

Current state of Mental Health & Lifestyle Survey, and Mental Care after Tohoku-pacific Ocean Earthquake and Fukushima Daiichi nuclear accident

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Tohoku-pacific Ocean Earthquake and Fukushima Daiichi nuclear disaster (March 11, 2011)

The earthquake completely destroyed the areas on the coast of Pacific Ocean of three prefectures in the Tohoku (north-eastern) region of Japan, Miyagi, Iwate and Fukushima.

Most importantly, the destroyed Tokyo nuclear plant casted shadow on the mental health of the inhabitants who were afraid of radioactive contaminations.



煙を上げる福島第一原発の3号機周辺(21日午後5時15分)＝東京電力提供



Pacific coast of Soma city
at March



at June

Hospital
Destroyed
By Earthquake



FMU

Tsunami Disaster



Nuclear Plant

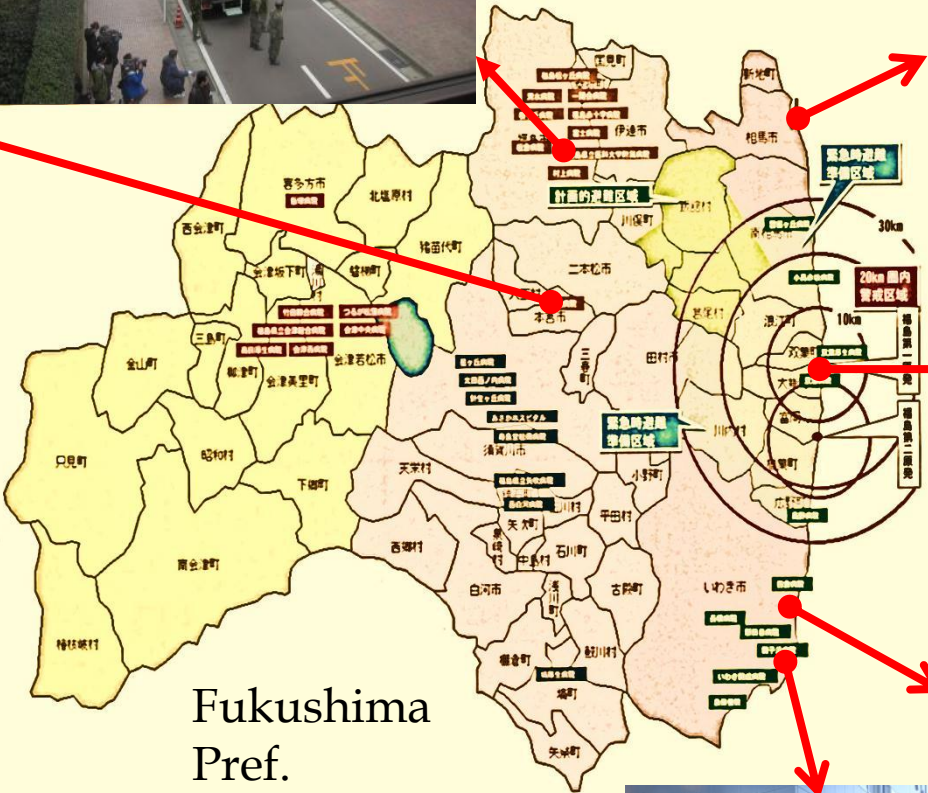


煙を上げ6福島第一原発の3号機周辺(21日午後0時15分) = 東京電力提供

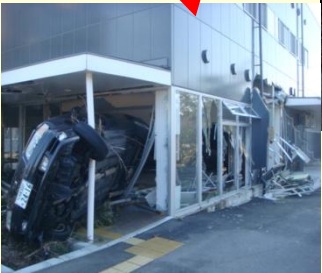


Tsunami
Disaster

Tokyo



Fukushima
Pref.



Impact of nuclear power plant disaster: Shortage of support team to Fukushima

According to the Chugoku Shimbun newspaper dated April 11, 2011, the medical care teams having worked at March 27 in Fukushima pref. was **only 2 teams**, while it was **76 teams in Miyagi Pref. and 35 teams in Iwate Pref.**

FMU mental care team decided to take care of SOSO (Soma and Futaba) and Iwaki district surrounding the nuclear plant.



Task of a mental care team

1. Support of the **impaired** mental care system
2. Care for **newly occurred** mental problems
3. Mental Care for **staffs**

Iwaki area

2011/05/16
福精協事務局作成

Activities in early stages for Iwaki area

- ▣ Mental care for Iwaki area has started since March 18.



Mental care activities in Iwaki area

- ▣ ① Visiting support service for the temporary houses and the shelters
- ▣ ② Individual interview
- ▣ ③ Salon for childcare support in a community center and a public hall, etc.

