports, this 2012 report employed MP_oE framework. The reported damage thus is far bigger than the previous ones. It will take a while until every municipality disaster countermeasure plan reflects the shift in hazard estimation framework. It would take further more for its master plan for PSND assistance to employ the new hazard estimates. Details of this project need to be further investigated.

CHALLENGES ON PRE-PLANNING SPECIALLY DESIGNATED SHELTERS FOR PEOPLE WITH SPECIAL NEEDS

In the 2011 March 11 earthquake disaster, a very large number of people rushed to general shelters and the length of stay was long, creating high special needs for PSND. The situation apparently required alternative shelters. Disaster-hit municipalities responded in a non-uniform manner. In the case of Sendai, the city administration had already made pre-planned arrangements/compacts for an alternative sheltering service with 52 local social service providers prior to the March event. Some of those shelters with compacts, conducted study seminars and practice drills in the previous year. Thanks to these



Figure 2. Specially Designated Shelter at Miyagino Day Service Center for PWD, Sendai City (April 5, 2011).

preparations, some responded to the city administration request quickly and others voluntarily initiated sheltering operations (see Figure 2) (Tatsuki and Ishikawa, 2011). In total, 40 shelters operated and served 288 individuals in Sendai from March 11 to the end of May (Sendai city, 2011).

Sendai city administrators improvised a system of PSND referral to four different types of specially designated shelters by considering types of care that were needed: 1) Those with a high level (i.e., more than level 3) of long-term care (LTC²⁾) needs were referred to special (intensive) nursing homes for the aged. 2) Those with a lower level of LTC needs were sent to the day service centers for the elderly or for the PWD that were converted into 24 hours service shelters. 3) Those lower LTC needs elderly who wondered about due to senile dementia were placed in group homes for the elderly. 4) Those who required a high level of health care were placed in geriatric health care facilities (Tatsuki, Ishikawa, Matsumoto, and Kawamura, 2011).

On September 12, 2012, NHK ETV channel aired a Heart-Net TV program that focused on specially designated shelters for PSND. The following is a broadcast story of 17 years old Toshiki Sugisaki, a bed-ridden amyotrophic lateral sclerosis (ALS) patient. He is one of those whose life was saved at Miyagino day service center for PWD that was desig-

nated for providing special services to PSND (see Figure. 2). Toshiki lives in Sendai with his mother, 38 years old Masako, who provides constant suction of expectoration and feeding of nutritional support through an artificial external opening into his stomach. After the earthquake, Masako put Toshiki on a wheel chair and headed for a nearby general designated shelter. However, the school gym shelter was fully packed with people and it was difficult to secure electricity for the suction pump and clean water for washing suction tube. In a matter of day or two at the non-heated shelter, Toshiki suffered from pneumonia with 40 degree Celsius fever. Masako and Toshiki looked for a cleaner and safer place, visited and stayed at three different shelters. Masako explains, "We use many things that ordinary people do not use. Without those, we cannot continue living." Finally by chance, the mother and the son happened to meet another family with PWD who suggested them to go to a specially designated shelter at Miyagino day service center for PWD, where, for the first time in four days, Toshiki received a professional treatment and care from nurses and care workers in a clean environment. Thanks to their services, Toshiki's symptoms were being kept under control (NHK, 2012 d). The Sugisaki family case demonstrated that the concept of specially designated shelter worked and that it responded to needs of PSND.

An interview with Dr. Kazuhiko Abe, the director of Sendai City Welfare Association for the Disabled that run Miyagino day service center for PWD, at the end of May, 2012 revealed that obtaining additional human resources as well as not being able to continue the center's core function were the two top hardest issues when running the specially designated shelter at his center. Human resource shortage was caused by two factors. Firstly, although Disaster Relief Act general service provision standard states that one personnel may be assigned to every 10 evacuees, PSND at his shelter required far more number of service personnel and the center eventually assigned one personnel for every 4 to 5 residents. Secondly, Dr. Abe's center operates between 9:00 AM to 5:00 PM in normal circumstances. Additional (two to three times more) manpower was thus needed in order to operate a 24 hour-running shelter. Miyagino center eventually received necessary manpower support from a compacted Fukuoka-based service provider (situated about 700 miles away) that sent a rotated team of care workers on a weekly basis by air. The other issue was that Dr. Abe's center had to discontinue day service programs in order to operate the shelter. It occupied the same room and space that were normally allocated for day service users. This caused severe inconveniences to the regular clients and their families who needed the day service program for their day-to-day living. Miyagino day service center for PWD were not able to reopen its services to their own clientele for 50 days (Tatsuki and Matsumoto, 2012). Dr. Abe was not alone facing this dilemma. In order to respond to day service centers' requests to reopen their own functions, Sendai city finally decided to transfer specially designated shelter residents into one place (Takasago elderly citizens' welfare center in Miyagino ward) and allowing the rest of specially designated shelters to stop sheltering and to resume their own mission services on May 8 th, 2012 (Sendai city, 2011).

