Basic Survey (Radiation Dose Estimates)

Reported on 18 May 2015

1. Response Rates and Radiation Dose Estimates

1.1 Response Rates of Residents

The overall effective response rate to the Basic Survey (radiation dose estimates), which targeted the entire population of Fukushima Prefecture, was 27.1% (556,917 of 2,055,339) as of 31 March 2015. Thanks to instructions given at thyroid ultrasound examination venues for filling out the survey form, we continue to receive responses from participants. Response rate for the simplified questionnaire was 3.2% (65,452 of 2,055,339). (See Table 1)

Table 1 Response rates to the Basic Survey

As of 31 March 2015

Survey population		2,055,339	
Responses	Original questionnaire	491,465	23.9%
	Simplified questionnaire*	65,452	3.2%
	Total	556,917	27.1%

*Preliminary figures

Fractions have been rounded.

The following tables show the results of the original and simplified questionnaires combined.

1.2 Radiation Dose Estimates

It has been four years since the Great East Japan Earthquake and the Fukushima Daiichi nuclear disaster, and we continue to receive responses from participants. Doses have been estimated for 540,638 of 556,917 respondents (97.1%) as of 31 March 2015, and the results have been returned to 536,186 respondents.

(See Table 2)

Table 2 Response rates to the Basic Survey

As of 31 March 2015

Area(preceding and full-scale surveys)	Survey population a	Responses b	Response rate c=b/a	Completed dose estimates d	Proportion e=d/b	Returned results f	Proportion g=f/b
Kempoku	504,045	150,628	29.9%	147,598	98.0%	146,014	96.9%
Kenchu	557,259	134,016	24.0%	129,364	96.5%	128,616	96.0%
Kennan	152,229	33,863	22.2%	32,695	96.6%	32,350	95.5%
Aizu	267,205	55,953	20.9%	53,684	95.9%	53,247	95.2%
Minami-aizu	30,788	6,180	20.1%	5,861	94.8%	5,785	93.6%
Soso	195,590	89,063	45.5%	86,382	97.0%	86,211	96.8%
Iwaki	348,223	87,214	25.0%	85,054	97.5%	83,963	96.3%
Total	2,055,339	556,917	27.1%	540,638	97.1%	536,186	96.3%

Including Yamakiya of Kawamata, Namie and Iitate.

We have been estimating doses for non-residents who were visiting or staying in Fukushima Prefecture at the time of the accident. (See Table 3)

Table 3 Response rates to the Basic Survey (Visitors)

As of 31 March 2015

Number of requests a	Responses b	Response rate c=b/a	Completed dose estimates d	Proportion e=d/b	Returned results f	Proportion g=f/b
3,891	2,149	55.2%	1,915	89.1%	1,869	87.0%

2. Results of Radiation Dose Estimates

Table 4 shows the numbers of completed dose estimates (see Table 2) —excluding the data in the estimation period less than four months—within a range of values.

Radiation doses for a total of 462,061 residents have been estimated to date. The results for 453,065 respondents (excluding radiation workers) suggest that the doses for about 87% of the respondents in Kempoku area and about 92% in Kenchu area were <2 mSv. The doses for approximately 88% of the respondents in Kennan area and more than 99% of those in Aizu and Minami-aizu areas were <1 mSv. Doses for about 78% of respondents in the Soso area and more than 99% of respondents in Iwaki were also <1 mSv.

Table 4 Estimated external radiation doses (preceding and full-scale survey)

As of 31 March 2015

Effective Dose (mSv)	Total	Excluding radiation workers				By area (excluding radiation workers)													
						Kempoku *		Kenchu		Kennan		Aizu		Minami-aizu		Soso **		Iwaki	
<1	287,058	281,446	62.1%	93.8%		24,772	20.1%	56,272	51.6%	24,625	88.3%	43,872	99.3%	4,738	99.3%	55,233	77.6%	71,934	99.1%
1-2	146,008	143,718	31.7%			82,632	67.0%	44,516	40.8%	3,239	11.6%	282	0.6%	34	0.7%	12,391	17.4%	624	0.9%
2-3	25,364	25,003	5.5%	5.8%	99.8%	15,382	12.5%	7,904	7.2%	17	0.1%	21	0.0%	0	-	1,649	2.3%	30	0.0%
3-4	1,542	1,465	0.3%			463	0.4%	414	0.4%	0	-	1	0.0%	0	-	583	0.8%	4	0.0%
4-5	537	495	0.1%	0.2%		39	0.0%	5	0.0%	0	-	0	-	0	-	450	0.6%	1	0.0%
5-6	429	376	0.1%			18	0.0%	3	0.0%	0	-	0	-	0	-	354	0.5%	1	0.0%
6-7	266	228	0.1%	0.1%		10	0.0%	1	0.0%	0	-	1	0.0%	0	-	216	0.3%	0	-
7-8	151	114	0.0%		0.2%	1	0.0%	0	-	0	-	0	-	0	-	113	0.2%	0	-
8-9	113	73	0.0%	0.0%		1	0.0%	0	-	0	-	0	-	0	-	72	0.1%	0	-
9-10	69	39	0.0%			0	-	0	-	0	-	0	-	0	-	39	0.1%	0	-
10-11	67	34	0.0%	0.0%		0	-	0	-	0	-	0	-	0	-	34	0.0%	0	-
11-12	52	31	0.0%			1	0.0%	0	-	0	-	0	-	0	-	30	0.0%	0	-
12-13	36	13	0.0%	0.0%	0.0%	0	-	0	-	0	-	0	-	0	-	13	0.0%	0	-
13-14	34	12	0.0%			0	-	0	-	0	-	0	-	0	-	12	0.0%	0	-
14-15	27	6	0.0%	0.0%		0	-	0	-	0	-	0	-	0	-	6	0.0%	0	-
≥15	308	12	0.0%		0.0%	0	-	0	-	0	-	0	-	0	-	12	0.0%	0	-
Total	462,061	453,065	100.0%	100.0%	100.0%	123,319	100%	109,115	100%	27,881	100%	44,177	100%	4,772	100%	71,207	100%	72,594	100%
Max	66 mSv	25 mSv				11 mSv		6.3 mSv		2.6 mSv		6.0 mSv		1.9 mSv		25 mSv		5.9 mSv	
Mean value	0.9 mSv	0.8 mSv				1.4 mSv		1.0 mSv		0.6 mSv		0.2 mSv		0.1 mSv		0.8 mSv		0.3 mSv	

* Including Yamakiya of Kawamata.

** Including Namie and Iitate.

Percentages have been rounded and may not total to 100%.

Excluding those with estimation period less than four months.

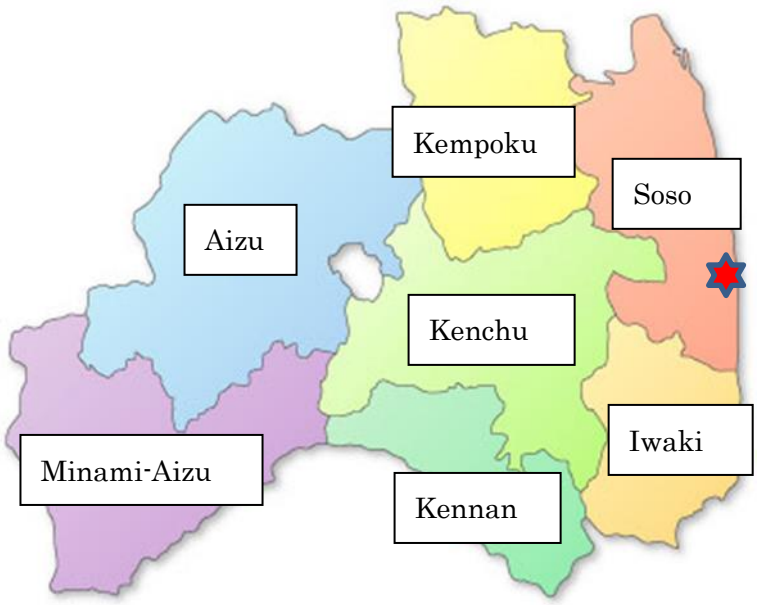
3. Evaluation of the results

The latest effective radiation dose estimates showed similar trends to those observed so far.

Since previous epidemiological studies[1] indicate no significant health effects at doses ≤100 mSv, we concluded that radiation doses estimated so far are unlikely to cause adverse effects on health, although this conclusion is based on external radiation doses estimated only for the first four months following the accident.

References

1) Sources and effects of ionizing radiation, United Nations Scientific Committee on the Effects of Atomic Radiation, UNSCEAR 2008 Report to the General Assembly, with scientific annexes.



4. Survey on the representativeness of dose distribution shown in the Basic Survey

In order to investigate whether people who have responded to the Basic Survey represent the whole population in regard to external dose estimates and dose distribution, we are preparing to start a survey.

4.1 Survey Population

We plan to use a two-stage sampling method based on nationwide and prefecture-wide polls to select a survey population from participants of the Basic Survey. Using the postal codes, we will divide municipalities into units based on the address as of 11 March 2011 and make sure there is an average of 500 participants of the Basic Survey in each unit. As a first step, we will randomly select geographic areas for polling.

In the next step, we will randomly select 50 samples from each area.

4.2 Methods

After selecting about 5,000 samples throughout Japan, we will review their responses and addresses to exclude those who already had responded to the Basic Survey, had died, or had moved outside Fukushima Prefecture. There would be about 3,000 samples to be collected for this door-to-door survey.

To meet the need for a large workforce, we will outsource and hire polltakers who will visit nonrespondents to support filling out the questionnaires. This enables us to ask them why they did not answer the questionnaire, and encourage their cooperation.

4.3 Results

We will estimate the doses for all respondents. By comparing the dose distribution of the respondents from the door-to-door survey and those who responded previously by mail, we will find out if what has already been reported is an accurate and unbiased assessment of dose distribution for the whole population of Fukushima Prefecture.

Reasons gathered from the respondents for not answering the questionnaire will be categorized and tallied to guide how the instructions for filling out the questionnaire and the Basic Survey might be improved.

Appendix 1

Response rates to the Basic Survey by district

Preceding and full-scale surveys

As of 31 March 2015

Area	District	Survey population a	Responses b	Response rate c=b/a	Completed dose estimates d	Proportion e=d/b	Returned results f	Proportion g=f/b
Kempoku	Fukushima	295,648	93,297	31.6%	91,715	98.3%	91,068	97.6%
	Nihonmatsu	60,856	16,500	27.1%	16,112	97.6%	15,746	95.4%
	Date	67,577	18,178	26.9%	17,706	97.4%	17,583	96.7%
	Motomiya	31,763	8,737	27.5%	8,571	98.1%	8,259	94.5%
	Kori	13,207	3,879	29.4%	3,770	97.2%	3,743	96.5%
	Kunimi	10,316	3,022	29.3%	2,930	97.0%	2,876	95.2%
	Kawamata	15,885	5,104	32.1%	4,928	96.6%	4,915	96.3%
	Otama	8,793	1,911	21.7%	1,866	97.6%	1,824	95.4%
	Subtotal	504,045	150,628	29.9%	147,598	98.0%	146,014	96.9%
Kenchu	Koriyama	339,735	85,822	25.3%	82,549	96.2%	82,032	95.6%
	Sukagawa	80,161	16,687	20.8%	16,237	97.3%	16,155	96.8%
	Tamura	41,724	10,033	24.0%	9,706	96.7%	9,676	96.4%
	Kagamiishi	13,109	2,854	21.8%	2,789	97.7%	2,778	97.3%
	Tenei	6,470	1,206	18.6%	1,164	96.5%	1,137	94.3%
	Ishikawa	17,488	4,167	23.8%	4,059	97.4%	4,040	97.0%
	Tamakawa	7,337	1,473	20.1%	1,420	96.4%	1,418	96.3%
	Hirata	7,056	1,631	23.1%	1,576	96.6%	1,569	96.2%
	Asakawa	7,163	1,478	20.6%	1,441	97.5%	1,437	97.2%
	Furudono	6,319	1,296	20.5%	1,261	97.3%	1,255	96.8%
	Miharu	18,994	4,825	25.4%	4,683	97.1%	4,656	96.5%
	Ono	11,703	2,544	21.7%	2,479	97.4%	2,463	96.8%
	Subtotal	557,259	134,016	24.1%	129,364	96.5%	128,616	96.0%
Kennan	Shirakawa	65,428	15,147	23.2%	14,603	96.4%	14,388	95.0%
	Nishigo	20,090	4,939	24.6%	4,708	95.3%	4,667	94.5%
	Izumizaki	6,931	1,356	19.6%	1,299	95.8%	1,272	93.8%
	Nakajima	5,306	964	18.2%	939	97.4%	939	97.4%
	Yabuki	18,343	4,021	21.9%	3,913	97.3%	3,901	97.0%
	Tanagura	15,384	2,941	19.1%	2,871	97.6%	2,851	96.9%
	Yamatsuri	6,489	1,435	22.1%	1,386	96.6%	1,377	96.0%
	Hanawa	10,062	2,261	22.5%	2,207	97.6%	2,190	96.9%
	Samegawa	4,196	799	19.0%	769	96.2%	765	95.7%
	Subtotal	152,229	33,863	22.2%	32,695	96.6%	32,350	95.5%
Aizu	Aizuwakamatsu	127,816	28,966	22.7%	27,955	96.5%	27,726	95.7%
	Kitakata	53,202	10,154	19.1%	9,704	95.6%	9,589	94.4%
	Kitashiobara	3,276	595	18.2%	571	96.0%	565	95.0%
	Nishiaizu	7,725	1,432	18.5%	1,330	92.9%	1,329	92.8%
	Bandai	3,888	752	19.3%	734	97.6%	732	97.3%
	Inawashiro	16,271	3,593	22.1%	3,456	96.2%	3,416	95.1%
	Aizubange	17,881	3,203	17.9%	3,056	95.4%	3,032	94.7%
	Yugawa	3,514	706	20.1%	672	95.2%	671	95.0%
	Yanaizu	4,077	710	17.4%	678	95.5%	674	94.9%
	Mishima	2,031	372	18.3%	338	90.9%	338	90.9%
	Kaneyama	2,544	619	24.3%	563	91.0%	561	90.6%
	Showa	1,569	344	21.9%	317	92.2%	317	92.2%
	Aizumisato	23,411	4,507	19.3%	4,310	95.6%	4,297	95.3%
	Subtotal	267,205	55,953	20.9%	53,684	95.9%	53,247	95.2%
Minami-aizu	Shimogo	6,650	1,219	18.3%	1,159	95.1%	1,148	94.2%
	Hinoemata	614	142	23.1%	133	93.7%	130	91.5%
	Tadami	5,030	1,087	21.6%	1,023	94.1%	1,014	93.3%
	Minami-aizu	18,494	3,732	20.2%	3,546	95.0%	3,493	93.6%
	Subtotal	30,788	6,180	20.1%	5,861	94.8%	5,785	93.6%
Soso	Soma	37,372	13,040	34.9%	12,477	95.7%	12,453	95.5%
	Minami-soma	70,013	29,844	42.6%	29,123	97.6%	29,052	97.3%
	Hirono	5,165	2,197	42.5%	2,121	96.5%	2,114	96.2%
	Naraha	7,963	4,137	52.0%	3,980	96.2%	3,974	96.1%
	Tomioka	15,751	8,566	54.4%	8,369	97.7%	8,353	97.5%
	Kawauchi	2,996	1,525	50.9%	1,476	96.8%	1,475	96.7%
	Okuma	11,474	6,016	52.4%	5,798	96.4%	5,793	96.3%
	Futaba	7,050	3,918	55.6%	3,820	97.5%	3,816	97.4%
	Namie	21,321	12,910	60.6%	12,603	97.6%	12,586	97.5%
	Katsurao	1,541	812	52.7%	756	93.1%	756	93.1%
	Shinchi	8,357	2,670	31.9%	2,554	95.7%	2,541	95.2%
	Iitate	6,587	3,428	52.0%	3,305	96.4%	3,298	96.2%
	Subtotal	195,590	89,063	45.5%	86,382	97.0%	86,211	96.8%
Iwaki	Iwaki	348,223	87,214	25.0%	85,054	97.5%	83,963	96.3%
Total		2,055,339	556,917	27.1%	540,638	97.1%	536,186	96.3%

Basic Survey, Fukushima Health Management Survey

Appendix 2

Estimated external radiation doses in the first four months (from 11 March through 11 July)

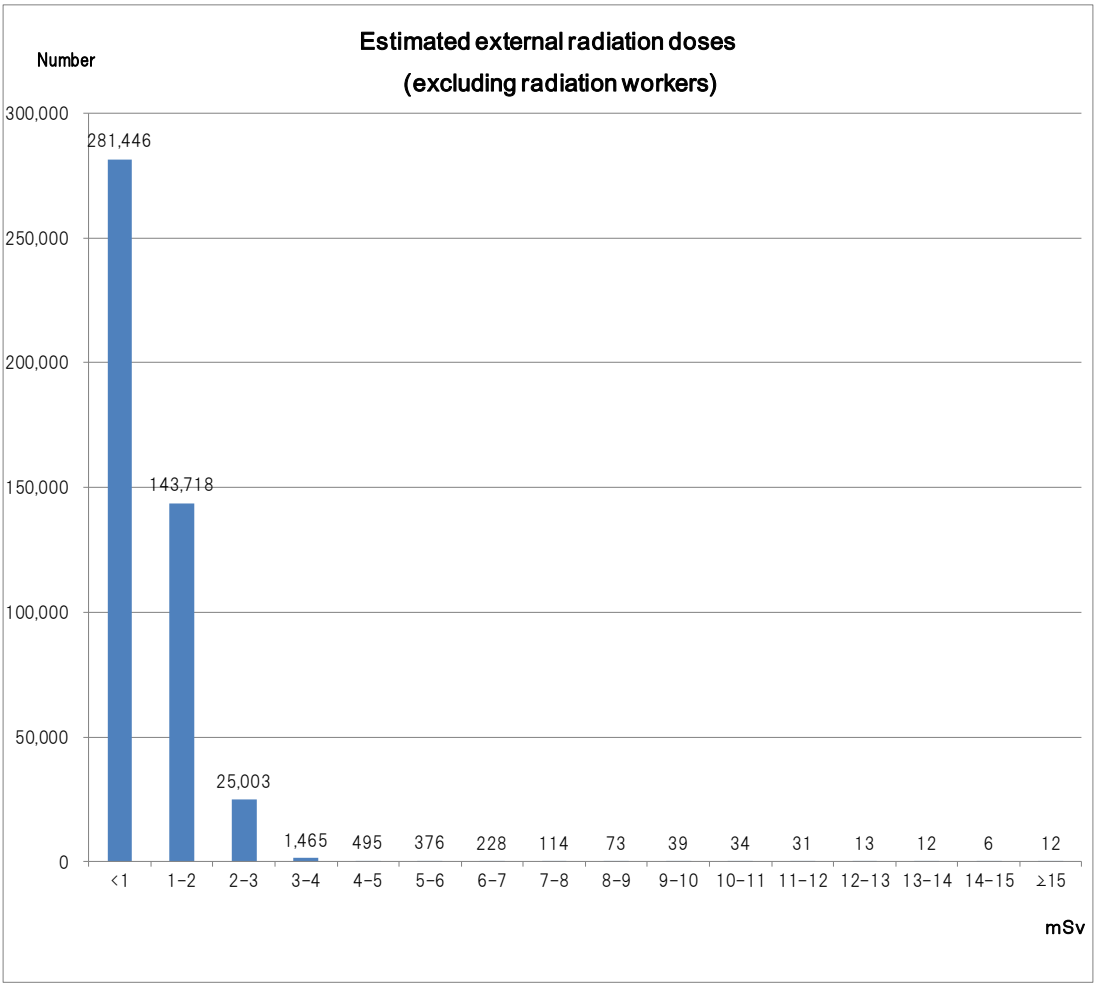
Preceding survey and full-scale survey

As of 31 March 2015

Estimated external radiation doses by region

Effective Dose (mSv)	Total	Excluding radiation workers	By region							Proportion (%) excluding radiation workers		
			Kempoku	Kenchu	Kennan	Aizu	Minami-aizu	Soso	Iwaki			
<1	287,058	281,446	24,772	56,272	24,625	43,872	4,738	55,233	71,934	62.1	93.8	99.8
1-2	146,008	143,718	82,632	44,516	3,239	282	34	12,391	624	31.7		
2-3	25,364	25,003	15,382	7,904	17	21	0	1,649	30	5.5	5.8	
3-4	1,542	1,465	463	414	0	1	0	583	4	0.3		
4-5	537	495	39	5	0	0	0	450	1	0.1	0.2	
5-6	429	376	18	3	0	0	0	354	1	0.1		0.2
6-7	266	228	10	1	0	1	0	216	0	0.1	0.1	
7-8	151	114	1	0	0	0	0	113	0	0.0		
8-9	113	73	1	0	0	0	0	72	0	0.0	0.0	
9-10	69	39	0	0	0	0	0	39	0	0.0		
10-11	67	34	0	0	0	0	0	34	0	0.0	0.0	0.0
11-12	52	31	1	0	0	0	0	30	0	0.0		
12-13	36	13	0	0	0	0	0	13	0	0.0	0.0	
13-14	34	12	0	0	0	0	0	12	0	0.0		
14-15	27	6	0	0	0	0	0	6	0	0.0	0.0	
≥15	308	12	0	0	0	0	0	12	0	0.0	0.0	0.0
Total	462,061	453,065	123,319	109,115	27,881	44,177	4,772	71,207	72,594	100.0	100.0	100.0
Max	66	25	11	6.3	2.6	6.0	1.9	25	5.9			
Mean value	0.9	0.8	1.4	1.0	0.6	0.2	0.1	0.8	0.3			

Percentages have been rounded and may not total to 100%.



Appendix 3

As of 31 March 2015

Estimated external radiation dose by age group (excluding radiation workers)

Effective Dose (mSv)	Age at the time of the disaster									Total
	0 - 9	10 - 19	20 - 29	30 - 39	40 - 49	50 - 59	60 - 69	70 - 79	80 -	
<1	46,922	43,251	20,663	33,181	27,932	32,105	35,261	25,132	16,999	281,446
1-2	22,444	21,190	9,824	17,732	16,329	18,241	19,035	12,036	6,887	143,718
2-3	6,272	4,160	1,106	2,283	2,191	2,895	3,321	1,945	830	25,003
3-4	248	157	80	153	148	229	222	161	67	1,465
4-5	19	45	36	40	76	91	77	72	39	495
5-6	13	14	27	33	43	83	73	63	27	376
6-7	4	5	12	21	25	45	51	44	21	228
7-8	3	6	7	8	13	34	22	14	7	114
8-9	2	4	3	8	7	15	14	10	10	73
9-10	0	1	1	2	4	12	11	5	3	39
10-11	1	1	1	2	5	11	4	6	3	34
11-12	0	0	1	3	0	6	8	11	2	31
12-13	0	0	0	0	1	6	4	1	1	13
13-14	0	0	1	1	1	4	3	2	0	12
14-15	0	0	0	0	0	3	3	0	0	6
≥15	0	0	0	0	2	2	5	1	2	12
Total	75,928	68,834	31,762	53,467	46,777	53,782	58,114	39,503	24,898	453,065

Estimated external radiation doses by sex in the first four months (excluding radiation workers)

Effective Dose (mSv)	By sex				Total	Proportion (%)
	Male	Proportion (%)	Female	Proportion (%)		
<1	125,956	60.6	155,490	63.4	281,446	62.1
1-2	66,709	32.1	77,009	31.4	143,718	31.7
2-3	13,587	6.5	11,416	4.7	25,003	5.5
3-4	933	0.4	532	0.2	1,465	0.3
4-5	277	0.1	218	0.1	495	0.1
5-6	194	0.1	182	0.1	376	0.1
6-7	128	0.1	100	0.0	228	0.1
7-8	67	0.0	47	0.0	114	0.0
8-9	43	0.0	30	0.0	73	0.0
9-10	23	0.0	16	0.0	39	0.0
10-11	21	0.0	13	0.0	34	0.0
11-12	17	0.0	14	0.0	31	0.0
12-13	6	0.0	7	0.0	13	0.0
13-14	8	0.0	4	0.0	12	0.0
14-15	3	0.0	3	0.0	6	0.0
≥15	9	0.0	3	0.0	12	0.0
Total	207,981	100.0	245,084	100.0	453,065	100.0

Percentages have been rounded and may not total to 100%.

Basic Survey, Fukushima Health Management Survey
Estimated external radiation doses (preceding and full-scale surveys)

Appendix 4

As of 31 March 2015

Estimated external radiation doses by region in the first four months (from 11 March through 11 July) excluding radiation workers

Area/region		Effective Doses (mSv)																Total
		<1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	≥15	
Kempoku	Fukushima	16,087	52,147	9,264	151	12	10	4	0	0	0	0	0	0	0	0	0	77,675
	Nihonmatsu	1,306	8,355	3,424	86	1	0	0	0	0	0	0	0	0	0	0	0	13,172
	Date	4,359	9,005	1,124	147	8	2	3	1	1	0	0	0	0	0	0	0	14,650
	Motomiya	732	5,195	1,180	22	1	0	0	0	0	0	0	0	0	0	0	0	7,130
	Kori	315	2,747	66	2	0	1	0	0	0	0	0	0	0	0	0	0	3,131
	Kunimi	959	1,434	12	0	0	0	0	0	0	0	0	0	0	0	0	0	2,405
	Kawamata	624	2,697	179	53	17	5	3	0	0	0	0	1	0	0	0	0	3,579
	Otama	390	1,052	133	2	0	0	0	0	0	0	0	0	0	0	0	0	1,577
Kempoku Subtotal		24,772	82,632	15,382	463	39	18	10	1	1	0	0	1	0	0	0	0	123,319
Kenchu	Koriyama	23,210	39,126	7,474	404	5	3	1	0	0	0	0	0	0	0	0	0	70,223
	Sukagawa	10,378	3,100	323	4	0	0	0	0	0	0	0	0	0	0	0	0	13,805
	Tamura	7,219	665	22	3	0	0	0	0	0	0	0	0	0	0	0	0	7,909
	Kagamiishi	2,303	73	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,376
	Tenei	375	561	55	1	0	0	0	0	0	0	0	0	0	0	0	0	992
	Ishikawa	3,125	38	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3,164
	Tamakawa	1,145	17	3	0	0	0	0	0	0	0	0	0	0	0	0	0	1,165
	Hirata	1,269	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,303
	Asakawa	1,180	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,195
	Furudono	1,046	14	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1,062
	Miharu	3,061	790	22	2	0	0	0	0	0	0	0	0	0	0	0	0	3,875
	Ono	1,961	83	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2,046
Kenchu Subtotal		56,272	44,516	7,904	414	5	3	1	0	0	0	0	0	0	0	0	0	109,115
Kennan	Shirakawa	11,371	1,164	9	0	0	0	0	0	0	0	0	0	0	0	0	0	12,544
	Nishigo	2,154	1,896	2	0	0	0	0	0	0	0	0	0	0	0	0	0	4,052
	Izumizaki	1,061	21	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1,083
	Nakajima	787	11	1	0	0	0	0	0	0	0	0	0	0	0	0	0	799
	Yabuki	3,279	78	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3,358
	Tanagura	2,435	28	3	0	0	0	0	0	0	0	0	0	0	0	0	0	2,466
	Yamatsuri	1,110	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,119
	Hanawa	1,800	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,822
	Samegawa	628	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	638
Kennan Subtotal		24,625	3,239	17	0	0	0	0	0	0	0	0	0	0	0	0	0	27,881
Aizu	Aizuwakamatsu	22,995	147	11	0	0	0	1	0	0	0	0	0	0	0	0	0	23,154
	Kitakata	7,988	50	1	1	0	0	0	0	0	0	0	0	0	0	0	0	8,040
	Kitashiobara	463	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	466
	Nishiaizu	993	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	995
	Bandai	619	9	1	0	0	0	0	0	0	0	0	0	0	0	0	0	629
	Inawashiro	2,786	28	3	0	0	0	0	0	0	0	0	0	0	0	0	0	2,817
	Aizubange	2,556	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,569
	Yugawa	572	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	576
	Yanaizu	535	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	539
	Mishima	245	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	245
	Kaneyama	395	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	398
	Showa	235	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	236
	Aizumisato	3,490	20	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3,513
Aizu Subtotal		43,872	282	21	1	0	0	1	0	0	0	0	0	0	0	0	0	44,177
Minami-aizu	Shimogo	930	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	935
	Hinoemata	103	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	103
	Tadami	818	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	822
	Minami-aizu	2,887	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,912
Minami-aizu Subtotal		4,738	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4,772
Soso	Soma	9,734	439	87	20	5	0	0	0	0	2	0	0	0	0	0	0	10,287
	Minami-soma	18,887	6,119	507	99	35	3	7	4	1	0	0	1	0	0	0	0	25,663
	Hirono	1,822	56	2	0	0	0	1	0	1	0	0	0	0	0	0	0	1,882
	Naraha	3,358	127	13	2	0	1	1	0	0	0	0	0	0	0	0	0	3,502
	Tomioka	5,796	1,098	98	18	3	2	0	3	2	0	0	1	0	0	0	0	7,021
	Kawauchi	958	345	16	1	0	1	1	1	0	0	0	0	0	0	0	0	1,323
	Okuma	3,337	1,266	112	17	6	4	4	3	0	2	2	1	0	4	0	1	4,759
	Futaba	2,656	464	75	18	6	4	3	6	2	1	0	2	0	0	0	1	3,238
	Namie	5,872	1,973	355	64	38	17	15	12	9	5	11	8	5	4	3	6	8,397
	Katsurao	495	161	24	4	0	1	0	0	0	0	0	0	0	0	0	0	685
	Shinchi	2,122	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,142
	Iitate	196	323	360	340	357	321	184	84	57	29	21	17	8	4	3	4	2,308
Soso Subtotal		55,233	12,391	1,649	583	450	354	216	113	72	39	34	30	13	12	6	12	71,207
Iwaki	Iwaki	71,934	624	30	4	1	1	0	0	0	0	0	0	0	0	0	0	72,594
Total		281,446	143,718	25,003	1,465	495	376	228	114	73	39	34	31	13	12	6	12	453,065
Proportion (%)		62.1	31.7	5.5	0.3	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
		93.8		5.8		0.2		0.1		0.0		0.0		0.0		0.0		100.0
		99.8					0.2						0.0				0.0	100.0
Visitors		1,360	269	18	2	0	0	0	0	0	0	0	0	0	0	0	0	1,649
Total+Visitors		282,806	143,987	25,021	1,467	495	376	228	114	73	39	34	31	13	12	6	12	454,714

Percentages have been rounded and may not total to 100%.

Interim Report of Thyroid Ultrasound Examination (Preliminary Baseline Screening)

Reported on 18 May 2015

1. Summary

1.1 Purpose

One of the health problems caused by the Chernobyl nuclear power plant accident was thyroid cancer in childhood caused by internal exposure to radioactive iodine.

In response to the Tokyo Electric Power Company's (TEPCO's) Fukushima Daiichi nuclear accident, Fukushima Prefecture started a Thyroid Ultrasound Examination program to monitor the long-term health of children.

Preliminary Baseline Screening (Initial Screening) aims to check the baseline condition of participants' thyroid glands.

1.2 Group

Residents of Fukushima Prefecture aged 0-18 years (born between 2 April 1992 and 1 April 2011) as of 11 March 2011.

1.3 Implementation Period

The Preliminary Baseline Screening (Initial Screening) started from 9 October 2011 and was planned to end on 31 March 2014, but we continued these examinations until notice of the Full-scale Thyroid Screening program was sent to residents. The data tabulation period lasted to 31 March 2015.

We continue to conduct confirmatory testing on the basis of the primary test results.

1.4 Responsible Organizations

Fukushima Prefecture commissioned Fukushima Medical University to conduct the survey in cooperation with institutions inside and outside Fukushima Prefecture.

We started the primary examination from 1 November 2012 outside Fukushima, and 97 institutions have agreed to cooperate as of 31 March 2015.

The confirmatory examination has been conducted in Koriyama and Iwaki in Fukushima Prefecture from July 2013, Aizuwakamatsu from August 2014, and several institutions outside Fukushima Prefecture from November 2013. As of 31 March 2015, a total of 27 institutions have conducted confirmatory examinations.

1.5 Method

1.5-1 Primary Examination

We use ultrasonography for examination of the thyroid gland.

Assessments were made by specialists on the basis of the following criteria.

-Diagnostic Criteria: A

Those with A1 and A2 test results are recommended for watchful waiting until they undergo the next screening

starting from April 2014.

