

Assessment of Evacuation Shelters in Miyagi Prefecture
Flash Analysis Report on the Third Week Research Visit
by Tsuna-Pro
(Apr 11-Apr 17, 2011)

Apr 18th 2011



Joint Project to Support Disaster Sufferers through Coordination with Nonprofits
(Tsunapro)

About Evacuation Shelter Assessment by Tsuna-Pro



■ Introduction of “Joint Project to Support Disaster Sufferers through Coordination with Nonprofits”

Established on March 14th as a country-wide network of nonprofits in Sendai, Tokyo and Kansai area, “Joint Project to Support Disaster Sufferers through Coordination with Nonprofits” (Tsuna-Pro) have sent total of 400 volunteers to Miyagi prefecture and visited 600 evacuation shelters over three weeks since March 28th.

Tsuna-Pro have conducted assessment for understanding situations at shelters and have been developing solution for needs and targets that were identified in assessment, by coordinating between support activity in local community and nonprofits that are professionally qualified for care for elderly and disabled, medical health, foreigners and people with intractable disease. The data of 600 shelter are shared in cloud system provided by Fujitsu as pro-bono.

■ Data note

• **This analysis is summary information for the third week (4/11-4/17). Some parts of analysis include those data during the first and second week for ensuring abundance of data collection. The number of shelter respondents is 230, but the number of shelters where assessment was carried out differ in each category. (e.g. assessment on “presence of foreigners” was done at 116 shelters whereas assessment on “the number of residents in the past one week” was made at 46 shelters). This analysis is conducted for the limited range of shelters where assessment was carried out.**

■ Steering Committee Members

Sendai Miyagi NPO Center, Institute for Human Diversity Japan (DECO) , IIHOE (International Institute for Human, Organization and the Earth), Special Support Network (SSN) Kansai, ETIC., Nippon Foundation

■ Operation Schedule

• Mar 28th(Mon) - Apr 17th(Sun): Visit to shelters and assessment by approximately 80 people of volunteers every week. Coordination with support organizations and agencies in local areas, Tokyo and Kansai as needed (3weeks)

• Apr 18th(Mon) - May 1st(Sun) : Ongoing visits to shelters and coordination by approximately 60 people of volunteers every week and preparation for continued support for around 10 shelters (including visit to home-evacuees)

* Currently in consultation with collaboration candidates on same activities in Fukushima and Iwate prefecture.

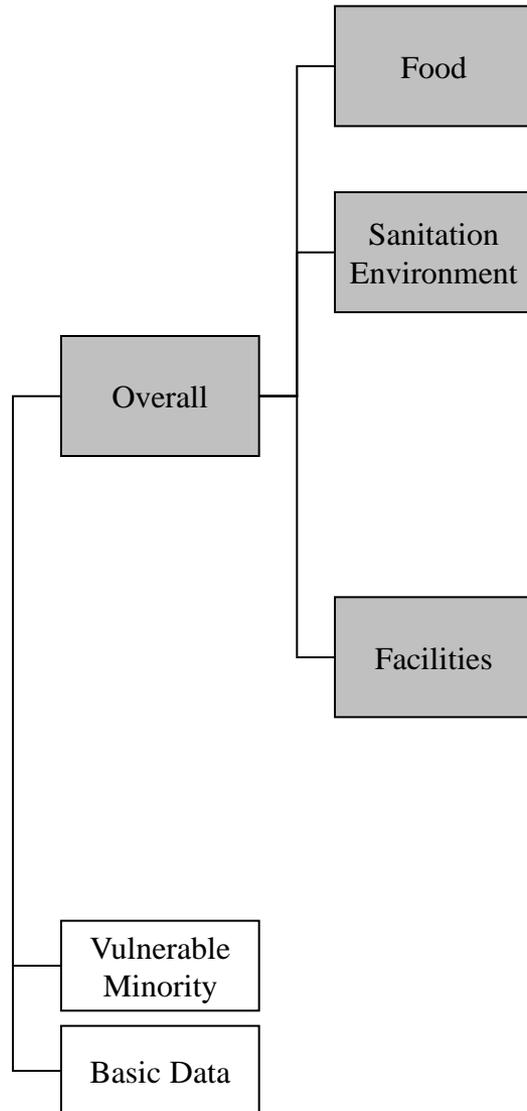
■ Details/ Website <http://blog.canpan.info/tsunapro/>

■ Analysis conducted by RCF Emergency support team

Summary



Objectives



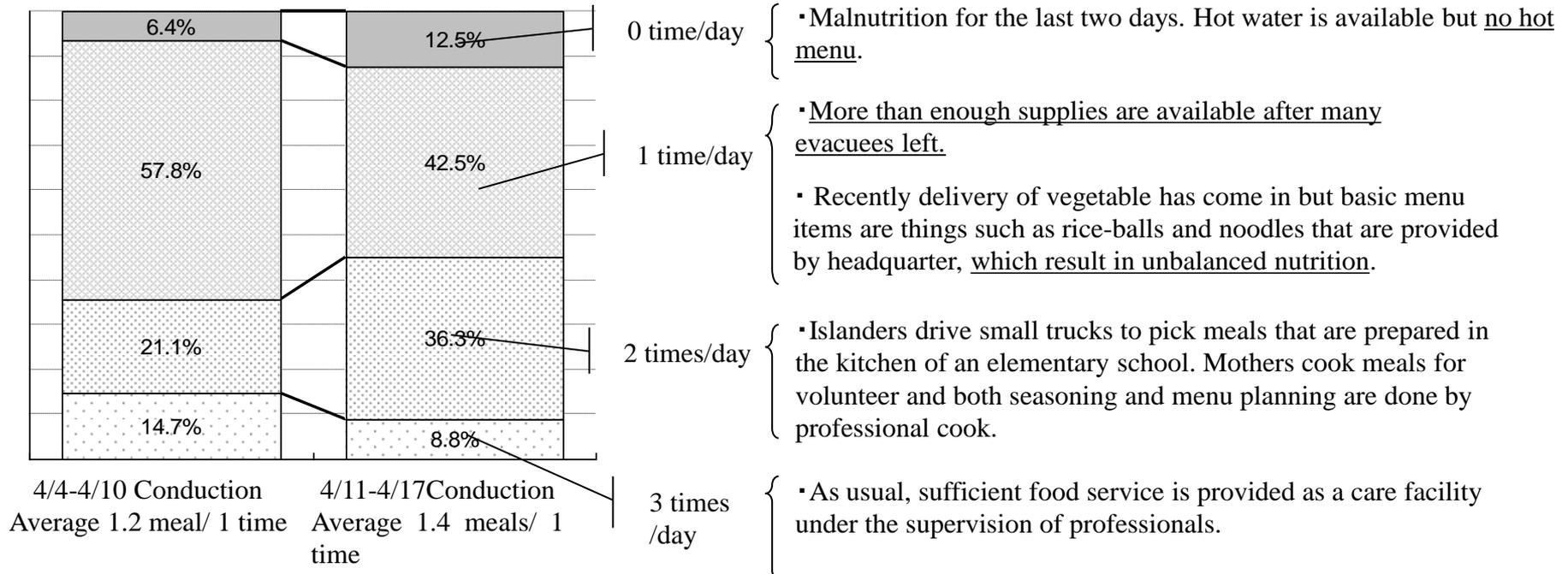
Summary

- Averagely 1.4 meal is provided with supplementary dish per day (previous week :1.2 time). Dishes such as bread, rice ball and cup noodle have been continually provided for main meals, but now in 15% of shelters the time that supplementary dish is offered has increased from one to two per day.
- Service for special meal for elders, diabetes/high blood, anti-allergic food and baby formula is 10-20% properly maintained. Slight improvement can be found in progress but major advancement is yet unseen.
- Due to malnutrition and low temperature during the primary period, there emerged epidemic of influenza in late March. Later the number rapidly decreased as temperature rose. Yet, attentive caution is needed for infectious gastroenteritis such as norovirus.
- At 50% of the shelters, there was sanitation (scooping up) carried out until last week in those affected areas that lost main function of its sewerage system. Slight improvement can be found in progress, yet sanitation is done only less than 2 times
- 33% of shelter have problems with sanitation. Conditions are inconvenient for the elderly with walking problems because of outdoor toilet, bump on ground and difficulty in using at night. These result in inviting poor health because of not drinking water.
- Availability of portable toilet has been secured only for 25%. Provision in wide areas is needed for ensuring safety of elderly with walking problems to drink water.
- Those equipments such as TV, telephone, consultation service and computer are fully installed at the shelters in some city such as Sendai with limited range of devastated area. On the other hand, in those areas with high level of devastation such as Ishinomaki-city and Minamisanrikuchyo, from twenty to thirty percent of shelters are not equipped with television nor telephone and more than eighty percent of shelters don't have common computers.
- Only 20% of shelter are equipped with "room divider" and "changing room". Concern for privacy issues is raised.
- In small-damage scale areas with the low population of the elderly, such as Sendai-city, less than 60% of shelters are equipped with room divider whereas in those big damage scale areas such as Minamisanrikuchyo, the availability percentage drops below 20%.