Specially designated shelter operation lasted too long from the service providers' view point. Some shelter residents, however, needed more extended time and resources in order to prepare for the post-shelter living. The aforementioned NHK Heart-Net

TV program (September 12, 2012) illustrated a case that lacked a coherent coordination between sheltering and post-sheltering arrangements. Masako Shimada evacuated to Miyagino center with her 90 years old father Fusatoshi and her son, Satoru. Fusatoshi was suffering from Alzheimer's disease and emphysema. Satoru is in wheelchair because of paralysis in both legs. He also has intellectual disability. While they were at the center, they were able to live together as a family as they used to in their pre-disaster life. The Shimadas wished to continue living together as a family after they were discharged from the center. However, they did not win the lottery for universal design temporary housing units. The Shimadas were discharged from Miyagino center before they were able to find a place where the all three family members could live together. As a temporary measure while she was looking for a place for the whole family, Masako put her son Satoru in an institutional facility for people with disabilities and her father in a geriatric health care facility. Masako later managed to find an rental apartment temporary housing unit which was, however, not "barrier-free" and it was impossible for Satoru to live in there on his wheelchair. Masako had to give up her hope to live with her son in a temporary housing apartment. Furthermore, her father Fusatoshi passed away at the geriatric care facility a few months after he was admitted. Masako thought that she was able to continue living a normal and happy life with her son and father, but now realized that the whole family was put apart, her father died and she had to worry about her son in an institution and about rebuilding their own life courses (NHK, 2012 d). It looks that a lack of coherent coordination between sheltering and post-sheltering arrangements in Shimada family case was due to the fact that Miyagino center administration was not aware of a need for discharge planning when they were accepting the Shimadas at the beginning. Accepting the PWD to the shelter was their first experience. So was discharging the PWD. Admitting and discharging were two stovepiped operations in this case. The Shimada case taught that it was important to start discharge planning as a part of disaster case management process at the same time when the

PWD was admitted to the shelter.

The last issue on specially designated shelters was about its cost. A follow up interview with Sendai city administrator in May, 2012 informed to the author team that the total cost of providing specially designated shelter services to the 288 residents from March 11 to the end of May (82 days) cost more than 90 million JPY (or about 1 million USD). The biggest part of the expenditure was manpower-related cost. With regard to the sheltering and other emergency relief cost that include specially designated shelters, the Disaster Relief Act states the National and prefectural government equally share the cost. The Act also states that the National government may cover as much as 90% of the total cost in a large scale disaster. In the catastrophic event such as the East Japan Earthquake, the National government eventually agreed to cover 100% of the total cost. This was a big relief for all the impacted prefectures that were supposedly responsible for covering the 10% of the all the share related to the Disaster Relief Act services including not only specially designated shelters but also all the general designated shelter operations as well as the other emergency aid operations. Because of the National government's rather generous responses, no discussions and lessons were reported in municipalities' after action reports (e.g., Sendai city, 2011) on more effectively and efficiently running specially designated shelters (Tatsuki and Matsumoto, 2012).