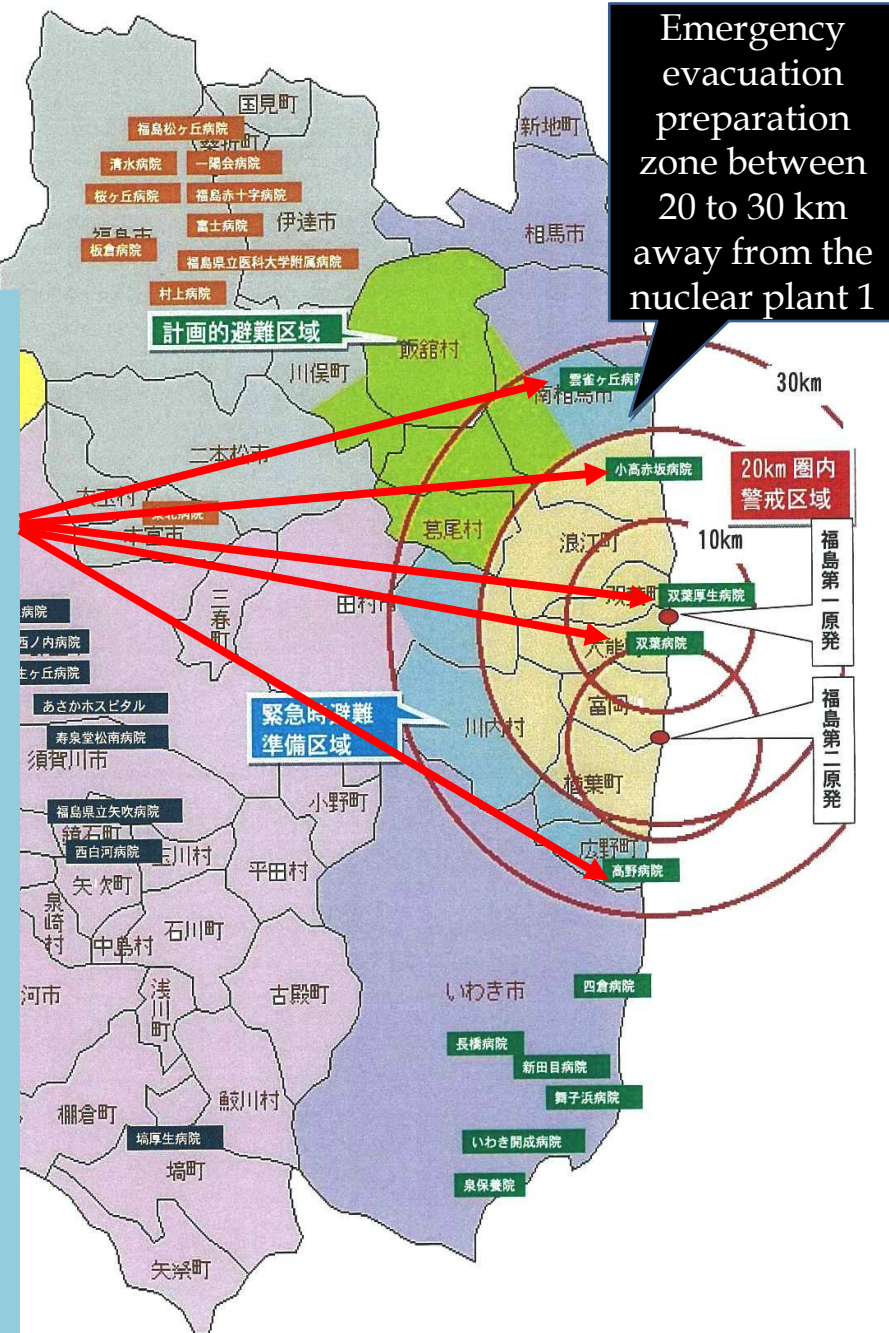
Present mental care in Iwaki city

- ▣ Care for **children** showing unstable emotion and strong anxiety for Earthquake and Tsunami
- ▣ Care for **mothers** feeling anxious about Radioactive matters
- ▣ Treatment for increased **alcoholics**

Mental Care Activities in SOSO (Soma • Futaba)

福島県精神科病院協会会員病院配置図 及び原発避難区域

- Due to Fukushima No.1 Nuclear Power Plant accident, all five mental hospitals including 712 inpatients in the Soma and Futaba (i.e., SoSo) District on the Pacific Coast of Fukushima Prefecture were forced to be closed down.
- SOSO district lost all of mental care system.

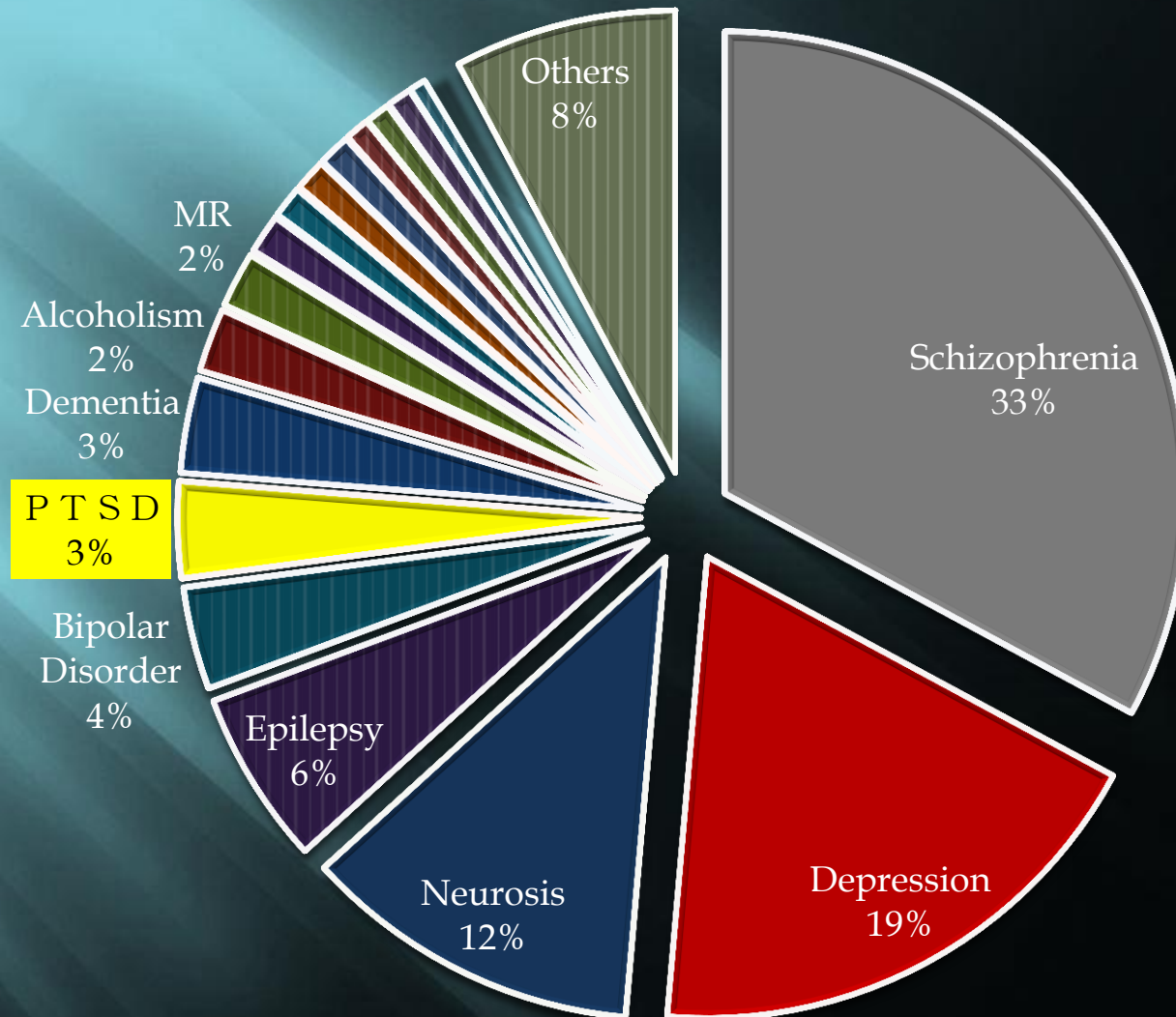


Activities in early stages for SOSO areas

Activities in SOSO (Soma and Futaba) area started on March 29, 2011.