- Averagely 1.4 meal is provided with supplementary dish per day (previous week :1.2 time). Dishes such as bread, rice ball and cup noodle have been continuingly provided for main meals, but now in 15% of shelters the time that supplementary dish is offered has increased from one to two per day.

Change in times of provision of supplementary dishes and typical situations at shelters

By supplementary food provision • Food service condition at typical shelters



—Food menu items are mainly high in carbon-hydrate, but improvement has been seen in some areas.

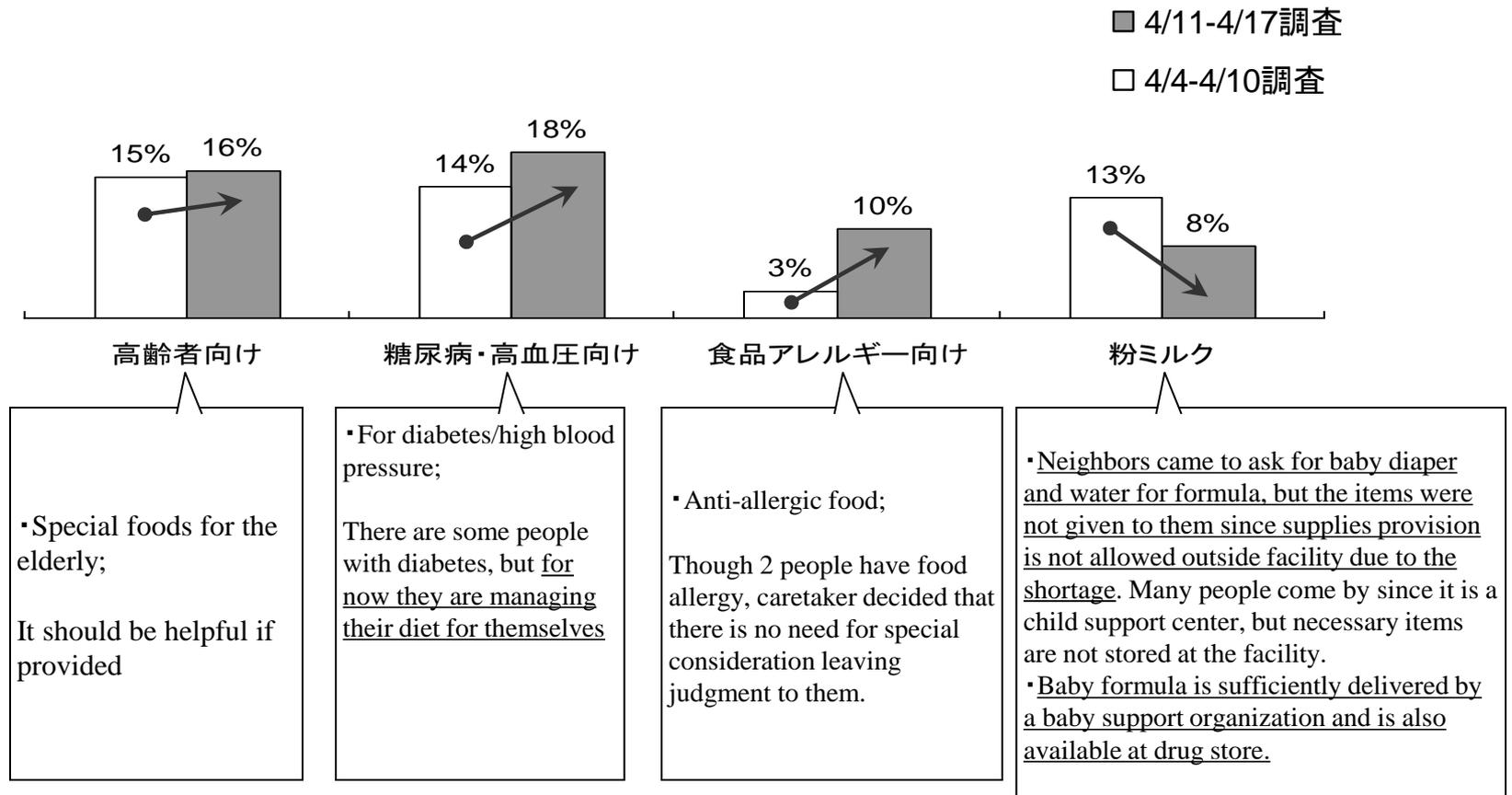
- shelter that provides only bread, rice-ball, miso soup and cup-noodle (no side dishes nor soup kitchen outside) :12.5% (10 sites)
- shelter that can provide side-dishes at least one meal a day: 42.5% (34 sites), more than 2 meals a day: 36.3% (29 sites)

Data: Tsuna-Pro Assessment Survey (4/11~4/17)

Note) Data collected from food menus a day before the survey date. Side-dishes that are cooked with vegetable, meat and fish are considered as supplementary dishes. Dishes cooked only with soup, miso soup, instant and retort products are excluded out of data collection

- Service for special meal for elders, diabetes/high blood, anti-allergic food and baby formula is 10-20% properly maintained. Slight improvement can be found in progress but yet any major advancement.