As was described in the introduction, disaster countermeasures for PSND have been focusing mainly on warning and neighborhood-based evacuation assistance activities. Needs for shelters and temporary housing units that were specially designated for PSND arose following the March 11 earthquake. However, their provisions were neither systematic nor universal due to the lack of pre-planning. This is partly due to the fact that the 2006 guideline and the 2007 report have not provided detailed procedures on sheltering and post-sheltering assistance planning for PSND. The concept of a specially designated shelter for PSND, or *fukushi-hinansho*, emerged in 2004 from the discussions by the committee on "Communicating Disaster Information and

Evacuation and Sheltering Assistance for the Elderly and Other Population during Heavy Meteorological and Other Disasters." The committee recognized that general evacuation shelters were not capable of responding to the special needs of PWD and the frail elderly. The committee on PSND assistance, however, has not spent enough time on clarifying the requirements, the procedures and the cost payment schemes for specially designated shelters and for post-sheltering arrangements. Most hazards that the PSND committee studied since 2004 have been meteorological and therefore sheltering needs were short-term and considered less life-threatening than evacuation needs (Tatsuki, 2011; Tatsuki, 2012; Tatsuki and Comafay, 2010, 2012).

CHALLENGES ON MAKING GENERAL DESIGNATED SHELTERS MORE ACCESSIBLE FOR PSND

The author team conducted reconnaissance field research trips to specially designated as well as general designated shelters in Miyagi municipalities (Sendai, Kesenuma and Ishinomaki) 2 weeks after the earthquake in March and also at the beginning of April 2011. The team visited several shelters in both trips (see Figures 3 and 4) but no person with disabilities was identified at general designated shelters. Tomoko Inoue, the secretary general for Tasketto Center for Independent Living in Sendai city, explained why there was no PWD spotted at the visited general shelters in her public forum (NHK Heart Forum) presentation on June 10, 2012. Tomoko herself has physical disability and is in her wheelchair. She



Figure 3. School Gym Shelter at Rokugo junior high school, Sendai City (April 6, 2011).



Figure 4. Arahama Residents on the 1st Floor Classroom at Hakken junior high school (April 6, 2011).

was in a meeting with the staff members when the March 11 earthquake shook the center building. Soon after the aftershocks had subsided, Tomoko along with 5 other staff members in wheelchair and their attendant staff members drove to the nearby Nagamachi Elementary school that was the designated public shelter in the neighborhood. The school gym shelter was already full of evacuees and there seemed no room for people in wheelchairs. The biggest problem was the toilet inaccessibility for people with wheelchairs because the school toilet facilities were traditional crouching style, too narrow for attendants to assist excretion, and without water flush. Tomoko gave up staying at the gym shelter and came back to the half-damaged center office building where they later found that they were able to use flush water in their universal design toilet and to use a kerosene heater in the office (Inoue, 2012).

Masaaki Kikuchi, a staff member of Tasketto center for Independent Living validated Tomoko's explanation in his writing on the center's relief initiatives that started one week after the earthquake (Kikuchi, 2012). With the help from a network of PWD groups and organizations, the center started distributing relief supplies to impacted PWD who were staying at their own residences. As a part of outreach activities, the center staff members visited shelters in the impacted municipalities in Miyagi prefecture and asked the shelter personnel if there was any PWD at the shelter. "No PWD" was the most typical responses from them. As days went by, Masaaki learned that the more severe their physical disabilities were, the more likely they would opt for

staying at their own home, friends' home, hospitals or other type of institutional facilities. The main reason was that general designated shelters were not "barrier-free" especially in toilet facilities as Tomoko Inoue described in the above. The attendants were not able assist excretion because of the lack of space. There was also a shortage of blankets and heating equipment, making it very difficult for PWD to keep oneself clean and healthy. It was also difficult for people with intellectual or mental disability to keep their own privacy at the shelter, causing them panic attacks or conflicts with other residents in the shelter.