(A1) No nodules / cysts

(A2) Nodules ≤5.0 mm or cysts ≤20.0 mm

-Diagnostic Criteria: B

Those with B test result are advised to take the Confirmatory Examination.

(B) Nodules ≥5.1 mm or cysts ≥20.1 mm

Some A2 test results may be re-classified as B results when clinically indicated.

-Diagnostic Criteria: C

Those with C test result are advised to take the Confirmatory Examination.

(C) Immediate need for confirmatory examination.

1.5-2 Confirmatory Examination

We conduct ultrasonography, blood test, urine test, and fine-needle aspiration cytology (FNAC) if needed for those with B or C test results. Priority is given to those in urgent clinical need.

1.5-3 Flow chart

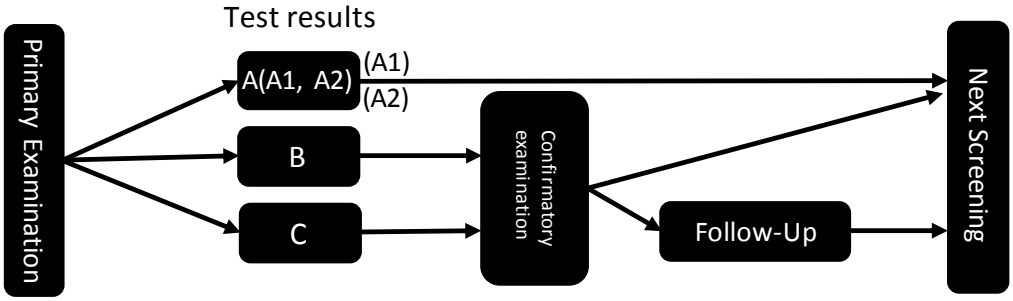


Fig.1 Flow chart

1.6 Target Municipalities

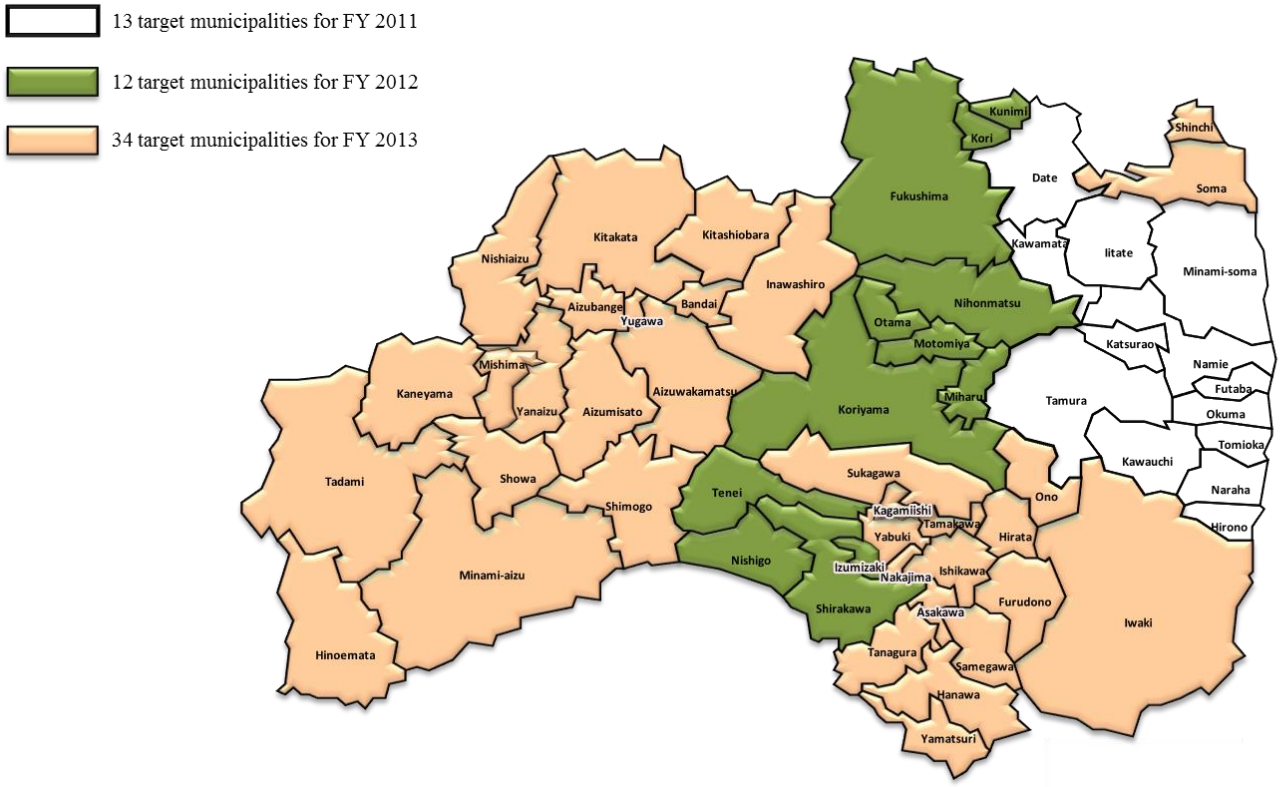


Fig.2 Target Municipalities

2. Results (As of 31 March 2015)

2.1 Primary Examination

The participation rate as of 31 March 2015 is 81.5% (299,543 of 367,685). (See Appendix 2 and 3)

The results have been returned to 299,233 (99.9%) of the participants. (See Appendix 4 and 5)

Those with A1 or A2 test results were 296,954 (99.2%), B were 2,278 (0.8%), and C was 1.

Table 1. Screening test coverage as of 31 March 2015

	Target Population	Participants		Test results				
		Proportion (%)	Screened outside Fukushima	Proportion (%)	Class			
					A		Requiring confirmatory test	
	a	b (b/a)		c (c/b)	A1 d (d/c)	A2 e (e/c)	B f (f/c)	C g (g/c)
FY 2011	47,768	41,810 (87.5)	2,025	41,810 (100.0)	26,373 (63.1)	15,216 (36.4)	221 (0.5)	0 (0.0)
FY 2012	161,129	139,338 (86.5)	4,266	139,338 (100.0)	76,196 (54.7)	62,154 (44.6)	987 (0.7)	1 (0.0)
FY 2013	158,788	118,395 (74.6)	3,188	118,085 (99.7)	51,449 (43.6)	65,566 (55.5)	1,070 (0.9)	0 (0.0)
Total	367,685	299,543 (81.5)	9,479	299,233 (99.9)	154,018 (51.5)	142,936 (47.8)	2,278 (0.8)	1 (0.0)

Table 2. Number and proportion of children with nodules/cysts as of 31 March 2015

	Number of confirmed screening results	Number and proportions of children with nodules/cysts			
		Nodules		Cysts	
	a	≥5.1mm b (b/a)	≤5.0mm c (c/a)	≥20.1mm d (d/a)	≤20.0mm e (e/a)
FY 2011	41,810	219 (0.5)	232 (0.6)	1 (0.0)	15,140 (36.2)
FY 2012	139,338	973 (0.7)	730 (0.5)	9 (0.0)	62,267 (44.7)
FY 2013	118,085	1,068 (0.9)	746 (0.6)	2 (0.0)	65,849 (55.8)
Total	299,233	2,260 (0.8)	1,708 (0.6)	12 (0.0)	143,256 (47.9)

Fractions have been rounded and may not total to 100%.

Because some duplicate records were found, numbers may vary slightly from previous reports.

2.2 Confirmatory Examination

2.2-1 Progress Report

The number of participants with B or C test results recommended for further testing was 2,279, of whom 2,096 (92.0%) underwent confirmatory testing. Among them, 2,034 (97.0%) have completed the tests (Appendix 6).

Of 2,034 children, 689 (33.9%), specifically 119 with A1 and 570 with A2 results (Table 3), were advised to take their next regularly scheduled examination (Full-scale thyroid screening program).

Of 1,345 (66.1%) advised to have follow-up provided by health insurance after 6 to 12 months, so far 529 (39.3%) underwent FNAC.

Table 3. Confirmatory testing coverage and results as of 31 March 2015

	Number of children requiring confirmatory test	Participants	Confirmatory test coverage (%)	Confirmed test results			
		Proportion (%)		Next screening advised		Follow-up advised	
				A1	A2		Cytology
	a	b (b/a)	c (c/b)	d (d/c)	e (e/c)	f (f/c)	g (g/f)
FY 2011	221	199 (90.0)	197 (99.0)	12 (6.1)	44 (22.3)	141 (71.6)	91 (64.5)
FY 2012	988	920 (93.1)	901 (97.9)	54 (6.0)	246 (27.3)	601 (66.7)	263 (43.8)
FY 2013	1,070	977 (91.3)	936 (95.8)	53 (5.7)	280 (29.9)	603 (64.4)	175 (29.0)
Total	2,279	2,096 (92.0)	2,034 (97.0)	119 (5.9)	570 (28.0)	1,345 (66.1)	529 (39.3)

Those confirmed within the range of A1 and A2 (including those with other thyroid conditions) were advised to take their next regularly scheduled examination.

Those who require 6- or 12-month follow-up provided by health insurance and those beyond the specified level of A2 were categorized as “Follow-up advised.”

2.2-2 Results of Fine Needle Aspiration Biopsy and Cytology (FNAC)

Target municipalities in FY 2011

Suspicious or malignant	15*
Male to female ratio	5:10
Mean age (SD, min-max)	17.3 (2.0, 13-20) 15.7 (1.9, 11-18) at the time of the disaster
Mean tumor size	14.1 mm (6.6 mm, 6.0-33.0 mm)

Target municipalities in FY 2012

Suspicious or malignant	56*
Male to female ratio	21:35
Mean age (SD, min-max)	17.2 (2.7, 8-21) 14.9 (2.6, 6-18) at the time of the disaster
Mean tumor size	14.5 mm (7.8 mm, 5.2-40.5 mm)

Target municipalities in FY 2013

Suspicious or malignant	41*
Male to female ratio	12: 29
Mean age (SD, min-max)	17. 3 (3.0, 11-22) 14.4 (2.9, 8-18) at the time of the disaster
Mean tumor size	14.0 mm (8.4 mm, 5.1-45.0 mm)

Total for cases FY 2011 – FY 2013

Suspicious or malignant	112*
Male to female ratio	38:74
Mean age(SD, min-max)	17.2 (2.7, 8-22) 14.8 (2.6, 6-18) at the time of the disaster
Mean tumor size	14.2 mm (7.8 mm, 5.1-45.0 mm)

* See Appendix 7 for details.

2.2-3 Suspicious or malignant cases on FNAC by age and sex

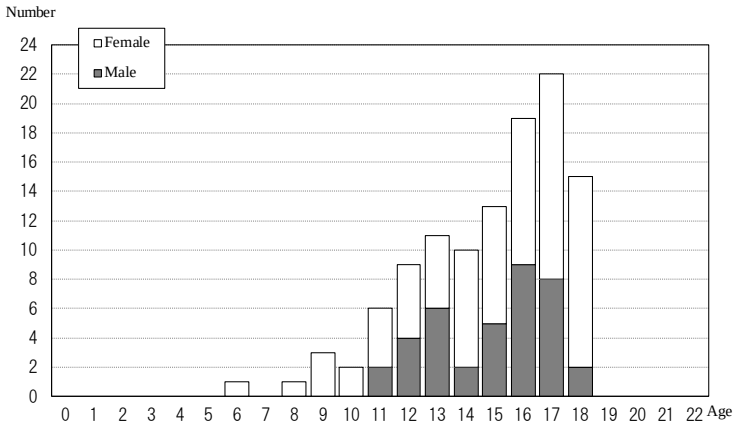


Fig.3 Age as of 11 March 2011

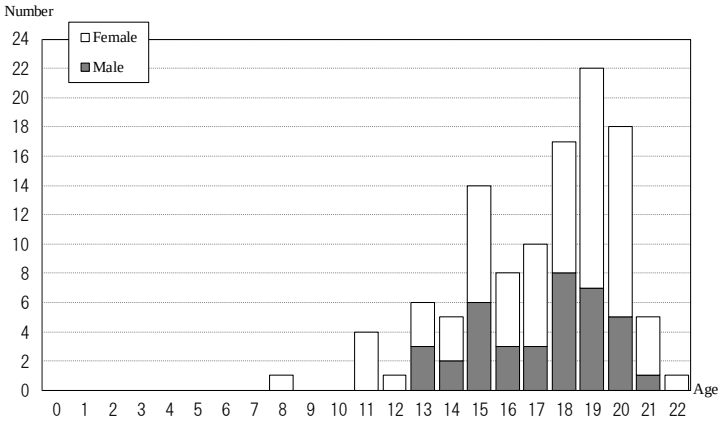


Fig. 4 Age as the date of confirmatory examination

2.2-4 Suspicious or malignant cases on FNAC by estimated radiation dose

Sixty-three (56.3%) of the 112 cases participated in the Basic Survey (radiation dose estimates) and 60 of them, including 5 with less than four months' data, have received the results. Among those, 42 (70.0%) had estimated radiation exposure dose below 1 mSv, and the highest effective dose was 2.2 mSv.

Table 5. Number of suspicious or malignant cases by age and sex As of 31 March 2015

Effective dose (mSv)	Age at the time of disaster									
	0-5		6-10		11-15		16-18		Total	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
<1	0	0	0	5(1)	6(1)	8	7(1)	16(2)	13(2)	29(3)
1-1.9	0	0	0	0	3	9	2	3	5	12
2-4.9	0	0	0	0	1	0	0	0	1	0
5-9.9	0	0	0	0	0	0	0	0	0	0
10-19.9	0	0	0	0	0	0	0	0	0	0
≥20	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	5(1)	10(1)	17	9(1)	19(2)	19(2)	41(3)

Numbers inside the brackets are estimates for participants with less than four months' data.

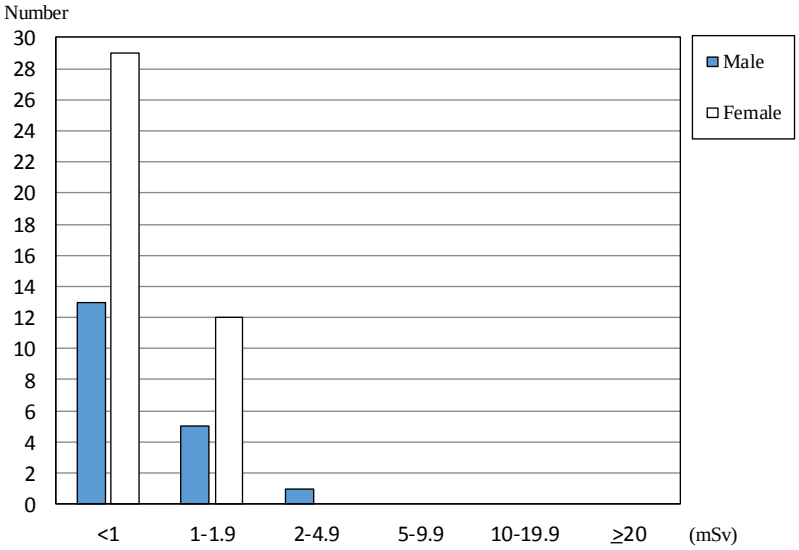


Fig. 5 Effective dose of the respondents

2.2-5 Blood and urinary iodine test results as of 31 March 2015

Table 6. Blood test results Mean±SD (Abnormality rate)

	FT4 1) (ng/dL)	FT3 2) (pg/mL)	TSH 3) (μIU/mL)	Tg 4) (ng/mL)	TgAb 5) (IU/mL)	TPOAb 6) (IU/mL)
Reference Range	0.95-1.74	2.13-4.07 7)	0.340-3.880	≤32.7	<28.0	<16.0
112 suspicious or malignant	1.2 ± 0.2 (6.3%)	3.4 ± 0.4 (5.4%)	1.3 ± 0.7 (5.4%)	41.3 ± 82.5 (36.6%)	― (27.7%)	― (16.1%)
Other 1,920	1.3 ± 0.3 (7.3%)	3.6 ± 0.9 (6.3%)	1.8 ± 12.2 (8.4%)	33.6 ± 181.5 (17.9%)	― (13.2%)	― (9.7%)

Table 7. Urinary iodine (μg/day)

	Minimum	25th percentile	Median	75th percentile	Maximum
112 suspicious or malignant	42	134	230	378	6,020
Other 1,917	24	120	195	368	35,700

1) FT4: Free Thyroxine; higher among patients with thyrotoxicosis (representative disease: Graves' disease) and lower with hypothyroidism (representative disease: Hashimoto's thyroiditis).

2) FT3: Free Triiodothyronine; higher among patients with thyrotoxicosis (representative disease: Graves' disease) and lower with hypothyroidism (representative disease: Hashimoto's thyroiditis).

3) TSH: Thyroid Stimulating Hormone; higher among patients with Hashimoto's disease and lower with Graves' disease.

4) Tg: Thyroglobulin; higher when thyroid tissue is destroyed or when thyroid cancer produces thyroglobulin.

5) TgAb: Anti-Thyroglobulin Antibody; higher among patients with Hashimoto's disease and Graves' disease.

6) TPOAb: Anti-Thyroid Peroxidase Antibody; higher among patients with Hashimoto's disease or Graves' disease.

7) Reference range differs according to age.

2.2-6 Confirmatory test results by municipality as of 31 March 2015

The proportion of suspicious or malignant diagnoses was 0.03% in FY 2011 target municipalities (13 municipalities in the nationally designated evacuation zones), 0.04% in FY 2012 target municipalities (12 towns of the Kenchu area), and 0.03% in FY 2013 target municipalities (34 towns of the Iwaki, Kennan, and Aizu areas).

Table 8.
Confirmatory test results in FY 2011
(13 municipalities in the nationally designated evacuation zones)

	Number of children screened	Number who required confirmatory test	Proportion who required confirmatory test (%)	Number who underwent confirmatory test	Suspicious or malignant cases[1]	Proportion of suspicious or malignant cases (%)
Kawamata	2,221	8	0.4	8	2	0.09
Namie	3,249	26	0.8	24	2	0.06
Iitate	943	6	0.6	6	0	0.00
Minami-soma	10,789	52	0.5	48	2	0.02
Date	10,605	50	0.5	45	2	0.02
Tamura	6,325	32	0.5	26	3	0.05
Hirono	838	5	0.6	4	0	0.00
Naraha	1,153	7	0.6	6	0	0.00
Tomioka	2,302	13	0.6	12	1	0.04
Kawauchi	280	4	1.4	4	1	0.36
Okuma	1,973	14	0.7	13	1	0.05
Futaba	949	3	0.3	2	0	0.00
Katsurao	183	1	0.5	1	0	0.00
Subtotal	41,810	221	0.5	199	14	0.03

1) Excluding one suspected case found benign by aspiration biopsy cytology.

Confirmatory test results by municipality in FY 2012

	Number of children screened	Number who required confirmatory test	Proportion who required confirmatory test (%)	Number who underwent confirmatory test	Suspicious or malignant cases	Proportion of suspicious or malignant cases (%)
Fukushima	47,307	283	0.6	272	12	0.03
Nihonmatsu	8,857	57	0.6	54	5	0.06
Motomiya	5,234	29	0.6	29	3	0.06
Otama	1,373	7	0.5	7	2	0.15
Koriyama	54,063	458	0.8	415	25	0.05
Kori	1,874	14	0.7	13	0	0.00
Kunimi	1,437	15	1.0	13	0	0.00
Tenei	878	7	0.8	6	0	0.00
Shirakawa	10,810	61	0.6	59	6	0.06
Nishigo	3,618	30	0.8	26	1	0.03
Izumizaki	1,157	5	0.4	5	1	0.09
Miharu	2,730	22	0.8	21	1	0.04
Subtotal	139,338	988	0.7	920	56	0.04

Confirmatory test results by municipality in FY 2013

	Number of children screened	Number who required confirmatory test	Proportion who required confirmatory test (%)	Number who underwent confirmatory test	Suspicious or malignant cases	Proportion of suspicious or malignant cases (%)
Iwaki*	49,405	452	0.9	418	23	0.05
Sukagawa	12,079	105	0.9	100	4	0.03
Soma	5,205	46	0.9	42	0	0.00
Kagamiishi	2,030	11	0.5	8	0	0.00
Shinchi	1,149	7	0.6	7	0	0.00
Nakajima	832	2	0.2	2	0	0.00
Yabuki	2,567	20	0.8	14	0	0.00
Ishikawa	2,162	12	0.6	11	1	0.05
Yamatsuri	794	3	0.4	2	0	0.00
Asakawa	1,093	12	1.1	11	0	0.00
Hirata	873	10	1.1	9	1	0.11
Tanagura	2,322	22	0.9	22	1	0.04
Hanawa	1,255	9	0.7	7	0	0.00
Samegawa	522	4	0.8	1	0	0.00
Ono	1,449	15	1.0	13	0	0.00
Tamakawa	1,015	11	1.1	9	0	0.00
Furudono	822	6	0.7	6	0	0.00
Hinoemata	61	0	0.0	0	0	0.00
Minami-aizu	1,822	16	0.9	15	0	0.00
Kaneyama	141	0	0.0	0	0	0.00
Showa	102	0	0.0	0	0	0.00
Mishima	129	1	0.8	1	0	0.00
Shimogo	695	10	1.4	10	1	0.14
Kitakata	5,749	46	0.8	40	0	0.00
Nishiaizu	641	5	0.8	4	0	0.00
Tadami	495	7	1.4	7	0	0.00
Inawashiro	1,912	13	0.7	13	1	0.05
Bandai	414	4	1.0	3	0	0.00
Kitashiobara	388	1	0.3	1	0	0.00
Aizumisato	2,554	26	1.0	24	0	0.00
Aizubange	2,088	25	1.2	23	1	0.05
Yanaizu	376	2	0.5	2	0	0.00
Aizuwakamatsu	14,745	160	1.1	145	7	0.05
Yugawa	509	7	1.4	7	1	0.20
Subtotal	118,395	1,070	0.9	977	41	0.03

Total	299,543	2,279	0.8	2,096	111	0.04

* Including districts of FY 2012

3. Primary and confirmatory test results by municipality (Interim report)

In order to compare the results by municipality, we divided the area into three regions, Hamadori, Nakadori, and Aizu. Hamadori and Nakadori are divided into 13 municipalities in the nationally designated evacuation zones and otherwise.

Below is an interim report since the results of the Confirmatory Examination in Aizu area are not fully available yet.

Table 9. Proportion of B or C test results, and suspicious or malignant (Interim report) As of 31 March 2015

			13 municipalities[14]	Nakadori[15]	Hamadori[16]	Aizu[17]	Total
Participants			47,768	199,451	70,539	49,927	367,685
Number of participants of Primary Examination	A[10]		41,810	169,116	55,516	32,791	299,233
Mean age (SD) Total			10.4 (5.3)	10.7 (5.1)	11.2 (5.0)	11.1 (4.5)	-
Mean age (SD) Female			10.4 (5.3)	10.8 (5.2)	11.3 (5.1)	11.3 (4.6)	-
Mean age (SD) Male			10.3 (5.2)	10.6 (5.1)	11.0 (4.9)	10.9 (4.5)	-
Female (%)		%	49.6	49.3	49.9	49.7	49.5
B or C test results	B		221	1,230	505	323	2,279
Proportion of B or C test results	(B/A)	%	0.53	0.73	0.91	0.99	0.76
Number of participants of Confirmatory Examination	C[11]		197	1,106	448	283	2,034
Proportion of participants	(C/B)	%	89.1	89.9	88.7	87.6	89.2
Participants of FNAC	D[12]		94	296	97	48	535
Proportion of participants of Confirmatory Examination	(D/C)	%	47.7	26.8	21.7	17.0	26.3
Proportion of participants of Primary Examination	(D/A)	%	0.22	0.18	0.17	0.15	0.18
Number of suspicious or malignant	E[13]		14	63	23	11	111
Proportion	(E/D)	%	14.9	21.3	23.7	22.9	20.7
Proportion per 100,000	(E/A)		33.5	37.3	41.4	33.5	37.1
		%	(0.033)	(0.037)	(0.041)	(0.034)	(0.037)

10) Excluding duplicates and unconfirmed results.
11) Excluding number of unconfirmed test results.
12) Number of those who underwent FNAC including A1 and A2 test results among participants of Confirmatory Examination.
13) Excluding one suspected case found benign by aspiration biopsy cytology.
14) Tamura, Minami-soma, Date, Kawamata, Hirono, Naraha, Tomioka, Kawauchi, Okuma, Futaba, Namie, Katsurao, Iitate
15) Fukushima, Koriyama, Shirakawa, Sukagawa, Nihonmatsu, Motomiya, Kori, Kunimi, Otama, Kagamiishi, Tenei, Nishigo, Izumizaki, Nakajima, Yabuki, Tanagura, Yamatsuri, Hanawa, Samegawa, Ishikawa, Tamakawa, Hirata, Asakawa, Furudono, Miharu, Ono
16) Iwaki, Soma, Shinchi
17) Aizuwakamatsu, Kitakata, Shimogo, Hinoemata, Tadami, Minami-aizu, Kitashiobara, Nishiaizu, Bandai, Inawashiro, Aizubange, Yugawa, Yanaizu, Mishima, Kaneyama, Showa, Aizumisato

Summary

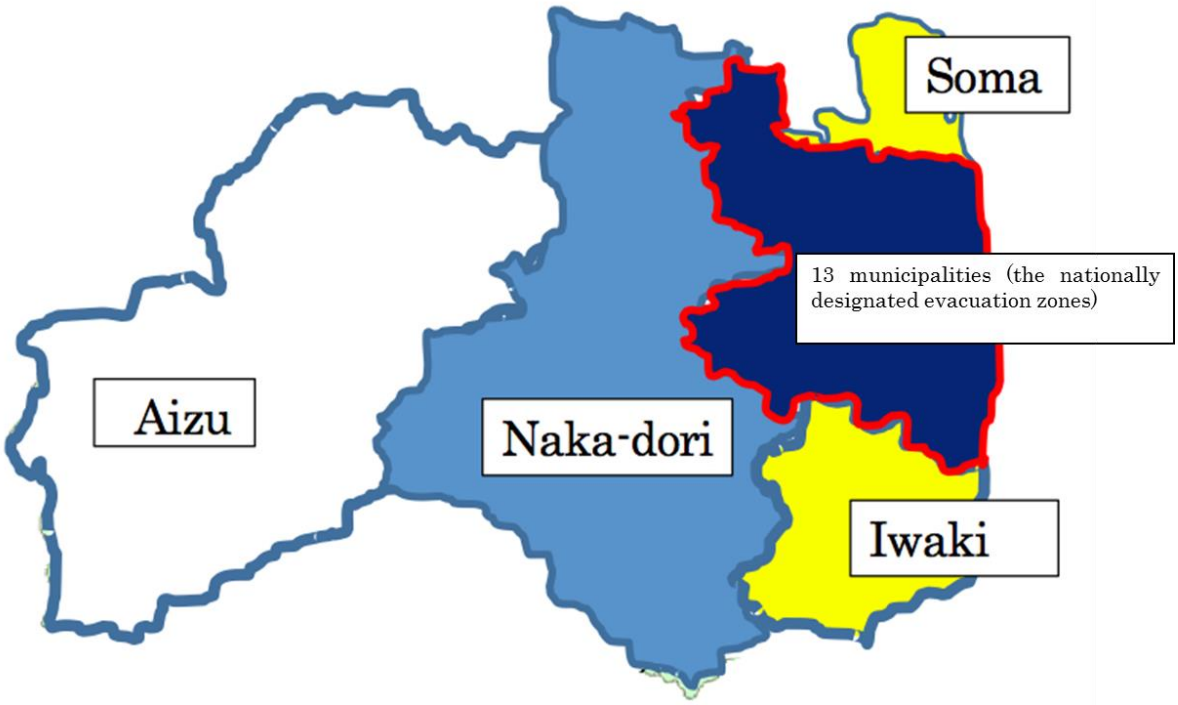
Among the 299,233 participants of Primary Examination excluding duplicates and unconfirmed test results, proportion of B or C test results increased in all areas, and was highest in Aizu followed by Hamadori, Nakadori, and 13 municipalities of the nationally designated evacuation zones.
The proportion of suspicious or malignant was almost the same among 13 municipalities in the nationally designated evacuation zones, Nakadori, Hamadori, and Aizu.

4. Mental Health Care

We set up a support team for participants of confirmatory examination to address their anxiety and concerns by offering online support.

In cooperation with teams of medical staff at hospitals, we offer similar services to those who are recommended for a follow-up provided by health insurance.

Since 5 December 2013 through 31 March 2015, a total of 276 participants (69 male and 207 female) have received support. The number of consultations given to them was 652 in total. Of these, 145 (22.2%) received support services on the first time of their examination, 156 (23.9%) at the second time and after, including 53 (8.1%) when undergoing FNAC, 34 (5.2%) when giving informed consent, 218 (33.4%) during follow-up provided by health insurance, including perioperative follow-up, 88 (13.5%) during hospitalization, and 11 (1.7%) on other occasions.



Appendix 1

Participants by municipality — As of 31 March 2015

	Target Population	Age			
		0-5	6-10	11-15	16-18
FY 2011					
Kawamata	2,394	588	631	719	456
Namie	3,643	1,023	920	1,031	669
Iitate	1,084	281	300	301	202
Minami-soma	12,526	3,697	3,418	3,297	2,114
Date	11,400	2,755	3,023	3,401	2,221
Tamura	7,068	1,738	1,807	2,073	1,450
Hirono	1,077	258	250	348	221
Naraha	1,432	351	362	415	304
Tomioka	2,962	767	740	897	558
Kawauchi	357	90	99	89	79
Okuma	2,385	782	634	619	350
Futaba	1,207	369	300	337	201
Katsurao	233	56	62	67	48
Subtotal	47,768	12,755	12,546	13,594	8,873
FY 2012					
Fukushima	53,552	15,248	14,062	14,880	9,362
Nihonmatsu	10,256	2,784	2,646	2,945	1,881
Motomiya	6,112	1,760	1,583	1,691	1,078
Otama	1,617	486	399	430	302
Koriyama	64,380	19,216	16,911	17,496	10,757
Kori	2,065	526	547	595	397
Kunimi	1,594	381	420	484	309
Tenei	1,061	300	284	280	197
Shirakawa	12,160	3,357	3,258	3,478	2,067
Nishigo	3,976	1,142	1,081	1,075	678
Izumizaki	1,289	353	355	335	246
Miharu	3,067	750	776	931	610
Subtotal	161,129	46,303	42,322	44,620	27,884
FY 2013					
Iwaki*	62,293	17,234	16,182	17,755	11,122
Sukagawa	15,309	4,344	4,096	4,256	2,613
Soma	6,812	1,981	1,778	1,849	1,204
Kagamiishi	2,597	740	707	723	427
Shinchi	1,434	392	394	411	237
Nakajima	1,079	270	282	317	210
Yabuki	3,277	981	850	896	550
Ishikawa	2,848	711	722	831	584
Yamatsuri	1,010	287	236	315	172
Asakawa	1,340	340	379	372	249
Hirata	1,209	330	298	342	239
Tanagura	2,988	867	744	882	495
Hanawa	1,662	415	391	531	325
Samegawa	694	178	172	186	158
Ono	1,937	497	490	568	382
Tamakawa	1,332	384	347	369	232
Furudono	1,040	287	242	315	196
Hinoemata	107	23	30	34	20
Minami-aizu	2,823	713	682	841	587
Kaneyama	203	40	52	72	39
Showa	128	44	38	33	13
Mishima	192	43	55	53	41
Shimogo	1,007	265	252	293	197
Kitakata	8,910	2,293	2,334	2,578	1,705
Nishiaizu	1,019	216	245	334	224
Tadami	710	195	177	201	137
Inawashiro	2,662	704	659	768	531
Bandai	617	180	163	166	108
Kitashiobara	557	159	140	156	102
Aizumisato	3,658	916	909	1,098	735
Aizubange	3,081	766	800	958	557
Yanaizu	590	158	142	175	115
Aizuwakamatsu	22,987	6,261	5,965	6,578	4,183
Yugawa	676	179	177	192	128
Subtotal	158,788	43,393	41,130	45,448	28,817
Total	367,685	102,451	95,998	103,662	65,574

* Including districts of FY 2012

Because some duplicate records were found, numbers may vary slightly from previous reports.