1. We opened the temporary psychiatry clinic for outpatients in Soma public hospital.
2. Visiting support service for the temporary houses and the shelters
3. Counseling for fireman and school staff

Percentage of psychiatric diseases in temporary psychiatry clinic for outpatients in Soma public hospital





Opening Mental Clinic **NAGOMI** On Jan 12, 2012



Closing temporary psychiatry
clinic for outpatients in Soma
public hospital after 1 year

Mental Health Care Center “Nagomi” for outreach and salon activity

<http://nagomi.soso-cocoro.jp/>
(English site under construction)

- Mental Health Care Center “Nagomi” was established in January 10, 2012.
- This was greatly attributed to financial assistance from many organizations. Since its foundation, we have conducted in-home care services and health care activities for residents.
- Maintaining close cooperation with each psychiatric care institution in the Soso District, “Nagomi,” a mental clinic in private practice was established in January 11, 2012.



In-home
care service

Salon

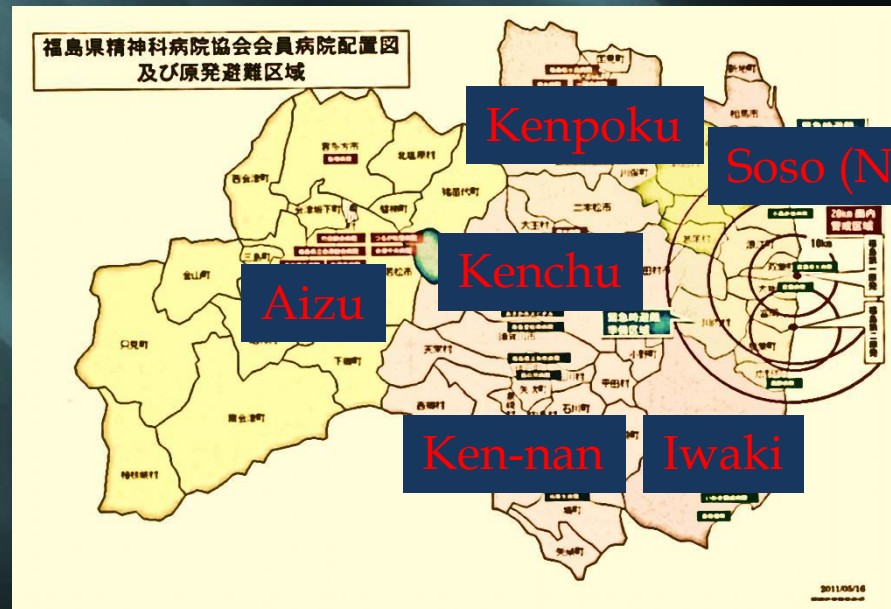


Play room



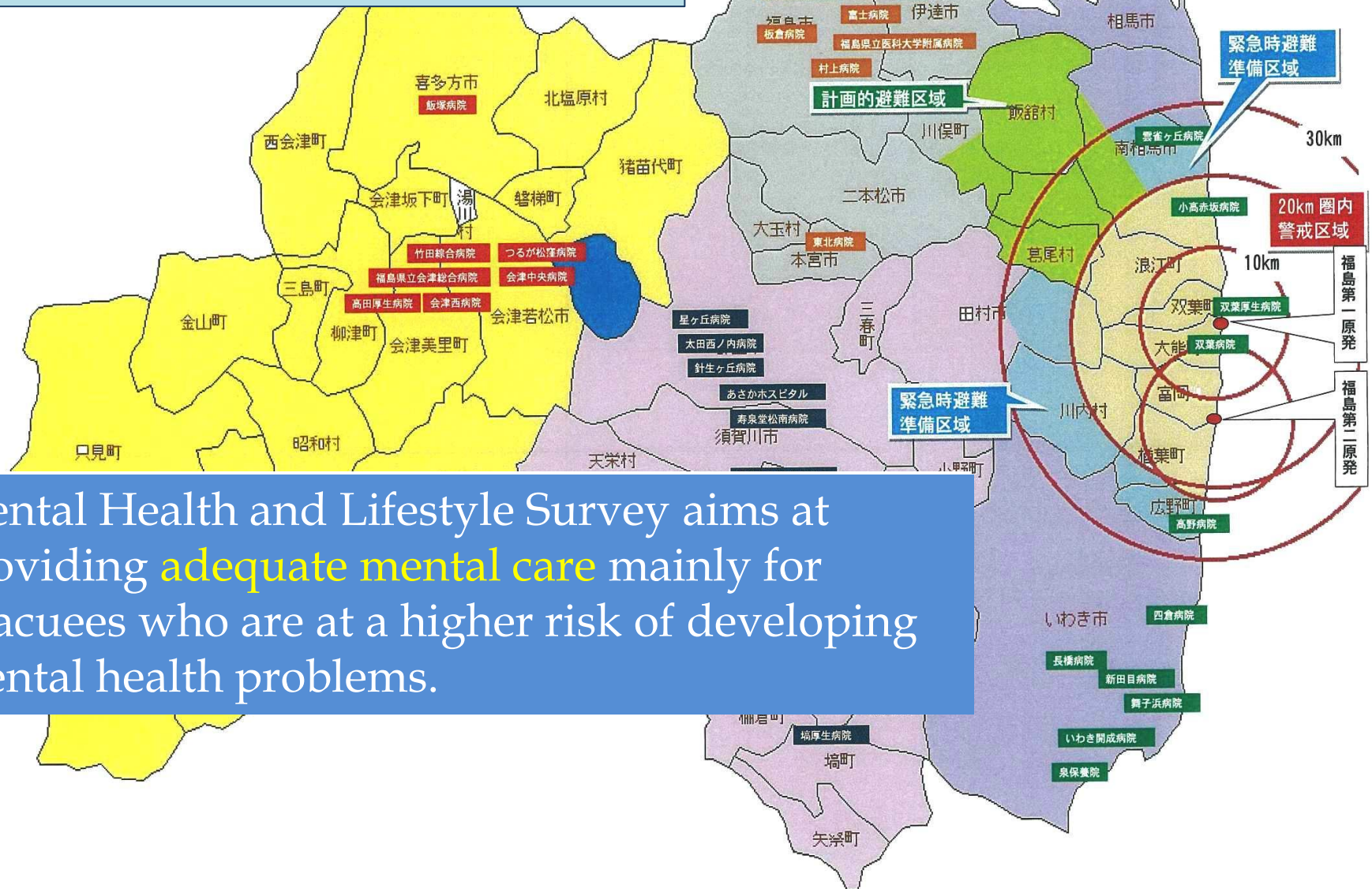
Mental Care Center

- “Nagomi” has **good international reputation**, now.
- We established the same type of mental care center as “Nagomi” in **SIX areas** of Fukushima prefecture (i.e., Iwaki, Kenpoku, Ken-nan, Kenchu, Aizu, Soso (Nagomi)).