Lack of "barrier-free" arrangement was not only in the design aspect of the shelters but also in how these shelters were operated by the city administrators. NHK Heart-Net TV program crew produced a short video segment that reported Masaaki Kikuchi's activities and it was presented for public viewing at the 2012 June NHK Heart forum. In response to his inquiry whether there was any PWD at the shelter, a shelter administrator answered that they did not keep a list of PWD at the shelter and that the shelter operation rules allowed them to accept only relief supplies from their own formal logistic section, no informal donations of such supplies as portable toilets being allowed (NHK, 2012 b). The video segment clearly demonstrated that this general designated shelter administrator was not trained to pay attention to and to respond to people with special needs; portable toilets might have been a simple solution for PWD needs of the restroom use at general designated shelters. The evacuation and sheltering assistance guideline for PSND (Cabinet Office, 2006) clearly stated the need to keep a separate list of PSND at any general designated shelter. The guideline also required that specialized personnel should be assigned at general designated shelters and that this personnel should conduct screening for specially designated shelters for PSND. Sociologically speaking, the above exchanges seem to reflect structural shortcomings on the current policy for PSND. Tatsuki (2013) argues that Japanese approach to issues of PSND can be described as non-universalistic and a "residual" type of social policy (Titmuss, 1974). Disaster countermeasures for PSND were thus prescribed in the

Evacuation and Sheltering Assistance Guideline (Cabinet Office, 2006) and were not mentioned in municipalities' regional master plan for disaster countermeasures, which Disaster Countermeasures Basic Act (1961) "institutionally" (Titmuss, 1974) requires every municipality government to formulate. Each municipality's regional plan for disaster countermeasures provides a basis for what and how municipality personnel such as general designated shelter staffs should respond to disaster events. Because an issue of PSND is currently not included in any of the regional disaster countermeasures, it is understandable why the video-taped shelter staff responded to Masaaki Kikuchi in the way that she did. The staff apparently acted according to the general designated shelter manual, the basic principle of which is "equality", i.e., every resident in a shelter needs to be treated equally and there should not be imbalance in distribution of relief materials or any other type of shelter resources. According to Masako Sugisaki, a mother of 17 years old ALS patient son Toshiki, however, PSND "use many things that ordinary people do not use. Without those, we cannot continue living." Her statement implies that PSND need to be treated on the basis of "equity" at any types of shelters. Japanese approach to the equity issue of PSND sheltering was to assign "specialized" staffs at general designated shelters, screen and refer PSND to secondary "specially" designated shelters. By assigning "special" personnel for PSND matters at a shelter, the rest of general shelter personnel was made unaware of and unresponsive to PSND needs, which made general shelters unusable and unlivable for this population of citizens. What is needed is a more socially inclusive and emancipatory approach (Oliver, 1990) and mainstreaming PSND matters in regional plans for disaster countermeasures and incorporate the equity with the equality principle when responding to sheltering of citizens.

CHALLENGES ON UTILIZING PERSONAL INFORMATION ON PEOPLE WITH SPECIAL NEEDS IN TIMES OF DISASTER

Among different types of PSND, people with

disabilities (PWD) were invisible in shelters and communities or in the eyes of local government administrators. This was due to the fact that the majority of PWD did not ask for help in general shelters because they felt general shelters were not "barrier-free" and unresponsive to their special needs as was described in the previous section. Furthermore, many local government administrators felt hesitant to release the PSND registry to non-governmental organizations (NGO) and self-help organizations such as Tasuketto Center for Independent Living in Sendai that were eager to check the whereabouts and current situations of PWD. This was due to the fear of breaking the Personal Information Protection Bylaw (Tatsuki, Ishikawa, Matsumoto, and Kawamura, 2011) despite the fact that the bylaw provides exceptional conditions when the personal information can be shared by the third party, and the onset of disaster is clearly one of these exceptional conditions (Yamasaki, 2011). In fact, Minamisohma City in Fukushima prefecture officials did release PWD registry information to a local NGO, and in Higashimatsushima, members of NGO groups who worked on behalf of disabled persons, such as the Japan Disability Forum, were allowed to accompany public health nurses on their home visits. Other cities might have used similar approaches, but it appeared that in most affected areas officials were unaware of the needs of the physically and intellectually disabled or mentally ill persons and had not attempted to initiate outreach efforts for these populations. As of June 2011, the Japan Disability Forum announced that they were able to meet 1,386 PWD in person from their outreach project in Miyagi Prefecture. This number (1,386) accounted for only 2.6% of 53,511 persons who were registered as PWD in the affected areas. Researchers and advocates for persons with disabilities were unable to determine what was happening with large numbers of survivors with disabilities. Further elaboration and education on the use rather than the protection of personal information of PSND during a disaster period are needed among public and local government administrators (Tatsuki, Ishikawa, Matsumoto, and Kawamura, 2011). Yamasaki (2012) further proposes that pre-disaster compacts as well as

trust building efforts might be made between the municipality and local NGO/NPO/CBO that intend to act on behalf of PSND in times of disasters. This will alleviate “the fear” of breaking the Personal Information Protection Bylaw on the side of local administrators.