Appendix 2

Thyroid Ultrasound Examination (TUE) coverage by municipality

Screening coverage by municipality in FY 2011 (13 municipalities in the nationally designated zones) As of 31 March 2015

	Target Population	Participants		Proportion (%)	Number and proportion of participants by age group				Participants living outside Fukushima	Proportion (%)
			Screened outside Fukushima 5)		0-5	6-10	11-15	16-18		
	a	b		b/a					c 4)	c/b
Kawamata	2,394	2,221	34	92.8	560	612	687	362 1)	130	5.9
					95.2	97.0	95.5	79.4 2)		
					25.2	27.6	30.9	16.3 3)		
Namie	3,643	3,249	192	89.2	920	858	918	553	1,186	36.5
					89.9	93.3	89.0	82.7		
					28.3	26.4	28.3	17.0		
Iitate	1,084	943	16	87.0	248	271	264	160	89	9.4
					88.3	90.3	87.7	79.2		
					26.3	28.7	28.0	17.0		
Minami-soma	12,526	10,789	875	86.1	3,205	3,052	2,929	1,603	2,849	26.4
					86.7	89.3	88.8	75.8		
					29.7	28.3	27.1	14.9		
Date	11,400	10,605	155	93.0	2,573	2,977	3,287	1,768	586	5.5
					93.4	98.5	96.6	79.6		
					24.3	28.1	31.0	16.7		
Tamura	7,068	6,325	61	89.5	1,557	1,762	1,969	1,037	226	3.6
					89.6	97.5	95.0	71.5		
					24.6	27.9	31.1	16.4		
Hirono	1,077	838	57	77.8	204	216	294	124	148	17.7
					79.1	86.4	84.5	56.1		
					24.3	25.8	35.1	14.8		
Naraha	1,432	1,153	77	80.5	285	319	353	196	226	19.6
					81.2	88.1	85.1	64.5		
					24.7	27.7	30.6	17.0		
Tomioka	2,962	2,302	237	77.7	594	638	720	350	625	27.2
					77.4	86.2	80.3	62.7		
					25.8	27.7	31.3	15.2		
Kawauchi	357	280	22	78.4	72	92	70	46	52	18.6
					80.0	92.9	78.7	58.2		
					25.7	32.9	25.0	16.4		
Okuma	2,385	1,973	183	82.7	656	579	529	209	502	25.4
					83.9	91.3	85.5	59.7		
					33.2	29.3	26.8	10.6		
Futaba	1,207	949	113	78.6	289	246	277	137	421	44.4
					78.3	82.0	82.2	68.2		
					30.5	25.9	29.2	14.4		
Katsurao	233	183	3	78.5	43	55	57	28	15	8.2
					76.8	88.7	85.1	58.3		
					23.5	30.1	31.1	15.3		
Subtotal	47,768	41,810	2,025	87.5	11,206	11,677	12,354	6,573	7,055	16.9
					87.9	93.1	90.9	74.1		
					26.8	27.9	29.5	15.7		

1) Number of participants. 2) Number of participants/Number in the target population age group.

3) Number of participants in the age group/Number of participants.

4) Number of participants currently living outside Fukushima.

5) Number of participants who underwent the test outside Fukushima.

Because some duplicate records were found, numbers may vary slightly from previous reports.

Fractions have been rounded and may not total to100%. Ages are at the time of the disaster.

While some participants who underwent the test at their schools had been categorized according to the municipalities of their schools in the previous survey, they were categorized into the municipalities they belonged at the time of the disaster.

Screening coverage by municipality in FY 2012

As of 31 March 2015

	Target Population	Participants		Proportion (%)	Number and proportion of participants by age group				Participants living outside Fukushima	Proportion (%)
			Screened outside Fukushima 5)		0-5	6-10	11-15	16-18		
	a	b		b/a					c 4)	c/b
Fukushima	53,552	47,307	1,238	88.3	13,370	13,565	13,670	6,702	3,618	7.6
					87.7	96.5	91.9	71.6		
					28.3	28.7	28.9	14.2		
Nihonmatsu	10,256	8,857	174	86.4	2,528	2,589	2,672	1,068	438	4.9
					90.8	97.8	90.7	56.8		
					28.5	29.2	30.2	12.1		
Motomiya	6,112	5,234	110	85.6	1,534	1,554	1,506	640	231	4.4
					87.2	98.2	89.1	59.4		
					29.3	29.7	28.8	12.2		
Otama	1,617	1,373	18	84.9	447	397	385	144	47	3.4
					92.0	99.5	89.5	47.7		
					32.6	28.9	28.0	10.5		
Koriyama	64,380	54,063	2,217	84.0	16,317	16,148	15,492	6,106	4,588	8.5
					84.9	95.5	88.5	56.8		
					30.2	29.9	28.7	11.3		
Kori	2,065	1,874	34	90.8	494	541	570	269	74	3.9
					93.9	98.9	95.8	67.8		
					26.4	28.9	30.4	14.4		
Kunimi	1,594	1,437	29	90.2	349	412	464	212	53	3.7
					91.6	98.1	95.9	68.6		
					24.3	28.7	32.3	14.8		
Tenei	1,061	878	13	82.8	285	281	229	83	35	4.0
					95.0	98.9	81.8	42.1		
					32.5	32.0	26.1	9.5		
Shirakawa	12,160	10,810	296	88.9	3,083	3,193	3,242	1,292	611	5.7
					91.8	98.0	93.2	62.5		
					28.5	29.5	30.0	12.0		
Nishigo	3,976	3,618	83	91.0	1,088	1,062	1,012	456	200	5.5
					95.3	98.2	94.1	67.3		
					30.1	29.4	28.0	12.6		
Izumizaki	1,289	1,157	14	89.8	339	346	311	161	45	3.9
					96.0	97.5	92.8	65.4		
					29.3	29.9	26.9	13.9		
Miharu	3,067	2,730	40	89.0	696	760	859	415	106	3.9
					92.8	97.9	92.3	68.0		
					25.5	27.8	31.5	15.2		
Subtotal	161,129	139,338	4,266	86.5	40,530	40,848	40,412	17,548	10,046	7.2
					87.5	96.5	90.6	62.9		
					29.1	29.3	29.0	12.6		

Screening coverage by municipality in FY 2013

As of 31 March 2015

	Target Population	Participants		Proportion (%)	Number and proportion of participants by age group				Participants living outside Fukushima	Proportion (%)
			Screened outside Fukushima 5)		0-5	6-10	11-15	16-18		
	a	b		b/a					c 4)	c/b
Iwaki*	62,293	49,405	1,684	79.3	14,395	15,502	14,291	5,217	2,309	4.7
					83.5	95.8	80.5	46.9		
					29.1	31.4	28.9	10.6		
Sukagawa	15,309	12,079	267	78.9	3,775	3,986	3,285	1,033	439	3.6
					86.9	97.3	77.2	39.5		
					31.3	33.0	27.2	8.6		
Soma	6,812	5,205	231	76.4	1,698	1,661	1,361	485	367	7.1
					85.7	93.4	73.6	40.3		
					32.6	31.9	26.1	9.3		
Kagamiishi	2,597	2,030	33	78.2	641	686	545	158	43	2.1
					86.6	97.0	75.4	37.0		
					31.6	33.8	26.8	7.8		
Shinchi	1,434	1,149	64	80.1	353	379	320	97	58	5.0
					90.1	96.2	77.9	40.9		
					30.7	33.0	27.9	8.4		
Nakajima	1,079	832	9	77.1	230	275	267	60	16	1.9
					85.2	97.5	84.2	28.6		
					27.6	33.1	32.1	7.2		
Yabuki	3,277	2,567	55	78.3	886	830	683	168	58	2.3
					90.3	97.6	76.2	30.5		
					34.5	32.3	26.6	6.5		
Ishikawa	2,848	2,162	57	75.9	668	692	619	183	56	2.6
					94.0	95.8	74.5	31.3		
					30.9	32.0	28.6	8.5		
Yamatsuri	1,010	794	17	78.6	270	233	237	54	20	2.5
					94.1	98.7	75.2	31.4		
					34.0	29.3	29.8	6.8		
Asakawa	1,340	1,093	25	81.6	320	374	305	94	30	2.7
					94.1	98.7	82.0	37.8		
					29.3	34.2	27.9	8.6		
Hirata	1,209	873	15	72.2	284	284	235	70	11	1.3
					86.1	95.3	68.7	29.3		
					32.5	32.5	26.9	8.0		
Tanagura	2,988	2,322	43	77.7	773	730	652	167	58	2.5
					89.2	98.1	73.9	33.7		
					33.3	31.4	28.1	7.2		
Hanawa	1,662	1,255	27	75.5	374	382	392	107	31	2.5
					90.1	97.7	73.8	32.9		
					29.8	30.4	31.2	8.5		
Samegawa	694	522	14	75.2	175	170	137	40	16	3.1
					98.3	98.8	73.7	25.3		
					33.5	32.6	26.2	7.7		
Ono	1,937	1,449	38	74.8	428	472	422	127	38	2.6
					86.1	96.3	74.3	33.2		
					29.5	32.6	29.1	8.8		
Tamakawa	1,332	1,015	13	76.2	346	341	255	73	14	1.4
					90.1	98.3	69.1	31.5		
					34.1	33.6	25.1	7.2		
Furudono	1,040	822	25	79.0	269	240	245	68	26	3.2
					93.7	99.2	77.8	34.7		
					32.7	29.2	29.8	8.3		

*Including districts of FY 2012

Screening coverage by municipality in FY 2013

As of 31 March 2015

	Target Population	Participants		Proportion (%)	Number and proportion of participants by age group				Participants living outside Fukushima	Proportion (%)
			Screened outside Fukushima 5)		0-5	6-10	11-15	16-18		
	a	b		b/a					c 4)	c/b
Hinoemata	107	61	3	57.0	15	27	19	0	3	4.9
					65.2	90.0	55.9	0.0		
					24.6	44.3	31.1	0.0		
Minami-aizu	2,823	1,822	22	64.5	610	641	464	107	37	2.0
					85.6	94.0	55.2	18.2		
					33.5	35.2	25.5	5.9		
Kaneyama	203	141	8	69.5	36	51	48	6	7	5.0
					90.0	98.1	66.7	15.4		
					25.5	36.2	34.0	4.3		
Showa	128	102	0	79.7	37	38	26	1	4	3.9
					84.1	100.0	78.8	7.7		
					36.3	37.3	25.5	1.0		
Mishima	192	129	1	67.2	29	54	37	9	0	0.0
					67.4	98.2	69.8	22.0		
					22.5	41.9	28.7	7.0		
Shimogo	1,007	695	13	69.0	244	233	179	39	17	2.4
					92.1	92.5	61.1	19.8		
					35.1	33.5	25.8	5.6		
Kitakata	8,910	5,749	72	64.5	1,643	2,233	1,495	378	105	1.8
					71.7	95.7	58.0	22.2		
					28.6	38.8	26.0	6.6		
Nishiaizu	1,019	641	4	62.9	203	238	173	27	8	1.2
					94.0	97.1	51.8	12.1		
					31.7	37.1	27.0	4.2		
Tadami	710	495	4	69.7	161	169	147	18	5	1.0
					82.6	95.5	73.1	13.1		
					32.5	34.1	29.7	3.6		
Inawashiro	2,662	1,912	34	71.8	616	643	505	148	71	3.7
					87.5	97.6	65.8	27.9		
					32.2	33.6	26.4	7.7		
Bandai	617	414	9	67.1	133	159	94	28	12	2.9
					73.9	97.5	56.6	25.9		
					32.1	38.4	22.7	6.8		
Kitashiobara	557	388	9	69.7	144	137	96	11	9	2.3
					90.6	97.9	61.5	10.8		
					37.1	35.3	24.7	2.8		
Aizumisato	3,658	2,554	26	69.8	827	874	686	167	50	2.0
					90.3	96.1	62.5	22.7		
					32.4	34.2	26.9	6.5		
Aizubange	3,081	2,088	29	67.8	617	753	579	139	39	1.9
					80.5	94.1	60.4	25.0		
					29.5	36.1	27.7	6.7		
Yanaizu	590	376	3	63.7	127	129	103	17	3	0.8
					80.4	90.8	58.9	14.8		
					33.8	34.3	27.4	4.5		
Aizuwakamatsu	22,987	14,745	327	64.1	4,187	5,643	4,045	870	447	3.0
					66.9	94.6	61.5	20.8		
					28.4	38.3	27.4	5.9		
Yugawa	676	509	7	75.3	166	177	129	37	8	1.6
					92.7	100.0	67.2	28.9		
					32.6	34.8	25.3	7.3		
Subtotal	158,788	118,395	3,188	74.6	35,680	39,436	33,076	10,203	4,415	3.7
					82.2	95.9	72.8	35.4		
					30.1	33.3	27.9	8.6		
Total	367,685	299,543	9,479	81.5	87,416	91,961	85,842	34,324	21,516	7.2
					85.3	95.8	82.8	52.3		
					29.2	30.7	28.7	11.5		

Appendix 3

Thyroid Ultrasound Examination (TUE) coverage by prefecture

As of 28 February 2015

Prefecture	Number of test venues	Participants*
Hokkaido	4	**335**
Aomori	1	**163**
Iwate	3	**189**
Miyagi	2	**1,529**
Akita	1	**213**
Yamagata	3	**458**
Ibaraki	4	**454**
Tochigi	5	**454**
Gunma	2	**185**
Saitama	2	**252**
Chiba	3	**284**
Tōkyō	12	**1,794**
Kanagawa	4	**756**
Niigata	1	**620**
Toyama	1	**34**
Ishikawa	1	**45**

Prefecture	Number of test venues	Participants*
Fukui	1	**22**
Yamanashi	2	**82**
Nagano	2	**133**
Gifu	1	**43**
Shizuoka	2	**110**
Aichi	3	**179**
Mie	1	**38**
Shiga	1	**20**
Kyōto	3	**97**
Ōsaka	6	**210**
Hyōgo	1	**135**
Nara	1	**25**
Wakayama	1	**13**
Tottori	1	**15**
Shimane	1	**13**
Okayama	3	**80**

Prefecture	Number of test venues	Participants*
Hiroshima	1	**37**
Yamaguchi	1	**24**
Tokushima	1	**10**
Kagawa	1	**29**
Ehime	1	**23**
Kōchi	1	**14**
Fukuoka	2	**83**
Saga	1	**7**
Nagasaki	2	**25**
Kumamoto	1	**25**
Ōita	1	**35**
Miyazaki	1	**35**
Kagoshima	1	**31**
Okinawa	1	**121**
Total	95	**9,479**

* Those who underwent testing at venues outside Fukushima carried out either by Fukushima Medical University staff (twice in Niigata and Kanagawa respectively, and three times in Yamagata) or by local specialists.

Appendix 4

Thyroid Ultrasound Examination (TUE) results by municipality

Primary test results in FY 2011 (13 municipalities in the nationally designated zones) As of 31 March 2015

	Participants	Number confirmed	Number by test results				Nodules		Cysts	
			Proportion (%)							
			A		B	C	Proportion (%)		Proportion (%)	
	a	Proportion (%) b/a (%)	A1	A2			≥5.1mm	≤5.0mm	≥20.1mm	≤20.0mm
Kawamata	2,221	2,221	1,520	693	8	0	8	17	0	681
		100.0	68.4	31.2	0.4	0.0	0.4	0.8	0.0	30.7
Namie	3,249	3,249	2,119	1,104	26	0	26	42	0	1,088
		100.0	65.2	34.0	0.8	0.0	0.8	1.3	0.0	33.5
Iitate	943	943	693	244	6	0	6	15	0	233
		100.0	73.5	25.9	0.6	0.0	0.6	1.6	0.0	24.7
Minami-soma	10,789	10,789	6,789	3,948	52	0	52	87	0	3,905
		100.0	62.9	36.6	0.5	0.0	0.5	0.8	0.0	36.2
Date	10,605	10,605	6,748	3,807	50	0	48	31	1	3,808
		100.0	63.6	35.9	0.5	0.0	0.5	0.3	0.0	35.9
Tamura	6,325	6,325	4,000	2,293	32	0	32	11	0	2,299
		100.0	63.2	36.3	0.5	0.0	0.5	0.2	0.0	36.3
Hirono	838	838	521	312	5	0	5	3	0	313
		100.0	62.2	37.2	0.6	0.0	0.6	0.4	0.0	37.4
Naraha	1,153	1,153	651	495	7	0	7	4	0	498
		100.0	56.5	42.9	0.6	0.0	0.6	0.3	0.0	43.2
Tomioka	2,302	2,302	1,350	939	13	0	13	8	0	939
		100.0	58.6	40.8	0.6	0.0	0.6	0.3	0.0	40.8
Kawauchi	280	280	156	120	4	0	4	1	0	120
		100.0	55.7	42.9	1.4	0.0	1.4	0.4	0.0	42.9
Okuma	1,973	1,973	1,140	819	14	0	14	7	0	816
		100.0	57.8	41.5	0.7	0.0	0.7	0.4	0.0	41.4
Futaba	949	949	570	376	3	0	3	3	0	375
		100.0	60.1	39.6	0.3	0.0	0.3	0.3	0.0	39.5
Katsurao	183	183	116	66	1	0	1	3	0	65
		100.0	63.4	36.1	0.5	0.0	0.5	1.6	0.0	35.5
Subtotal	41,810	41,810	26,373	15,216	221	0	219	232	1	15,140
		100.0	63.1	36.4	0.5	0.0	0.5	0.6	0.0	36.2

Fractions are rounded and may not total to 100%.

Because some duplicate records were found, numbers may vary slightly from previous reports.

While some participants who underwent the test at their schools had been categorized according to the municipalities of their schools in the previous survey, they were categorized into the municipalities they belonged at the time of the disaster.

Primary test results in FY 2012

As of 31 March 2015

	Participants	Number confirmed	Number by test results				Nodules		Cysts	
			Proportion (%)				Proportion (%)		Proportion (%)	
			A		B	C				
	a	Proportion (%) b/a (%)	A1	A2			≥5.1mm	≤5.0mm	≥20.1mm	≤20.0mm
Fukushima	47,307	47,307	26,962	20,062	283	0	276	196	3	20,079
		100.0	57.0	42.4	0.6	0.0	0.6	0.4	0.0	42.4
Nihonmatsu	8,857	8,857	5,198	3,602	56	1	56	46	1	3,605
		100.0	58.7	40.7	0.6	0.0	0.6	0.5	0.0	40.7
Motomiya	5,234	5,234	2,955	2,250	29	0	27	25	1	2,254
		100.0	56.5	43.0	0.6	0.0	0.5	0.5	0.0	43.1
Otama	1,373	1,373	816	550	7	0	7	8	0	550
		100.0	59.4	40.1	0.5	0.0	0.5	0.6	0.0	40.1
Koriyama	54,063	54,063	27,929	25,676	458	0	454	332	3	25,759
		100.0	51.7	47.5	0.8	0.0	0.8	0.6	0.0	47.6
Kori	1,874	1,874	1,025	835	14	0	14	9	0	836
		100.0	54.7	44.6	0.7	0.0	0.7	0.5	0.0	44.6
Kunimi	1,437	1,437	763	659	15	0	14	9	1	663
		100.0	53.1	45.9	1.0	0.0	1.0	0.6	0.1	46.1
Tenei	878	878	528	343	7	0	7	4	0	348
		100.0	60.1	39.1	0.8	0.0	0.8	0.5	0.0	39.6
Shirakawa	10,810	10,810	6,111	4,638	61	0	61	54	0	4,635
		100.0	56.5	42.9	0.6	0.0	0.6	0.5	0.0	42.9
Nishigo	3,618	3,618	2,084	1,504	30	0	30	21	0	1,504
		100.0	57.6	41.6	0.8	0.0	0.8	0.6	0.0	41.6
Izumizaki	1,157	1,157	524	628	5	0	5	11	0	624
		100.0	45.3	54.3	0.4	0.0	0.4	1.0	0.0	53.9
Miharu	2,730	2,730	1,301	1,407	22	0	22	15	0	1,410
		100.0	47.7	51.5	0.8	0.0	0.8	0.5	0.0	51.6
Subtotal	139,338	139,338	76,196	62,154	987	1	973	730	9	62,267
		100.0	54.7	44.6	0.7	0.0	0.7	0.5	0.0	44.7

Primary test results in FY 2013 As of 31 March 2015

	Participants	Number confirmed	Number by test results				Nodules		Cysts	
			Proportion (%)				Proportion (%)		Proportion (%)	
			A		B	C				
	a	Proportion (%) b/a (%)	A1	A2			≥5.1mm	≤5.0mm	≥20.1mm	≤20.0mm
Iwaki*	49,405	49,309	21,779	27,078	452	0	451	297	1	27,182
		99.8	44.2	54.9	0.9	0.0	0.9	0.6	0.0	55.1
Sukagawa	12,079	12,058	5,486	6,467	105	0	105	56	0	6,498
		99.8	45.5	53.6	0.9	0.0	0.9	0.5	0.0	53.9
Soma	5,205	5,093	2,419	2,628	46	0	46	45	0	2,639
		97.8	47.5	51.6	0.9	0.0	0.9	0.9	0.0	51.8
Kagamiishi	2,030	2,029	955	1,063	11	0	11	8	0	1,065
		100.0	47.1	52.4	0.5	0.0	0.5	0.4	0.0	52.5
Shinchi	1,149	1,114	508	599	7	0	7	5	0	603
		97.0	45.6	53.8	0.6	0.0	0.6	0.4	0.0	54.1
Nakajima	832	831	391	438	2	0	2	9	0	436
		99.9	47.1	52.7	0.2	0.0	0.2	1.1	0.0	52.5
Yabuki	2,567	2,566	1,082	1,464	20	0	20	8	0	1,474
		100.0	42.2	57.1	0.8	0.0	0.8	0.3	0.0	57.4
Ishikawa	2,162	2,157	981	1,164	12	0	12	15	0	1,164
		99.8	45.5	54.0	0.6	0.0	0.6	0.7	0.0	54.0
Yamatsuri	794	794	325	466	3	0	3	4	0	463
		100.0	40.9	58.7	0.4	0.0	0.4	0.5	0.0	58.3
Asakawa	1,093	1,093	470	611	12	0	12	10	0	617
		100.0	43.0	55.9	1.1	0.0	1.1	0.9	0.0	56.5
Hirata	873	871	395	466	10	0	10	2	0	472
		99.8	45.4	53.5	1.1	0.0	1.1	0.2	0.0	54.2
Tanagura	2,322	2,321	1,027	1,272	22	0	22	11	0	1,280
		100.0	44.2	54.8	0.9	0.0	0.9	0.5	0.0	55.1
Hanawa	1,255	1,255	513	733	9	0	9	10	0	736
		100.0	40.9	58.4	0.7	0.0	0.7	0.8	0.0	58.6
Samegawa	522	522	244	274	4	0	4	5	0	274
		100.0	46.7	52.5	0.8	0.0	0.8	1.0	0.0	52.5
Ono	1,449	1,446	561	870	15	0	15	13	0	873
		99.8	38.8	60.2	1.0	0.0	1.0	0.9	0.0	60.4
Tamakawa	1,015	1,013	452	550	11	0	11	6	0	555
		99.8	44.6	54.3	1.1	0.0	1.1	0.6	0.0	54.8
Furudono	822	822	395	421	6	0	6	7	0	424
		100.0	48.1	51.2	0.7	0.0	0.7	0.9	0.0	51.6

* Including districts of FY 2012

Primary test results in FY 2013 As of 31 March 2015

	Participants	Number confirmed b	Number by test results				Nodules		Cysts	
			Proportion (%)				Proportion (%)		Proportion (%)	
			A		B	C				
	a	Proportion (%) b/a (%)	A1	A2			≥5.1mm	≤5.0mm	≥20.1mm	≤20.0mm
Hinoemata	61	61	25	36	0	0	0	3	0	34
		100.0	41.0	59.0	0.0	0.0	0.0	4.9	0.0	55.7
Minami-aizu	1,822	1,822	748	1,058	16	0	16	13	0	1,060
		100.0	41.1	58.1	0.9	0.0	0.9	0.7	0.0	58.2
Kaneyama	141	138	65	73	0	0	0	1	0	73
		97.9	47.1	52.9	0.0	0.0	0.0	0.7	0.0	52.9
Showa	102	101	56	45	0	0	0	0	0	45
		99.0	55.4	44.6	0.0	0.0	0.0	0.0	0.0	44.6
Mishima	129	129	38	90	1	0	1	0	0	91
		100.0	29.5	69.8	0.8	0.0	0.8	0.0	0.0	70.5
Shimogo	695	695	320	365	10	0	10	4	0	368
		100.0	46.0	52.5	1.4	0.0	1.4	0.6	0.0	52.9
Kitakata	5,749	5,747	2,286	3,415	46	0	46	42	0	3,422
		100.0	39.8	59.4	0.8	0.0	0.8	0.7	0.0	59.5
Nishiaizu	641	640	245	390	5	0	5	5	0	392
		99.8	38.3	60.9	0.8	0.0	0.8	0.8	0.0	61.3
Tadami	495	495	203	285	7	0	7	3	0	287
		100.0	41.0	57.6	1.4	0.0	1.4	0.6	0.0	58.0
Inawashiro	1,912	1,909	791	1,105	13	0	13	14	0	1,106
		99.8	41.4	57.9	0.7	0.0	0.7	0.7	0.0	57.9
Bandai	414	414	168	242	4	0	4	2	0	244
		100.0	40.6	58.5	1.0	0.0	1.0	0.5	0.0	58.9
Kitashiobara	388	388	164	223	1	0	1	3	0	223
		100.0	42.3	57.5	0.3	0.0	0.3	0.8	0.0	57.5
Aizumisato	2,554	2,554	1,063	1,465	26	0	26	17	0	1,477
		100.0	41.6	57.4	1.0	0.0	1.0	0.7	0.0	57.8
Aizubange	2,088	2,086	846	1,215	25	0	25	9	0	1,225
		99.9	40.6	58.2	1.2	0.0	1.2	0.4	0.0	58.7
Yanaizu	376	376	178	196	2	0	2	0	0	198
		100.0	47.3	52.1	0.5	0.0	0.5	0.0	0.0	52.7
Aizuwakamatsu	14,745	14,728	6,084	8,484	160	0	159	117	1	8,531
		99.9	41.3	57.6	1.1	0.0	1.1	0.8	0.0	57.9
Yugawa	509	508	186	315	7	0	7	2	0	318
		99.8	36.6	62.0	1.4	0.0	1.4	0.4	0.0	62.6
Subtotal	118,395	118,085	51,449	65,566	1,070	0	1,068	746	2	65,849
		99.7	43.6	55.5	0.9	0.0	0.9	0.6	0.0	55.8
Total	299,543	299,233	154,018	142,936	2,278	1	2,260	1,708	12	143,256
		99.9	51.5	47.8	0.8	0.0	0.8	0.6	0.0	47.9

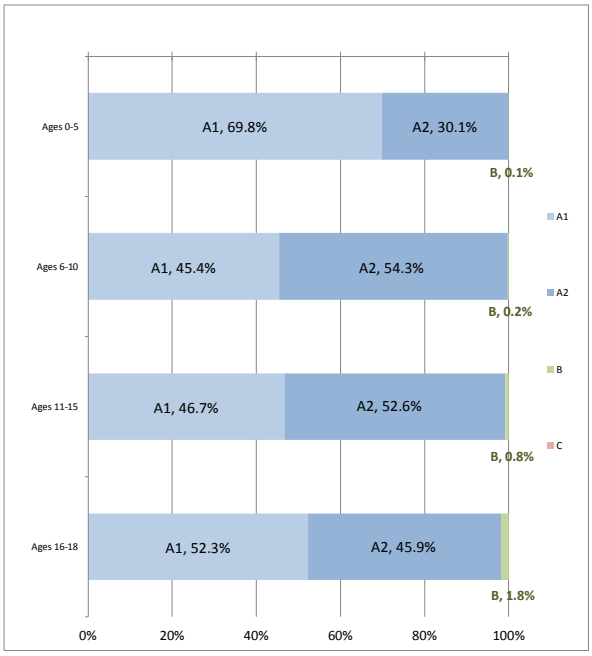
Appendix 5

1. Thyroid Ultrasound Examination results by age and sex

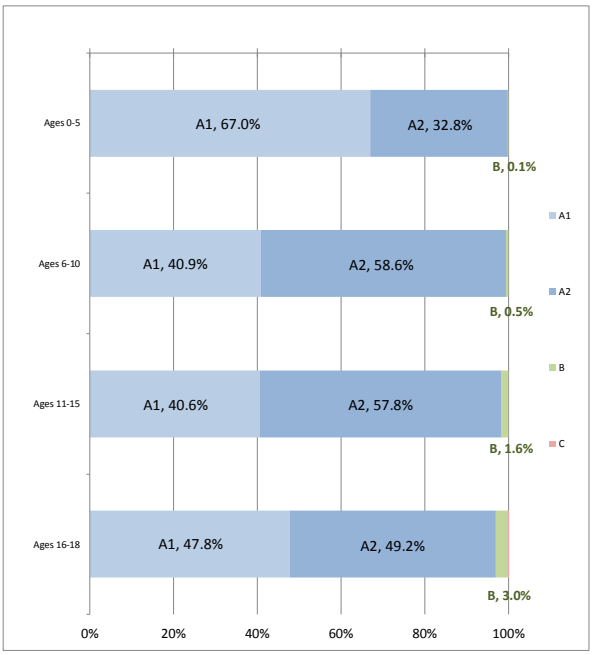
As of 31 March 2015

Ages	A						B			C			Total		
	A1			A2											
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
0-5	31,264	28,491	59,755	13,506	13,953	27,459	41	57	98	0	0	0	44,811	42,501	87,312
6-10	21,437	18,312	39,749	25,615	26,226	51,841	117	236	353	0	0	0	47,169	44,774	91,943
11-15	20,160	17,280	37,440	22,696	24,621	47,317	324	663	987	0	0	0	43,180	42,564	85,744
16-18	8,315	8,759	17,074	7,306	9,013	16,319	284	556	840	0	1	1	15,905	18,329	34,234
Total	81,176	72,842	154,018	69,123	73,813	142,936	766	1,512	2,278	0	1	1	151,065	148,168	299,233

Test results by age group (Male)



Test results by age group (Female)



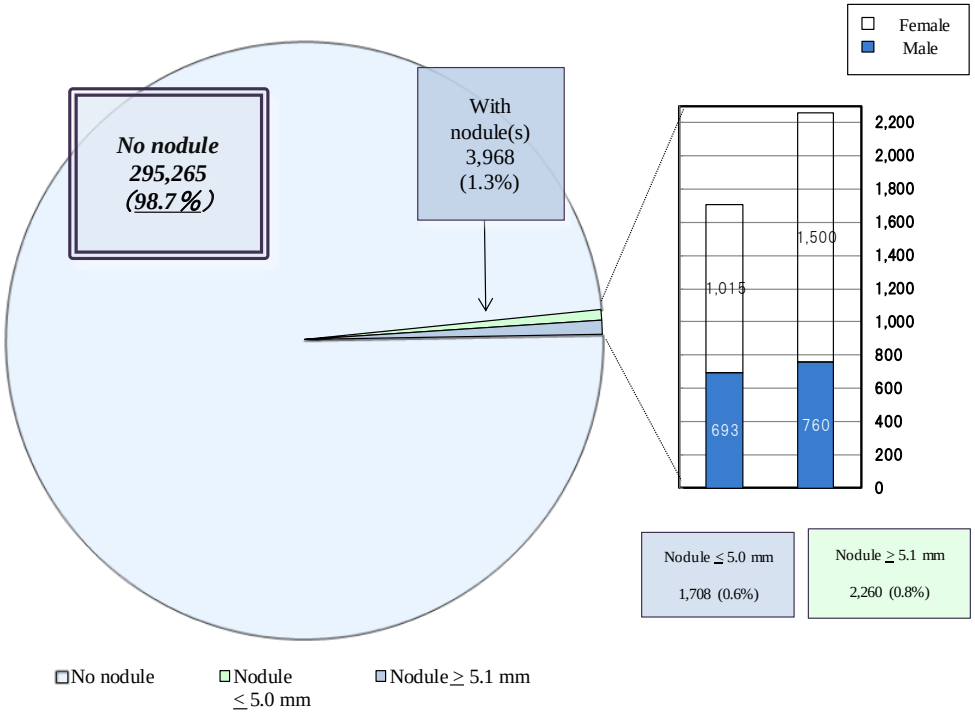
Percentages have been rounded and may not total to 100%.