Mental Health and Lifestyle Survey

Mental Health and Lifestyle Survey to **210,189 Residents** in Evacuation Zone



Mental Health and Lifestyle Survey aims at providing **adequate mental care** mainly for evacuees who are at a higher risk of developing mental health problems.

Criteria for Supports

Mental Health Care Group

High Risk Group

Children with SDQ score of ≥ 20

Adults with either K6 score of ≥ 20 or PCL score of ≥ 65

Previous Cutoff points Group: Those with the scores above the cutoff points in the previous studies except for High Risk Group

Children with SDQ ≥ 16 and < 20

Adults with either K6 ≥ 13 and < 20 and PCL ≥ 44 点 and < 65

Lifestyle care Group

Those who do not receive medical care

Those who experience ill health and sleeping problems

Those with increased smoking and alcohol consumption after the disaster

Those with health problems that got worse after the disaster

Severe free-answer Group

Those identified on the basis of the content of free-answer questions, such as psychological difficulties and lifestyle diseases

Mental Health and Lifestyle Survey to 210,189 Residents in Evacuation Zone

Number of **Residents in Evacuation Zone** at 2011/3/11

n=210,189

Children
n=29,585

Adults
including High School students
n= 180,604

Number of responses and response rates (%) as of 31 July 2012

n=92,314 (43.9 %)

Children
n=18,745 (63.4%)

Adults
n=73,569 (40.7 %)

Respondents who required
mental health care support

n=17,512

Children
n=2,394

Adults
n=15,118

Adult respondents
who required support
for **lifestyle** change

n=3,351

Mental health care

Lifestyle care

Mental health care



Respondents who required **mental health care**
support n=17,512

Children
n=2,394

High risk n=1,328
Above Previous Cutoff Points
n=1,066

Adults
n=15,118

High risk n=4,220
Above Previous Cutoff Points
n=10,898

Impossible support n=1,031
Wrong address n=1
No return n=661
No request for support n=369

Impossible support n=9759
Wrong address n=28
No return n=5819
No request for support n=3880
Death n=30
Already supported n=2

Telephone counseling support

Children
n=1,363

High risk n=1,327
Above Previous Cutoff Points
n=36

Adults
n=5,359

High risk n=4,220
Above Previous Cutoff Points
n=1,174



Lifestyle care

Adult respondents who
required support for
lifestyle change
n=3,351

Impossible support n=1,068
No Tel number n=698
No request for support n=10
Absence n=357
Death n=3

Telephone counseling support
n=2,283

Supports after the survey

Telephone counseling for mental health care

Respondents who required support were identified on the basis of the survey response. A member of the **FMU Mental Health Support Team** (clinical psychologists and public health nurses et al.) attempted to contact the respondents via telephone, and provided advice and information about mental health issues.

Support by Letters (Information provision)

▪ Mental Health Care

Telephone number of our center and mental health book was sent to the respondents with scores above the cutoff points proposed in previous studies ($SDQ \geq 16$, $K6 \geq 13$, or $PCL \geq 44$) except for those already counseled by telephone.

▪ Lifestyle Care

Telephone number of our center and life style care book was sent to the respondents with lifestyle problems.

Mental Health Care for Children

Total number of current support needed for **Children** is 1,363. **The percentage of male is 55.5% and those of female is 44.5%.**

Number/Percentage of current support needed for Children, update by Gender					
	Whole n=1,363	Children ① n=457	Children ② n=675	Children③ n=231	
Number of People/Percentage who needed Emotional Support					
Male	757 (55.5)	255 (55.8)	390 (57.8)	112 (48.5)	
Female	606 (44.5)	202 (44.2)	285 (42.2)	119 (51.5)	
Supported by telephone	1,180 (86.6)	401 (87.7)	589 (87.3)	190 (82.3)	
Supported by letters	183 (13.4)	56 (12.3)	86 (12.7)	41 (17.7)	

the value given within the table is: n(%)

The number of people from the group higher than the reference point who asked for telephone support was few (36 people), and thus the summary is combined with those at High Risk and Higher than the Referene Point.

Current support needed for Adults

Total number of current support needed for adults is 5,359. The percentage of male is larger than that of female. 1,084 evacuees in the outside of Fukushima have been supported by telephone.

Current Update by Number/Percentage of Support requested from the General Population according to Gender and their Place of Residence

	Whole n=5,359	High-Risk n=4,185	Higher than Reference point n=1,174
Number of People/Percentage who needed Emotional support			
Male	1,966 (36.7)	1,512 (36.1)	454 (38.7)
Female	3,393 (63.3)	2,673 (63.9)	720 (61.3)
Supported by telephone	4,027	2,983	1,044
Fukushima	2,943 (73.1)	2,145 (71.9)	798 (76.4)
Outside of Fukushima	1,084 (26.9)	838 (28.1)	246 (23.6)
Supported by letters	1,332	1,202	130
Fukushima	1,096 (82.3)	998 (83.0)	98 (75.4)
Outside of Fukushima	236 (17.7)	204 (17.0)	32 (24.6)

the value given within the table is: n(%)

One's Place of Address is recorded by Registered address on 11 March 2011 according to Certificate of Residence/Alien Registration

Types of follow-up

Follow-up 1

Those who required support have already received the adequate care such as medical treatment, or they were satisfied with the current supports. No further support is provided before next survey.

Follow-up 2

Those who required support have not yet received any adequate care such as medical treatment, or they were not satisfied with the current supports. Further supports should be provided.

Follow-up 3

Little was spoken anymore. Their intention was not confirmed by telephone.

No request for support

The clear message of support unnecessary was expressed.

Guide those to the other team in Radiation Medical Science Center

Telephone support for Children

The percentage of follow-up 2 was 30.4%.