Service condition for foods that match individual needs

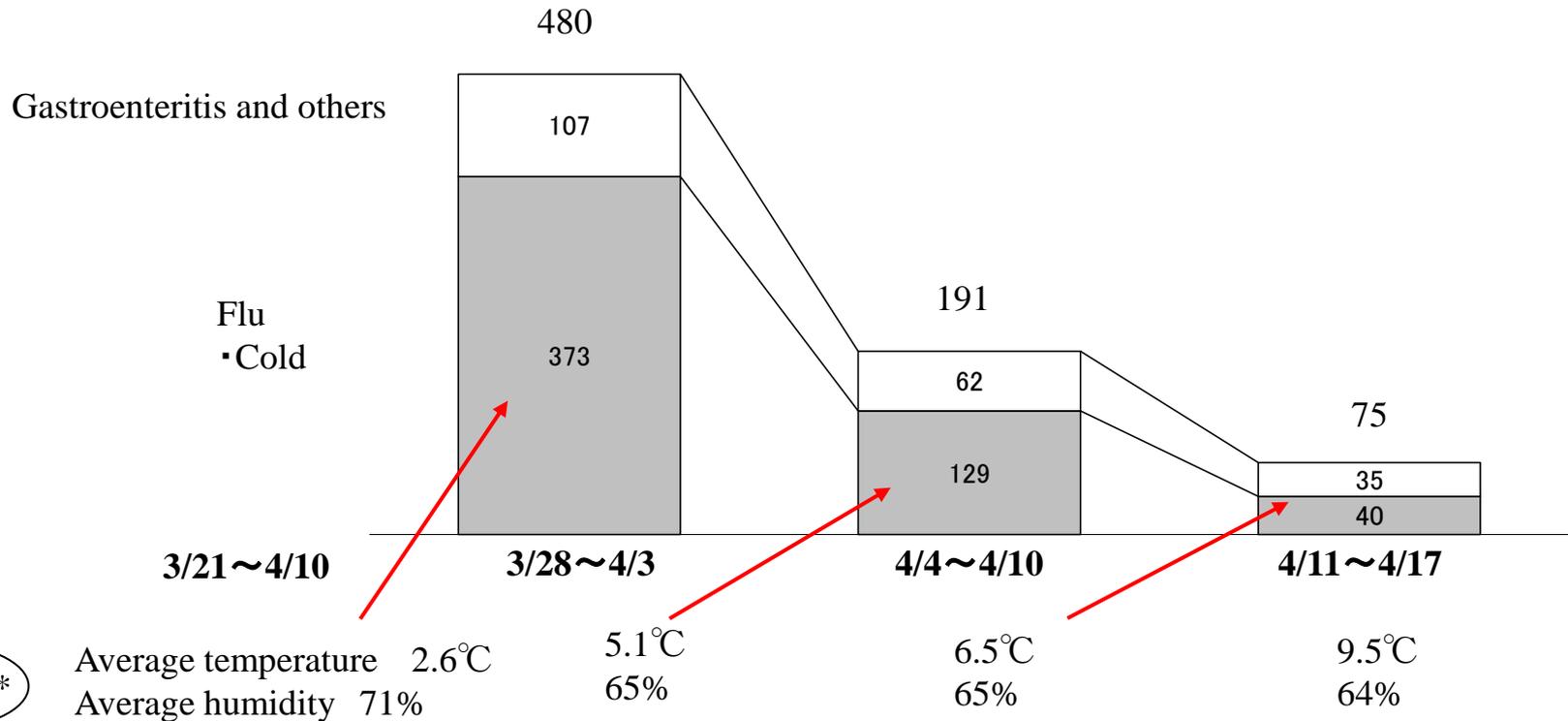


Infectious disease



- Due to malnutrition and low temperature during the primary period, there emerged epidemic of influenza in late March. Later the number rapidly decreased as temperature rose. Yet, attentive caution is needed for infectious gastroenteritis such as norovirus.

Change in the number of people with infectious disease at shelters in Miyagi prefecture



* After calculating the average number of people with infectious disease per shelter (Tsunami-Pro Survey), multiply by the number of shelter as of each weekend.

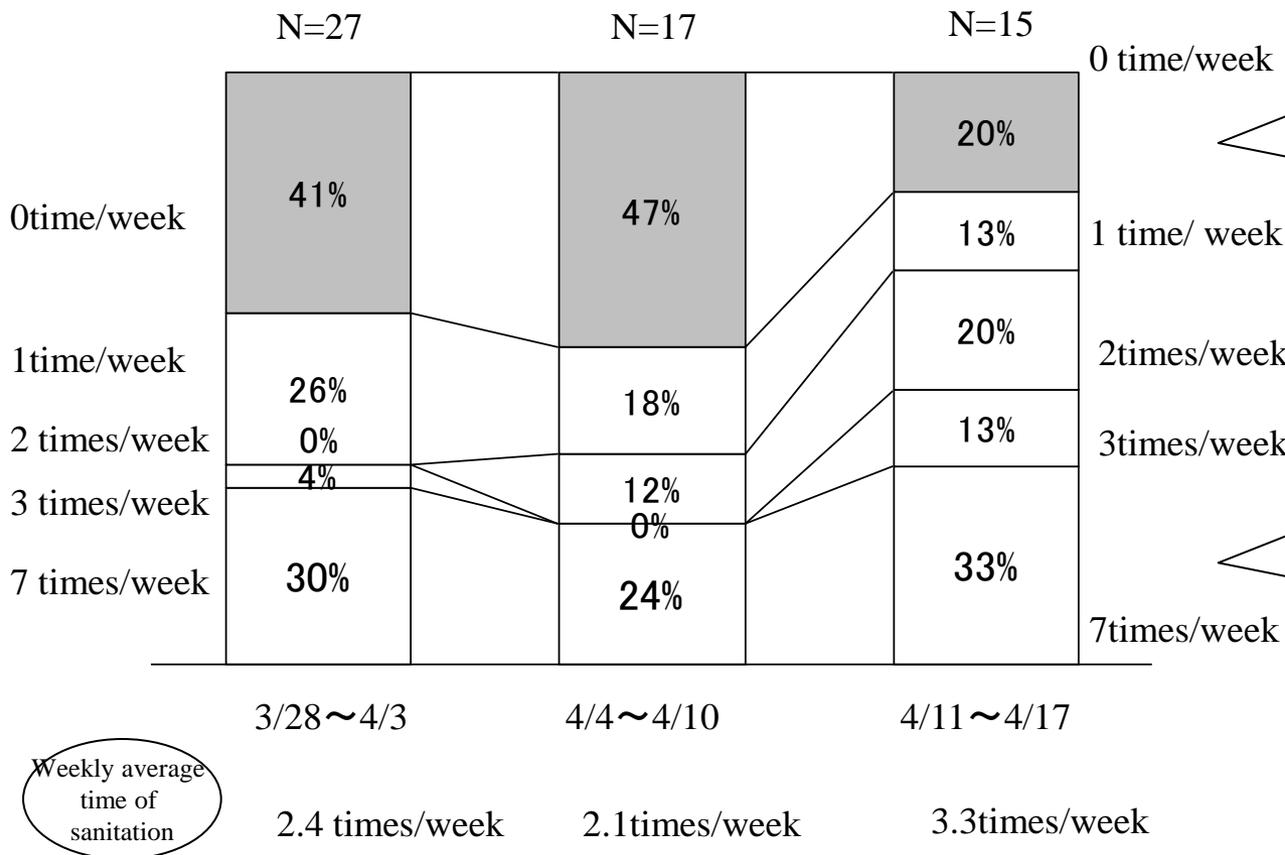
** Weekly average of temperature and humidity in Ishinomaki-city

Data: Tsuna-Pro Assessment Survey (4/11~17)

Toilets Sanitation

- At 50% of the shelters, there was sanitation (scooping up) carried out until last week in those affected areas that lost main function of its sewerage system. Slight improvement can be found in progress, yet sanitation sanitation is done only less than 2 times per week at 53% of the shelters.

Condition for sanitation



0 time/week
 “At least there is one toilet that is available for use inside our house. We use the toilet in the same way as it was prior to the earthquake. Whether sewerage function works properly or not is yet unknown. outhouse is not decided yet.”
 “Despite of prompt request for temporary toilets after the earthquake, they is no provision yet. Male go to sea to relieve oneself before dawn. As for female at a house where they sleep over nights.”

1 time/ week
 “ We cannot flush paper until the recovery of sewerage system”.

2times/week
 “Since toilets are not in use, I dig a hole in a field to relieve my nature.”

3times/week
 “Toilets placed inside buildings are hygienically in a very bad condition since we cannot flush. Request was once asked to public administration for public sanitation, but they are not offering any service.”

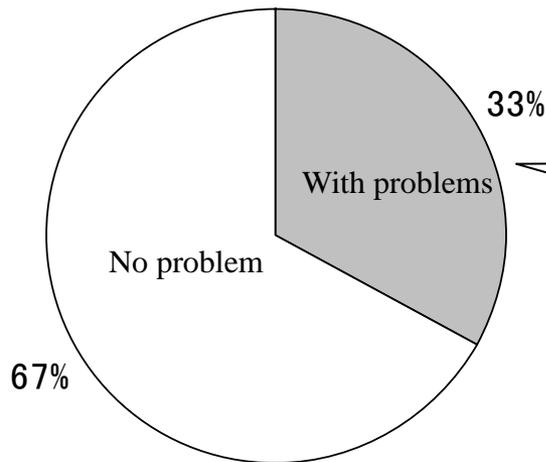
7times/week

“It is maintained very neat”
 “It used to be maintained neat”
 “Very clean”
 “Not so bad”

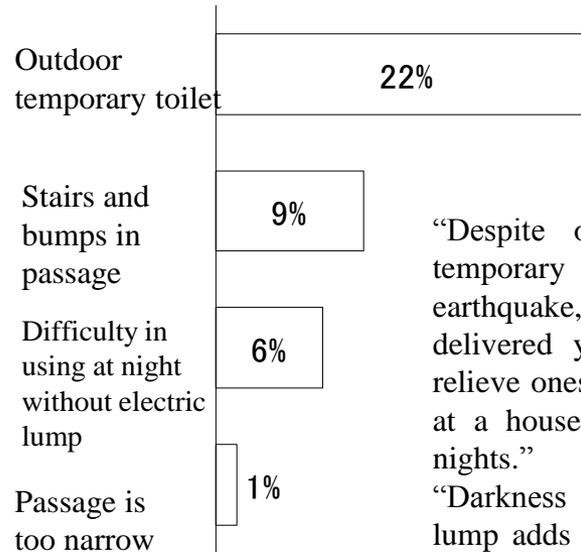
Toilets Facility/Passage

- 33% of shelter have problems with sanitary. Condition becomes inconvenient for the elderly with walking problems because of outdoor toilet, bump on ground and difficulty in using at night. These result in inviting poor health because of not drinking water.