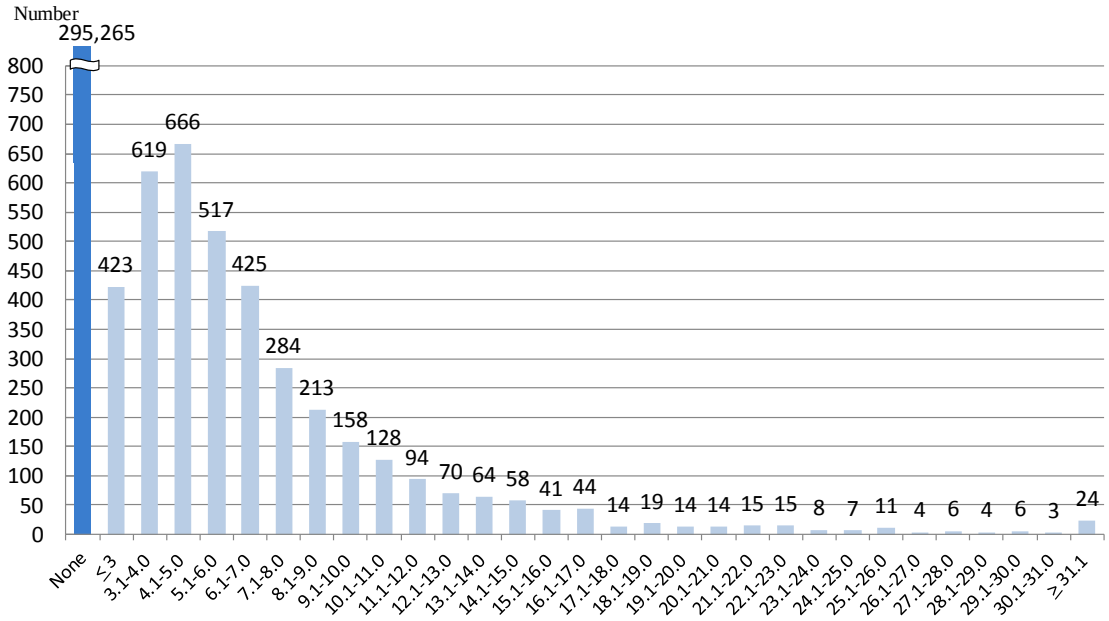
Ages are at the time of the disaster.

2. Nodule size

As of 31 March 2015

Nodule size	Total	Male	Female	Test result	Proportion
None	295,265	149,612	145,653	A1	98.7%
≤ 3.0 mm	423	190	233	A2	0.6%
3.1-5.0 mm	1,285	503	782		
5.1-10.0 mm	1,597	571	1,026	B	0.8%
10.1-15.0 mm	414	117	297		
15.1-20.0 mm	132	39	93		
20.1-25.0 mm	59	17	42		
≥ 25.1 mm	58	16	42		
Total	299,233	151,065	148,168		

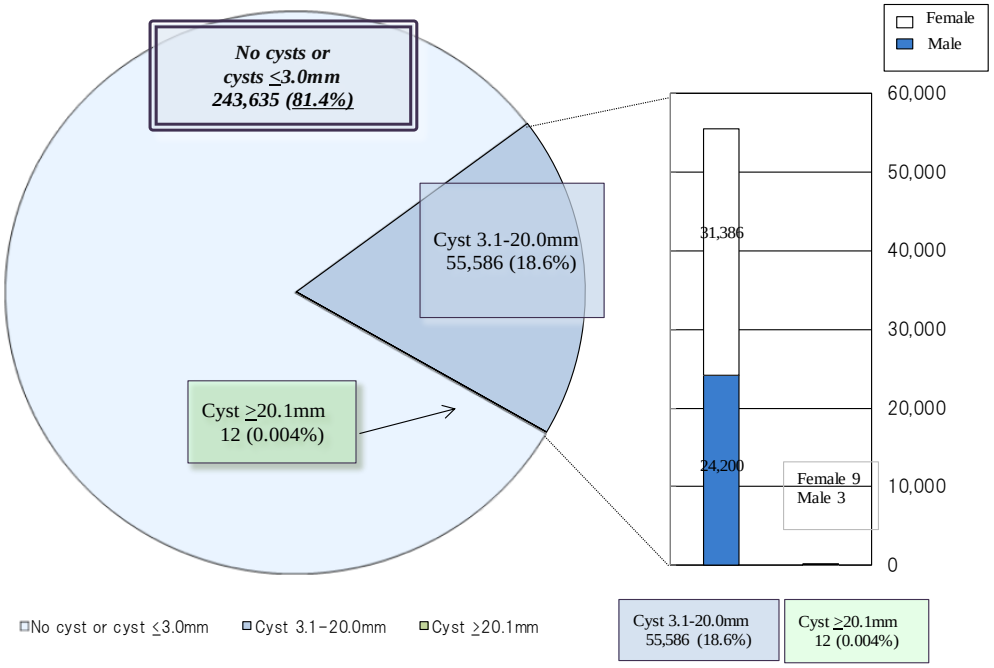


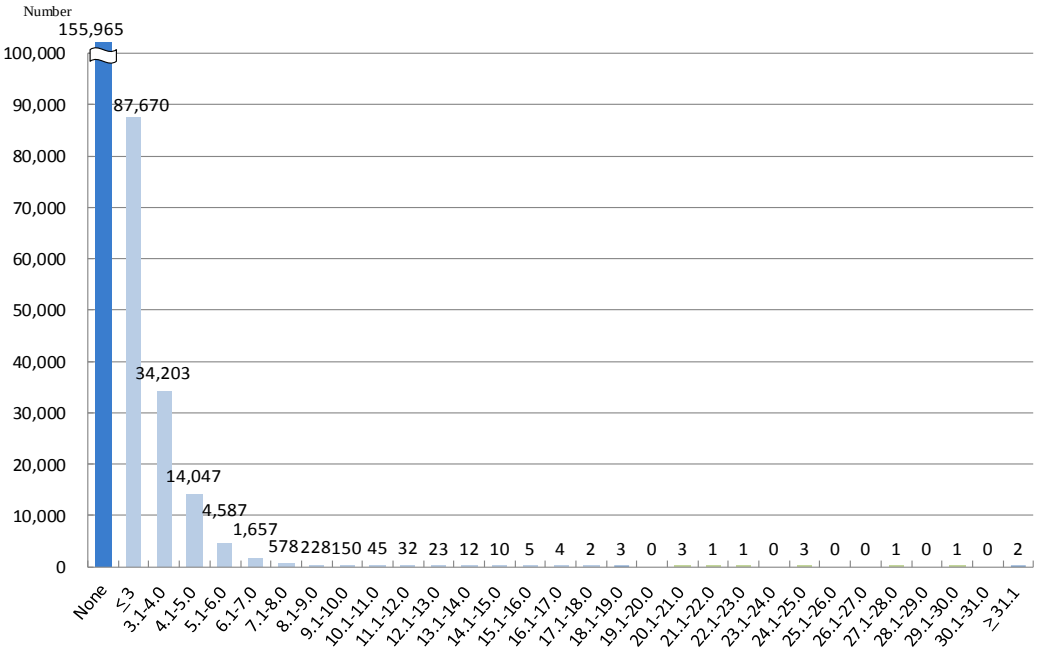


3. Cyst size

As of 31 March 2015

Cyst size	Total	Male	Female	Class	%
None	155,965	81,926	74,039	A1	81.4%
≤ 3.0 mm	87,670	44,936	42,734	A2	18.6%
3.1-5.0 mm	48,250	21,595	26,655		
5.1-10.0 mm	7,200	2,563	4,637		
10.1-15.0 mm	122	41	81		
15.1-20.0 mm	14	1	13		
20.1-25.0 mm	8	1	7	B	0.004%
≥ 25.1 mm	4	2	2		
Total	299,233	151,065	148,168		





Appendix 6

Confirmatory test results by municipality

As of 31 March 2015

	Number of children screened	Number who required confirmatory test	Number of children who underwent confirmatory test by age					Number of confirmed results				
			Total	Ages 0-5	Ages 6-10	Ages 11-15	Ages 16-18	Total	Next screening advised		Follow-up advised	Aspiration biopsy cytology
	a	b	c	d	e	f	g	h	A1 i	A2 j	k	l
		Proportion (%)	Proportion (%)	Proportion (%)	Proportion (%)	Proportion (%)	Proportion (%)	Proportion (%)	Proportion (%)	Proportion (%)	Proportion (%)	Proportion (%)
Target municipalities for Confirmatory test in FY 2011												
Kawamata	2,221	8	8	0	1	3	4	7	1	0	6	5
		0.4	100.0	0.0	12.5	37.5	50.0	87.5	14.3	0.0	85.7	83.3
Namie	3,249	26	24	1	3	8	12	23	1	4	18	12
		0.8	92.3	4.2	12.5	33.3	50.0	95.8	4.3	17.4	78.3	66.7
Iitate	943	6	6	0	2	1	3	6	0	3	3	3
		0.6	100.0	0.0	33.3	16.7	50.0	100.0	0.0	50.0	50.0	100.0
Minami-soma	10,789	52	48	6	5	16	21	48	4	11	33	19
		0.5	92.3	12.5	10.4	33.3	43.8	100.0	8.3	22.9	68.8	57.6
Date	10,605	50	45	0	3	16	26	45	4	8	33	23
		0.5	90.0	0.0	6.7	35.6	57.8	100.0	8.9	17.8	73.3	69.7
Tamura	6,325	32	26	1	3	12	10	26	0	5	21	14
		0.5	81.3	3.8	11.5	46.2	38.5	100.0	0.0	19.2	80.8	66.7
Hirono	838	5	4	0	1	1	2	4	1	2	1	0
		0.6	80.0	0.0	25.0	25.0	50.0	100.0	25.0	50.0	25.0	0.0
Naraha	1,153	7	6	1	0	1	4	6	0	2	4	2
		0.6	85.7	16.7	0.0	16.7	66.7	100.0	0.0	33.3	66.7	50.0
Tomioka	2,302	13	12	0	1	5	6	12	0	2	10	7
		0.6	92.3	0.0	8.3	41.7	50.0	100.0	0.0	16.7	83.3	70.0
Kawauchi	280	4	4	0	1	0	3	4	0	1	3	2
		1.4	100.0	0.0	25.0	0.0	75.0	100.0	0.0	25.0	75.0	66.7
Okuma	1,973	14	13	1	1	6	5	13	1	5	7	2
		0.7	92.9	7.7	7.7	46.2	38.5	100.0	7.7	38.5	53.8	28.6
Futaba	949	3	2	0	0	1	1	2	0	0	2	2
		0.3	66.7	0.0	0.0	50.0	50.0	100.0	0.0	0.0	100.0	100.0
Katsurao	183	1	1	0	1	0	0	1	0	1	0	0
		0.5	100.0	0.0	100.0	0.0	0.0	100.0	0.0	100.0	0.0	0.0
Subtotal	41,810	221	199	10	22	70	97	197	12	44	141	91
		0.5	90.0	5.0	11.1	35.2	48.7	99.0	6.1	22.3	71.6	64.5
Target municipalities for Confirmatory test in FY 2012												
Fukushima	47,307	283	272	6	28	106	132	266	12	68	186	95
		0.6	96.1	2.2	10.3	39.0	48.5	97.8	4.5	25.6	69.9	51.1
Nihonmatsu	8,857	57	54	0	5	27	22	53	3	7	43	24
		0.6	94.7	0.0	9.3	50.0	40.7	98.1	5.7	13.2	81.1	55.8
Motomiya	5,234	29	29	1	4	14	10	28	0	9	19	7
		0.6	100.0	3.4	13.8	48.3	34.5	96.6	0.0	32.1	67.9	36.8
Otama	1,373	7	7	0	0	4	3	7	0	1	6	4
		0.5	100.0	0.0	0.0	57.1	42.9	100.0	0.0	14.3	85.7	66.7
Koriyama	54,063	458	415	21	65	172	157	404	24	127	253	99
		0.8	90.6	5.1	15.7	41.4	37.8	97.3	5.9	31.4	62.6	39.1
Kori	1,874	14	13	1	2	3	7	13	0	2	11	3
		0.7	92.9	7.7	15.4	23.1	53.8	100.0	0.0	15.4	84.6	27.3
Kunimi	1,437	15	13	2	2	2	7	13	1	2	10	4
		1.0	86.7	15.4	15.4	15.4	53.8	100.0	7.7	15.4	76.9	40.0
Tenei	878	7	6	1	2	1	2	6	1	2	3	0
		0.8	85.7	16.7	33.3	16.7	33.3	100.0	16.7	33.3	50.0	0.0
Shirakawa	10,810	61	59	2	10	27	20	59	6	14	39	15
		0.6	96.7	3.4	16.9	45.8	33.9	100.0	10.2	23.7	66.1	38.5
Nishigo	3,618	30	26	2	6	9	9	26	2	8	16	5
		0.8	86.7	7.7	23.1	34.6	34.6	100.0	7.7	30.8	61.5	31.3
Izumizaki	1,157	5	5	0	2	0	3	5	1	2	2	1
		0.4	100.0	0.0	40.0	0.0	60.0	100.0	20.0	40.0	40.0	50.0
Miharu	2,730	22	21	0	1	11	9	21	4	4	13	6
		0.8	95.5	0.0	4.8	52.4	42.9	100.0	19.0	19.0	61.9	46.2
Subtotal	139,338	988	920	36	127	376	381	901	54	246	601	263
		0.7	93.1	3.9	13.8	40.9	41.4	97.9	6.0	27.3	66.7	43.8

h) Excluding participants who have not receive the test results.

Fractions have been rounded and may not total to 100%.

Ages are at the time of the disaster.

While some participants who underwent the test at their schools had been categorized according to the municipalities of their schools in the previous survey, they were categorized into the municipalities they belonged at the time of the disaster.

Confirmatory test results by municipality

As of 31 March 2015

	Number of children screened	Number who required confirmatory test	Number of children who underwent confirmatory test by age					Number of confirmed results				
			Total	Ages 0-5	Ages 6-10	Ages 11-15	Ages 16-18	Total	Next screening advised		Follow-up advised	
												Aspiration biopsy cytology
	a	b	c	d	e	f	g	h	i	j	k	l
		Proportion (%)	Proportion (%)	Proportion (%)	Proportion (%)	Proportion (%)	Proportion (%)	Proportion (%)	Proportion (%)	Proportion (%)	Proportion (%)	Proportion (%)
Target municipalities for Confirmatory test in FY 2013												
Iwaki*	49,405	452	418	21	60	203	134	401	22	127	252	87
		0.9	92.5	5.0	14.4	48.6	32.1	95.9	5.5	31.7	62.8	34.5
Sukagawa	12,079	105	100	6	16	53	25	98	7	32	59	12
		0.9	95.2	6.0	16.0	53.0	25.0	98.0	7.1	32.7	60.2	20.3
Soma	5,205	46	42	3	9	19	11	41	3	16	22	6
		0.9	91.3	7.1	21.4	45.2	26.2	97.6	7.3	39.0	53.7	27.3
Kagamiishi	2,030	11	8	0	4	3	1	8	0	1	7	1
		0.5	72.7	0.0	50.0	37.5	12.5	100.0	0.0	12.5	87.5	14.3
Shinchi	1,149	7	7	0	3	3	1	6	0	0	6	3
		0.6	100.0	0.0	42.9	42.9	14.3	85.7	0.0	0.0	100.0	50.0
Nakajima	832	2	2	0	0	1	1	2	0	0	2	1
		0.2	100.0	0.0	0.0	50.0	50.0	100.0	0.0	0.0	100.0	50.0
Yabuki	2,567	20	14	0	2	6	6	12	0	3	9	1
		0.8	70.0	0.0	14.3	42.9	42.9	85.7	0.0	25.0	75.0	11.1
Ishikawa	2,162	12	11	0	4	4	3	10	0	1	9	5
		0.6	91.7	0.0	36.4	36.4	27.3	90.9	0.0	10.0	90.0	55.6
Yamatsuri	794	3	2	0	0	1	1	2	0	0	2	0
		0.4	66.7	0.0	0.0	50.0	50.0	100.0	0.0	0.0	100.0	0.0
Asakawa	1,093	12	11	1	1	6	3	11	0	3	8	2
		1.1	91.7	9.1	9.1	54.5	27.3	100.0	0.0	27.3	72.7	25.0
Hirata	873	10	9	0	4	3	2	8	1	1	6	1
		1.1	90.0	0.0	44.4	33.3	22.2	88.9	12.5	12.5	75.0	16.7
Tanagura	2,322	22	22	2	5	9	6	20	2	2	16	6
		0.9	100.0	9.1	22.7	40.9	27.3	90.9	10.0	10.0	80.0	37.5
Hanawa	1,255	9	7	0	1	3	3	5	0	2	3	0
		0.7	77.8	0.0	14.3	42.9	42.9	71.4	0.0	40.0	60.0	0.0
Samegawa	522	4	1	0	0	0	1	1	0	0	1	0
		0.8	25.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	100.0	0.0
Ono	1,449	15	13	1	2	6	4	13	1	4	8	0
		1.0	86.7	7.7	15.4	46.2	30.8	100.0	7.7	30.8	61.5	0.0
Tamakawa	1,015	11	9	1	2	3	3	9	0	3	6	1
		1.1	81.8	11.1	22.2	33.3	33.3	100.0	0.0	33.3	66.7	16.7
Furudono	822	6	6	0	1	4	1	6	0	2	4	1
		0.7	100.0	0.0	16.7	66.7	16.7	100.0	0.0	33.3	66.7	25.0
Hinoemata	61	0	0	0	0	0	0	0	0	0	0	0
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Minami-aizu	1,822	16	15	0	7	7	1	13	1	3	9	2
		0.9	93.8	0.0	46.7	46.7	6.7	86.7	7.7	23.1	69.2	22.2
Kaneyama	141	0	0	0	0	0	0	0	0	0	0	0
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Showa	102	0	0	0	0	0	0	0	0	0	0	0
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mishima	129	1	1	0	1	0	0	1	0	0	1	0
		0.8	100.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0	100.0	0.0
Shimogo	695	10	10	0	1	6	3	9	0	3	6	2
		1.4	100.0	0.0	10.0	60.0	30.0	90.0	0.0	33.3	66.7	33.3
Kitakata	5,749	46	40	1	11	17	11	40	2	11	27	11
		0.8	87.0	2.5	27.5	42.5	27.5	100.0	5.0	27.5	67.5	40.7
Nishiaizu	641	5	4	0	2	1	1	3	0	0	3	0
		0.8	80.0	0.0	50.0	25.0	25.0	75.0	0.0	0.0	100.0	0.0
Tadami	495	7	7	0	3	4	0	6	0	2	4	1
		1.4	100.0	0.0	42.9	57.1	0.0	85.7	0.0	33.3	66.7	25.0
Inawashiro	1,912	13	13	1	1	8	3	13	2	3	8	1
		0.7	100.0	7.7	7.7	61.5	23.1	100.0	15.4	23.1	61.5	12.5
Bandai	414	4	3	1	0	1	1	3	1	0	2	0
		1.0	75.0	33.3	0.0	33.3	33.3	100.0	33.3	0.0	66.7	0.0
Kitashiobara	388	1	1	1	0	0	0	1	0	1	0	0
		0.3	100.0	100.0	0.0	0.0	0.0	100.0	0.0	100.0	0.0	0.0
Aizumisato	2,554	26	24	1	4	12	7	23	2	9	12	3
		1.0	92.3	4.2	16.7	50.0	29.2	95.8	8.7	39.1	52.2	25.0
Aizubange	2,088	25	23	3	4	9	7	23	0	4	19	4
		1.2	92.0	13.0	17.4	39.1	30.4	100.0	0.0	17.4	82.6	21.1
Yanaizu	376	2	2	0	0	2	0	2	0	1	1	0
		0.5	100.0	0.0	0.0	100.0	0.0	100.0	0.0	50.0	50.0	0.0
Aizuwakamatsu	14,745	160	145	6	31	80	28	139	8	46	85	23
		1.1	90.6	4.1	21.4	55.2	19.3	95.9	5.8	33.1	61.2	27.1
Yugawa	509	7	7	0	1	3	3	7	1	0	6	1
		1.4	100.0	0.0	14.3	42.9	42.9	100.0	14.3	0.0	85.7	16.7
Subtotal	118,395	1,070	977	49	180	477	271	936	53	280	603	175
		0.9	91.3	5.0	18.4	48.8	27.7	95.8	5.7	29.9	64.4	29.0
Total	299,543	2,279	2,096	95	329	923	749	2,034	119	570	1,345	529
		0.8	92.0	4.5	15.7	44.0	35.7	97.0	5.9	28.0	66.1	39.3

*Including districts of FY 2012

Appendix 7

Surgical cases of malignant or suupicious for malignancy

1. Target municipalities in FY 2011

   Suspicious or malignant: 15 (15 surgical cases: 1 of benign thyroid nodules; 13 of papillary thyroid carcinoma; 1 poorly differentiated thyroid carcinoma)

2. Target municipalities in FY 2012

   Suspicious or malignant: 56 (52 surgical cases: 51 of papillary thyroid carcinoma ; 1 poorly differentiated thyroid carcinoma)

3. Target municipalities in FY 2013

   Suspicious or malignant: 41 (32 surgical cases: 31 of papillary thyroid carcinoma; 1 poorly differentiated thyroid carcinoma)

4. Total for cases FY 2011 – FY 2013

   Suspicious or malignant: 112 (99 surgical cases: 1 of benign thyroid nodules; 95 of papillary thyroid carcinoma; 3 poorly differentiated thyroid carcinoma)

Thyroid Ultrasound Examination (Full-scale Thyroid Screening Program)

Reported on 18 May 2015

1. Summary

1.1 Purpose

In order to monitor the long-term health of children, we are now engaged in a Full-scale Thyroid Screening Program to assess the condition of their thyroid gland following Preliminary Baseline Screening (Initial Screening).

1.2 Group

Residents of Fukushima Prefecture including visitors who were born between 2 April 1992 and 1 April 2011 (Preliminary Baseline Screening), and those who were born between 2 April 2011 and 1 April 2012.

1.3 Implementation Period

Full-scale Screening starts from 2 April 2014 and lasts for two years.

We repeat the examination every two years until the age of 20, and every five years afterwards.

1.4 Responsible Organizations

Fukushima Prefecture commissioned Fukushima Medical University to conduct the survey in cooperation with institutions inside and outside Fukushima.

As of 31 March 2015, we provide the primary examination at 19 medical institutions under contract, and try to have more institutions inside Fukushima Prefecture.

Ninety-seven institutions outside Fukushima Prefecture have agreed to cooperate as of 31 March 2015.

The confirmatory examination has been conducted in Koriyama and Iwaki in Fukushima Prefecture from July 2013, Aizuwakamatsu from August 2014, and several institutions outside Fukushima Prefecture from November 2013. There are 27 institutions that provide the examination as of 31 March 2015.

1.5 Method

1.5-1 Primary Examination

We use ultrasonography for examination of the thyroid gland.

Assessments are made by specialists on the basis of the following criteria.

-Diagnostic Criteria: A

Those with A1 and A2 test results are recommended for watchful waiting until they undergo the next screening starting from April 2016.

(A1) No nodules / cysts

(A2) Nodules $\leq$5.0 mm or cysts $\leq$20.0 mm

-Diagnostic Criteria: B

Those with B test result are advised to take the Confirmatory Examination.

(B) Nodules ≥5.1 mm or cysts ≥20.1 mm

Some A2 test results may be re-classified as B results when clinically indicated.

-Diagnostic Criteria: C

Those with C test result are advised to take the Confirmatory Examination.

(C) Immediate need for confirmatory examination.

1.5-2 Confirmatory Examination

We conduct ultrasonography, blood test, urine test, and fine-needle aspiration cytology (FNAC) if needed for those with B or C test results. Priority is given to those in urgent clinical need.

1.5-3 Flow chart

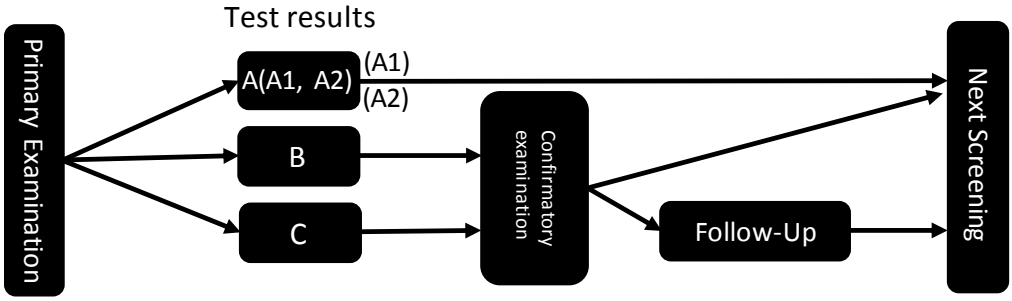


Fig.1 Flow chart

1.6 Target Municipalities

25 target municipalities for FY 2014

34 target municipalities for FY 2015

Fig.2 Target Municipalities

2. Results (As of 31 March 2015)

2.1-1 Primary Examination

The Primary Examination started from 2 April 2014, and the participation rate as of 31 March 2015 is 67.5% (148,027 of 219,348) from 25 municipalities. (See Appendix 1 and 2)

The results have been returned to 82.4% (121,997) of the participants. (See Appendix 3)

Those with A1 or A2 test results were 120,954 (99.1%), B were 1,043 (0.9%), and C was 0.

Table 1. Screening test coverage as of 31 March 2015

	Target Population	Participants		Test results				
		Proportion (%)	Screened outside Fukushima	Proportion (%)	Class			
					A		Requiring confirmatory test	
	a	b (b/a)		c (c/b)	A1 d (d/c)	A2 e (e/c)	B f (f/c)	C g (g/c)
FY 2014	216,766	145,445 (67.1)	6,565	119,616 (82.2)	49,846 (41.7)	68,763 (57.5)	1,007 (0.8)	0 (0.0)
FY 2015*	2,582	2,582 (100.0)	4	2,381 (92.2)	921 (38.7)	1,424 (59.8)	36 (1.5)	0 (0.0)
Total	219,348	148,027 (67.5)	6,569	121,997 (82.4)	50,767 (41.6)	70,187 (57.5)	1,043 (0.9)	0 (0.0)

Table 2. Number and proportion of children with nodules/cysts as of 31 March 2015

	Number of confirmed screening results	Number and proportions of children with nodules/cysts			
		Nodules		Cysts	
	a	≥5.1mm b (b/a)	≤5.0mm c (c/a)	≥20.1mm d (d/a)	≤20.0mm e (e/a)
FY 2014	119,616	1,003 (0.8)	782 (0.7)	2 (0.0)	69,096 (57.8)
FY 2015*	2,381	36 (1.5)	25 (1.0)	0 (0.0)	1,433 (60.2)
Total	121,997	1,039 (0.9)	807 (0.7)	2 (0.0)	70,529 (57.8)

Fractions have been rounded and may not total to 100%.

Because some duplicate records were found, numbers may vary slightly from previous reports.

* Including municipalities of FY 2014

2.1-2 Comparison with the Preliminary Baseline Screening (Initial Screening)

Among 120,954 participants who were diagnosed as A1 or A2, 113,700 (94.0%) had A1 or A2 results from the Preliminary Baseline Screening (Initial Screening). Among 1,043 participants who were diagnosed as B, 715 (68.6%) had A1 or A2 results from the Preliminary Baseline Screening (Initial Screening).

Table 3. Changes in the results of Initial Screening and Full-scale Thyroid Screening Program as of 31 March 2015

			Number of confirmed test results of Full-scale Thyroid Screening Program (%) a	Results of the Initial Screening				
				A		B	C	Non-participants
				A1 b b/a (%)	A2 c c/a (%)	d d/a (%)	e e/a (%)	f f/a (%)
Results of the Full-scale Thyroid Screening	A	A1	50,767 (100.0)	41,636 (82.0)	4,561 (9.0)	43 (0.1)	0 (0.0)	4,527 (8.9)
		A2	70,187 (100.0)	22,602 (32.2)	44,901 (64.0)	177 (0.3)	0 (0.0)	2,507 (3.6)
	B		1,043 (100.0)	235 (22.5)	480 (46.0)	290 (27.8)	0 (0.0)	38 (3.6)
	C		0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
	Total		121,997 (100.0)	64,473 (52.8)	49,942 (40.9)	510 (0.4)	0 (0.0)	7,072 (5.8)

2.2 Confirmatory Examination

2.2-1 Progress Report

The number of children who required further testing (started in June 2014) is 1,043, of whom 593 (56.9%) underwent confirmatory testing. Among them, 491 (82.8%) have completed the tests. (See Appendix 4)

Of 491 participants, 142 (28.9%) with Confirmatory Examination results were found to be back within the range of A1 and A2, and were advised to take their next regularly scheduled examination.

Those who require 6- 12-month follow-up provided by health insurance were 349 (71.1%).

Table 4. Confirmatory testing coverage and results as of 31 March 2015

	Number of children requiring confirmatory test	**Participants**	**Confirmed test results**				
			Confirmatory test coverage (%)	**Next screening advised**		**Follow-up advised**	
				A1	**A2**		**Cytology**
	a	**b (b/a)**	**c (c/b)**	**d (d/c)**	**e (e/c)**	**f (f/c)**	**g (g/f)**
FY 2014	1,007	588 (58.4)	488 (83.0)	21 (4.3)	120 (24.6)	347 (71.1)	53 (15.3)
FY 2015	36	5 (13.9)	3 (60.0)	0 (0.0)	1 (33.3)	2 (66.7)	1 (50.0)
Total	1,043	593 (56.9)	491 (82.8)	21 (4.3)	121 (24.6)	349 (71.1)	54 (15.5)

Those confirmed within the range of A1 and A2 (including those with other thyroid conditions) were advised to take their next regularly scheduled examination.

Those who require 6- or 12-month follow-up provided by health insurance and those beyond the specified level of A2 were categorized as "Follow-up advised."

2.2-2 Results of Fine Needle Aspiration Biopsy and Cytology (FNAC)

Table 5. Target municipalities in FY 2014

Suspicious or malignant	15 *
Male to female ratio	6:9
Mean age (SD, min-max)	16.8 (3.5, 10-22) 13.1 (3.5, 6-18) at the time of the disaster
Mean tumor size	9.1 mm (3.4 mm, 5.3-17.3 mm)

* See Appendix 6 for details.

2.2-3 Suspicious or malignant cases per FNAC by age and sex

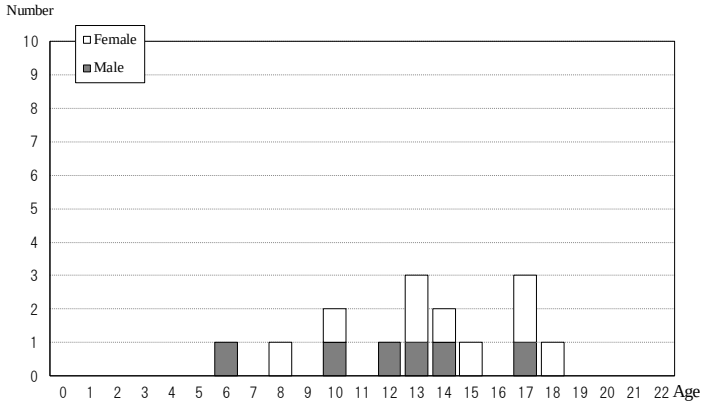


Fig.3 Age as of 11 March 2011

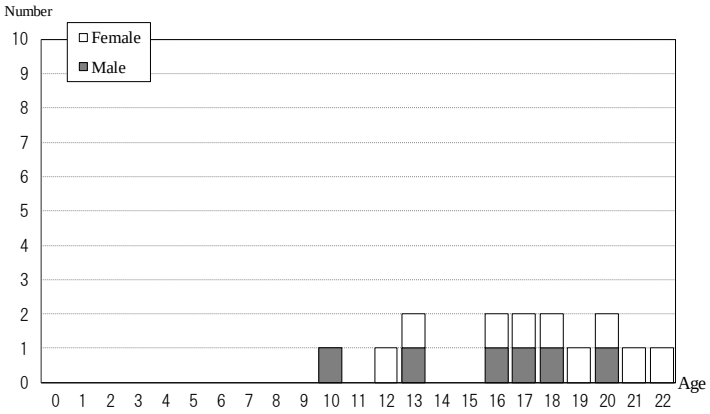


Fig. 4 Age as the date of confirmatory examination

2.2-4 Suspicious or malignant cases per FNAC by estimated radiation dose

Nine of the 15 cases (60.0%) participated in the Basic Survey (radiation dose estimates) and have received the results. Among those, 2 had estimated radiation exposure dose below 1 mSv, and the highest effective dose documented was 2.1 mSv.