Support given to Children by telephone,
categorized by their Address within Fukushima and Outside of Fukushima

	Whole	Fukushima	Outside of Fukushima
Result of Support	n=1,363	n=883	n=480
Supported by Telephone			
Follow-up1	684 (50.2)	475 (53.8)	209 (43.5)
Follow-up2	414 (30.4)	240 (27.2)	174 (36.3)
Follow-up3	22 (1.6)	8 (0.9)	14 (2.9)
No Needed Support	2 (0.1)	2 (0.2)	0 (0.0)
Reference Letter by Medical Doctors	2 (0.1)	0 (0.0)	2 (0.4)
Sending List of Medical Doctors in Fukushima	29 (2.1)	20 (2.3)	9 (1.9)
Sending List of Medical Doctors outside of Fukushima	5 (0.4)	0 (0.0)	5 (1.0)
Supported by other departments (Thyroid Team etc.)	22 (1.6)	15 (1.7)	7 (1.5)
Supported by Letters	183 (13.4)	123 (13.9)	60 (12.5)

the value given within the table is: n(%)

Place of Address is recorded by Registered address on 11 March 2011 according to Certificate of Residence/Alien Registration:

Telephone support for Adults

The percentage of follow-up 2 is 22.5% at High Risk.

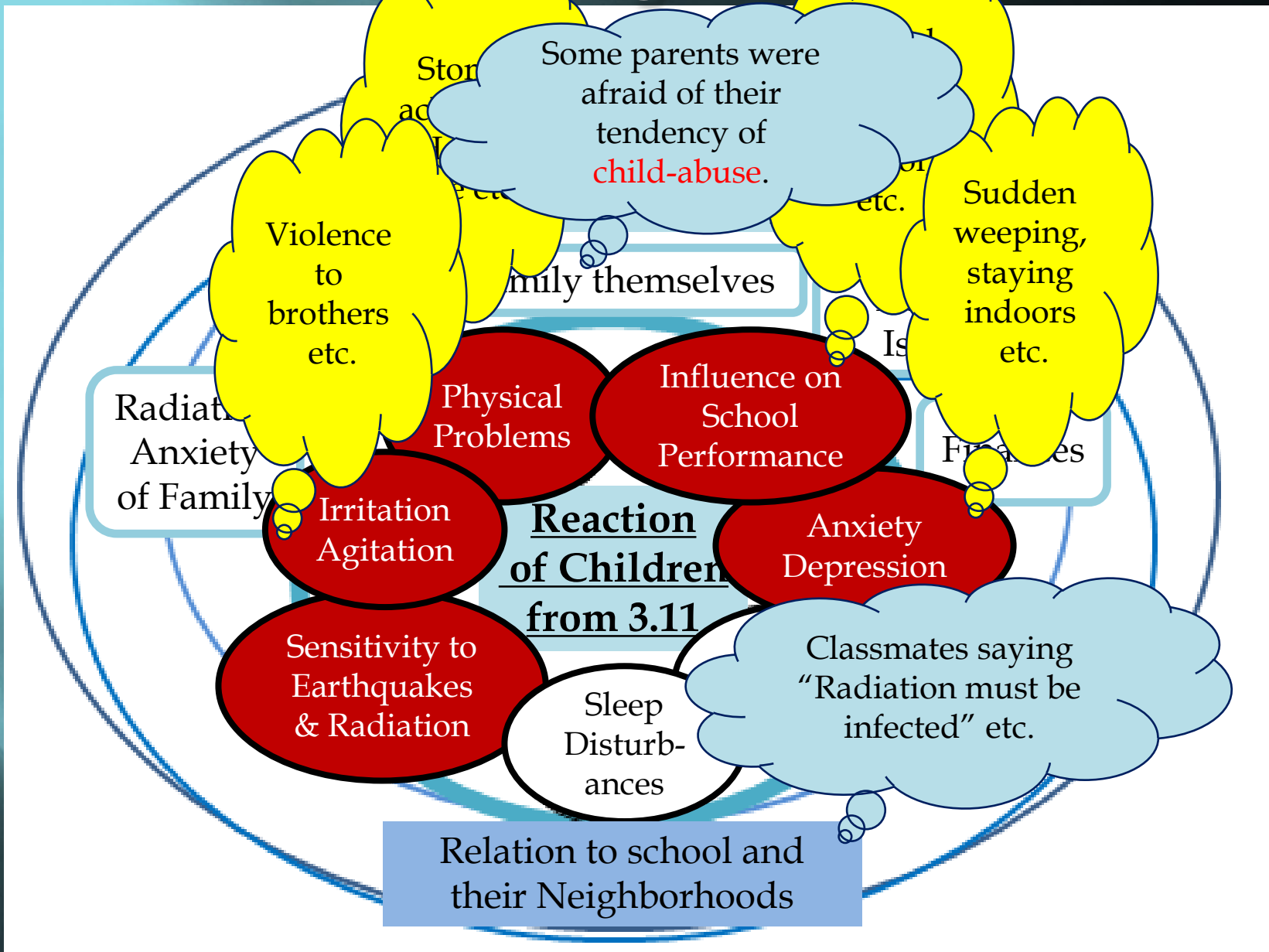
Result of those Supported under the General Use category

Result of Support	【Whole n=5,359】		【Fukushima n=4,039】		【Outside Fukushima n=1,320】	
	High Risk n=4,185	Higher than Reference Point n=1,174	High Risk n=3,143	Higher than Reference Point n=896	High Risk n=1,042	Higher than Reference Point n=278
Supported by Telephone						
Follow-up1	1,760 (42.1)	807 (68.7)	1,346 (42.8)	632 (70.5)	414 (39.7)	175 (62.9)
Follow-up2	943 (22.5)	180 (15.3)	593 (18.9)	124 (13.8)	350 (33.6)	56 (20.1)
Follow-up3	87 (2.1)	28 (2.4)	60 (1.9)	22 (2.5)	27 (2.6)	6 (2.2)
No support needed	24 (0.6)	8 (0.7)	16 (0.5)	6 (0.7)	8 (0.8)	2 (0.7)
Reference Letter by Medical Doctors	(less than 0.1)	0 (0.0)	(less than 0.1)	0 (0.0)	0 (0.0)	0 (0.0)
Sending List of Medical Doctors in Fukushima	117 (2.8)	11 (0.9)	108 (3.4)	9 (1.0)	9 (0.9)	2 (0.7)
Sending List of Medical Doctors outside of Fukushima	20 (0.5)	0 (0.0)	5 (0.2)	0 (0.0)	15 (1.4)	0 (0.0)
Supported by other departments (thyroid team etc.)	31 (0.7)	10 (0.9)	16 (0.5)	5 (0.6)	15 (1.4)	5 (1.8)
Supported by letters	1,202 (28.7)	130 (11.1)	998 (31.8)	98 (10.9)	204 (19.6)	32 (11.5)