Proportion of shelter with sanitary problems (4/11 ~ 17)



Examples of problem



“Despite of prompt request for temporary toilets after the earthquake, they have not been delivered yet. Male go to sea to relieve oneself before dawn. Female at a house where they sleep over nights.”

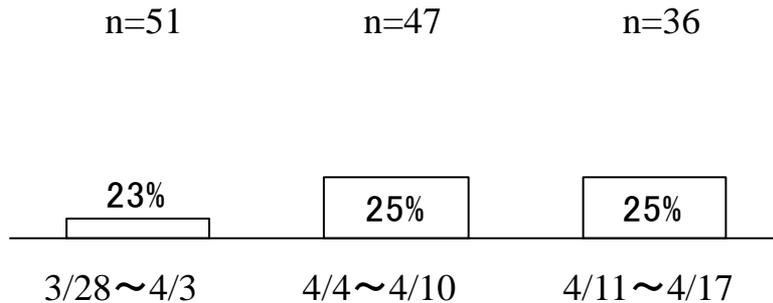
“Darkness at night without electric lump adds risk. Some actually got injured by slipping”

n=81

Toilets Availability of portable toilet

- Availability of portable toilet has been secured only for 25%. Provision in wide areas is needed for ensuring safety of elderly with walking problems to drink water.

Prevalence of portable toilet



Qualitative comments

“Temporary toilets are located outdoor and portable toilets are placed on each floor. Portable toilet is implemented for elderly with walking problems on the third floor to use at night, but some people use it without following the rule. Floors without portable toilet have only easy lavatory made of cardboard (total of 3). They are only divided by thin curtain and some don’t even have curtain.”

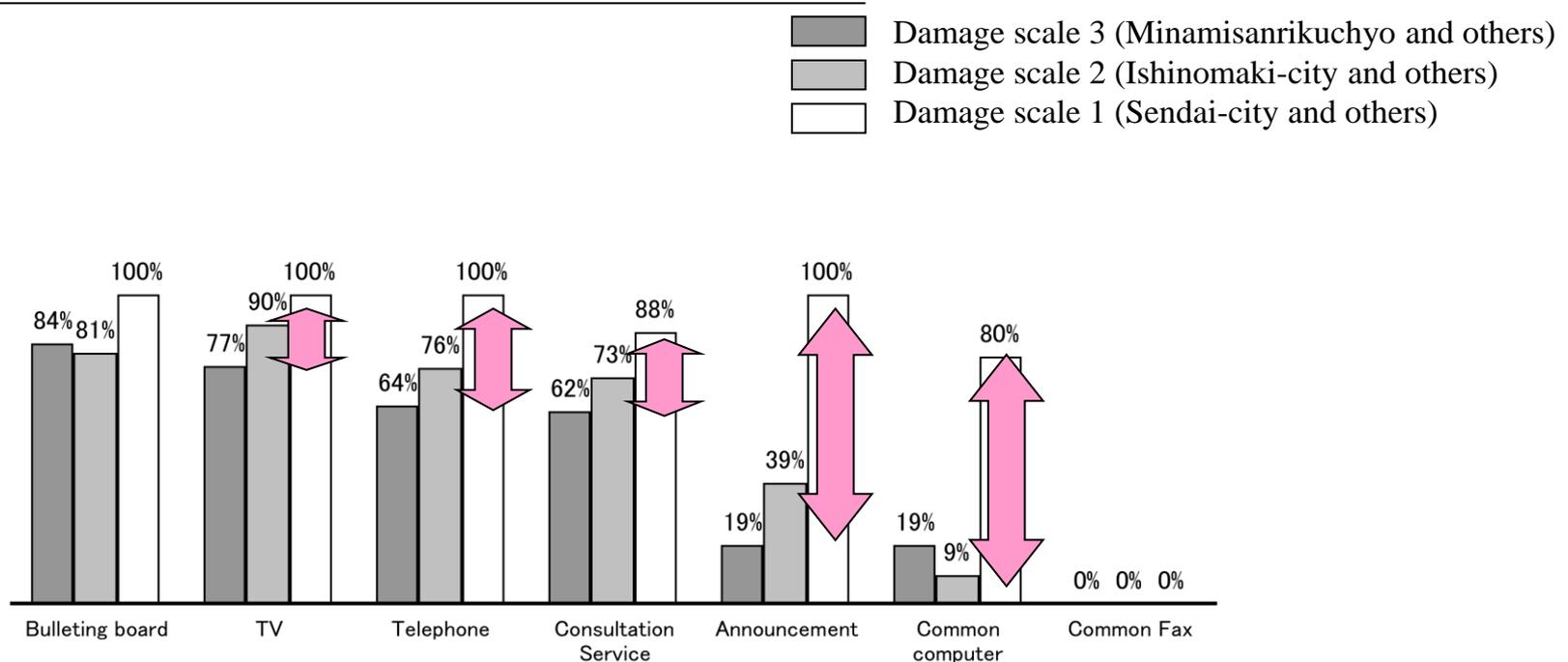
“One portable toilet for female is located outdoor in a small tent. Male go outside to pee or empty one’s bowel outside and wrap it by toilet paper to dispose in combustibles.”

“One portable toilet is used alternatively as a female toilet in a tent. Male are considered to do outside.”

Evacuation shelter Facilities

- Those equipments such as TV, telephone, consultation service and computer are fully installed at the shelters in some city such as Sendai with limited range of devastated area. On the other hand, in those areas with high level of devastation such as Ishinomaki-city and Minamisanrikuchyo, from twenty to thirty percent of shelters are not equipped with television nor telephone and more than eighty percent of shelters don't have common computers.

shelter facilities condition



- Damage Scale 3 : Onagawacho, Yamamotocho, Kesenuma-city, Minamisanrikucho,
- Damage Scale 2: Ishinomaki-city, Higashimatsushima-city, Wataricho, Shiogama-city
- Damage Scale 1: Sendai-city, Natori-city, Iwanuma-city, Taganuma-city

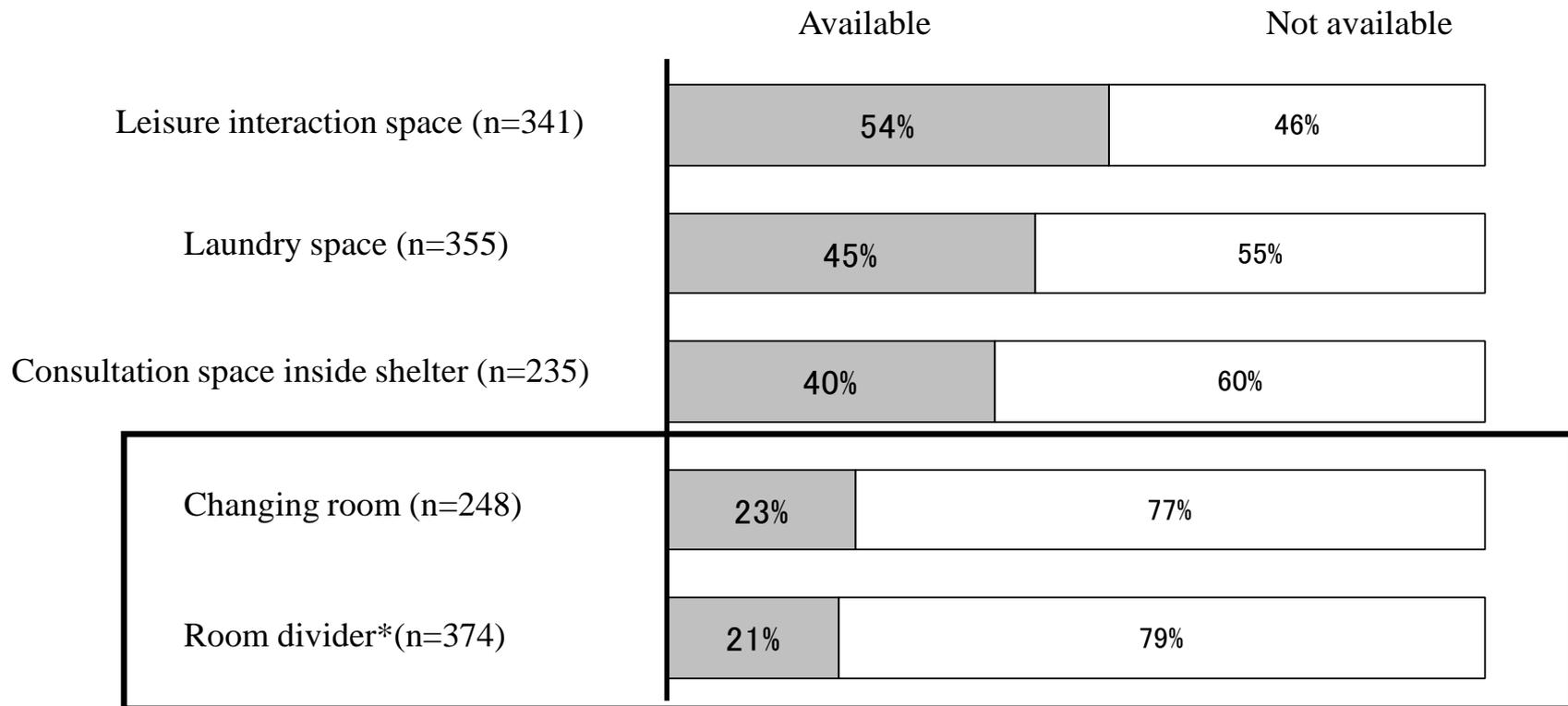
Data: Tsuna-Pro Assessment Survey (4/11-4/17)