Table 5. Number of suspicious or malignant cases by age and sex As of 31 March 2015

Effective dose (mSv)	Age at the time of disaster									
	0-5		6-10		11-15		16-18		Total	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
<1	0	0	1	0	0	1	0	0	1	1
1-1.9	0	0	0	1	1	1	1	2	2	4
2-4.9	0	0	1	0	0	0	0	0	1	0
5-9.9	0	0	0	0	0	0	0	0	0	0
10-19.9	0	0	0	0	0	0	0	0	0	0
≥20	0	0	0	0	0	0	0	0	0	0
Total	0	0	2	1	1	2	1	2	4	5

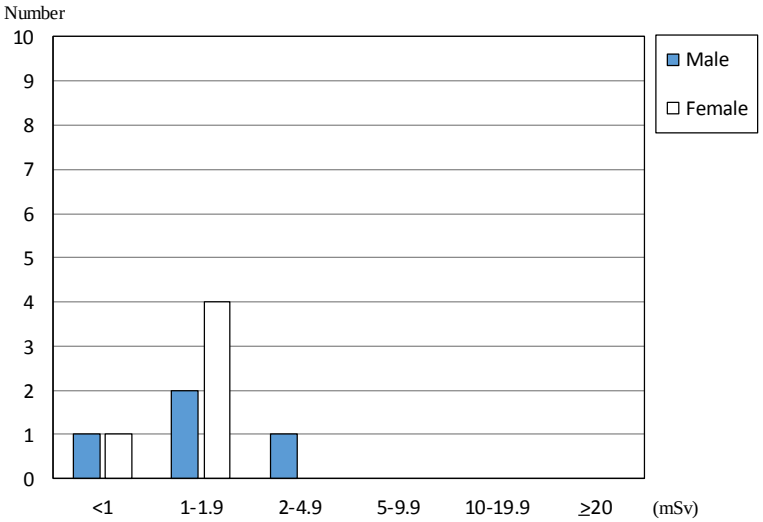


Fig. 5 Effective dose of the respondents

2.2-5 Blood and urinary iodine test results as of 31 March 2015

Table 7. Blood test results Mean±SD (Abnormality rate)

	FT4 1) (ng/dL)	FT3 2) (pg/mL)	TSH 3) (μIU/mL)	Tg 4) (ng/mL)	TgAb 5) (IU/mL)	TPOAb 6) (IU/mL)
Reference Range	0.95-1.74	2.13-4.07 7)	0.340-3.880	≦32.7	<28.0	<16.0
15 suspicious or malignant	1.2 ± 0.2 (0.0%)	3.6 ± 0.5 (0.0%)	1.5 ± 0.9 (0.0%)	30.1 ± 38.2 (26.7%)	－ (20.0%)	－ (13.3%)
Other 474	1.2 ± 0.2 (7.6%)	3.6 ± 0.6 (7.0%)	1.4 ± 1.0 (9.1%)	24.4 ± 47.3 (13.7%)	－ (9.5%)	－ (8.6%)

Table 8. Urinary iodine (μg/day)

	Minimum	25th percentile	Median	75th percentile	Maximum
15 suspicious or malignant	60	136	190	464	813
Other 472	38	117	187	359	11,800

1) FT4: Free Thyroxine; higher among patients with thyrotoxicosis (representative disease: Graves' disease) and lower with hypothyroidism (representative disease: Hashimoto's thyroiditis).

2) FT3: Free Triiodothyronine; higher among patients with thyrotoxicosis (representative disease: Graves' disease) and lower with hypothyroidism (representative disease: Hashimoto's thyroiditis).

3) TSH: Thyroid Stimulating Hormone; higher among patients with Hashimoto's disease and lower with Graves' disease.

4) Tg: Thyroglobulin; higher when thyroid tissue is destroyed or when thyroid cancer produces thyroglobulin.

5) TgAb: Anti-Thyroglobulin Antibody; higher among patients with Hashimoto's disease and Graves' disease.

6) TPOAb: Anti-Thyroid Peroxidase Antibody; higher among patients with Hashimoto's disease or Graves' disease.

7) Reference range differs according to age.

2.2-6 Confirmatory test results by municipality as of 31 March 2015

The proportion of suspicious or malignant diagnoses was 0.01% in FY 2014 target municipalities (13 municipalities in the nationally designated evacuation zones and 12 towns of the Kempoku area), 0.00% in FY 2015 target municipalities (34 towns of the Iwaki, Kennan, and Aizu areas).

Table 9.

Confirmatory test results in FY 2014

	Number of children screened	Number who required confirmatory test	Proportion who required confirmatory test (%)	Number who underwent confirmatory test	Suspicious or malignant cases	Proportion of suspicious or malignant cases (%)
Kawamata	1,686	20	1.2	17	0	0.00
Namie	2,058	22	1.1	17	1	0.05
Iitate	715	12	1.7	10	0	0.00
Minami-soma	7,972	59	0.7	50	1	0.01
Date	8,833	80	0.9	71	3	0.03
Tamura	4,680	47	1.0	31	2	0.04
Hirono	495	7	1.4	7	0	0.00
Naraha	731	4	0.5	3	0	0.00
Tomioka	1,434	17	1.2	12	0	0.00
Kawauchi	182	1	0.5	0	0	0.00
Okuma	1,329	9	0.7	8	1	0.08
Futaba	502	2	0.4	0	0	0.00
Katsurao	130	1	0.8	1	0	0.00
Fukushima	40,840	317	0.8	259	6	0.01
Nihonmatsu	7,560	53	0.7	41	1	0.01
Motomiya	4,613	29	0.6	20	0	0.00
Otama	1,225	4	0.3	4	0	0.00
Koriyama	42,106	214	0.5	13	0	0.00
Kori	1,548	14	0.9	7	0	0.00
Kunimi	1,184	8	0.7	6	0	0.00
Tenei	693	8	1.2	0	0	0.00
Shirakawa	8,837	46	0.5	3	0	0.00
Nishigo	2,939	19	0.6	3	0	0.00
Izumizaki	906	1	0.1	1	0	0.00
Miharu	2,247	13	0.6	4	0	0.00
Subtotal	145,445	1,007	0.7	588	15	0.01

Confirmatory test results in FY 2015

Subtotal	2,582	36	1.4	5	0	0.00

Total	148,027	1,043	0.7	593	15	0.01

2.3 Mental Health Care

2.3-1 For Participants of Confirmatory Examination

We set up a support team for participants of confirmatory examination to address their anxiety and concerns by offering online support.

In cooperation with teams of medical staff at hospitals, we offer similar services to those who are recommended for a follow-up provided by health insurance. Since the full-scale thyroid screening started, 410 participants (149 male and 261 female) have received support as of 31 March 2015. The number of consultations given to them was 836 in total. Of these, 413 (49.4%) received the support services during the first time of the examination, 265 (31.7%) at the second time and after including 55 (6.6%) when undergoing FNAC, 12 (1.4%) when giving informed consent, 125 (15.0%) during a follow-up provided by health insurance including perioperative follow-up, 20 (2.4%) during hospitalization, and 1 (0.1%) on other occasions.

2.3-2 Briefing on the result of primary examination

In order to relieve anxiety among participants and their guardians while waiting for results, and to facilitate better understanding of the results and the importance of thyroid ultrasound examination, we decided to offer explanations face to face at the examination venue.

The way we provided this service was by telling participants at the venue that they could request a briefing on the result of their examination. The briefing was offered by physicians using an online video link at consultation booths. We also told the participants that the official results would be mailed after being evaluated by a review committee.

The number of those who requested the briefing at 10 venues from 31 October 2014 through 25 March 2015 was 1,964 (47.2%) of 4,157 participants.

At the four venues, we asked 1,090 people to complete a questionnaire regarding the future use of the consultation booth. The result of the questionnaire of 453 participants (41.6%) is shown below. (Fig. 6)

Based on the result, we aim to make the booth permanent at the public venue from FY 2015. If the booth could not be set up at the venues, briefing sessions would be offered at schools as an alternative.

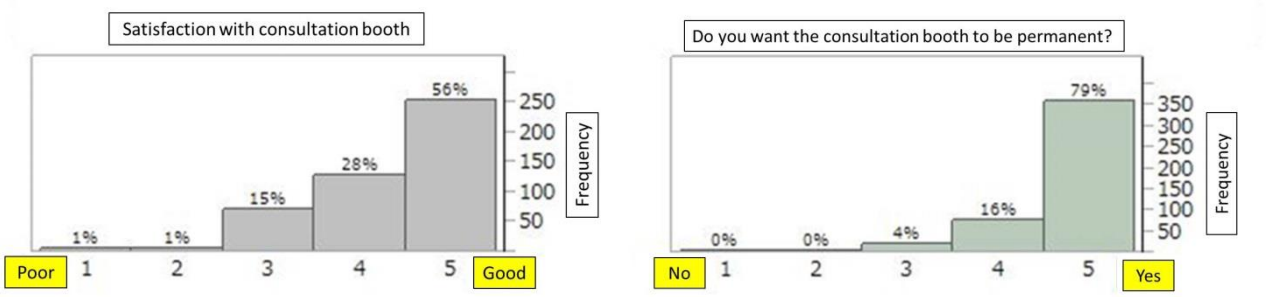


Fig. 6 Result of the questionnaire about the consultation booth

Appendix 1

Thyroid Ultrasound Examination (TUE) coverage by municipality

As of 31 March 2015

	Target Population	Participants	Screened outside Fukushima 3)	Proportion (%)	Number and proportion of participants by age group				Participants living outside Fukushima	Proportion (%)
	a	b		b/a	2-7	8-12	13-17	18-22	c	c/b
Screening coverage by municipality in FY 2014										
Kawamata	2,460	1,686	36	68.5	402	571	586	127 1)	51	3.0
					23.8	33.9	34.8	7.5 2)		
Namie	3,771	2,058	555	54.6	542	614	640	262	616	29.9
					26.3	29.8	31.1	12.7		
Iitate	1,123	715	28	63.7	175	265	232	43	33	4.6
					24.5	37.1	32.4	6.0		
Minami-soma	12,982	7,972	1,457	61.4	2,095	2,675	2,401	801	1,690	21.2
					26.3	33.6	30.1	10.0		
Date	11,739	8,833	265	75.2	2,204	2,722	2,955	952	253	2.9
					25.0	30.8	33.5	10.8		
Tamura	7,321	4,680	121	63.9	1,051	1,617	1,631	381	111	2.4
					22.5	34.6	34.9	8.1		
Hirono	1,108	495	89	44.7	141	160	137	57	81	16.4
					28.5	32.3	27.7	11.5		
Naraha	1,488	731	113	49.1	200	223	219	89	119	16.3
					27.4	30.5	30.0	12.2		
Tomioka	3,101	1,434	333	46.2	359	407	470	198	373	26.0
					25.0	28.4	32.8	13.8		
Kawauchi	360	182	15	50.6	44	69	55	14	17	9.3
					24.2	37.9	30.2	7.7		
Okuma	2,499	1,329	311	53.2	428	423	350	128	349	26.3
					32.2	31.8	26.3	9.6		
Futaba	1,258	502	196	39.9	156	166	128	52	210	41.8
					31.1	33.1	25.5	10.4		
Katsurao	240	130	13	54.2	29	52	39	10	12	9.2
					22.3	40.0	30.0	7.7		
Fukushima	55,732	40,840	1,922	73.3	10,333	12,535	13,094	4,878	2,336	5.7
					25.3	30.7	32.1	11.9		
Nihonmatsu	10,596	7,560	217	71.3	1,807	2,446	2,640	667	215	2.8
					23.9	32.4	34.9	8.8		
Motomiya	6,342	4,613	129	72.7	1,171	1,486	1,515	441	129	2.8
					25.4	32.2	32.8	9.6		
Otama	1,684	1,225	19	72.7	340	398	380	107	21	1.7
					27.8	32.5	31.0	8.7		
Koriyama	66,739	42,106	467	63.1	9,079	14,335	14,330	4,362	973	2.3
					21.6	34.0	34.0	10.4		
Kori	2,136	1,548	35	72.5	359	500	547	142	27	1.7
					23.2	32.3	35.3	9.2		
Kunimi	1,624	1,184	27	72.9	221	379	442	142	26	2.2
					18.7	32.0	37.3	12.0		
Tenei	1,101	693	5	62.9	194	249	204	46	5	0.7
					28.0	35.9	29.4	6.6		
Shirakawa	12,670	8,837	130	69.7	2,386	2,831	2,844	776	155	1.8
					27.0	32.0	32.2	8.8		
Nishigo	4,173	2,939	55	70.4	840	969	878	252	61	2.1
					28.6	33.0	29.9	8.6		
Izumizaki	1,337	906	8	67.8	249	308	271	78	6	0.7
					27.5	34.0	29.9	8.6		
Miharu	3,182	2,247	19	70.6	502	665	787	293	28	1.2
					22.3	29.6	35.0	13.0		
Subtotal	216,766	145,445	6,565	67.1	35,307	47,065	47,775	15,298	7,897	5.4
					24.3	32.4	32.8	10.5		
Screening coverage by municipality in FY 2015										
Subtotal	2,582	2,582	4	100.0	216	423	1,523	420	29	1.1
					8.4	16.4	59.0	16.3		
Total	219,348	148,027	6,569	67.5	35,523	47,488	49,298	15,718	7,926	5.4
					24.0	32.1	33.3	10.6		

1) Number of participants. 2) Number of participants in the age group/Number of participants.

3) Number of participants who underwent the test outside Fukushima.

Fractions have been rounded and may not total to100%. Ages are at the time when the participants underwent the testing.

Because some duplicate records were found, numbers may vary slightly from previous reports.

Appendix 2

Thyroid Ultrasound Examination (TUE) coverage by prefecture

As of 28 February 2015

Prefecture	Number of test venues	Participants*
Hokkaido	4	**145**
Aomori	1	**71**
Iwate	3	**165**
Miyagi	2	**1,501**
Akita	1	**112**
Yamagata	3	**520**
Ibaraki	4	**402**
Tochigi	5	**387**
Gunma	2	**134**
Saitama	2	**170**
Chiba	3	**264**
Tōkyō	12	**944**
Kanagawa	4	**441**
Niigata	1	**566**
Toyama	1	**7**
Ishikawa	1	**34**

Prefecture	Number of test venues	Participants*
Fukui	1	**8**
Yamanashi	2	**87**
Nagano	2	**56**
Gifu	1	**16**
Shizuoka	2	**68**
Aichi	3	**85**
Mie	1	**14**
Shiga	1	**9**
Kyōto	3	**30**
Ōsaka	6	**64**
Hyōgo	1	**59**
Nara	1	**10**
Wakayama	1	**3**
Tottori	1	**7**
Shimane	1	**3**
Okayama	3	**21**

Prefecture	Number of test venues	Participants*
Hiroshima	1	**4**
Yamaguchi	1	**9**
Tokushima	1	**4**
Kagawa	1	**8**
Ehime	1	**1**
Kōchi	1	**7**
Fukuoka	2	**36**
Saga	1	**13**
Nagasaki	2	**11**
Kumamoto	1	**6**
Ōita	1	**19**
Miyazaki	1	**21**
Kagoshima	1	**12**
Okinawa	1	**15**
Total	95	**6,569**

* Those who underwent testing at venues outside Fukushima carried out either by Fukushima Medical University staff (once in Niigata, Kanagawa, and Yamagata respectively) or by local specialists.

Appendix 3

Results of primary examination by municipality

As of 31 March 2015

	Participants	Number confirmed	Number by test results				Nodules		Cysts	
			Proportion (%)				Proportion (%)		Proportion (%)	
			A		B	C				
	a	Proportion (%) b/a (%)	A1	A2			≥5.1mm	≤5.0mm	≥20.1mm	≤20.0mm
Screening coverage by municipality in FY 2014										
Kawamata	1,686	1,681	746	915	20	0	19	12	1	923
		99.7	44.4	54.4	1.2	0.0	1.1	0.7	0.1	54.9
Namie	2,058	1,956	817	1,117	22	0	22	14	0	1,127
		95.0	41.8	57.1	1.1	0.0	1.1	0.7	0.0	57.6
Iitate	715	698	329	357	12	0	12	3	0	361
		97.6	47.1	51.1	1.7	0.0	1.7	0.4	0.0	51.7
Minami-soma	7,972	7,520	3,226	4,235	59	0	59	53	0	4,251
		94.3	42.9	56.3	0.8	0.0	0.8	0.7	0.0	56.5
Date	8,833	8,780	3,795	4,905	80	0	80	65	0	4,928
		99.4	43.2	55.9	0.9	0.0	0.9	0.7	0.0	56.1
Tamura	4,680	4,631	1,905	2,679	47	0	47	25	0	2,697
		99.0	41.1	57.8	1.0	0.0	1.0	0.5	0.0	58.2
Hirono	495	490	213	270	7	0	7	6	0	268
		99.0	43.5	55.1	1.4	0.0	1.4	1.2	0.0	54.7
Naraha	731	716	306	406	4	0	4	6	0	406
		97.9	42.7	56.7	0.6	0.0	0.6	0.8	0.0	56.7
Tomioka	1,434	1,350	565	768	17	0	17	10	0	774
		94.1	41.9	56.9	1.3	0.0	1.3	0.7	0.0	57.3
Kawauchi	182	170	53	116	1	0	1	1	0	117
		93.4	31.2	68.2	0.6	0.0	0.6	0.6	0.0	68.8
Okuma	1,329	1,293	564	720	9	0	9	11	0	720
		97.3	43.6	55.7	0.7	0.0	0.7	0.9	0.0	55.7
Futaba	502	481	212	267	2	0	2	4	0	267
		95.8	44.1	55.5	0.4	0.0	0.4	0.8	0.0	55.5
Katsurao	130	102	55	46	1	0	1	0	0	47
		78.5	53.9	45.1	1.0	0.0	1.0	0.0	0.0	46.1
Fukushima	40,840	40,591	17,132	23,142	317	0	315	244	0	23,256
		99.4	42.2	57.0	0.8	0.0	0.8	0.6	0.0	57.3
Nihonmatsu	7,560	7,498	3,247	4,198	53	0	53	51	0	4,204
		99.2	43.3	56.0	0.7	0.0	0.7	0.7	0.0	56.1
Motomiya	4,613	4,507	1,968	2,510	29	0	29	14	0	2,524
		97.7	43.7	55.7	0.6	0.0	0.6	0.3	0.0	56.0
Otama	1,225	1,207	540	663	4	0	4	8	0	662
		98.5	44.7	54.9	0.3	0.0	0.3	0.7	0.0	54.8
Koriyama	42,106	19,820	7,434	12,172	214	0	214	157	0	12,254
		47.1	37.5	61.4	1.1	0.0	1.1	0.8	0.0	61.8
Kori	1,548	1,541	660	867	14	0	14	8	0	873
		99.5	42.8	56.3	0.9	0.0	0.9	0.5	0.0	56.7
Kunimi	1,184	1,166	466	692	8	0	7	10	1	692
		98.5	40.0	59.3	0.7	0.0	0.6	0.9	0.1	59.3
Tenei	693	680	283	389	8	0	8	7	0	395
		98.1	41.6	57.2	1.2	0.0	1.2	1.0	0.0	58.1
Shirakawa	8,837	8,229	3,523	4,660	46	0	46	41	0	4,670
		93.1	42.8	56.6	0.6	0.0	0.6	0.5	0.0	56.8
Nishigo	2,939	2,722	1,156	1,547	19	0	19	19	0	1,553
		92.6	42.5	56.8	0.7	0.0	0.7	0.7	0.0	57.1
Izumizaki	906	889	328	560	1	0	1	10	0	558
		98.1	36.9	63.0	0.1	0.0	0.1	1.1	0.0	62.8
Miharu	2,247	898	323	562	13	0	13	3	0	569
		40.0	36.0	62.6	1.4	0.0	1.4	0.3	0.0	63.4
Subtotal	145,445	119,616	49,846	68,763	1,007	0	1,003	782	2	69,096
		82.2	41.7	57.5	0.8	0.0	0.8	0.7	0.0	57.8
Screening coverage by municipality in FY 2015										
Subtotal	2,582	2,381	921	1,424	36	0	36	25	0	1,433
		92.2	38.7	59.8	1.5	0.0	1.5	1.0	0.0	60.2
Total	148,027	121,997	50,767	70,187	1,043	0	1,039	807	2	70,529
		82.4	41.6	57.5	0.9	0.0	0.9	0.7	0.0	57.8

Fractions have been rounded and may not total to 100%.

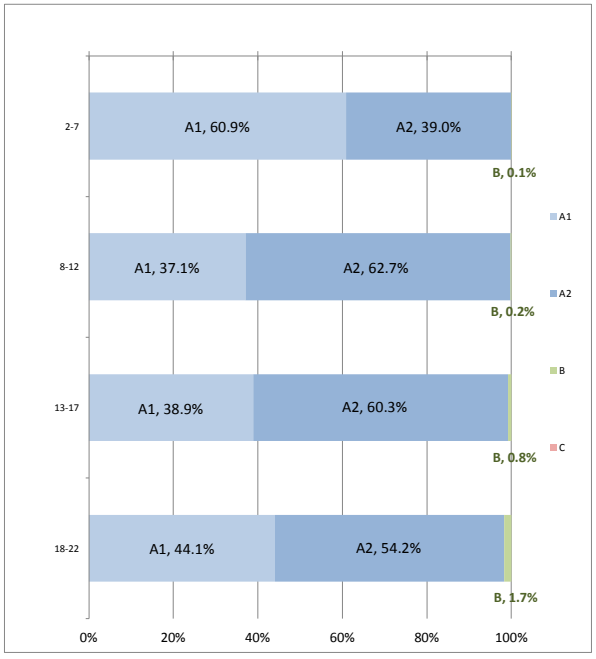
Appendix 4

1. Thyroid Ultrasound Examination results by age and sex

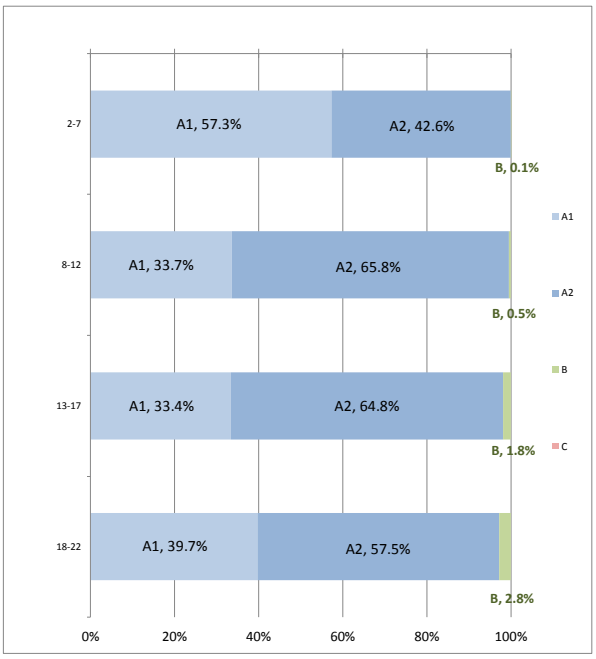
As of 31 March 2015

Ages	A						B			C			Total		
	A1			A2											
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
2-7	8,418	7,510	15,928	5,390	5,580	10,970	7	7	14	0	0	0	13,815	13,097	26,912
8-12	6,717	5,797	12,514	11,359	11,334	22,693	45	87	132	0	0	0	18,121	17,218	35,339
13-17	9,295	7,733	17,028	14,429	14,979	29,408	189	416	605	0	0	0	23,913	23,128	47,041
18-22	2,565	2,732	5,297	3,156	3,960	7,116	98	194	292	0	0	0	5,819	6,886	12,705
Total	26,995	23,772	50,767	34,334	35,853	70,187	339	704	1,043	0	0	0	61,668	60,329	121,997

Test results by age group (Male)



Test results by age group (Female)



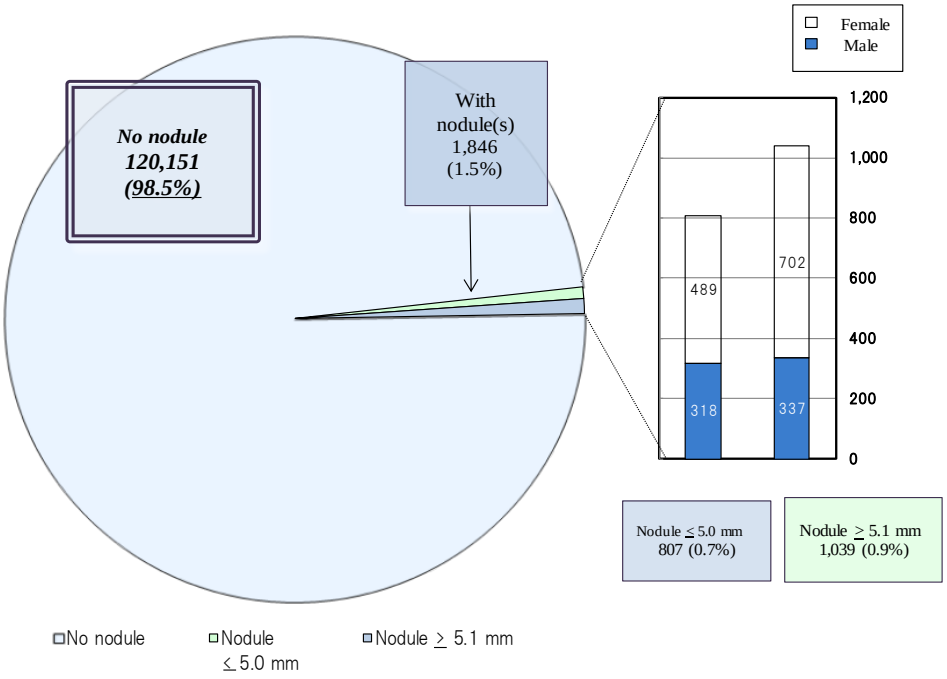
Percentages have been rounded and may not total to 100%.

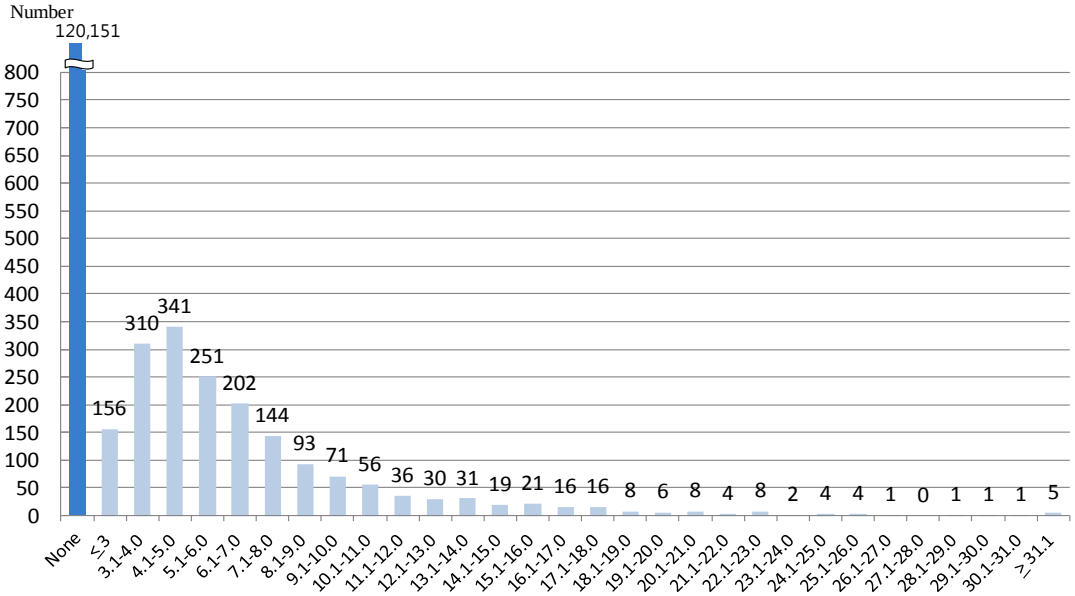
Ages are at the time when the participants underwent the testing.

2. Nodule size

As of 31 March 2015

Nodule size	Total	Male	Female	Test result	Proportion
None	120,151	61,013	59,138	A1	98.5%
≤ 3.0 mm	156	71	85	A2	0.7%
3.1-5.0 mm	651	247	404		
5.1-10.0 mm	761	245	516	B	0.9%
10.1-15.0 mm	172	61	111		
15.1-20.0 mm	67	21	46		
20.1-25.0 mm	26	7	19		
≥ 25.1 mm	13	3	10		
Total	121,997	61,668	60,329		

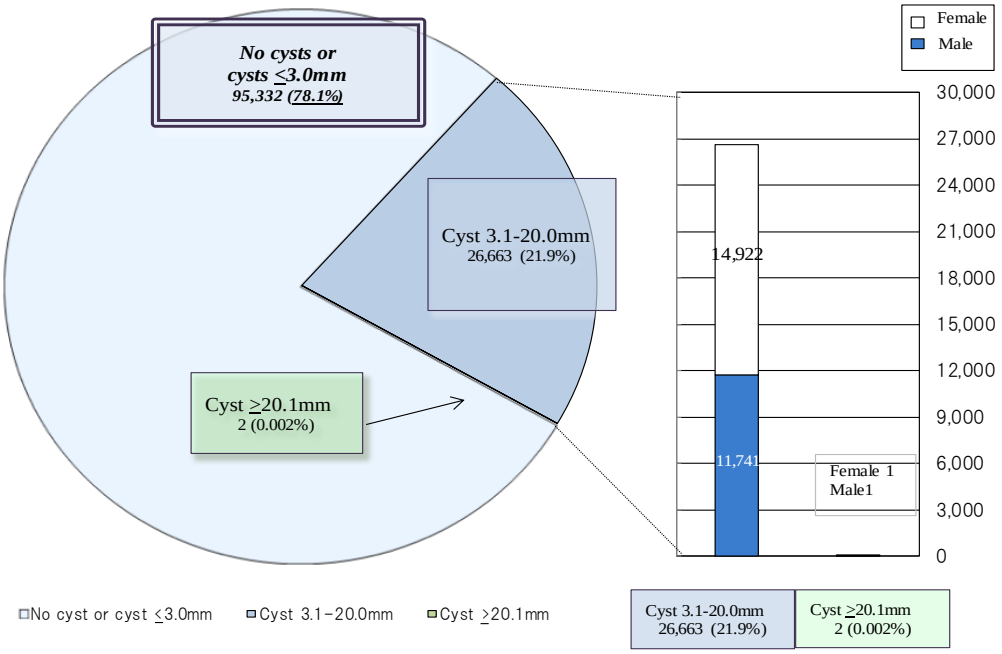


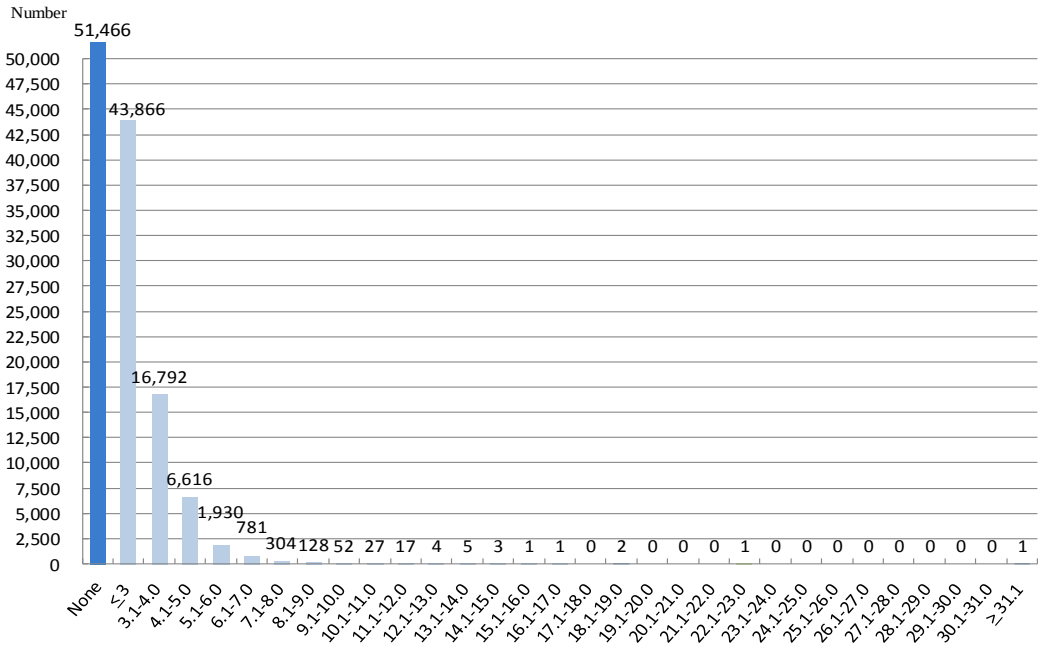


3. Cyst size

As of 31 March 2015

Cyst size	Total	Male	Female	Class	%
None	51,466	27,254	24,212	A1	78.1%
≤ 3.0 mm	43,866	22,672	21,194	A2	21.9%
3.1-5.0 mm	23,408	10,641	12,767		
5.1-10.0 mm	3,195	1,084	2,111		
10.1-15.0 mm	56	14	42		
15.1-20.0 mm	4	2	2		
20.1-25.0 mm	1	0	1	B	0.002%
≥ 25.1 mm	1	1	0		
Total	121,997	61,668	60,329		