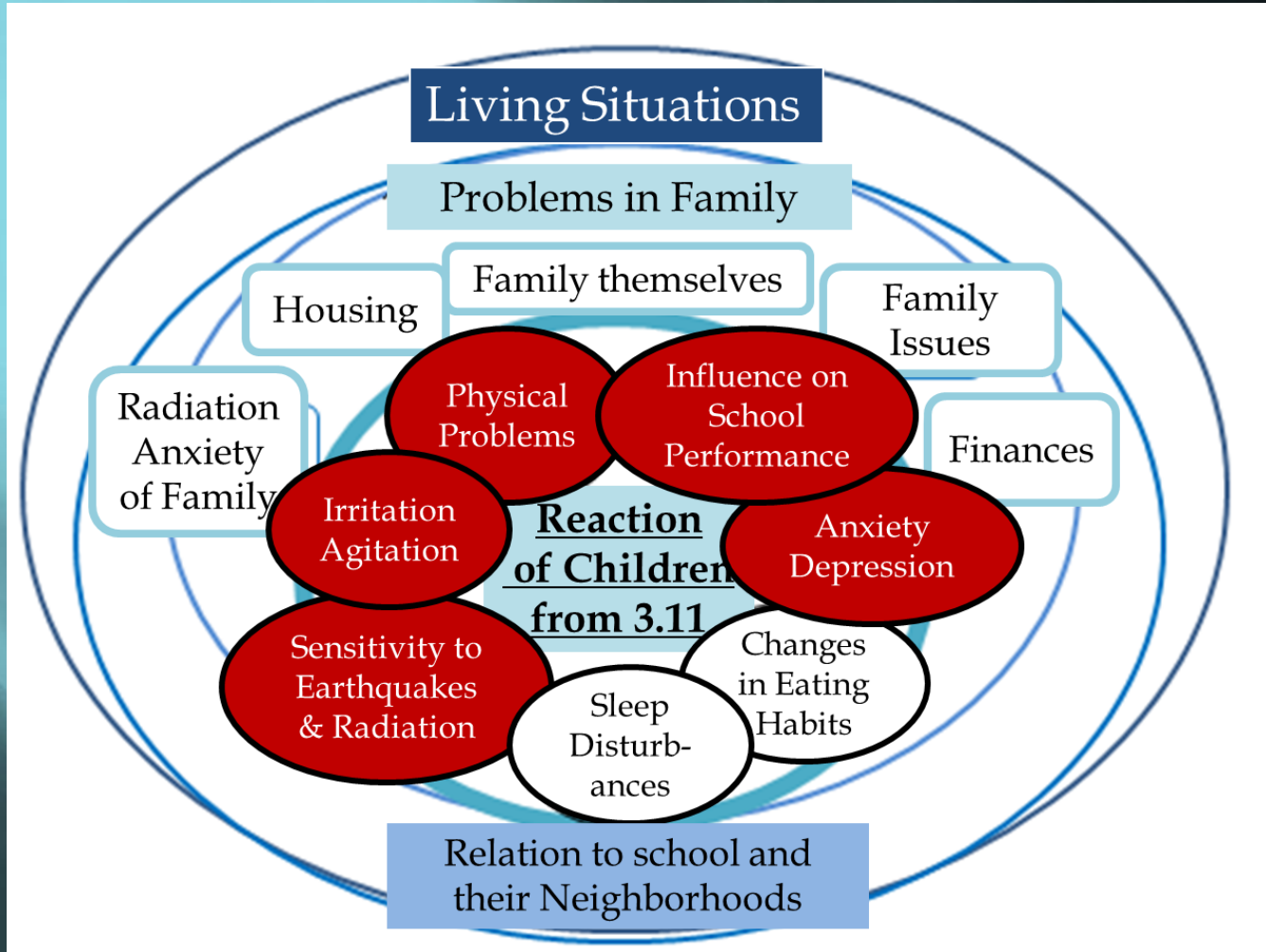
the value given within the table is: n(%)

Place of Address is recorded by Registered address on 11 March 2011 according to Certificate of Residence/Alien Registration