CONCLUSION

Based on reconnaissance and follow up field study in Miyagi municipalities as well as on media reports, three major lessons, challenges and their possible solutions in preparedness, response and relief measures for PSND were identified. First, specially designated shelters provided emergency relief for PSND (see also Tatsuki, 2012 and Tatsuki and Comafay, 2010, 2012). The pre-disaster compacts with local service providers were one of the key elements for prompt shelter operations. Man power shortage, however, was experienced by some shelters. This was due to the following two reasons. First, the current Disaster Relief Act service provision standard of one care worker for every 10 residents at the specially designated shelters was not adequate and nearly twice as more staff manpower was needed. Second, manpower shortage occurred especially in those shelters whose original mission was to provide day services for the elderly or PWD. In order to run 24-hours operation shelters, these day-service-center-based shelters physically needed at least twice to three times as many staff members as the current human resource size. This manpower shortage at specially designated shelters cost a municipality government high compensation money. The cost of specially designated shelters, however, has not become a big issue because the national government eventually made an extrajudicial decision to cover the whole cost. Additionally, those day-service-center-based shelter operators experienced dilemmas of supporting sheltered PSND on one hand and resuming their own mission function of providing day services to their own clients and their families. In order to respond to these shelter operators’ request for their mission function resumption, Sendai city, for example, decided to transfer specially designated shelter residents into one place and allowed the rest of specially des-

ignated shelters to stop sheltering and to resume their own mission services 50 days after the sheltering started. These 50 days were felt too long by shelter operators and their clients but were felt too short by sheltered residents and their families, some of whom were forced to live in separate places after they were discharged from the shelter. This case illustrated the importance that disaster case management process involving discharge planning of sheltered residents should start as soon as they were admitted to specially designated shelters. Individually based disaster case management seems to be the key to avoid stovepiping of sheltering and post-sheltering supports. Second, general designated shelters, by design and by operation, were not accessible for PSND. Japan’s residual style of PSND disaster countermeasure policy making was considered to be responsible for this issue. Rather than preparing separate guidelines for PSND disaster countermeasures, mainstreaming and institutionalizing PSND issues in Disaster-Countermeasure-Basic-Act-based municipality regional disaster countermeasure plans were suggested as a way to overcome the general designated shelters’ inaccessibility problems. Third, for most of the disaster-impacted municipalities, personal information on PSND was not shared with NGO and Self-help groups that were eager to check whereabouts and current situations of PWD. The fear of breaking Personal Information Protection Bylaw on the side of administrators was the main reason that blocked the information sharing, although any bylaw in the municipalities provided exceptional conditions when the personal information might be released, a disaster emergency situation was one of those exceptional conditions. In order to alleviate the “fear”, pre-disaster informal trust-building efforts as well as formal compact making were suggested between local administrators and representatives of local NGO/NPO /CBOs.

Notes

- 1) This paper is based on a series of presentations made at 1) the 36th Annual Natural Hazards Research and Application Workshop, Broomfield, Colorado, on July 11th, 2011, at 2) 2012 EERI Annual Meeting/ National

Earthquake Conference Concurrent Session “5. Preparedness and Response Lessons”, Peabody Hotel, Memphis, Tennessee, on April 11, 2012, and at 3) 2014 Disaster Reduction Alliance Forum, Portpia Hotel, Kobe, on January 20, 2014.

- 2) The Long Term Care (LTC) Insurance program in Japan was introduced in 2000. Individuals 65 years old and above are generally eligible for LTC services. However, individuals 40–64 years old may apply for

“long term care certification” from the municipality to be eligible for LTC services. Services range from home care visits from home helpers and use of special nursing homes for the elderly (Ministry of Health, Labor and Welfare, 2002). LTC level 3 or more means that a person requires a moderate level of care because s/he cannot stand up or walk by oneself, requiring full supports for toileting, bathing and changing clothes.

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