Appendix 5

Confirmatory test results by municipality

As of 31 March 2015

	Number of children screened	Number who required confirmatory test	Number of children who underwent confirmatory test by age					Number of confirmed results				
			Total	Ages 2-7	Ages 8-12	Ages 13-17	Ages 18-22	Total	Next screening advised		Follow-up advised	
												Aspiration biopsy cytology
	a	b	c	d	e	f	g	h	A1 i	A2 j	k	l
		Proportion (%)	Proportion (%)	Proportion (%)	Proportion (%)	Proportion (%)	Proportion (%)	Proportion (%)	Proportion (%)	Proportion (%)	Proportion (%)	Proportion (%)
Screening coverage by municipality in FY 2014												
Kawamata	1,686	20	17	0	3	11	3	17	3	6	8	1
		1.2	85.0	0.0	17.6	64.7	17.6	100.0	17.6	35.3	47.1	12.5
Namie	2,058	22	17	0	2	7	8	15	0	2	13	2
		1.1	77.3	0.0	11.8	41.2	47.1	88.2	0.0	13.3	86.7	15.4
Iitate	715	12	10	0	2	6	2	10	2	3	5	1
		1.7	83.3	0.0	20.0	60.0	20.0	100.0	20.0	30.0	50.0	20.0
Minami-soma	7,972	59	50	2	9	25	14	49	4	13	32	7
		0.7	84.7	4.0	18.0	50.0	28.0	98.0	8.2	26.5	65.3	21.9
Date	8,833	80	71	1	17	37	16	64	0	26	38	5
		0.9	88.8	1.4	23.9	52.1	22.5	90.1	0.0	40.6	59.4	13.2
Tamura	4,680	47	31	1	3	20	7	28	1	8	19	3
		1.0	66.0	3.2	9.7	64.5	22.6	90.3	3.6	28.6	67.9	15.8
Hirono	495	7	7	0	1	3	3	7	0	3	4	0
		1.4	100.0	0.0	14.3	42.9	42.9	100.0	0.0	42.9	57.1	0.0
Naraha	731	4	3	0	0	0	3	3	0	0	3	0
		0.5	75.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	100.0	0.0
Tomioka	1,434	17	12	0	1	3	8	11	0	3	8	1
		1.2	70.6	0.0	8.3	25.0	66.7	91.7	0.0	27.3	72.7	12.5
Kawauchi	182	1	0	0	0	0	0	0	0	0	0	0
		0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Okuma	1,329	9	8	0	0	5	3	8	0	1	7	2
		0.7	88.9	0.0	0.0	62.5	37.5	100.0	0.0	12.5	87.5	28.6
Futaba	502	2	0	0	0	0	0	0	0	0	0	0
		0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Katsurao	130	1	1	0	1	0	0	1	0	1	0	0
		0.8	100.0	0.0	100.0	0.0	0.0	100.0	0.0	100.0	0.0	0.0
Fukushima	40,840	317	259	5	37	129	88	219	10	42	167	29
		0.8	81.7	1.9	14.3	49.8	34.0	84.6	4.6	19.2	76.3	17.4
Nihonmatsu	7,560	53	41	1	6	20	14	33	1	7	25	2
		0.7	77.4	2.4	14.6	48.8	34.1	80.5	3.0	21.2	75.8	8.0
Motomiya	4,613	29	20	0	1	11	8	9	0	1	8	0
		0.6	69.0	0.0	5.0	55.0	40.0	45.0	0.0	11.1	88.9	0.0
Otama	1,225	4	4	0	0	3	1	3	0	2	1	0
		0.3	100.0	0.0	0.0	75.0	25.0	75.0	0.0	66.7	33.3	0.0
Koriyama	42,106	214	13	0	0	6	7	3	0	0	3	0
		0.5	6.1	0.0	0.0	46.2	53.8	23.1	0.0	0.0	100.0	0.0
Kori	1,548	14	7	0	1	4	2	4	0	1	3	0
		0.9	50.0	0.0	14.3	57.1	28.6	57.1	0.0	25.0	75.0	0.0
Kunimi	1,184	8	6	1	1	0	4	2	0	0	2	0
		0.7	75.0	16.7	16.7	0.0	66.7	33.3	0.0	0.0	100.0	0.0
Tenei	693	8	0	0	0	0	0	0	0	0	0	0
		1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Shirakawa	8,837	46	3	0	0	1	2	0	0	0	0	0
		0.5	6.5	0.0	0.0	33.3	66.7	0.0	0.0	0.0	0.0	0.0
Nishigo	2,939	19	3	0	0	1	2	0	0	0	0	0
		0.6	15.8	0.0	0.0	33.3	66.7	0.0	0.0	0.0	0.0	0.0
Izumizaki	906	1	1	0	0	1	0	0	0	0	0	0
		0.1	100.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0
Miharu	2,247	13	4	0	0	4	0	2	0	1	1	0
		0.6	30.8	0.0	0.0	100.0	0.0	50.0	0.0	50.0	50.0	0.0
Subtotal	145,445	1,007	588	11	85	297	195	488	21	120	347	53
		0.7	58.4	1.9	14.5	50.5	33.2	83.0	4.3	24.6	71.1	15.3
Screening coverage by municipality in FY 2015												
Subtotal	2,582	36	5	0	0	5	0	3	0	1	2	1
		1.4	13.9	0.0	0.0	100.0	0.0	60.0	0.0	33.3	66.7	50.0
Total	148,027	1,043	593	11	85	302	195	491	21	121	349	54
		0.7	56.9	1.9	14.3	50.9	32.9	82.8	4.3	24.6	71.1	15.5

h) Excluding participants who have not receive the test results.

Ages are at the time when the participants underwent the testing.

Appendix 6

Surgical cases of malignant or suupicious for malignancy

1. Target municipalities in FY 2014

Suspicious or malignant: 15 (5 surgical cases: 5 of papillary thyroid carcinoma)

Progress Report of Mental Health and Lifestyle Survey

Reported on 18 May 2015

Report of the FY 2014 Survey as of 31 March 2015

1. Responses

Number of responses and response rate

	Number of Participants	Responses	Response rate
Children	25,872	6,072	23.5%
Adults	186,875	40,574	21.7%
Total	212,747	46,646	21.9%

2. Support

2.1 Telephone counseling sessions

Clinical psychiatrists, public health nurses and other professionals provide phone counseling sessions to respondents who were assessed to require support for mental health or lifestyle problems.

(A) Support based on scale scores

	Participants requiring support[1]	Proportion[2]	Contact attempts to date[3]	Proportion	Counseling sessions completed	Proportion
Children	241	4.5%	164	68.0%	111	46.1%
Adults	963	3.2%	569	59.1%	364	37.8%
Total	1,204	3.4%	733	60.9%	475	39.5%

1) Number of participants who were assessed to require support as of 31 March

- Children with SDQ (Strength and Difficulties Questionnaire) score $\geq$20
- Adults with K6 (general mental health conditions) score $\geq$17

2) Number of respondents, who were assessed by 31 March to require support, as a percentage of a total of 35,103 entered responses (5,300 children and 29,803 adults)

3) Including respondents who could not be reached for telephone support due to absence, or who did not provide their phone numbers

(B) Support based on items other than scales

	Participants requiring support[4]	Contact attempts to date[3]	Proportion	Counseling sessions completed	Proportion
Children	7	6	85.7%	6	85.7%
Adults	50	37	74.0%	32	64.0%
Total	57	43	75.4%	38	66.7%

4) Number of participants who were assessed to require support as of 31 March

- Adults with a previous history of hypertension or diabetes who have not received treatment with a BMI ≥27.5 or who consume, on average, ≥540 ml alcoholic drinks per day
- Children and adults who were identified based on the content of free-answer questions and in urgent need of support

1. Outline of Mental Health and Lifestyle Survey for FY 2013

1.1 Purpose

The Great East Japan Earthquake on 11 March 2011 and the following accident at the Fukushima Daiichi Nuclear Power Plant brought the residents of Fukushima Prefecture psychological distress or post-traumatic stress disorder (PTSD) caused by anxiety, evacuation, loss of property, and fearful experiences. The survey started in FY 2011 to understand the residents' mental health and lifestyle, and provide them with appropriate care.

As mental health services should involve medium- and long-term support, we will continue to conduct the survey to convey a strong message of ongoing care and support to the participants. Additionally, further support is needed based on understanding the changes in their situation that have occurred as well as the causes of these changes.

1.2. Methods

1.2-1 Group

The group of the FY 2013 survey were residents of nationally designated evacuation zones as of 11 March 2011 and born on or before 1 April 2013. Specifically, there were 212,372 who were registered residents of the following municipalities: Hirono, Naraha, Tomioka, Kawauchi, Okuma, Futaba, Namie, Katsurao, Iitate, Minami-soma, Tamura, Kawamata, and the part of Date specifically recommended for evacuation).

Ages 0-3 Survey:	4,164 individuals born from April 2nd 2010 to April 1st 2013
Ages 4-6 Survey:	5,169 individuals born from April 2nd 2007 to April 1st 2010
Primary School Survey:	11,167 individuals born from April 2nd 2001 to April 1st 2007
Middle School Survey:	6,013 individuals born from April 2nd 1998 to April 1st 2001
General Survey:	185,859 individuals born before April 1st 1998

1.2-2 Survey Methods

Based on the classifications, survey sheets (self-report or guardian response) were mailed to the participants.

1.2-3 Data Tabulation Period

Data tabulation period lasted from Feb 5th 2014 through Oct 31st 2014.

1.2-4 Number of respondents and valid responses

The numbers of respondents were: 1,635 (39.3%) for the ages 0-3 survey; 2,033 (39.3%) for the ages 4-6 survey; 4,005 (35.9%) for the primary school survey; 1,822 (30.3%) for the middle school survey; and 46,388 (25.0%) for the general survey. (Table 1)

The numbers of valid responses (response rate) were the following: 1,634 (39.2%) for the ages 0-3 survey; 2,032 (39.3%) for the ages 4-6 survey; 3,987 (35.7%) for the primary school survey; 1,820 (30.3%) for the middle school survey; and 46,377 (25.0%) for the general survey.

The results were collected for each item by questionnaire. As there are missing values in each item, the total may not match the abovementioned valid responses. Since the proportions in the report have been rounded to the nearest whole number, there are instances where the total does not add up to 100%.

1.3. Results

1.3-1 Age 0-3 years

- While non-school age children were classified as Group 1 in the FY 2011 survey, they were classified and totaled as Age 0-3 years or Age 4-6 years in the FY 2012 and 2013 survey.
- Of 4,164 respondents, there were 1,634 (39.2%) valid responses.
- Regarding the children's health conditions, the result was generally favorable, with 98.8% of responses indicating no particular issues ('Extremely good', 'Good', 'Normal'), which was similar to the result of FY 2012 (98.5%). However, 1.2% responded indicating that there were issues ('Bad', 'Extremely bad').
- Length of sleep was 9 hours and 59 minutes on average, and the average napping time was 1 hour and 53 minutes. These results were almost the same as those of FY 2012 survey (length of sleep: 10 hours and 0 minutes), and counterparts (3-year-old children) in a national survey[2].

1.3-2 Age 4-6 years

- Of 5,169 respondents, there were 2,032 (39.3%) valid responses.
- Regarding the children's health conditions, the result was generally favorable, with 98.4% of responses indicating no particular issues ('Extremely good', 'Good', 'Normal'), which was almost the same as the FY 2011 survey (97.8%) and FY 2012 survey (98.2%). However, 1.6% had some problems, with 1.4% responding 'Bad', and 0.2% responding 'Extremely bad'.
- In the survey on children's affect and behavior (SDQ Japanese Edition), 14.2% of the 2,027 valid respondents scored 16 or higher, the screening score from the preceding study, and 5.4% scored 20 or higher, the initial support standard. Compared to the FY 2011 survey (24.4% scoring 16 or higher, 11.3% scoring 20 or higher) and the FY 2012 survey (16.5% scoring 16 or higher, 5.9% scoring 20 or higher), the proportion is decreasing, although the decline slowed since FY 2012.
  For boys, of the 1,020 valid respondents, 16.7% scored 16 or higher, and 6.8% scored 20 or higher, while for girls, of the 1,007 valid respondents, 11.7% scored 16 or higher, and 4.1% scored 20 or higher. This tendency for girls to score lower was similar to the FY 2011 and 2012 survey.
- Average length of sleep was 9 hours and 44 minutes, and average length of naps was 1 hour and 39 minutes. Length of sleep and length of naps were almost the same as the FY 2011 (average length of sleep was 9 hours and 43 minutes, and average length of naps was 1 hour and 47 minutes) and FY 2012 (average length of sleep was 9 hours and 45 minutes, and average length of naps was 1 hour and 33 minutes) survey. The length of sleep was almost the same as that of counterparts (5-year-old children) in a national survey[2].

1.3-3 Primary School

- Of 11,167 respondents, there were 3,987 (35.7%) valid responses.
- Regarding health conditions, the result was generally favorable following the FY 2011 survey (97.1%) and FY 2012 survey (98.0%), with 98.5% of responses indicating no particular issues (‘Extremely good’, ‘Good’, ‘Normal’). On the other hand, 1.5% indicated issues, and responded either ‘Bad’ (1.3%) or ‘Extremely Bad’ (0.2%).
- Regarding SDQ scores, of the 3,974 valid respondents, 14.7% scored 16 or higher and 5.7% scored 20 or higher. The proportion is almost the same as the age 4-6 group, and the proportion of high scores has been decreasing compared to the FY 2011 survey (22.0% scoring 16 or higher, 10.9% scoring 20 or higher) and FY 2012 survey (16.3% scoring 16 or higher, 6.4% scoring 20 or higher), although the decline slowed since FY 2012.

  Considering boys and girls separately, 16.9% of boys scored 16 or higher, and 7.1% scored 20 or higher, while 12.3% of girls scored 16 or higher, and 4.1% scored 20 or higher, showing that girls tended to score lower. This tendency is similar to the FY 2011 and 2012 survey.
- Length of sleep averaged 8 hours and 54 minutes. This is about 20 minutes longer compared to the FY 2011 survey (8 hours and 36 minutes), and was almost the same as the FY 2012 survey (8 hours and 53 minutes) and a national survey[3].
- Regarding fitness habits, fewer than 40% of respondents (39.3%) answered that they rarely exercise outside of physical education, which is an improvement since the FY 2011 survey (53.0%) and FY 2012 survey (45.1%). However, compared to the report from a national survey[4], where the group that responded they occasionally or never exercise outside of physical education classes in school consisted of 11.8% of boys and 23.4% of girls, fitness habits are still insufficient.

1.3-4 Middle School

- Of 6,013 participants, there were 1,820 (30.3%) valid responses.
- Regarding health conditions, the result was generally favorable as in FY 2011 (95.4%) and FY 2012 (96.6%), with 97.0% of responses indicating no particular issues (‘Extremely good’, ‘Good’, ‘Normal’). On the other hand, 3.0% indicated issues, and responded either ‘Bad’ (2.7%) or ‘Extremely bad’ (0.3%).
- Regarding SDQ scores, of the 1,776 valid respondents, 13.2% scored 16 or higher and 6.3% scored 20 or higher. Compared to the age 4-6 and primary school groups, the percentage scoring 16 and above was lower but the percentage scoring 20 and above was higher. There was little difference in the proportion since FY 2012 compared to the FY 2011 survey (16.2% scoring 16 or higher, 7.7% scoring 20 or higher) and FY 2012 survey (12.3% scoring 16 or higher, 6.2% scoring 20 or higher).

  Considering boys and girls separately, for boys, of the 873 valid respondents, 15.9% scored 16 or higher, and 7.1% scored 20 or higher. Among the 903 valid responses for girls, 10.5% scored 16

or higher, and 5.5% scored 20 or higher. While no gender differences were found until FY 2012, the proportion was lower amongst girls in the FY 2013 survey.

- Length of sleep averaged 7 hours and 8 minutes. This was about 15 minutes longer compared to the FY 2011 survey (6 hours and 53 minutes), and was almost the same as the FY 2012 survey (7 hours and 9 minutes) and a national survey[3].
- Regarding fitness habits, 31.0% responded that they rarely exercise outside of physical education, which is an improvement from the FY 2011 survey (47.0%) and the FY 2012 survey (34.3%). However, compared to the results from a national survey[5], where the group that responded they occasionally or never exercise consisted of 9.6% of boys and 29.3% of girls, fitness habits are still insufficient.

General Summary of Children

- The SDQ was used as an indicator to evaluate children's mental health. Similar to the FY 2011 and 2012 survey, the percentage of people scoring 16 or higher on the SDQ was high for all groups compared to the percentage (9.5%) in prior research on the general population in unaffected areas of Japan[6]. Although the proportion of high scores of SDQ declined in all age groups compared to the FY 2011 survey, the improvement slowed and the proportion stayed almost the same since FY 2012. Length of sleep was also similar to the FY 2012 survey, approaching the length of sleep in the preceding research. In regards to fitness habits, the proportion of group that rarely exercises is in a declining tendency, but fitness habits are still insufficient compared to the national survey, although a direct comparison is difficult due to differing survey contents.

1.3-5 General (people born on or before April 1, 1998)

Mental Health

- General mental health conditions (K6) apply to 3.0% of Japanese regional residents in normal times if the score of $\geq$13 is used as the cut-off value[7]. Evaluating adult regional residents four years after the 2007 Peru earthquake, which measured 8.0 magnitude scale, 15.9% met the cut-off of $\geq$44 PCL scores (PTSD checklist)[8]. For another study, 20.1% and 11.1% of rescue workers of the 9/11 terrorist attacks in New York City met the PCL cut-off score of $\geq$44 and $\geq$50 respectively[9]. Based on these preceding studies and results of surveys conducted to decide the PCL criteria, we set up standards for requiring telephone support provided by the Mental Health Support Team to be K6 score $\geq$13 and PCL score $\geq$50, or K6 score $\geq$17 regardless of the PCL score.
- Regarding the K6, 9.7% scored 13 or higher, showing that scores had decreased compared to the FY 2011 and 2012 survey but are still high compared to the proportion of people scoring higher than the cut-off value during normal times. In contrast to 8.4% of males scoring 13 or higher, 10.8% of females scored 13 or higher. Considering the age groups differently, 10.7% of

respondents of 70 years or older scored 13 or higher, while 5.2% of respondents aged 10-19 years scored 13 or higher. These tendencies were similar to the FY 2011 and 2012 survey.

- On the PCL, 15.8% scored 44 or higher, which was relatively low compared to the FY 2011 and 2012 survey, but still very high. The gender and age tendencies were similar to those of the K6.

Lifestyle

- Asked about their own health (subjective sense of well-being), 18.5% of respondents evaluated themselves as being 'Bad' or 'Extremely bad', and the proportion was similar to the FY 2011 survey (18.5%) and FY 2012 survey (17.9%).
- Compared with the prior year, 17.6% 'gained 3 kg or more' of body weight, while 9.7% 'lost 3 kg or more'. The percentage of people who gained weight was higher as was the case in FY 2012 (23.9% gained $\geq$3 kg and 14.8% lost $\geq$3 kg after the disaster in 2011).
- 60.3% of respondents were dissatisfied with their sleep, but this percentage has decreased since the FY 2011 survey (66.7%) and FY 2012 survey (62.4%).
- Regarding fitness habits, 46.7% of respondents rarely exercised, showing that the percentage went up compared with the FY 2011 survey (50.9%) and FY 2012 survey (47.3%).
- The percentage of current smokers was 18.5%, which was lower than the FY 2011 survey (20.7%) and FY 2012 survey (20.4%). The percentage of current drinkers was 44.1%, which was similar to the FY 2011 survey (44.1%) and FY 2012 (43.6%). The percentage of heavy drinkers (drinking at least 360 ml or more per day) was 7.9%, which was lower than the FY 2011 survey (9.6%) and FY 2012 survey (9.9%).

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2. Outline of Mental Health Support

2.1 Purpose

The Great East Japan Earthquake on 11 March 2011 and the following accident at the Fukushima Daiichi Nuclear Power Plant brought the residents of Fukushima Prefecture psychological distress or post-traumatic stress disorder (PTSD) caused by anxiety, evacuation, loss of property, and fearful experiences. The survey started in FY 2011 to understand the residents' mental health and lifestyle, and provide them with appropriate care.

As mental health services should involve medium- and long-term support, we will continue to conduct the survey to convey a strong message of ongoing care and support to the participants. Additionally, further support is needed based on understanding the changes in their situation that have occurred as well as the causes of these changes.

Responses of FY 2013 survey were analyzed by doctors and other professionals at Fukushima Medical University (FMU). A Mental Health Support Team consisting of clinical psychologists, public health nurses and others performed consultations to those assessed to require counseling sessions or support for mental health or lifestyle problems.

2.2 Methods

2.2-1. Support Group

Respondents to the Mental Health and Lifestyle Survey for FY 2013, who are residents of nationally designated evacuation areas born on or before 1 April 2013, and apply to the following selection criteria

2.2-2 Criteria for Support

Telephone Counseling Sessions

Respondents who required support (A):

- Children with SDQ (Strength and Difficulties Questionnaire) score $\geq$20, adults with K6 (general mental health conditions) score $\geq$13 and PCL (trauma response) score $\geq$50, or adults with K6 score $\geq$17 regardless of their PCL score.

Respondents who required support (B):

- Children and adults identified based on the content of free-answer questions and in urgent need of support.
- Adults with a previous history of hypertension or diabetes who have not received treatment with a BMI $\geq$27.5 (calculated from weight and height written in the survey) and a weight gain of $\geq$3 kg after the disaster, or those who consume, on average, $\geq$540 ml alcoholic drinks per day.
- Adults with a history of mental disorders who are not currently visiting a clinic.

Written Materials

Respondents who required support (A):

- Children with SDQ score ≥16 (criterion in initial screening) and adults with K6 score ≥13 or PCL score ≥44 (criteria in initial screening), who did not meet the criteria for telephone counseling sessions.

Respondents who required support (B):

- Children and adults identified based on the content of free-answer questions and not in urgent need of support.
- Adults who neither meet the above criteria nor receive medical treatment with sleep disorder, depression and/or decreased activity.
- Adults with CAGE (method of screening for alcoholism) score ≥2 out of 4.

2.2-3 Support Methods

A Mental Health Support Team performed telephone consultations to those assessed to require support.

We sent the respondents who required written support materials a letter with a special phone number for support, and a return postcard asking their desire for telephone support. Telephone support was provided to those who indicated their desire for support, or those who were assessed to require support based on the reply content.

2.3 Results

The number of those who required support was 1,256 children and 11,507 adults for the FY 2013 Mental Health and Lifestyle Survey. Based only on the CAGE test scores, the number was 2,010.

Among the children, 504 required telephone counseling sessions and 752 required written support materials. Based on the content of the written materials, 37 participants were assessed to require telephone support, making it a total of 541 respondents who required telephone counseling sessions, including 321 (59.3%) male and 220 (40.7%) female. Among them, the counseling session was provide to 473 (87.4%) participants, 330 (69.8%) of whom resided within the prefecture and 143 (30.2%) resided outside the prefecture.

There were 3,843 adults who required telephone counseling sessions. The number of those who were assessed based on scale scores was 3,020, of whom 1,150 (38.1%) were male and 1,870 (61.9%) were female. Based on items other than scales, the number was 823, of whom 392 (47.6%) were male and 431 (52.4%) were female. The telephone counseling sessions were successfully administered to 3,321 (86.4%) respondents. Among them, 2,622 (79.0%) resided within the prefecture and 699 (21.0%) resided outside the prefecture. The number of adults who required written support materials was 7,664. Of these, a total of 616 were assessed by the content of their responses to require phone support. The number of those who were assessed based on the scale scores was 479, of whom 210 (43.8%) were male and 269 (56.2%) were female. Based on items other than scales, the number was

137, of whom 76 (55.5%) were male and 61 (44.5%) were female. The telephone counseling sessions were successfully administered to 592 (96.1%) respondents. Among them, 483 (81.6%) resided within the prefecture and 109 (18.4%) resided outside the prefecture.

To those who were identified as requiring support but could not be reached for telephone support (except for the deceased), and to those who only met the criteria of CAGE test scores, information was provided by sending booklet made by FMU's Radiation Medical Science Center: *Mental Health and Lifestyle Support.*

After the telephone counseling sessions for children, 355 (75.1%) were categorized as 'Follow-up 1*,' and 102 (21.6%) were categorized as 'Follow-up 2**.' Frequently discussed issues were impact on school, and irritability and violence from the category 'Child's reaction,' and parent or guardian's problem from the category 'Parent/Guardian and family problems.'

Among the adults, 2,573 (77.5%) were categorized as 'Follow-up 1' and 599 (18.0%) were categorized as 'Follow-up 2.' Among the respondents who required written materials, 506 (85.5%) were categorized as 'Follow-up 1' and 78 (13.2%) were categorized as 'Follow-up 2.' Frequently discussed issues were physical problems, disrupted sleep, depression, and anxiety about the future from the category 'Personal reaction,' changes in living environment, family relationships, and changes in daily life and habits from the category 'Household problems,' and dissatisfaction with government policies or problems of disaster claims from the category 'Problems with social life.'

* Participants confirmed to be improving or self-managing their problems.

** Participants not recovering from health problems, the emotional aftermath, adjustment disorder etc.

Reference

1) Mental Health and Lifestyle Survey for FY 2013, Proceedings of the 18th Prefectural Oversight Committee Meeting for Fukushima Health Management Survey

FY 2013 Fukushima Health Management Survey

Mental Health and Lifestyle Survey

Result Report

Fukushima Medical University

Radiation Medical Science Center

May 2015

Outline of Mental Health and Lifestyle Survey for FY 2013

1. Purpose

The Great East Japan Earthquake on 11 March 2011 and the following accident at the Fukushima Daiichi Nuclear Power Plant brought the residents of Fukushima Prefecture psychological distress or post-traumatic stress disorder (PTSD) caused by anxiety, evacuation, loss of property, and fearful experiences. The survey started in FY 2011 to understand the residents' mental health and lifestyle, and provide them with appropriate care.

As mental health services should involve medium- and long-term support, we will continue to conduct the survey to convey a strong message of ongoing care and support to the participants. Additionally, further support is needed based on understanding the changes in their situation that have occurred as well as the causes of these changes.

2. Methods

2.1 Group

The group of the FY 2013 survey were residents of nationally designated evacuation zones as of 11 March 2011 and born on or before 1 April 2013. Specifically, there were 212,372 who were registered residents of the following municipalities: Hirono, Naraha, Tomioka, Kawauchi, Okuma, Futaba, Namie, Katsurao, Iitate, Minami-soma, Tamura, Kawamata, and the part of Date specifically recommended for evacuation).

Ages 0-3 Survey:	4,164 individuals born from April 2nd 2010 to April 1st 2013
Ages 4-6 Survey:	5,169 individuals born from April 2nd 2007 to April 1st 2010
Primary School Survey:	11,167 individuals born from April 2nd 2001 to April 1st 2007
Middle School Survey:	6,013 individuals born from April 2nd 1998 to April 1st 2001
General Survey:	185,859 individuals born before April 1st 1998

2.2 Survey Methods

Based on the classifications, survey sheets (self-report or guardian response) were mailed to the participants.

2.3 Data Tabulation Period

Data tabulation period lasted from Feb 5th 2014 through Oct 31st 2014.

2.4 Number of respondents and valid responses

The numbers of respondents were the following: 1,635 (39.3%) for the ages 0-3 survey; 2,033 (39.3%) for the ages 4-6 survey; 4,005 (35.9%) for the primary school survey; 1,822 (30.3%) for the middle school survey; and 46,388 (25.0%) for the general survey. (Table 1)

The numbers of valid responses (response rate) were the following: 1,634 (39.2%) for the ages 0-3 survey; 2,032 (39.3%) for the ages 4-6 survey; 3,987 (35.7%) for the primary school survey; 1,820 (30.3%) for the middle school survey; and 46,377 (25.0%) for the general survey.

The results were collected for each item by questionnaire. As there are missing values in each item, the total may not match the abovementioned valid responses. Since the proportions in the report have

been rounded to the nearest whole number, there are instances where the total does not add up to 100%.

Table 1. Number of participants, respondents and valid responses (%)

	FY 2013			FY 2012			FY 2011		
Participants	0-3 years	4,164		0-3 years	4,625		Group 1	11,717	
	4-6 years	5,169		4-6 years	5,047				
	Primary school age	11,167		Primary school age	11,413		Group 2	11,791	
	Middle school age	6,013		Middle school age	6,023		Group 3	6,077	
	Subtotal	26,513		Subtotal	27,108		Subtotal	29,585	
	Adults	185,859			184,507		Adults	180,604	
	Total	212,372		Total	211,615		Total	210,189	
Respondents (%)	0-3 years	1,635	(39.3)	0-3 years	2,143	(46.3)	Group 1	7,824	(66.8)
	4-6 years	2,033	(39.3)	4-6 years	2,231	(44.2)			
	Primary school age	4,005	(35.9)	Primary school age	4,703	(41.2)	Group 2	7,509	(63.7)
	Middle school age	1,822	(30.3)	Middle school age	2,126	(35.3)	Group 3	3,412	(56.1)
	Subtotal	9,495	(35.8)	Subtotal	11,203	(41.3)	Subtotal	18,745	(63.4)
	Adults	46,388	(25.0)	Adults	55,076	(29.9)	Adults	73,569	(40.7)
	Total	55,883	(26.3)	Total	66,279	(31.3)	Total	92,314	(43.9)
Valid responses (%)	0-3 years	1,634	(39.2)	0-3 years	2,143	(46.3)	Group 1	7,818	(66.7)
	4-6 years	2,032	(39.3)	4-6 years	2,230	(44.2)			
	Primary school age	3,987	(35.7)	Primary school age	4,683	(41.0)	Group 2	7,464	(63.3)
	Middle school age	1,820	(30.3)	Middle school age	2,118	(35.2)	Group 3	3,411	(56.1)
	Subtotal	9,473	(35.7)	Subtotal	11,174	(41.2)	Subtotal	18,693	(63.2)
	Adults	46,377	(25.0)	Adults	55,064	(29.8)	Adults	73,433	(40.7)
	Total	55850	(26.3)	Total	66,238	(31.3)	Total	92,126	(43.8)

Results of the FY 2013 Mental Health and Lifestyle Survey (0-3 years old)

Among 4,164 people (age group 0-3) in the Mental Health and Lifestyle Survey, the valid response count was 1,634 (39.2%). The breakdown was 824 (50.4%) males and 810 (49.6%) females and the average age was 2.0 years old.

As for the current address, 1,191 (72.9%) lived within the prefecture and 443 (27.1%) lived outside the prefecture.

1. The health condition of the child (Q1)

Breakdown of the health condition was: 521 (32.5%) for ‘very good’; 681 (42.5%) for ‘good’; 381 (23.8%) for ‘normal’; 18 (1.1%) for ‘bad’; and 0 (0.0%) for ‘very bad’.

2. The current height and weight of the child (Q2)

The average height/weight of boys was: 78.4 cm/10.3 kg for 1 year olds as of 1 April 2014; 88.2 cm/12.8 kg for 2 year olds; and 96.0 cm/15.0 kg for 3 year olds. The average height/weight of girls was: 77.8 cm/10.0 kg for 1 year olds; 87.4 cm/12.2 kg for 2 year olds; and 94.6 cm/14.2 kg for 3 year olds.

3. Currently treated diseases (Q3)

For currently treated diseases, 1,158 (71.4%) answered ‘no’ while 463 (28.6%) answered ‘yes’.

The breakdown (multiple answers possible) of diseases for those who answered ‘yes’ are shown in Table 2 below.

Table 2. The breakdown of currently treated diseases

Disease	Count
Common cold	189
Atopic dermatitis	76
Asthma	62
Otitis media	53
Odontopathy	40
Allergic rhinitis	35
Asthma, atopic dermatitis, allergic conditions other than allergic rhinitis	28
Influenza	11
Sinusitis/ empyema	10
Epilepsy	2
ADHD	2
Other	71

Multiple answers

4. Experience of hospitalization (Q4)

For experience of hospitalization, 1,238 (76.0%) answered ‘no’ while 391 (24.0%) answered ‘yes’.

The breakdown of diseases for those who answered ‘yes’ (multiple answers) are the following in Table 3.

Among those who responded ‘yes’ to experience of hospitalization, 247 answered that they did not become hospitalized due to a disease within the year (responded ‘none’). The breakdown of diseases for those who were hospitalized within a year is shown below in Table 4.