【Re-post】 shelter facilities



- Only 20% of shelter are equipped with “room divider” and “changing room”. Concern for privacy issues is raised.

Facilities condition inside shelter

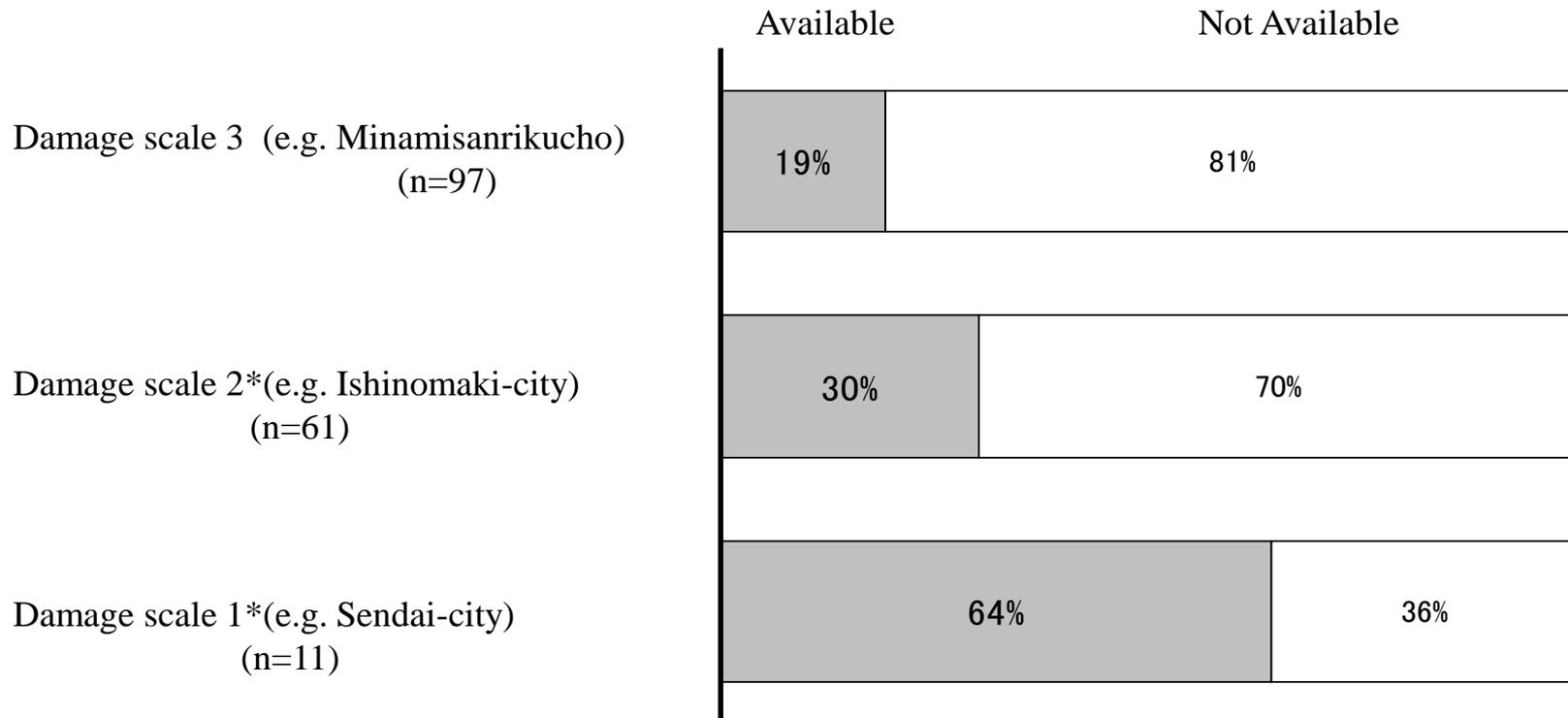


*Requests for room divider are raised. Meanwhile, there are some voices saying that they would feel safer without room-divider in other shelters

Availability of room divider by each area

- In those small disaster scale areas with low population of the elderly, such as Sendai-city, less than 60% of shelters are equipped with room divider whereas in those big disaster scale areas such as Minamisanrikucho, the availability percentage drops below 20%.

Availability of room divider by each area

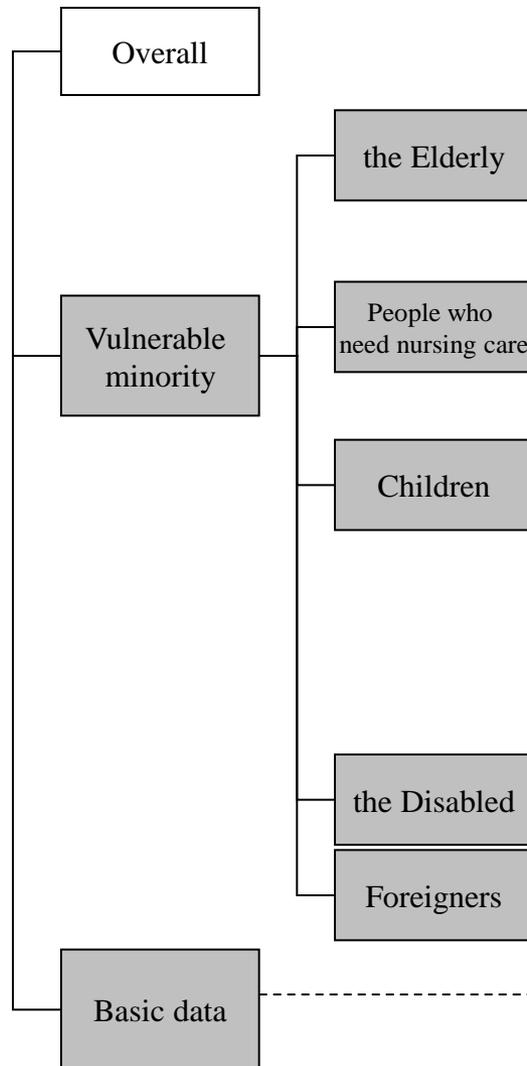


- Damage Scale 3 : Onagawacho, Yamamotocho, Kesenuma-city, Minamisanrikucho,
- DamageScale 2: Ishinomaki-city, Higashimatsushima-city, Wataricho, Shiogama-city
- DamageSDData: Tsuna-Pro Assessment Survey (4/11-4/17)
- cale 1: Sendai-city, Natori-city, Iwanuma-city, Taganuma-city

Summary (Vulnerable minority/ Basic data)