Problems of High Risk Children

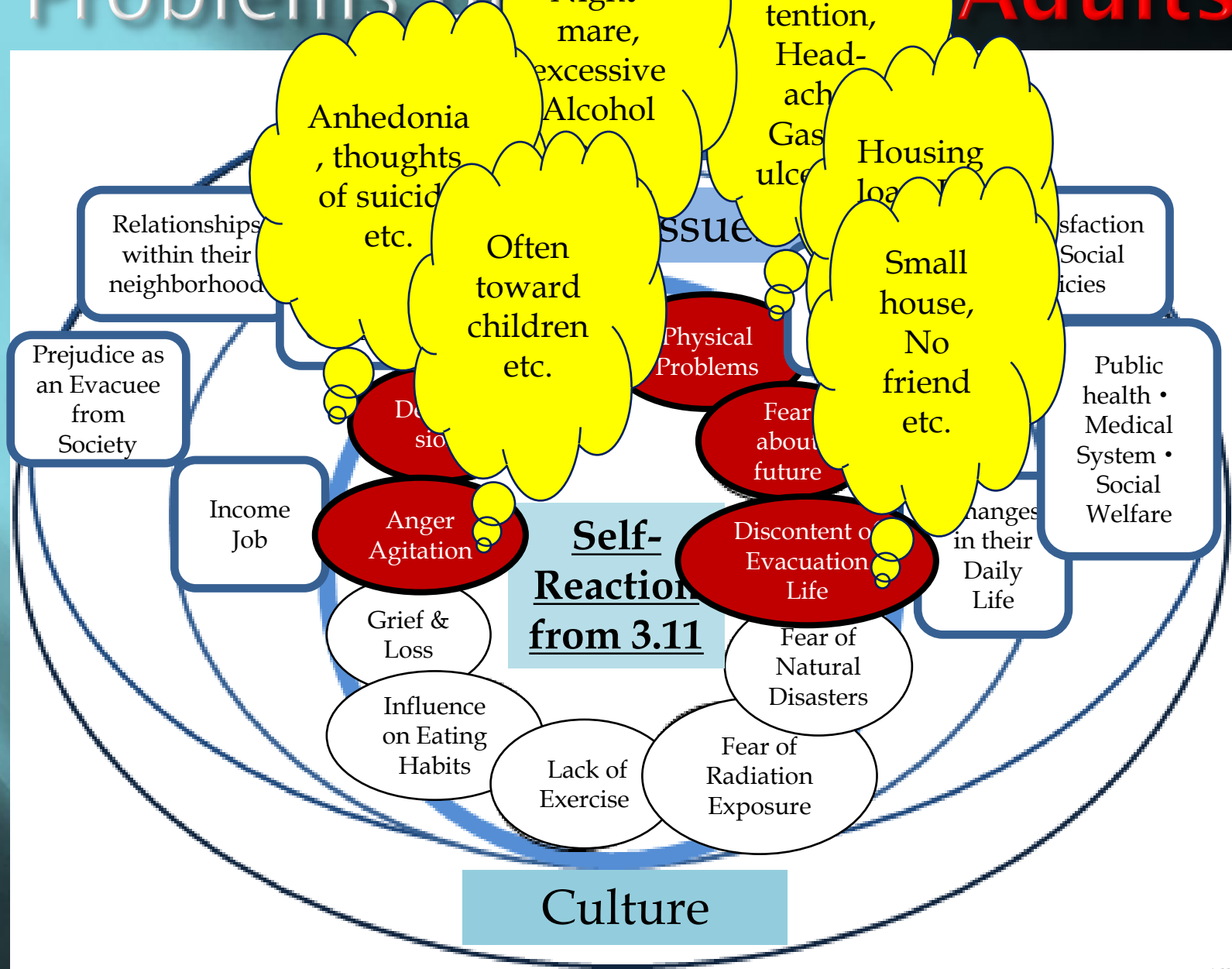


Summary for children's issues

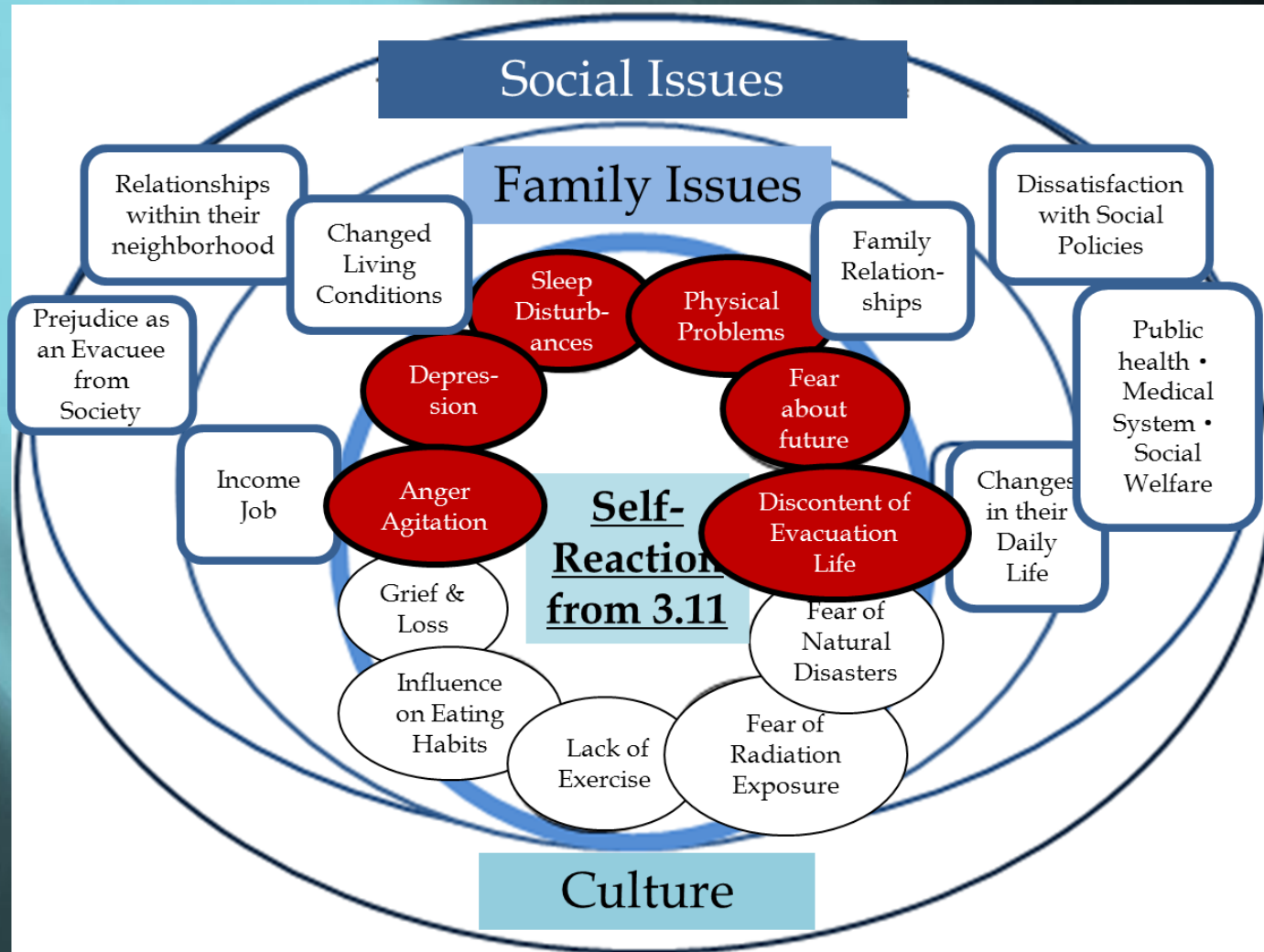


The most remarkable issues are **Physical symptoms, Influences at school performance, Irritation, Anxiety & Depression, and Sensitivity to Earthquakes & Radiation** taken from the category of "Reactions amongst Children due to 3.11 Disaster".

Problems of Adults



Summary for Adults' issues



The most remarkable issues are **Sleep issues, Physical problems, Depression, Fear of future, and Agitation, Discount of evacuation life**, taken from the category of "Reaction to Self from the 3.11 Disaster".

Lifestyle Survey only for adults

The 569
respondents
in the outside of
Fukushima
was supported by
telephone.

Status of Lifestyle Survey	
	Whole
Number of sent	180,604
Number of return ¹⁾	73,569 (40.7)
Follow up	3,351 (4.6)
Male	1,477 (44.1)
Female	1,874 (55.9)
Supported by telephone	2,283 (68.1)
Fukushima	1,714 (75.1)
Outside of	569 (24.9)
Support by Letter ²⁾	1,068 (31.9)
n (%)	
1)provisional value 2012.10.31 (Including duplicates)	
2)No description of the phone number or absence from home	

Case 1: Referral to a registered doctor

[Evacuees in Fukushima]

- ▣ The counselor provided a **referral form** and advised the respondent to go to a **registered psychiatrist**, since s/he was unable to ask for help and his/her mental health status was getting worse.
- ▣ The respondent went to the doctor who reported about his/her mental state to the Radiation Medical Science Center.