Table 3. Breakdown of diseases during hospitalization

Disease	Count
Respiratory syncytial virus infection	107
Pneumonia	69
Bronchitis	48
Common cold	42
Gastroenteritis	38
Rotavirus infection	33
Asthma	32
Mycoplasma pneumonia	30
Febrile convulsion	29
Kawasaki disease	15
Inguinal hernia	13
Influenza	12
Other	114

Multiple answers

Table 4. Breakdown of diseases during hospitalization within the past one year

Disease	Count
Respiratory syncytial virus infection	30
Pneumonia	24
Bronchitis	18
Asthma	14
Rotavirus infection	13
Febrile convulsion	13
Common cold	12
Gastroenteritis	9
Mycoplasma pneumonia	8
Kawasaki disease	7
Inguinal hernia	6
Influenza	3
Other	28

Multiple answers

5. Medical exam experience (Q5)

1) Those who answered ‘no’ for experience of CT scans were 1,516 (93.1%), ‘yes’ were 70 (4.3%) and ‘I don’t know’ were 43 (2.6%).
2) Those who answered ‘no’ for experience of examinations using X-rays (except CT and conventional X-ray imaging) were 1,486 (92.6%), ‘yes’ were 60 (3.7%) and ‘I don’t know’ were 58 (3.6%).

   Among those who answered ‘yes’, 43 had a fluoroscopy, 9 had an angiography, and 2 had a nuclear medicine scan.

6. Experience of radiation therapy treatment (Q6)

For experience of radiation therapy treatment, those who answered ‘no’ were 1,604 (98.5%), ‘yes’ were 4 (0.2%), and ‘I don’t know’ were 20 (1.2%).

7. Sleeping hours and naps (Q7)

1) The average going-to-bed time was 9:11 PM and the average waking time was 7:14 AM. The

average sleeping time was 9 hour and 59 minutes.

2) For naps (Does your child take naps?), those who answered ‘no’ were 215 (13.3%) and ‘yes’ were 1,404 (86.7%). The average nap time was 1 hour and 53 minutes.

8. Regular amount of exercise (Q8)

Regarding exercise (What is your regular amount of exercise?) for two year olds and above at the time of the surevy: those who answered ‘almost every day’ were 504 (45.0%); ‘2-4 times a week’ were 355 (31.7%); ‘once a week’ were 144 (12.9%); and ‘barely exercise’ were 116 (10.4%).

9. Diet (Q9)

1) For breast milk (does your child drink breast milk?), those who answered ‘yes’ were 225 (14.4%) and ‘no’ were 1,339 (85.6%).
2) The frequency of consuming food (drinks), breakfast, eating out, and pre-cooked food (among those who were one year old and above at the time of the survey) were as shown in Table 5 (next page).

10. Child rearing (Q10)

For child rearing (do you ever lose confidence in child rearing?), those who answered ‘yes’ were 207 (12.7%), ‘no’ were 710 (43.6%), and ‘cannot say’ were 713 (43.7%).

Table 5. Frequencies of eating (drinking) pre-cooked foods, breakfast and eating out (1-3 years old)

(Upper row is the number of individuals/lower row is percentage)

		I don't eat.	Less than once a week	1-2 times a week	3-4 times a week	5-6 times a week	Every day	Total
Breakfast		11 (0.7%)	0 (0.0%)	6 (0.4%)	26 (1.7%)	49 (3.2%)	1,463 (94.1%)	1,555
Eating out (excluding school lunch)		158 (10.2%)	892 (57.8%)	414 (26.8%)	28 (1.8%)	3 (0.2%)	48 (3.1%)	1,543
Prepared food		147 (9.5%)	591 (38.3%)	587 (38.0%)	180 (11.7%)	26 (1.7%)	14 (0.9%)	1,545
Rice		1 (0.1%)	0 (0.0%)	7 (0.4%)	45 (2.9%)	125 (8.0%)	1,380 (88.6%)	1,558
Bread		30 (1.9%)	214 (13.8%)	532 (34.3%)	359 (23.2%)	164 (10.6%)	251 (16.2%)	1,550
Fish dishes		32 (2.1%)	156 (10.0%)	723 (46.6%)	504 (32.5%)	96 (6.2%)	42 (2.7%)	1,553
Meat	Chicken	50 (3.2%)	290 (18.6%)	849 (54.6%)	318 (20.5%)	36 (2.3%)	12 (0.8%)	1,555
	Beef, pork	76 (4.9%)	197 (12.7%)	670 (43.2%)	511 (32.9%)	75 (4.8%)	22 (1.4%)	1,551
	Ham, sausage	125 (8.1%)	293 (19.0%)	587 (38.1%)	415 (26.9%)	83 (5.4%)	39 (2.5%)	1,542
Vegetables	Green vegetables	118 (7.6%)	198 (12.8%)	494 (31.8%)	416 (26.8%)	182 (11.7%)	144 (9.3%)	1,552
	Red and yellow vegetables	38 (2.4%)	100 (6.4%)	372 (23.9%)	538 (34.6%)	275 (17.7%)	232 (14.9%)	1,555
	Hypochromic vegetables	46 (3.0%)	114 (7.3%)	358 (23.1%)	562 (36.2%)	275 (17.7%)	198 (12.7%)	1,553
	Vegetable juice	525 (33.8%)	399 (25.7%)	290 (18.7%)	167 (10.8%)	67 (4.3%)	105 (6.8%)	1,553
Fruits	Fruits	54 (3.5%)	134 (8.6%)	330 (21.2%)	382 (24.5%)	265 (17.0%)	392 (25.2%)	1,557
	Fruit juice	281 (18.2%)	363 (23.4%)	349 (22.5%)	265 (17.1%)	138 (8.9%)	152 (9.8%)	1,548
Soy bean	Natto	209 (13.4%)	259 (16.6%)	489 (31.4%)	358 (23.0%)	164 (10.5%)	78 (5.0%)	1,557
	Miso soup	56 (3.6%)	85 (5.5%)	239 (15.3%)	331 (21.2%)	285 (18.3%)	563 (36.1%)	1,559
	Tofu dishes	63 (4.1%)	232 (14.9%)	569 (36.6%)	427 (27.5%)	182 (11.7%)	81 (5.2%)	1,554
	Boiled beans dishes	624 (40.2%)	593 (38.2%)	243 (15.7%)	72 (4.6%)	15 (1.0%)	5 (0.3%)	1,552
Milk		283 (18.2%)	153 (9.8%)	201 (12.9%)	222 (14.3%)	169 (10.9%)	526 (33.8%)	1,554
Soy milk		1,211 (77.8%)	208 (13.4%)	67 (4.3%)	35 (2.2%)	12 (0.8%)	23 (1.5%)	1,556
Yogurt, lactic drinks		63 (4.0%)	132 (8.5%)	322 (20.6%)	408 (26.2%)	223 (14.3%)	412 (26.4%)	1,560

Since there are missing values for each item, totals may not match.

Results of the FY 2013 Mental Health and Lifestyle Survey (4-6 years old)

Among the 5,169 people for the survey (age group 4-6), there were 2,032 (39.3%) valid responses. The breakdown was 1,022 (50.3%) boys and 1,010 (49.7%) girls with an average age of 4.8 years old.

As for the current address, 1,409 (69.3%) lived within the prefecture and 623 (30.7%) lived outside the prefecture.

1. The health condition of the child (Q1)

Breakdown of the health condition was: 534 (26.9%) for 'very good'; 827 (41.7%) for 'good'; 591 (29.8%) for 'normal'; 28 (1.4%) for 'bad'; and 3 (0.2%) for very bad.

2. The current height and weight of the child (Q2)

The average height/weight of boys was: 102.5 cm/16.6 kg for 4 year olds as of Apr 1st 2014, 109.4 cm/18.9 kg for 5 year olds and 115.8 cm/21.5 kg for 6 year olds. The average height/weight for girls was: 102.0 cm/16.3kg for 4 year olds, 108.5 cm/18.4 kg for 5 year olds, and 114.6 cm/20.7 kg for 6 year olds.

3. Currently treated diseases (Q3)

For currently treated diseases, 1,278 (63.2%) answered 'no' while 743 (36.8%) answered 'yes'.

The breakdown of diseases for individuals who answered 'yes' are shown in Table 6.

Table 6 The breakdown of currently treated diseases

Disease	Count
Common cold	202
Allergic rhinitis	147
Asthma	145
Odontopathy	143
Atopic dermatitis	114
Otitis media	69
Sinusitis/ empyema	46
Asthma, atopic dermatitis, allergic conditions other than allergic rhinitis	36
Influenza	29
Epilepsy	12
ADHD	5
Other	93

Multiple answers

4. Experience of hospitalization (Q4)

For experience of hospitalization, 1,415 (69.9%) answered ‘no’ while 610 (30.1%) answered ‘yes’.

The breakdown of diseases for those who answered ‘yes’ (multiple answers) are the following in Table 7.

Among those who responded ‘yes’ to experience of hospitalization, 505 answered that they did not become hospitalized due to a disease within the past year (responded ‘none’). The breakdown of those who were hospitalized within the past year is shown below in Table 8.

Table 7. Breakdown of diseases during hospitalization

Disease	Count
Pneumonia	173
Respiratory syncytial virus infection	121
Mycoplasma pneumonia	101
Bronchitis	77
Asthma	74
Gastroenteritis	67
Rotavirus infection	56
Febrile convulsion	55
Common cold	53
Influenza	35
Inguinal hernia	31
Kawasaki disease	25
Other	122

Multiple answers

Table 8. Breakdown of diseases during hospitalization within the past year

Disease	Count
Pneumonia	20
Common cold	13
Mycoplasma pneumonia	11
Febrile convulsion	11
Bronchitis	10
Inguinal hernia	10
Asthma	7
Kawasaki disease	7
Gastroenteritis	6
Rotavirus infection	6
Respiratory syncytial virus infection	5
Influenza	5
Other	26

Multiple answers

5. Medical exam experience (Q5)

1) Those who answered ‘no’ for experience of CT scans were 1,826 (90.4%), ‘yes’ were 129 (6.4%) and ‘I don’t know’ were 64 (3.2%).
2) Those who answered ‘no’ for experience of examinations using X-rays (excluding CT and conventional X-ray imaging) were 1,828 (91.4%), ‘yes’ were 102 (5.1%) and ‘I don’t know’ were 70 (3.5%).

   Among those that answered ‘yes’, 76 had a fluoroscopy, 14 had an angiography, and 3 had a nuclear medicine scan.

6. Experience of radiation therapy treatment (Q6)

For experience of radiation therapy treatment, those who answered ‘no’ were 1,975 (98.1%), ‘yes’ were 2 (0.1%) and ‘I don’t know’ were 37 (1.8%).

7. Sleeping hours and naps (Q7)

1) The average going-to-bed time was 9:11 PM and the average waking time was 6:56 AM. The average sleeping time was 9 hours and 44 minutes.

2) For naps (does your child take naps?), those who answered ‘no’ were 1,272 (63.3%), and ‘yes’ were 737 (36.7%). The average nap time was 1 hour and 39 minutes.

8. Regular amount of exercise (Q8)

For exercise (what is your regular amount of exercise?), those who answered ‘almost every day’ were 791 (41.0%), ‘2-4 times a week’ were 610 (31.6%), ‘once a week’ were 249 (12.9%), and ‘barely exercise’ were 279 (14.5%).

9. Diet (Q9)

The frequency of consuming food (drinks), breakfast, eating out, and pre-cooked food were as shown in Table 9 (next page).

Table 9. Frequencies of eating (drinking) pre-cooked foods, breakfast and eating out (4-6 years old)

(Upper row is the number of individuals／lower row is percentage)

		I don't eat.	Less than once a week	1-2 times a week	3-4 times a week	5-6 times a week	Every day	Total
Breakfast		7 (0.3%)	2 (0.1%)	19 (0.9%)	48 (2.4%)	88 (4.3%)	1,865 (91.9%)	2,029
Eating out (excluding school lunch)		139 (6.9%)	1,299 (64.4%)	507 (25.1%)	15 (0.7%)	0 (0.0%)	57 (2.8%)	2,017
Pre-cooked foods		147 (7.3%)	791 (39.4%)	825 (41.1%)	195 (9.7%)	37 (1.8%)	14 (0.7%)	2,009
Cooked rice		1 (0.0%)	3 (0.1%)	4 (0.2%)	78 (3.8%)	208 (10.3%)	1,732 (85.5%)	2,026
Bread		22 (1.1%)	311 (15.3%)	763 (37.6%)	453 (22.3%)	184 (9.1%)	294 (14.5%)	2,027
Fish dishes		20 (1.0%)	188 (9.3%)	1,061 (52.6%)	615 (30.5%)	90 (4.5%)	43 (2.1%)	2,017
Meat	Chicken	19 (0.9%)	326 (16.1%)	1,185 (58.7%)	441 (21.8%)	39 (1.9%)	9 (0.4%)	2,019
	Beef, pork	28 (1.4%)	134 (6.6%)	982 (48.5%)	741 (36.6%)	111 (5.5%)	27 (1.3%)	2,023
	Ham, sausage	32 (1.6%)	278 (13.9%)	884 (44.1%)	623 (31.1%)	127 (6.3%)	60 (3.0%)	2,004
Vegetables	Green vegetables	120 (5.9%)	231 (11.4%)	703 (34.8%)	589 (29.1%)	198 (9.8%)	180 (8.9%)	2,021
	Red and yellow vegetables	43 (2.1%)	149 (7.4%)	625 (30.9%)	710 (35.1%)	270 (13.4%)	223 (11.0%)	2,020
	Hypochromic vegetables	52 (2.6%)	142 (7.0%)	542 (26.9%)	721 (35.7%)	329 (16.3%)	232 (11.5%)	2,018
	Vegetable juice	837 (41.4%)	657 (32.5%)	278 (13.7%)	126 (6.2%)	52 (2.6%)	72 (3.6%)	2,022
Fruits	Fruits	57 (2.8%)	180 (8.9%)	460 (22.7%)	534 (26.4%)	340 (16.8%)	451 (22.3%)	2,022
	Fruit juice	456 (22.6%)	595 (29.5%)	457 (22.6%)	258 (12.8%)	114 (5.6%)	139 (6.9%)	2,019
Soy bean	Natto	220 (10.9%)	514 (25.4%)	778 (38.5%)	341 (16.9%)	114 (5.6%)	56 (2.8%)	2,023
	Miso soup	43 (2.1%)	111 (5.5%)	288 (14.2%)	406 (20.0%)	394 (19.4%)	784 (38.7%)	2,026
	Tofu dishes	91 (4.5%)	383 (18.9%)	835 (41.3%)	464 (22.9%)	174 (8.6%)	77 (3.8%)	2,024
	Boiled beans dish	816 (40.5%)	852 (42.3%)	269 (13.3%)	58 (2.9%)	14 (0.7%)	6 (0.3%)	2,015
Milk		112 (5.6%)	127 (6.3%)	224 (11.1%)	285 (14.2%)	329 (16.3%)	937 (46.5%)	2,014
Soy milk		1,617 (80.1%)	284 (14.1%)	73 (3.6%)	24 (1.2%)	10 (0.5%)	11 (0.5%)	2,019
Yogurt, lactic drinks		51 (2.5%)	206 (10.2%)	499 (24.6%)	486 (24.0%)	292 (14.4%)	493 (24.3%)	2,027

Since there are missing values for each item, totals may not match.

10. Child's emotions and behavior (Q10)

1) For child's emotions and behavior (SDQ Japanese version), among the 2,027 valid responses, 288 (14.2%) were 16 points and above[1], and 110 (5.4%) were 20 points and above[2] (Fig 1). The average total points were 9.7 points.

   For boys, among the 1,020 valid responses, 170 (16.7%) were 16 points and above; 69 (6.8%) were 20 points and above. For girls, among the 1,007 valid responses, 118 (11.7%) were 16 points and above; and 41 (4.1%) were 20 points and above (Fig 2). The average total score for boys was 10.4 points while the total score for girls was 9.0.

2) Regarding whether children have any issues in one or more areas (emotions, focus, behavior or interaction with others), those that answered 'no' were 1,504 (74.5%), 'yes (minor issues)' were 427 (21.1%), 'yes (clear issues)' were 76 (3.8%), and 'yes (serious issues)' were 12 (0.6%).

3) Among those who answered 'yes' to the above question, regarding whether or not their child is upset or concerned about the issue, those who answered 'not at all' were 197 (39.6%); 'only a little' were 270 (54.3%); 'very' were 24 (4.8%); and 'greatly' were 6 (1.2%).

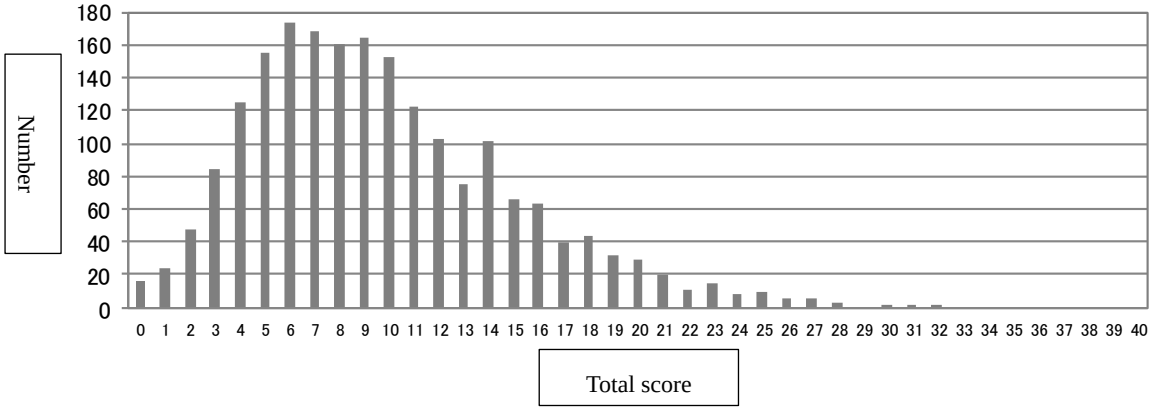


Fig 1 Children's emotion and behavior for age group 4-6 (SDQ) : Overall

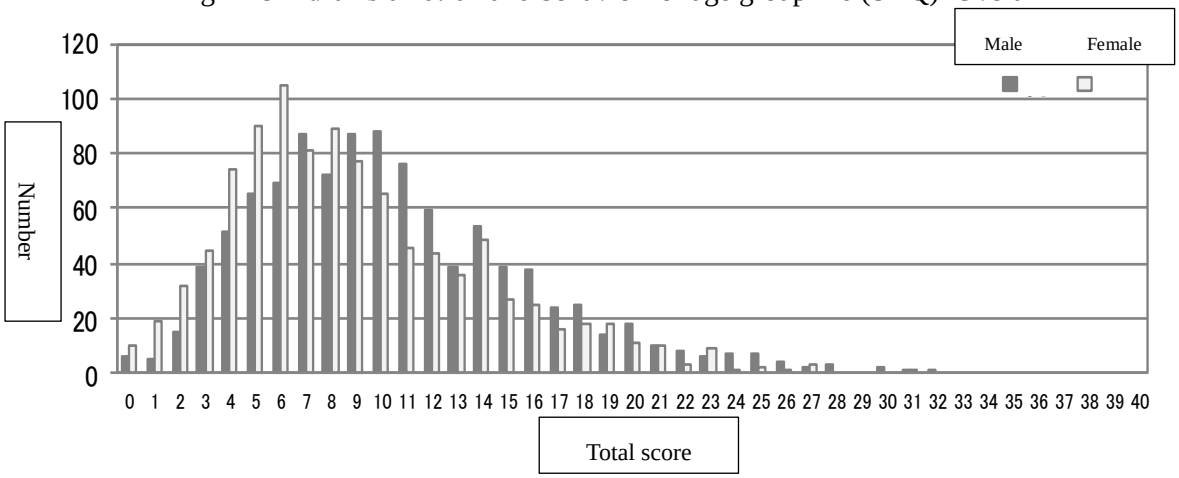


Fig 2 Children's emotion and behavior for age group 4-6 (SDQ) : By gender

1) A standard value indicated by previous research

2) A standard established by Fukushima Medical University physicians to provide support.

Results of the FY 2013 Mental Health and Lifestyle Survey (Primary school age)

Among 11,167 people of the Mental Health and Lifestyle Survey (for elementary school students), 3,987 (35.7%) provided valid responses. The breakdown was 2,054 (51.5%) boys and 1,933 (48.5%) girls with an average age of 9.4 years old.

As for the current address, 2,932 (73.5%) lived within the prefecture and 1,055 (26.5%) lived outside the prefecture.

1. The health condition of the child (Q1)

Breakdown of the health state was: 882 (23.0%) for 'very good'; 1,680 (43.9%) for 'good'; 1,208 (31.6%) for 'normal'; 50 (1.3%) for 'bad'; and 8 (0.2%) for very bad.

2. The current height and weight of the child (Q2)

The average height/weight of boys was: 121.8 cm/24.0 kg for 1st graders; 127.6 cm/27.5 kg for 2nd graders; 132.8 cm/30.4 kg for 3rd graders; 138.4 cm/35.4 kg for 4th graders; 144.1 cm/40.2 kg for 5th graders; and 152.5 cm/45.0 kg for 6th graders. The average height/weight of girls was: 121.1 cm/23.5 kg for 1st graders; 125.9 cm/26.6 kg for 2nd graders; 132.0 cm/29.4 kg for 3rd graders; 139.3 cm/34.9 kg for 4th graders; 145.4 cm/38.8 kg for 5th graders; and 150.8 cm/44.0 kg for 6th graders.

3. Currently treated diseases (Q3)

For currently treated diseases, 2,492 (63.2%) answered 'no' while 1,450 (36.8%) answered 'yes'.

The breakdown (multiple answers) of diseases for those who answered 'yes' are shown in Table 10 below.

Table 10. The breakdown of currently treated diseases

Disease	Count
Allergic rhinitis	538
Odontopathy	331
Atopic dermatitis	230
Asthma	195
Common cold	160
Sinusitis/ empyema	93
Asthma, atopic dermatitis, allergic conditions other than allergic rhinitis	86
ADHD	60
Influenza	59
Otitis media	45
Epilepsy	26
Other	189

Multiple answers

4. Experience of hospitalization (Q4)

For experience of hospitalization, 2,528 (63.9%) answered ‘no’ while 1,427 (36.1%) answered ‘yes’.

The breakdown of diseases for those who answered ‘yes’ (multiple answers) are the following in Table 11.

Among those who responded ‘yes’ to experience of hospitalization, 1,340 answered that they did not become hospitalized due to a disease within the past year (responded ‘none’). The breakdown of those who were hospitalized within the past year is shown below in Table 12.

Table 11. Breakdown of diseases during hospitalization

Disease	Count
Pneumonia	406
Asthma	190
Bronchitis	182
Mycoplasma pneumonia	178
Gastroenteritis	169
Respiratory syncytial virus infection	168
Febrile convulsion	135
Influenza	120
Rotavirus infection	115
Common cold	101
Inguinal hernia	85
Kawasaki disease	39
Other	326

Multiple answers

Table 12. Breakdown of diseases during hospitalization within the past year

Disease	Count
Mycoplasma pneumonia	12
Common cold	10
Gastroenteritis	9
Pneumonia	8
Influenza	6
Asthma	5
Bronchitis	3
Febrile convulsion	3
Inguinal hernia	3
Respiratory syncytial virus infection	1
Rotavirus infection	1
Kawasaki disease	1
Other	35

Multiple answers

5. Medical exam experience (Q5)

1) Those who answered ‘no’ for experience of CT scans were 3,284 (83.2%), ‘yes’ were 479 (12.1%) and ‘I don’t know’ were 184 (4.7%).
2) Those who answered ‘no’ for experience of examinations using X-rays (excluding CT and conventional X-ray imaging) were 3,466 (88.9%), ‘yes’ were 220 (5.6%) and ‘I don’t know’ were 211 (5.4%).

   Among those who answered ‘yes’, 147 had a fluoroscopy, 36 had an angiography, and 14 had a nuclear medicine scan.

6. Experience of radiation therapy treatment (Q6)

For experience of radiation therapy treatment, those who answered ‘no’ were 3,824 (97.3%), ‘yes’ were 6 (0.2%), and ‘I don’t know’ were 102 (2.6%).

7. Sleeping hours and naps (Q7)

The average going-to-bed time was 9:31 PM and the average waking time was 6:27 AM. The average sleeping time was 8 hours and 54 minutes.

8. Regular amount of exercise (Q8)

For exercise (What is your regular amount of exercise?): those who answered ‘almost every day’ were 294 (7.9%); ‘2-4 times a week’ were 1,033 (27.7%); ‘once a week’ were 940 (25.2%); and ‘barely exercise’ were 1,467 (39.3%).

9. Diet (Q9)

The frequency of consuming food (drinks), breakfast, eating out, and prpared foods were as shown in Table 13 (next page).

Table 13. Frequencies of eating (drinking) pre-cooked foods, breakfast and eating out (Primary school age)

(Upper row is the number of individuals/lower row is percentage)

		I don't eat.	Less than once a week	1-2 times a week	3-4 times a week	5-6 times a week	Every day	Total
Breakfast		25 (0.6%)	10 (0.3%)	35 (0.9%)	72 (1.8%)	146 (3.7%)	3,683 (92.7%)	3,971
Eating out (excluding school lunch)		324 (8.2%)	2,581 (65.4%)	857 (21.7%)	27 (0.7%)	3 (0.1%)	153 (3.9%)	3,945
Pre-cooked foods		244 (6.2%)	1,704 (43.3%)	1,548 (39.3%)	383 (9.7%)	38 (1.0%)	20 (0.5%)	3,937
Cooked rice		2 (0.1%)	5 (0.1%)	24 (0.6%)	137 (3.4%)	441 (11.1%)	3,366 (84.7%)	3,975
Bread		58 (1.5%)	707 (17.9%)	1,531 (38.8%)	809 (20.5%)	341 (8.6%)	504 (12.8%)	3,950
Fish dishes		43 (1.1%)	457 (11.6%)	2,102 (53.2%)	1,155 (29.3%)	130 (3.3%)	61 (1.5%)	3,948
Meat	Chicken	26 (0.7%)	627 (15.8%)	2,324 (58.7%)	878 (22.2%)	77 (1.9%)	24 (0.6%)	3,956
	Beef, pork	20 (0.5%)	226 (5.7%)	1,756 (44.3%)	1,650 (41.7%)	252 (6.4%)	57 (1.4%)	3,961
	Ham, sausage	56 (1.4%)	800 (20.4%)	1,792 (45.6%)	1,011 (25.7%)	197 (5.0%)	74 (1.9%)	3,930
Vegetables	Green vegetables	107 (2.7%)	431 (10.9%)	1,460 (36.8%)	1,186 (29.9%)	423 (10.7%)	356 (9.0%)	3,963
	Red and yellow vegetables	65 (1.6%)	391 (9.9%)	1,300 (32.8%)	1,353 (34.1%)	473 (11.9%)	383 (9.7%)	3,965
	Hypochromic vegetables	56 (1.4%)	239 (6.0%)	983 (24.9%)	1,549 (39.2%)	643 (16.3%)	482 (12.2%)	3,952
	Vegetable juice	1,793 (45.3%)	1,163 (29.4%)	517 (13.1%)	263 (6.6%)	90 (2.3%)	132 (3.3%)	3,958
Fruits	Fruits	100 (2.5%)	631 (15.9%)	1,158 (29.2%)	1,025 (25.9%)	465 (11.7%)	583 (14.7%)	3,962
	Fruit juice	1,068 (27.1%)	1,308 (33.1%)	846 (21.4%)	405 (10.3%)	156 (4.0%)	163 (4.1%)	3,946
Soy bean	Natto	406 (10.2%)	1,121 (28.3%)	1,533 (38.6%)	620 (15.6%)	182 (4.6%)	105 (2.6%)	3,967
	Miso soup	60 (1.5%)	192 (4.8%)	516 (13.0%)	846 (21.3%)	775 (19.5%)	1,577 (39.8%)	3,966
	Tofu dishes	136 (3.4%)	780 (19.7%)	1,657 (41.8%)	953 (24.0%)	286 (7.2%)	154 (3.9%)	3,966
	Boiled beans dish	1,600 (40.4%)	1,712 (43.3%)	496 (12.5%)	110 (2.8%)	25 (0.6%)	13 (0.3%)	3,956
Milk		135 (3.4%)	144 (3.6%)	226 (5.7%)	310 (7.9%)	787 (19.9%)	2,347 (59.4%)	3,949
Soy milk		3,220 (81.5%)	533 (13.5%)	116 (2.9%)	42 (1.1%)	19 (0.5%)	21 (0.5%)	3,951
Yogurt, lactic drinks		126 (3.2%)	486 (12.3%)	1,065 (26.8%)	954 (24.0%)	487 (12.3%)	849 (21.4%)	3,967

Since there are missing values for each item, totals may not match.

10. Child's emotions and behavior (Q10)

1) For child's emotions and behavior (SDQ Japanese version), among the 3,974 valid responses, 583 (14.7%) were 16 points and above[1], and 226 (5.7%) were 20 points and above[2] (Fig 3). The average total point was 9.4.

   For boys, among the 2,044 valid responses, 346 (16.9%) were 16 points and above, and 146 (7.1%) were 20 points and above. For girls, among the 1,930 valid responses, 237 (12.3%) were 16 points and above and 80 (4.1%) were 20 points and above (Fig 4). The average total score for boys was 10.0 points while the total score for girls was 8.8 points.

2) Regarding whether children have any issues in one or more areas (emotions, focus, behavior or interaction with others), those who answered 'no' were 2,750 (69.3%); 'yes (minor issues)' were 988 (24.9%); 'yes (clear issues)' were 183 (4.6%); and 'yes (serious issues)' were 45 (1.1%).

3) Among those who answered 'yes' for the above questions, regarding whether or not their child is upset or concerned about the issue: those who answered 'not at all' were 277 (23.7%); 'only a little' were 785 (67.1%);'very' were 87 (7.4%); and 'greatly' were 21 (1.8%).

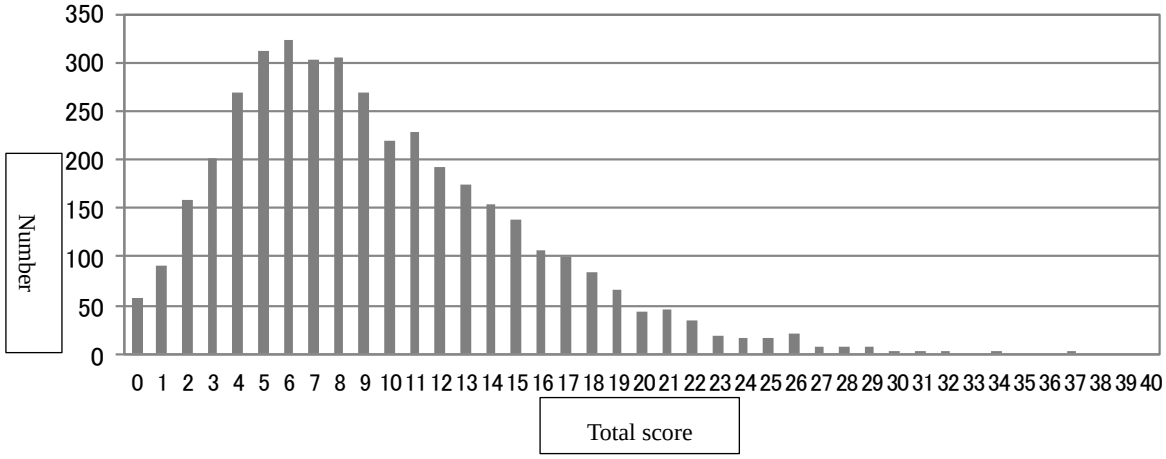


Fig 3 Children's emotion and behavior among primary school students (SDQ): Overall

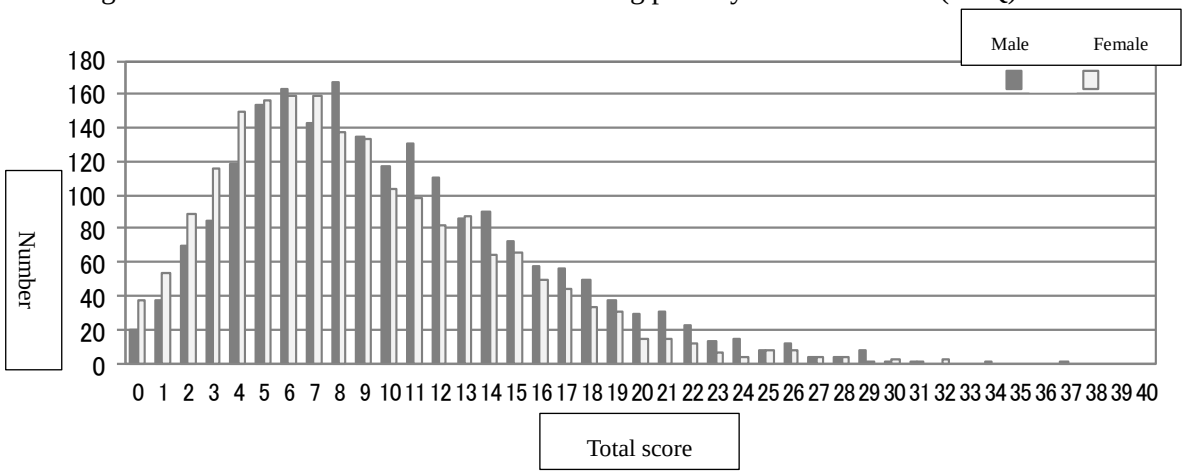


Fig. 4 Children's emotion and behavior among primary school students (SDQ): By gender

1) A standard value indicated by previous research

2) A standard established by Fukushima Medical University physicians to provide support.