Objectives



Summary

- Ratio of the elderly (above 65 years old) population to the whole at shelter has increased to 44% this week from 36% in the previous week. In the areas that show high ratio of the elderly population, same ratio at shelter is also relatively high.
- plotted shelters by ratio of the elderly population and the number of evacuees. the plots illustrate wide variation of the ratio data from 0 to 100% regardless of the evacuees number. Consideration for food and facilities should be given differently at each shelter.
- 40% of shelters have more than one person in need of nursing care (38% in the previous week). In areas that show high ratio of the elderly population, the ratio of shelter that hosts people who need nursing care is also relatively high.
- Among shelters that host more than one person in need of nursing care, particular consideration for food and other needs are given in a nursing home facility. In general facility, however, consideration cannot be made properly due to particular problems of bathing and food service.
- The number of evacuees below 18 years old living in shelter is estimated to be around 5,000 people just in Miyagi prefecture. The estimated number include 130 newborn babies and 650 infants. A current trend exhibits slight reduction in child-related service and facilities due to the beginning of school term.
- Condition for securing mother-child space varies by size of shelter as follows; 22% for over 101 people, 3% for 31-50 people, and 0% for below 30 people. Special consideration should be given for mothers with infants.
- Issues of “shortage in education tuitions/materials”, “lack of transportation” and “shortage in manpower in shelters” have emerged along with the resuming of school (elementary, junior-high, high, college) following late April. Special measurement is necessary to be taken.
- The number of the disabled people at shelter is estimated to be more than 600 in Miyagi prefecture. However, there considered to be numerous evacuees staying home. It is urgently required to understand situations properly and establish the basement for support system.
- 128 foreigners in 28 afflicted areas are confirmed through three weeks of investigation. Many of them are Chinese. Foreign evacuees need individual attention because they tend to split up into small groups and live in each shelters discretely.
- Estimated the number of evacuees in each segment based on the third “Tsunami-Pro” survey. The total of evacuees per shelter is gradually decreasing and also the number of people who leave shelter, moved outside the afflicted area, moved to hospital or welfare facility have decreased. Over all, less people is leaving shelters. On average, there are 2.1 persons in need of nursing care and 1.2 disabled persons per shelter.

the Elderly



- Average ratio of the elderly (above 65 years old) population to the whole at shelter has increased to 44% this week from 36% in the previous week. In the areas that show high ratio of the elderly population, same ratio at shelter is also relatively high.

Ratio of the elderly population by the number of evacuees and locations

		Average ratio of the elderly population	n=	
number of evacuees	Less than 30	39.0%	27	
	31-50	44.6%	16	
	51-100	46.9%	17	
	More than 101	47.2%	21	
Locations	Kesennuma	46.4%	36	
	Damage level 3 (High ratio)	Minamisanriku	43.7%	11
		Yamamoto, Sukegawa	51.3%	3
		Ishinomaki	39.5%	20
	Damage level 2 (Moderate ratio)	Higashimatsushima	44.1%	5
		Watari, Misato	34.3%	3
	Damage level 1 (Low ratio)	Natori, Rifu	45.7%	3
Total		43.9%	81	

▪ Average ratio of the elderly population at shelters is 43.9% (n=81, only at shelters that identify the number of elderly population in Miyagi prefecture.

▪ Proportion of elderly population increase in shelters with large population and shelters located in local areas with the high ratio.

Data: Tsuna-Pro Assessment Survey(4/11-17)

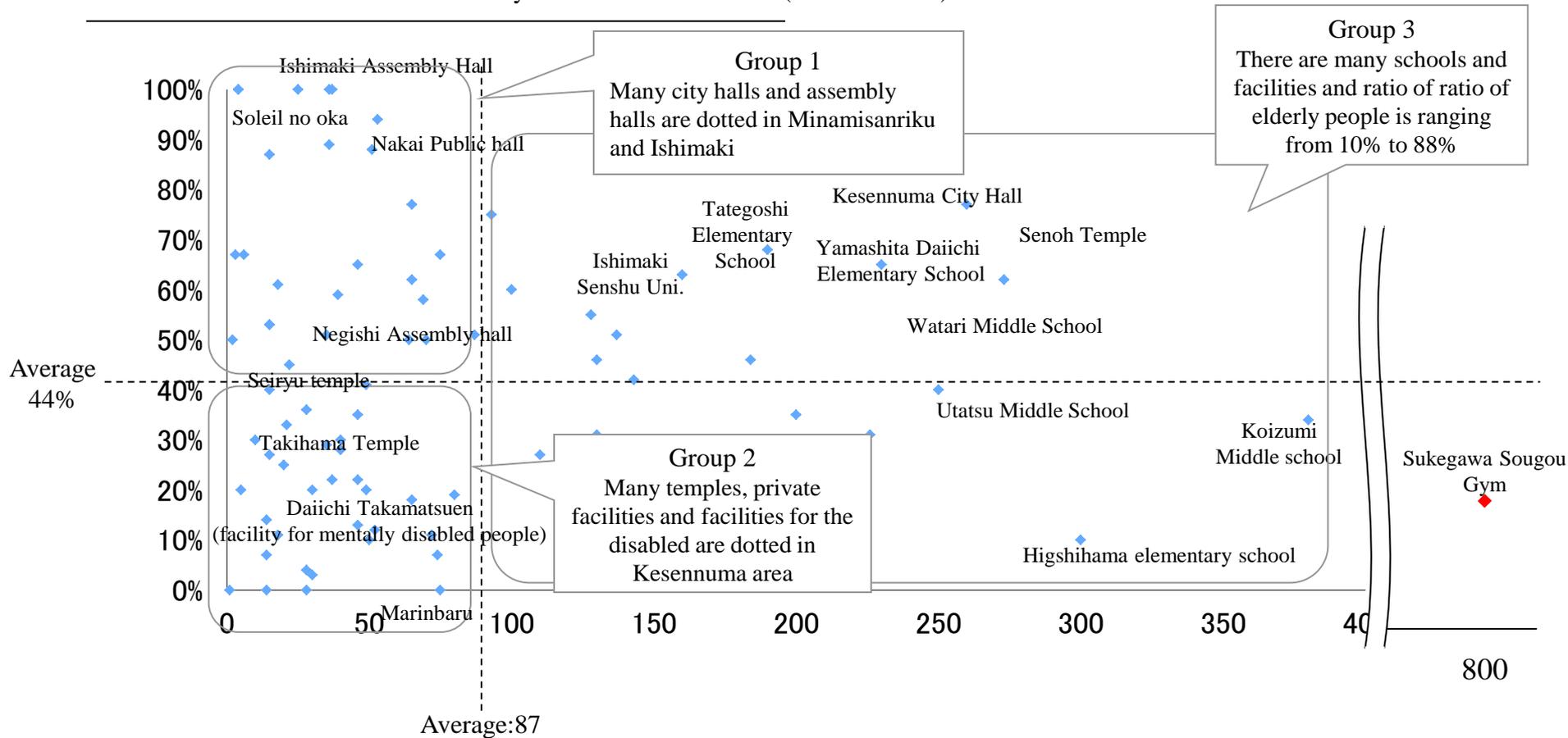
Note: Data collection range is limited to shelters that confirmed the number of evacuees and elderly people. In local areas that have high ratio of the elderly population a shelter is relatively large in scale. In Onnagawa cho 480 out of 800, 130 out of 380 people are elderly people in Kesennuma-city

the Elderly



- plotted shelters by ratio of the elderly population and the number of evacuees. the plots illustrate wide variation of the ratio data from 0 to 100% regardless of the evacuees number. Consideration for food and facilities should be given differently at each shelter.

Scatter Plot of Ratio of The Elderly × Number of Evacuees (4/11-17. n=82)



People in need of nursing care



40% of shelters have more than one person in need of nursing care (38% in the previous week). In areas that show high ratio of the elderly population, the ratio of shelter that hosts people who need nursing care is also relatively high.

ratio of facility having people in need of nursing care (by the number of evacuees and location)

		Ratio of facility having more than one people in need of nursing care	n=		
number of evacuees	Less than 30	26.5%	34	<ul style="list-style-type: none"> ▪ 40.2% of facilities have more than one evacuee in need of nursing care (n=99, surveyed only in shelters that have been confirmed whether they have people in need of nursing care) ▪ Areas having the higher population of elder people have higher ratio of people in need of nursing care 	
	31-50	44.0%	25		
	51-100	31.3%	16		
	More than 101	51.9%	27		
By location	Kesennuma	40.0%	45		
	Level of Damage:3				
	Aging of population: High	Minami-sanriku	46.2%		13
		Yamamoto, Onagawa	25.0%		4
	Level of Damage:2	Ishinomaki	27.3%		22
	Aging of population: Moderate	Higashi-matsushima	27.3%	11	
		Watari, Misato	100.0%	1	
	Level of Damage:1	Natori, Rifu	100.0%	3	
Aging of population: Low					
Total		40.2%	99		

Data: Tsuna-Pro Assessment Survey (4/11-17)

Note) Data collected only from shelters that confirmed the number evacuees and people in need of nursing care

People in need of nursing care

- Among shelters that host more than one person in need of nursing care, particular consideration for food and other needs are given in a nursing home facility. In general facility, however, consideration cannot be made properly due to particular problems of bathing and food service.