Case 2: Referral to the relevant consultation services

[Evacuees in Fukushima]

- ▣ The respondent was in ill mental health because of **various life problems**, but had no one to consult with.
- ▣ The counselor listened to him/her and provided him/her information on relevant **consultation services**.
- ▣ The respondent said, 'It was good that someone listened to me, because I had no one else to talk to other than my family members. I would like to consult with the counselor if I encounter another problem in future'.

Case 3: Referral to a relevant local government

[Evacuees in Fukushima]

- ▣ Living in temporary house with two other family members, the respondent stayed at home all the time and rarely communicated even with family members, according to his/her mother.
- ▣ As the mother requested **home-visit care**, the counselor referred the case to the **local government** of his/her former place of residence.

Case 4: Referral to the relevant consultation services

[Evacuees outside Fukushima]

- ▣ The counselor phoned the parents of a child who required support. The child could neither solve problems that emerged after the disaster nor had asked anyone for help.
- ▣ With the permission of the parents, the counselor contacted the **Mental Health and Welfare Center** in their current place of residence, and provided information on the **relevant consultation services**.

Case 5: Referral to a relevant local government

[Evacuees outside Fukushima]

- ▣ Living with his/her parents in a **rental house on a municipal budget**, a resident who suffered from **multiple physical problems** repeatedly complained that he/she had **no hope for the future**.
- ▣ S/he agreed that the counselor would share his/her information with the **public health nurse** of his/her former place of residence. The counselor requested **home-visit care from the local government**.

Thank you for your attention.

Telephone support for Lifestyle diseases

Number of sleep disorders is 46.3%, while that of smoking & drinking is 4.3%. But the number of those counseling is 61.2%.

Supports for various type of lifestyle diseases				n=2,283
	Not Meet Criteria	Meet Criteria	Changed for the better ¹⁾	Counseling ²⁾
Hypertension	1,344(58.9)	939(41.1)	637(67.8)	302(32.2)
Diabetes	2,038(89.3)	245(10.7)	157(64.1)	88(35.9)
Psychiatric disorder	1,650(72.3)	633(27.7)	557(88.0)	76(12.0)
subjective symptom	1,799(78.8)	484(21.2)	343(70.9)	141(29.1)
Sleep disorders	1,225(53.7)	1,058(46.3)	782(73.9)	276(26.1)
Smoking and drinking	2,185(95.7)	98(4.3)	38(38.8)	60(61.2)

n(%)

1) went to hospital or changed for the better

2) nurse counselinf or recommend doctors

The entrance of emergency room in FMU

Ambulance cars

Medias

Self-Defense Forces



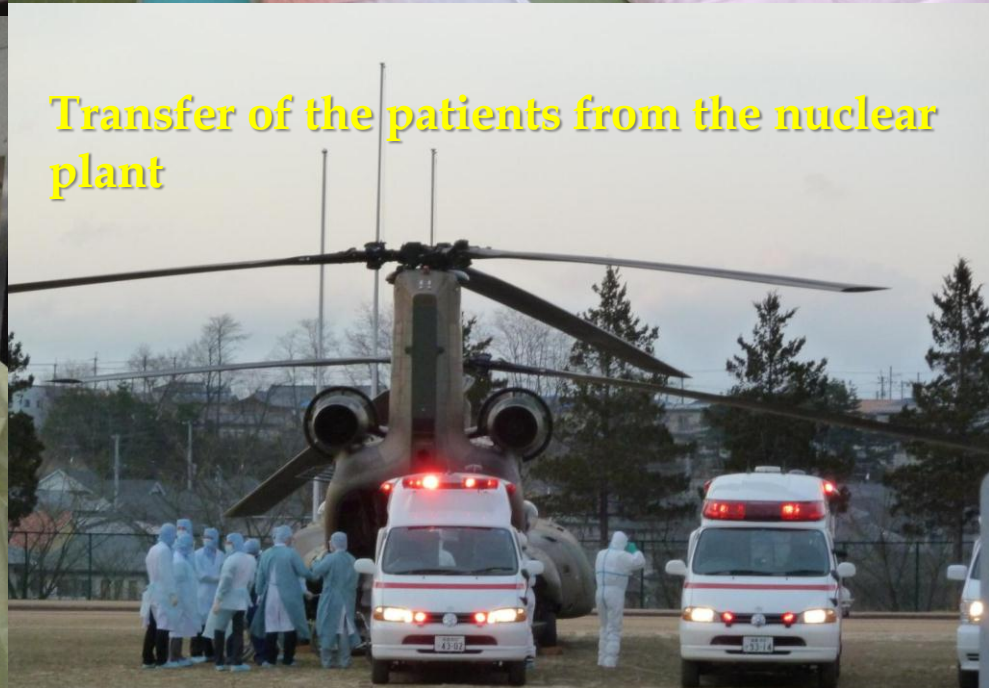
Nursing campus was used for taking care of the patients from the pacific coasts



Triage at the main entrance of FMU after checking the radiation level outside.



Transfer of the patients from the nuclear plant



Mental care team in FMU

There were 446 shelters and 36227 refugees in Fukushima as of March 22. There were **not enough mental-care staffs** to take care of them. Then, in organizing the mental-care team, we tried to collect as many as staffs and obtained very warm support not only from Japan but from overseas.

Task of a mental care team

1. Support of the **impaired** mental care system
2. Care for **newly occurred** mental problems
3. Mental Care for **staffs**

Lifestyle problems based on Age

Whole number
of current
support needed
for adults is
2,278.

The percentage
of male with age
of 60-69 y.o.
and 50-59 y.o,
is larger than
those with age
of 10-19 y.o.

Support for Lifestyle Problem (Area and Age)					
Age(year)	Whole 2,278 ¹⁾		Fukushima 1,712		Outside of Fukushima 566
Mean	52.8 ±15.7		54 ±15.8		50 ±15.1
10-19	28(	1.2)	25(	1.5)	3(0.5)
20-29	140(	6.1)	90(	5.3)	50(8.8)
30-39	357(	15.7)	246(	14.4)	111(19.6)
40-49	400(	17.6)	292(	17.1)	108(19.1)
50-59	504(	22.1)	389(	22.7)	115(20.3)
60-69	538(	23.6)	409(	23.9)	129(22.8)
70-79	214(	9.4)	176(	10.3)	38(6.7)
>80	97(	4.3)	85(	5.0)	12(2.1)
n (%) or mean±SD					
1)include missing values(n=5)					