List of shelters with more than 1 evacuees in need of nursing care (The top 8 Shelters only.)

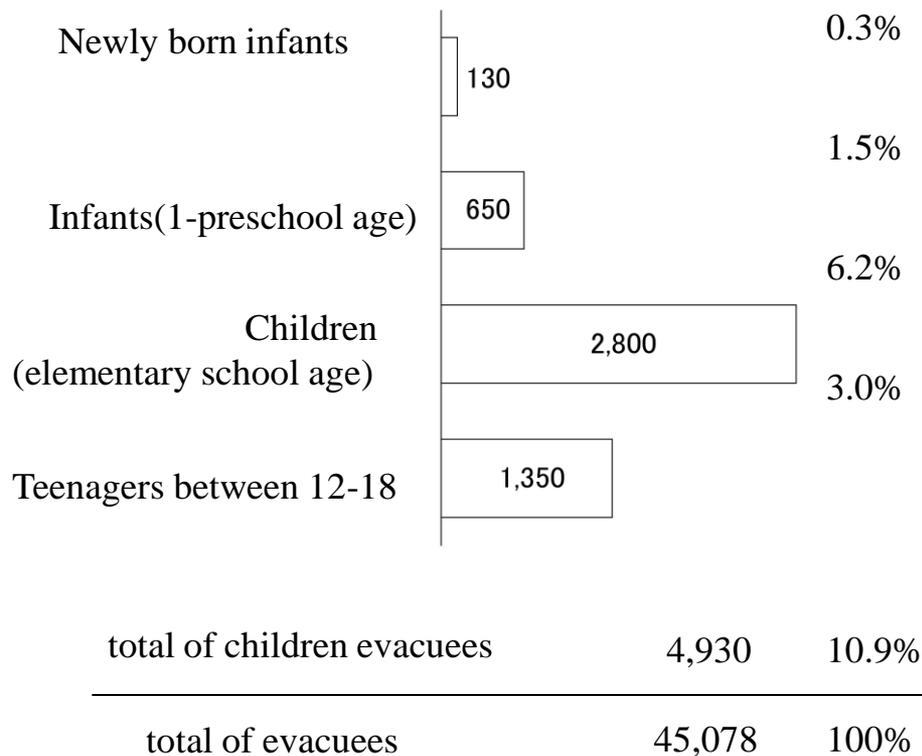
Location areas of shelters	Total of evacuees	Seniors (65 and over)	people in need of care	Notes about meals
Welfare facility				
City A	115		91	Offers well-balanced food and also offers liquid food for people in need of nursing care staying at home.
City A	25	25	25	Offers vegetable-based diet corresponding to elderly people.
City A	36	36	13	
Town B	13		7	
City C	143	60	5	People who are with more than 1 careworker stay in this facility. Elementary school kid has allergy to egg and shrimp. It might be a burden on people to make special meal for him when school starts. Day service will resume next week. This facility pays attention to people in special need.
School, shelter, assembly facility				
Town D	171	50	15	A 85 year-old woman (needed to be cared), is staying alone. Some elderly people are staying alone as well but helping each other. More than 10 elderly people have difficulty in taking a bath (crippled). A 62 year-old man with impair who can only see his sight in front in 15cm, <u>doesn't want to receive nursing service</u> . 5 people ranging from young to elderly with mental disability (integration disorder syndrome) need to see a doctor regularly and take medicine. They had a chance to go to hospital once, but it is not sure if they could go there again.
City A	250	220	10	This facility offered meals high in carbohydrate before, but now is able to offer vegetables. <u>Special meal for elderly people is offered</u> , but it is difficult to draw a line between those who need to eat it and those who not. To be receiving jelly from Otsuka Pharmaceutical. it would be ideal to provide digestive foods for the elderly people.
City A	137		8	

Children

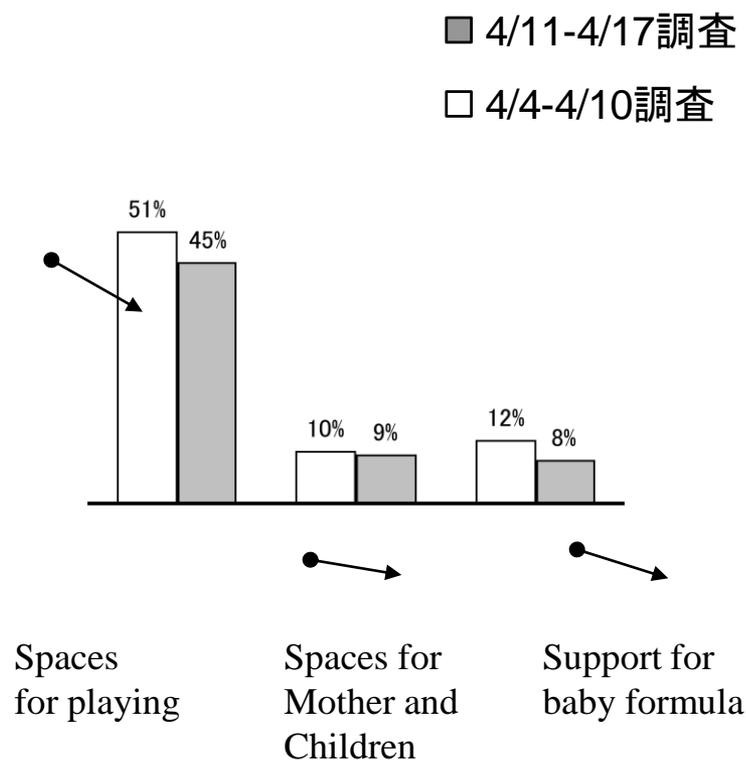


The number of evacuees below 18 years old living in shelter is estimated to be around 5,000 people just in Miyagi prefecture. The estimated number include 130 newborn babies and 650 infants. A current trend exhibits slight reduction in child-related service and facilities due to the beginning of school term.

Estimated number of children in shelter (Miyagi) ratio



Condition for facilities and services for children

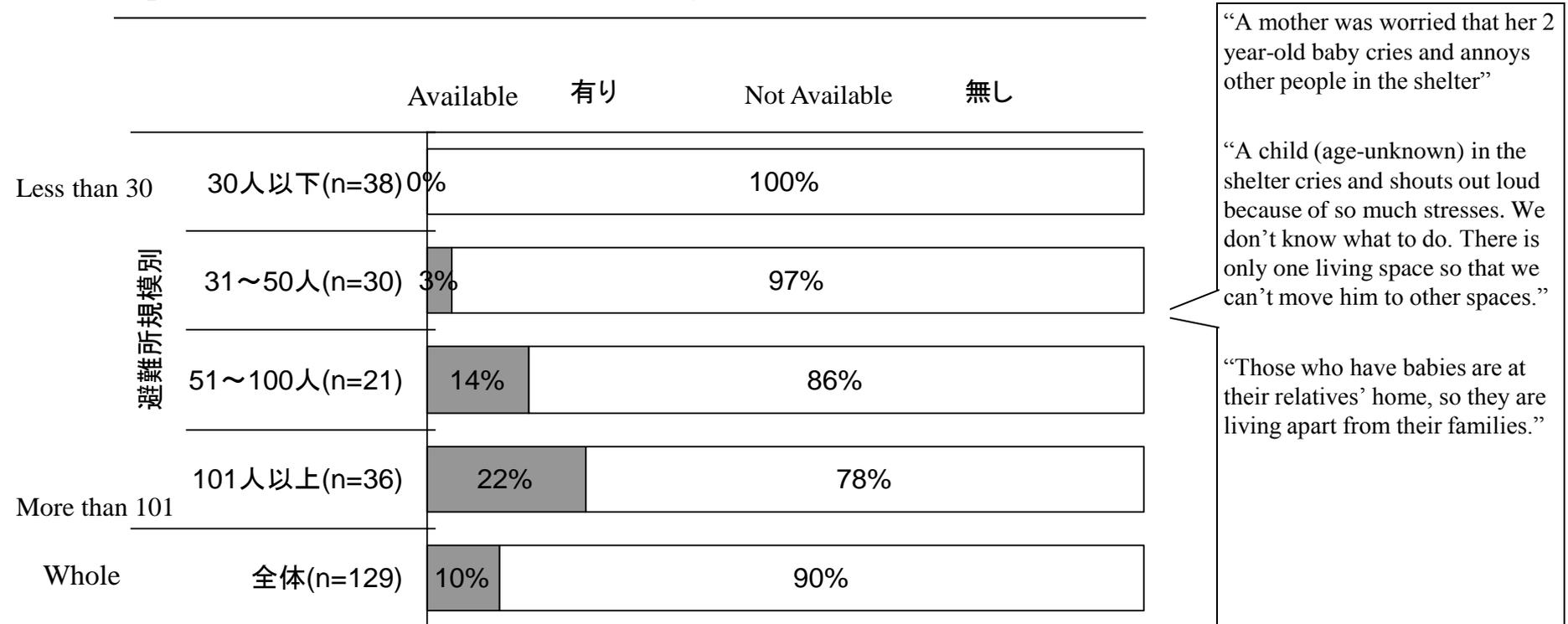


* Estimated the number of Children in each category by multiplying total of evacuees (as of April 17th, announced by Miyagi prefecture) by ratio

Children Spaces for mother and children

Condition for securing mother-child space varies by size of shelter as follows; 22% for over 101 people, 3% for 31-50 people, and 0% for below 30 people. Special consideration should be given for mothers with infants.

Spaces for Mother and Children Condition by Size of Shelters



Children Problems when starting school (elementary school, middle school, high school, and college) again



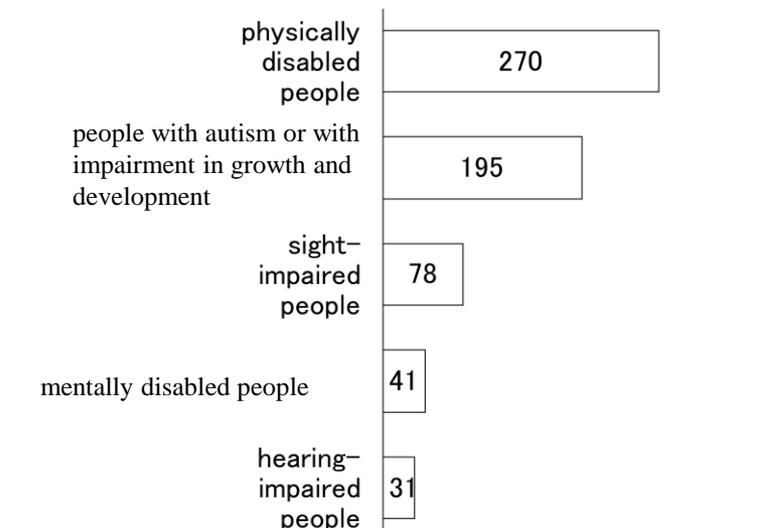
- Issues of “shortage in education tuitions/school supplies”, “lack of transportation” and “shortage in manpower in shelter” have emerged along with the resuming of school (elementary, junior-high, high, college) following late April. Special measurement is necessary to be taken.

Objectives	Qualitative comments
<pre> graph LR A[domestic] --- B[lack of school expense and school supplies] A --- C[lack of transportation] D[shelter] --- E[shortage of manpower in shelter] </pre>	<ul style="list-style-type: none"> •“it is a must to take measures against lack of school administration environment admission fees and college tuitions)” •“necessary goods: stationery, goods for club activities (tennis, baseball etc.)” •“There is only one middle school kid in the shelter, so I’m worried if the bus stops here only for him.” •“I can’t go to other shelters and volunteer as a nanny when my childcare center starts.” •“We want volunteers who would play with children. We can’t take care of them while we work.” •“We need the system in which evacuees can live by themselves, not like the current system in which only teachers support them.” •“Young people who have power enough to clear rubble or something soon will start to look for a job or to go school. There would be shortage of human resources.”

People with impairment

- The number of the disabled people at shelter is estimated to be more than 600 in Miyagi prefecture. However, there considered to be numerous evacuees staying home. It is urgently required to understand situations properly and establish the basement for support system.

Estimated number of people with impairment in shelters (in Miyagi)

		ratio	Comments	
	physically disabled people	270	0.6%	“50 people with impairment started to live with 20 careworkers in the nursing facility while the function of the facility is gradually recovering. The facility combined to other shelter 3days ago.”
	people with autism or with impairment in growth and development	195	0.4%	
	sight-impaired people	78	0.2%	One evacuee is with total paralysis and the other is with hemiplegia. They are in their thirties and forties and evacuating with their family. They are planning to move to their home or other apartment shortly.
	mentally disabled people	41	0.1%	
	hearing-impaired people	31	0.1%	
total of evacuees with impairment		620	1.4%	“The sight-impaired evacuee is sleeping at car. The manager of evacuation knows but winks at it. He is in his early fifties and lives with his wife in her forties. His wife comes and gets supplies. She looks fine.”
total of evacuees		45,078	100%	

* Estimated the number of people with impairment in each category by multiplying the total of evacuees (as of April 17th, announced by Miyagi prefecture) by ratio

Foreigner



- 128 foreigners in 28 afflicted areas are confirmed through three weeks of investigation. Many of them are Chinese. Foreign evacuees need individual attention because they tend to split up into small groups and live in each shelters discretely.

Foreigners affected in different areas

	# of foreigners	# of shelters	Nationality	note
Yamamoto Town	70	1	Mainly Chinese	Using posters translated in foreign languages
Kesennuma City	21	8	China(15), Korea(2), Philippines(2), Unknown(2)	Mainly Chinese trainees working in factory
Ishinomaki City	21	10	Korea(4), Philippines(3), China(2), Bolivia(1), Unknown(11)	
Minami-sanriku Town	6	2	China, Unknown	
Sendai City	3	1	Nepal (3)	
Tome City	2	1	China(2)	
Shichigahama Town, Onagawa Town, Tagajo City, Higashi-matsushima City Watari Town	each 1	each 1	China(1), Unknown(4)	

Basic Data (reference)



- Estimated the number of evacuees in each segment based on the third “Tsunami-Pro” survey. The total of evacuees per shelter is gradually decreasing and also the number of people who leave shelter, moved outside the afflicted area, moved to hospital or welfare facility have decreased. Over all, less people is leaving shelters. On average, there are 2.1 persons in need of nursing care and 1.2 disabled persons per shelter.

		number of respondent shelters	Subtotals of the number of people in each category	The number of people in each category per shelter (as of 4/16)	[reference] Estimated number of people per shelter (as of 4/9)	Estimated number of people per shelter (as of 4/2)
Base number	The total of evacuees	207	20,566	99.4	102.7	168.4
	Incoming evacuees within a week	46	2,103	45.7	41.4	102.7
	People sleeping outside shelter	41	2,192	53.5	36.3	84.9
	People who have left shelter	56	3,299	58.9	152.8	365.3
	People who went back home	16	468	29.3	27.9	128.1
	the number of people moving outside the afflicted area	12	49	4.1	14.4	8.6
	people who have moved to hospital or welfare facility	12	4	0.3	0.8	2.6
Age	newly-born infants	96	27	0.3	0.2	0.6
	children between 1-preschool-aged	100	132	1.3	1.4	2.6
	elementary school children	108	566	5.2	3.8	7.4
	children between 12-18	80	273	3.4	3.0	5.4
	elderly over 65	84	3,491	41.6	30.6	56.6
People in need of care	expectant mothers	114	9	0.1	0.0	0.1
	people in need of nursing care	104	223	2.1	2.5	2.2
	allergy patients	77	14	0.2	0.2	0.1
	other people needed to be cared	65	18	0.3	0.5	0.1
	foreigner	116	20	0.2	0.1	0.7
	people who have religions need care	50	0	0.0	0.0	0.0
People with impairment	the total of disabled people	121	144	1.2	1.0	2.5
	physically disabled people	89	53	0.6	1.0	1.7
	hearing-impaired people	73	5	0.1	0.1	1.1
	sight-impaired people	81	14	0.2	0.1	0.2
	mentally disabled people	79	34	0.4	0.6	1.4
	people with autism or with impairment in growth and development	67	6	0.1	0.1	0.3

Data varies from shelter to shelter. Average numbers per shelter are calculated based on the number of shelters that we comprehend and subtotal in each shelter
 Data: Tsuna-Pro assessment survey (April 11-17)