Results of the FY 2013 Mental Health and Lifestyle Survey (Middle school age)

Among the 6,013 people for the survey (for middle school students), there were 1,820 (30.3%) valid responses. The breakdown was 890 (48.9%) boys and 930 (51.1%) girls with an average age of 13.9 years old.

As for the current address, 1,425 (78.3%) lived within the prefecture and 395 (21.7%) lived outside the prefecture.

1. The health condition of the child (Q1)

Breakdown of the health condition was: 341 (30.3%) for ‘very good’; 344 (30.6%) for ‘good’; 406 (36.1%) for ‘normal’; 30 (2.7%) for ‘bad’; and 3 (0.3%) for very bad.

2. The current height and weight of the child (Q2)

The average height/weight of boys was: 159.4 cm/50.7 kg for 7th graders; 165.0 cm/56.0 kg for 8th graders; and 167.3 cm/60.3 kg for 9th graders. The average height/ weight for girls were: 154.1 cm/46.3 kg for 7th graders; 155.9 cm/49.7 kg for 8th graders; and 156.9 cm/50.4 kg for 9th graders.

3. Sleeping hours (Q3)

1) The average sleeping time was 7 hours and 8 minutes.
2) For sleep satisfaction, 504 (44.2%) answered ‘it’s sufficient’, 520 (45.7%) answered ‘it’s slightly insufficient’, and 115 (10.1%) answered ‘it’s insufficient’.

4. Regular amount of exercise (Q4)

For exercise (aside from physical education classes, what is your regular amount of exercise?), those who answered ‘almost every day’ were 538 (47.1%), ‘2-4 times a week’ were 159 (13.9%), ‘once a week’ were 91 (8.0%), and ‘barely exercise’ were 354 (31.0%).

5. Diet (Q5)

The frequency of consuming food (drinks), breakfast, eating out, and prepared foods were as shown in Table 14 (next page).

Table 14. Frequencies of eating (drinking) pre-cooked foods, breakfast and eating out among middle school students

(Upper row is the number of individuals/lower row is proportion)

		I don't eat.	Less than once a week	1-2 times a week	3-4 times a week	5-6 times a week	Every day	Total
Breakfast		26 (2.3%)	12 (1.1%)	20 (1.8%)	24 (2.1%)	62 (5.4%)	994 (87.3%)	1,138
Eating out (excluding school lunch)		183 (16.2%)	737 (65.2%)	172 (15.2%)	4 (0.4%)	0 (0.0%)	34 (3.0%)	1,130
Pre-cooked foods		69 (6.1%)	445 (39.6%)	459 (40.8%)	108 (9.6%)	26 (2.3%)	18 (1.6%)	1,125
Cooked rice		1 (0.1%)	3 (0.3%)	7 (0.6%)	44 (3.9%)	163 (14.3%)	920 (80.8%)	1,138
Bread		32 (2.8%)	243 (21.5%)	427 (37.8%)	194 (17.2%)	85 (7.5%)	150 (13.3%)	1,131
Fish dishes		20 (1.8%)	151 (13.4%)	572 (50.7%)	321 (28.4%)	47 (4.2%)	18 (1.6%)	1,129
Meat	Chicken	13 (1.1%)	180 (15.8%)	623 (54.8%)	271 (23.9%)	40 (3.5%)	9 (0.8%)	1,136
	Beef, pork	11 (1.0%)	72 (6.3%)	463 (40.8%)	466 (41.1%)	92 (8.1%)	30 (2.6%)	1,134
	Ham, sausage	36 (3.2%)	251 (22.2%)	475 (42.0%)	273 (24.2%)	70 (6.2%)	25 (2.2%)	1,130
Vegetables	Green vegetables	35 (3.1%)	107 (9.4%)	345 (30.4%)	334 (29.4%)	140 (12.3%)	174 (15.3%)	1,135
	Red and yellow vegetables	24 (2.1%)	113 (10.0%)	329 (29.0%)	347 (30.6%)	167 (14.7%)	155 (13.7%)	1,135
	Hypochromic vegetables	22 (1.9%)	63 (5.6%)	247 (21.8%)	400 (35.3%)	186 (16.4%)	216 (19.0%)	1,134
	Vegetable juice	499 (44.0%)	332 (29.3%)	141 (12.4%)	76 (6.7%)	34 (3.0%)	53 (4.7%)	1,135
Fruits	Fruits	47 (4.1%)	230 (20.3%)	309 (27.2%)	262 (23.1%)	135 (11.9%)	151 (13.3%)	1,134
	Fruit juice	303 (26.8%)	346 (30.6%)	221 (19.6%)	127 (11.2%)	72 (6.4%)	61 (5.4%)	1,130
Soy bean	Natto	208 (18.4%)	377 (33.3%)	320 (28.3%)	141 (12.5%)	53 (4.7%)	33 (2.9%)	1,132
	Miso soup	27 (2.4%)	80 (7.0%)	128 (11.2%)	205 (18.0%)	213 (18.7%)	485 (42.6%)	1,138
	Tofu dishes	50 (4.4%)	241 (21.2%)	402 (35.4%)	256 (22.6%)	106 (9.3%)	80 (7.0%)	1,135
	Boiled beans dishes	468 (41.4%)	449 (39.7%)	151 (13.4%)	50 (4.4%)	7 (0.6%)	5 (0.4%)	1,130
Milk		72 (6.4%)	50 (4.4%)	64 (5.6%)	87 (7.7%)	250 (22.1%)	610 (53.8%)	1,133
Soy milk		878 (77.6%)	158 (14.0%)	36 (3.2%)	33 (2.9%)	12 (1.1%)	15 (1.3%)	1,132
Yogurt, lactic drinks		67 (5.9%)	169 (14.9%)	299 (26.3%)	242 (21.3%)	115 (10.1%)	244 (21.5%)	1,136

Since there are missing values for each item, totals may not match.

6. Experiences from the earthquake disaster (Q6) *Multiple answers

Experiences from the earthquake disaster were: ‘earthquake’ for 1,076; ‘tsunami’ for 155; and ‘nuclear power plant accident’ for 1,027; ‘none’ for 2.

7. Currently treated diseases (Q7)

For currently treated diseases 1,258 (70.8%) answered ‘no’ while 519 (29.2%) answered ‘yes’.

The breakdown of diseases for individuals who answered ‘yes’ are shown in Table 15.

Table 15. The breakdown of currently treated diseases

Disease	Count
Allergic rhinitis	176
Odontopathy	123
Atopic dermatitis	75
Asthma	50
Asthma, atopic dermatitis, allergic conditions other than allergic rhinitis	32
Sinusitis/ empyema	26
ADHD	23
Common cold	20
Influenza	16
Epilepsy	12
Otitis media	9
Other	132

Multiple answers

8. Experience of hospitalization (Q8)

For experience of hospitalization, 1,140 (64.2%) answered ‘no’ while 637 (35.8%) answered ‘yes’.

The breakdown of those who answered ‘yes’ (multiple answers) are as shown in Table 16. Among those who responded ‘yes’ to experience of hospitalization, 604 answered that they did not become hospitalized due to a disease within the past year (responded ‘none’). The breakdown of those who were hospitalized within the past year is shown below in Table 17 (multiple answers).

Table 16. Breakdown of diseases during hospitalization

Disease	Count
Pneumonia	187
Asthma	113
Influenza	83
Mycoplasma pneumonia	79
Bronchitis	79
Gastroenteritis	78
Common cold	56
Febrile convulsion	51
Rotavirus infection	31
Inguinal hernia	31
Kawasaki disease	21
Respiratory syncytial virus infection	20
Other	149

Multiple answers

Table 17. Breakdown of diseases during hospitalization within this year

Disease	Count
Pneumonia	6
Common cold	5
Mycoplasma pneumonia	3
Influenza	3
Bronchitis	2
Asthma	2
Gastroenteritis	1
Rotavirus infection	1
Febrile convulsion	1
Respiratory syncytial virus infection	0
Kawasaki disease	0
Inguinal hernia	0
Other	14

Multiple answers

9. Medical exam experience (Q9)

1) Those who answered ‘no’ for experience of CT scans were 1,420 (80.3%), ‘yes’ were 282 (15.9%), and ‘I don’t know’ were 67 (3.8%).
2) Those who answered ‘no’ for experience of examinations using X-rays (excluding CT and conventional X-ray imaging) were 1,556 (88.9%), ‘yes’ were 113 (6.5%) and ‘I don’t know’ were 81 (4.6%).

   Among those who answered ‘yes’, 80 had a fluoroscopy, 25 had an angiography, and 3 had a nuclear medicine scan.

10. Experience of radiation therapy treatment (Q10)

For experience of radiation therapy treatment, those who answered ‘no’ were 1,723 (97.7%), ‘yes’ were 5 (0.3%) and ‘I don’t know’ were 36 (2.0%).

11. Child's emotions and behavior (Q11)

1) For child's emotions and behavior (survey on child's emotions and behavior (SDQ Japanese version), among the 1,776 valid responses, 234 (13.2%) were 16 points and above[1] and 112 (6.3%) were 20points and above[2] (Fig 5). The average total point was 8.7.
   For boys, among the 873 valid responses, 139 (15.9%) were 16 points and above and 62 (7.1%) were 20 points and above. For girls, among the 903 valid responses, 95 (10.5%) were 16 points and above and 50 (5.5%) were 20 points and above (Fig 6). The average total score for boys was 9.3 points while the total score for girls was 8.2.
2) Regarding whether children have any issues in one or more areas (emotions, focus, behavior or interaction with others), those who answered 'no' were 1,231 (69.5%),'yes (minor issues)' were 384 (21.7%), 'yes (clear issues)' were 100 (5.6%), and 'yes (serious issues)' were 55 (3.1%).
3) Among those that answered 'yes' for the above question, regarding whether or not their child is confused or concerned of the issue, those that answered 'not at all' were 81 (15.6%), 'only a little' were 347 (66.7%), 'very' were 66 (12.7%), and 'greatly' were 26 (5.0%).

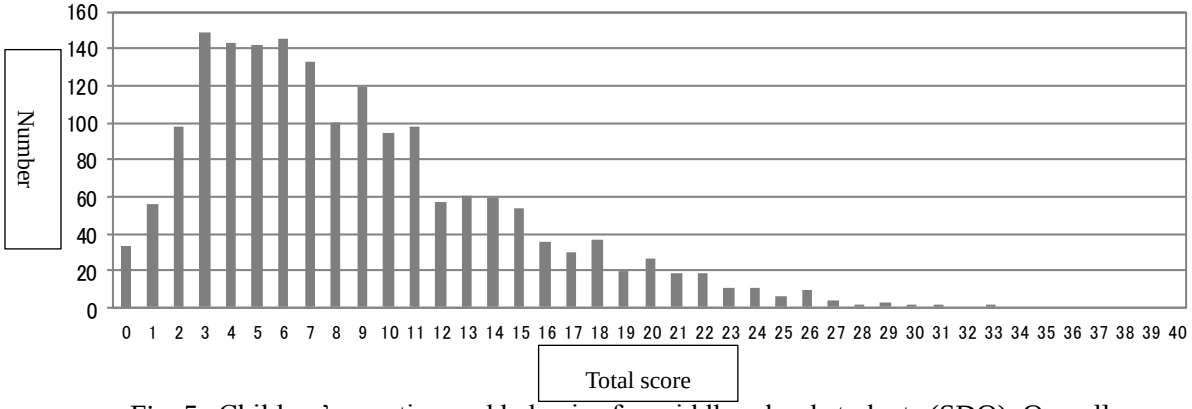


Fig. 5 Children's emotion and behavior for middle school students (SDQ) : Overall

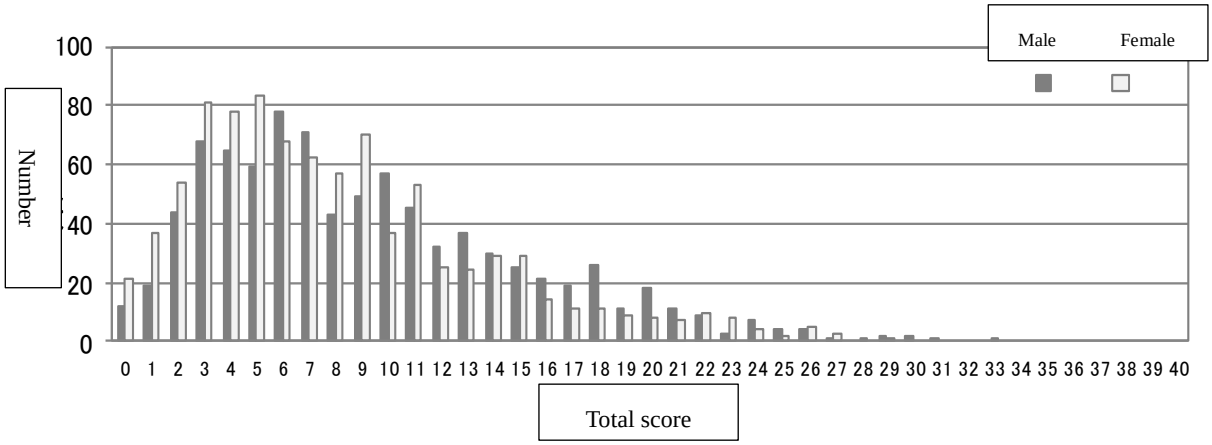


Fig. 6 Children's emotion and behavior for middle school students (SDQ) by gender

1) A standard value indicated by previous research

2) A standard established by Fukushima Medical University physicians to provide support.

Results of the FY 2013 Mental Health and Lifestyle Survey (Adults)

Among the 185,859 adults for the Mental Health and Lifestyle Survey, there were 46,377 (25.0%) valid responses. The breakdown was 20,401 (44.0%) males and 25,976 (56.0%) females with an average age of 59.2 years old.

As for the current address, 38,612 (83.3%) lived within the prefecture and 7,765 (16.7%) lived outside the prefecture.

1. Health condition (Q1)

Breakdown of the health condition were: 1,501 (3.8%) for 'Very good'; 6,408 (16.1%) for 'good'; 24,437 (61.6%) for 'normal'; 6,714 (16.9%) for 'bad'; and 633 (1.6%) for 'very bad'.

2. Height and weight (Q2)

1) The average height/weight of males was: 166.0 cm/66.4 kg and the average BMI was 24.1 kg/m^2. Among males, those with less than BMI 18.5 kg/m^2 were 734 (3.9%); 18.5 kg/m^2 and above and less than 25.0 kg/m^2 were 11,524 (60.7%); 25.0 kg/m^2 and above and less than 27.5 kg/m^2 were 3,983 (21.0%); 27.5 kg/m^2 and above and less than 30.0 kg/m^2 were 1,732 (9.1%); and 30.0 kg/m^2 and above were 1,001 (5.3%).

   The average height/weight of females was 153.4 cm/54.3 kg and the average BMI was 23.1 kg/m^2. For females, those with a BMI less than 18.5 kg/m^2 were 1,916 (8.1%); 18.5 kg/m^2 and above and less than 25.0 kg/m^2 were 15,499 (65.7%); 25.0 kg/m^2 and above and less than 27.5 kg/m^2 were 3,378 (14.3%); 27.5 kg/m^2 and above and less than 30.0 kg/m^2 were 1,625 (6.9%); and 30.0 kg/m^2 and above were 1,188 (5.0%).

2) For body weight change (Did you have any body weight change compared to last year?), those who answered 'it increased by 3 kg or more' were 7,751 (17.6%); 'it didn't change (±3 kg)' were 32,024 (72.7%); and 'it decreased by 3 kg or more' were 4,274 (9.7%).

   For body weight change for males, those who answered 'it increased by 3 kg or more' were 3,223 (16.6%); 'it didn't change (±3 kg)' were 14,321 (73.6%); and 'it decreased by 3 kg or more' were 1,908 (9.8%).

   For body weight change for females, those who answered 'it increased by 3 kg or more' were 4,528 (18.4%); 'it didn't change (±3 kg)' were 17,703 (72.0%); and 'it decreased by 3 kg or more' were 2,366 (9.6%).

3. Medical history (Q3)

Medical history (Have you ever been diagnosed with some of the following diseases?) is as shown below in Table 18.

The breakdown (multiple answers) of diagnosed diseases within the past year is shown in Table 19 (next page). Those who answered 'no disease' were 6,172 individuals.

Table 18 Experience of diagnoses by general illness and the state of attending hospital as outpatient

(Upper row is the number of individuals/lower row is proportion)

Name of illness	Number of valid responses	Diagnosis		Currently attending hospital as outpatient	
		No	Yes	Yes	No
Hypertension (Or high blood pressure)	45,078	25,684 (57.0%)	19,394 (43.0%)	17,066 (90.2%)	1,859 (9.8%)
Diabetes (Or high blood sugar)	43,960	37,762 (85.9%)	6,198 (14.1%)	5,152 (86.7%)	788 (13.3%)
Hyperlipidemia (Or having high cholesterol or neutral fat)	44,207	28,941 (65.5%)	15,266 (34.5%)	10,152 (69.2%)	4,524 (30.8%)
Mental disorder	44,223	39,099 (88.4%)	5,124 (11.6%)	3,669 (75.6%)	1,187* (24.4%)
Cancer (Including leukemia and lymphoma)	44,453	41,598 (93.6%)	2,855 (6.4%)		
Stroke	44,612	42,376 (95.0%)	2,236 (5.0%)		
(Types of stroke) Multiple answers					
Cerebral infarction			1,514		
Cerebral hemorrhage			260		
Subarachnoid hemorrhage			216		
Other			25		
I don't know			195		
Heart disease	45,023	38,912 (86.4%)	6,111 (13.6%)		
(Types of heart disease) Multiple answers					
Myocardial infarction			696		
Angina			1,637		
Arrhythmia			3,078		
Other			882		
I don't know			450		
Chronic hepatitis	44,637	43,700 (97.9%)	937 (2.1%)		
(Types of chronic hepatitis) Multiple answers					
Hepatitis B			280		
Hepatitis C			279		
Other			218		
Pneumonia (in the past decade)	44,702	43,138 (96.5%)	1,564 (3.5%)		

* Among these, 589 individuals answered that they "are not currently attending hospital as outpatient since they have recovered".

Table 18 (Cont.) Experience of diagnoses by general illness and the state of attending hospital as outpatient

(Upper row is the number of individuals/lower row is proportion)

Name of illness	Number of valid responses	Diagnosis	
		No	Yes
Bone fracture among 50 year olds and above (Collected responses from 50 year olds and above at the time of filling out the questionnaire)	31,693	27,907 (88.1%)	3,786 (11.9%)
Thyroid disease	44,501	42,817 (96.2%)	1,684 (3.8%)
(Types of thyroid disease) Multiple answers			
Hyperthyroidism (Basedow disease)			412
Hypothyroidism			580
Other			544

Table 19 Diagnosed disease in the past year

Disease	Count
Hypertension	12,985
Diabetes	4,054
Hyperlipidemia	5,875
Mental disorder	2,246
Cancer	1,322
Stroke	609
Heart disease	3,085
Chronic hepatitis	467
Pneumonia	657
Bone fracture*	1,532
Thyroid disease	907

Multiple answers

* Collected responses from individuals 50 years old and above at the time of filling out the questionnaire

4. Medical exam experience (Q4)

1) Those who answered ‘no’ for experience of CT scans were 22,935 (51.1%), ‘yes’ were 20,291 (45.2%), and ‘I don’t know’ were 1,686 (3.8%).
2) Those who answered ‘no’ for experience of fluoroscopy were 18,818 (42.4%), ‘yes’ were 24,647 (55.5%) and ‘I don’t know’ were 958 (2.2%).
3) For the question whether they experienced angiography, nuclear medicine scan or PET scan, those who answered ‘no’ were 36,372 (81.9%); ‘yes’ were 5,936 (13.4%); and ‘I don’t know’ were 2,126 (4.8%).

   Among those who answered ‘yes’, 4,009 had an angiography, 484 had a nuclear medicine scan, and 1,458 had a PET scan.

5. Experience of radiation therapy treatment (Q5)

For experience of radiation therapy treatment, those who answered ‘no’ were 42,740 (95.3%), ‘yes’ were 1,109 (2.5%) and ‘I don’t know’ were 1,020 (2.3%).

6. Daily living functions (Q6)

1) Daily living functions (Tell us if you can do the following tasks on your own) are as shown below in Table 20.

Table 20. General daily living functions

Daily life tasks	Yes	No	Number of valid responses
1. Eating a meal without assistance (does not include the preparation of the meal)	44,992 (98.8%)	558 (1.2%)	45,550
2. Changing clothes without assistance	44,543 (98.1%)	871 (1.9%)	45,414
3. Going to the bathroom without assistance	44,721 (98.5%)	682 (1.5%)	45,403
4. Buying commodities from the store	42,780 (94.2%)	2,610 (5.8%)	45,390

2) For recreation activities (Do you participate in recreational activities like karaoke, Japanese croquet, etc or local events and festivals?), those who answered ‘no’ or ‘rarely’ were 27,586 (61.1%), ‘sometimes participate’ were 13,359 (29.6%), and ‘frequently participate’ were 4,206 (9.3%).

7. Sleep (Q7)

1) The average sleeping time was 7 hours and 5 minutes.
2) As for sleep satisfaction, those who answered ‘sufficient’ were 15,371 (39.7%); ‘slightly insufficient’ were 17,427 (45.0%); ‘very insufficient’ were 4,945 (12.8%); and ‘greatly insufficient or couldn’t go to sleep” were 1,020 (2.6%).
3) Experiences related to sleep (have you experienced the following at least 3 times a week?) are shown below in Table 21.

Table 21 Experiences related to sleep for adults

	Yes	No	Number of valid responses
1. It takes time to fall sleep at night after going to bed.	16,660 (42.0%)	22,970 (58.0%)	39,630
2. I wake up during the night in the middle of sleep	25,689 (64.5%)	14,163 (35.5%)	39,852
3. I wake up before the time I set and can’t go back to sleep.	15,778 (40.3%)	23,345 (59.7%)	39,123
4. Total hour of sleep is not enough.	13,766 (35.8%)	24,681 (64.2%)	38,447

5. I feel depressed during the day.	10,606 (27.8%)	27,519 (72.2%)	38,125
6. My physical and mental activity levels during the day are low.	11,640 (30.2%)	26,923 (69.8%)	38,563
7. I feel sleepy during the day.	18,956 (48.5%)	20,094 (51.5%)	39,050

8. Exercise (Q8)

For exercise, those who answered 'almost every day' were 7,062 (15.5%), '2-4 times per week' were 10,211 (22.3%), 'once a week' were 7069 (15.5%), and 'almost never' were 21,347 (46.7%).

9. Opportunities to laugh (Q9)

As for opportunities to laugh (How often do you laugh out loud in your daily life?), those who answered 'almost every day' were 12,452 (27.3%); 'around 1-5 times per week' were 18,648 (40.8%); 'around 1-3 times per month' were 8,792 (19.3%); 'rarely' were 5,772 (12.6%).

10. Smoking (Q10)

1) For second-hand smoking (Have you ever experienced second-hand smoking at home or at work in the past decade?), those who answered 'every day' were 9,293 (21.2%); 'around 4-5 times per week' were 2,772 (6.3%); 'sometimes' were 12,564 (28.7%); and 'rarely' were 19,175 (43.8%).
2) For smoking before the earthquake disaster (Have you smoked before the earthquake disaster on Mar 11th 2011?), those who answered 'no' were 30,139 (70.9%) and 'yes' were 12,391 (29.1%).
3) As for smoking (Do you smoke tobacco or cigarettes except for cigars and pipes?), those who answered 'never' were 22,920 (57.4%); 'I quit' were 9,623 (24.1%); and 'I smoke' were 7,402 (18.5%).

   For those who responded 'I smoke', the average number of cigarettes was 16.7 per day and the average time period of smoking was 28.6 years.

11. Alcohol consumption (Q11)

1) For alcohol consumption prior to the earthquake disaster, those who answered 'No or barely drink (less than once a month)' were 22,845 (53.3%); 'Yes (at least once a month)' were 20,049 (46.7%).
2) For alcohol consumption (do you currently drink alcohol?), those who answered 'No or barely drink (less than once a month)' were 22,248 (52.6%); 'I quit' were 1,393 (3.3%); and 'Yes (at least once a month)' were 18,684 (44.1%).
3) Among those who answered 'yes (at least once per month)', those who answered '0 times per week' were 1 (0.0%); 'once a week' were 3,146 (17.5%); 'twice a week' were 1,766 (9.8%);

'three times a week' were 1,901 (10.6%); '4 times a week' were 1,072 (6.0%); '5 times a week' were 1,994 (11.1%); '6 times a week' were 2,141 (11.9%); and 'more than 7 times a week' were 5,932 (33.0%).

4) The average alcohol consumption per day was around 180 ml per day in terms of Japanese sake. Among the 42,325 valid responses for alcohol consumption (Q11-2), 3,363 (7.9%) consumed a large quantity of alcohol (360 ml and above in terms of Japanese sake).

5) For experience related to alcohol consumption (Answer the following questions about the past 30 days), the responses of each item are shown in Table 22 below. 'Yes' was 1 point and the total points of the 4 items were calculated.

   The results by age group are shown in Table 23 (next page) and overall, 0 points were 10,295 (60.5%); 1 point were 3,932 (23.1%); 2 points were 1,651 (9.7%); 3 points were 835 (4.9%); and 4 points were 298 (1.8%).

   For males, 0 points were 6,030 (54.0%); 1 point were 2,944 (26.4%); 2 points were 1,277 (11.4%); 3 points were 678 (6.1%); and 4 points were 240 (2.1%). For females, 0 points were 4,265 (73.0%); 1 point were 988 (16.9%); 2 points were 374 (6.4%); 3 points were 157 (2.7%); and 4 points were 58 (1.0%).

   (CAGE：Alcohol dependence standard)

Table 22. Experience related to alcohol consumption (Upper row is the number of individuals/lower row is percentage)

		No	Yes	Number of valid responses
1	Have you ever felt that you must cut down your alcohol consumption?	11,695 (68.1%)	5,470 (31.9%)	17,165
2	Have you ever been annoyed by others criticizing your drinking habits?	15,345 (89.9%)	1,720 (10.1%)	17,065
3	Have you ever felt bad or sorry for your drinking habits?	14,810 (86.6%)	2,293 (13.4%)	17,103
4	Have you had a "hair of the dog" drink in order to calm your senses or to cure a hangover?	15,517 (90.7%)	1,586 (9.3%)	17,103

Since there are missing values for each item, totals may not match.

Table 23. Experience related to alcohol consumption by age group

(Upper row is the number of individuals/lower row is percentage)

Age	0 points	1 point	2 points	3 points	4 points	Number of valid responses
20s	623 (74.7%)	122 (14.6%)	57 (6.8%)	27 (3.2%)	5 (0.6%)	834
30s	1,310 (65.0%)	389 (19.3%)	178 (8.8%)	96 (4.8%)	41 (2.0%)	2,014
40s	1,374 (61.9%)	485 (21.8%)	221 (10.0%)	95 (4.3%)	45 (2.0%)	2,220
50s	1,778 (58.0%)	778 (25.4%)	293 (9.6%)	158 (5.1%)	61 (2.0%)	3,068
60s	2,827 (57.6%)	1,188 (24.2%)	527 (10.7%)	276 (5.6%)	94 (1.9%)	4,912
70s and above	2,383 (60.1%)	970 (24.5%)	375 (9.5%)	183 (4.6%)	52 (1.3%)	3,963
Overall	10,295 (60.5%)	3,932 (23.1%)	1,651 (9.7%)	835 (4.9%)	298 (1.8%)	17,011

12. Diet (Q12）

The frequency of consuming food (drinks), breakfast, eating, and pre-cooked food were as shown in Table 24 (next page).

Table 24. Frequencies of eating (drinking) prepared foods, breakfast and eating out for the general public

(Upper row is the number of individuals/lower row is percentage)

		I don't eat.	Less than once a week	1-2 times a week	3-4 times a week	5-6 times a week	Every day	Total
Breakfast		2,001 (4.4%)	506 (1.1%)	1,116 (2.5%)	1,453 (3.2%)	1,752 (3.9%)	38,175 (84.8%)	45,003
Eating out		12,363 (29.6%)	18,319 (43.8%)	6,787 (16.2%)	1,502 (3.6%)	558 (1.3%)	2,270 (5.4%)	41,799
Pre-cooked foods		6,079 (14.3%)	13,599 (31.9%)	12,721 (29.8%)	6,064 (14.2%)	1,888 (4.4%)	2,274 (5.3%)	42,625
Cooked rice		386 (0.9%)	302 (0.7%)	811 (1.8%)	2,379 (5.3%)	3,964 (8.8%)	37,248 (82.6%)	45,090
Bread		4,728 (11.3%)	12,697 (30.3%)	10,708 (25.6%)	5,086 (12.1%)	2,105 (5.0%)	6,541 (15.6%)	41,865
Fish dishes		723 (1.6%)	4,804 (10.9%)	14,389 (32.7%)	14,580 (33.1%)	4,137 (9.4%)	5,371 (12.2%)	44,004
Meat	Chicken	2,770 (6.5%)	12,025 (28.0%)	18,391 (42.9%)	7,779 (18.1%)	1,143 (2.7%)	794 (1.9%)	42,902
	Beef, pork	1,613 (3.7%)	7,813 (17.8%)	18,661 (42.5%)	12,597 (28.7%)	2,117 (4.8%)	1,121 (2.6%)	43,922
	Ham, sausage	4,577 (10.7%)	15,078 (35.2%)	14,513 (33.8%)	6,115 (14.3%)	1,381 (3.2%)	1,232 (2.9%)	42,896
Vegetables	Green vegetables	776 (1.7%)	4,118 (9.2%)	10,425 (23.3%)	12,188 (27.2%)	6,490 (14.5%)	10,760 (24.0%)	44,757
	Red and yellow vegetables	781 (1.8%)	5,095 (11.4%)	11,825 (26.5%)	12,625 (28.3%)	6,381 (14.3%)	7,868 (17.7%)	44,575
	Hypochromic vegetable	507 (1.1%)	2,688 (6.0%)	8,715 (19.6%)	13,568 (30.5%)	8,286 (18.6%)	10,759 (24.2%)	44,523
	Vegetable juice	18,701 (43.2%)	11,445 (26.5%)	5,595 (12.9%)	3,023 (7.0%)	1,340 (3.1%)	3,142 (7.3%)	43,246
Fruits	Fruits	2,989 (6.7%)	8,239 (18.5%)	9,427 (21.1%)	8,063 (18.1%)	4,591 (10.3%)	11,281 (25.3%)	44,590
	Fruit juice	17,493 (41.1%)	13,064 (30.7%)	6,375 (15.0%)	2,836 (6.7%)	1,078 (2.5%)	1,714 (4.0%)	42,560
Soy bean	Natto	4,331 (9.7%)	8,280 (18.5%)	11,617 (26.0%)	8,829 (19.8%)	4,201 (9.4%)	7,397 (16.6%)	44,655
	Miso soup	1,388 (3.1%)	2,923 (6.5%)	4,988 (11.1%)	6,920 (15.4%)	6,003 (13.4%)	22,707 (50.5%)	44,929
	Tofu dishes	1,400 (3.1%)	7,327 (16.4%)	13,633 (30.6%)	11,832 (26.5%)	5,334 (12.0%)	5,050 (11.3%)	44,576
	Boiled beans dish	11,757 (27.1%)	17,279 (39.8%)	8,360 (19.2%)	3,464 (8.0%)	1,227 (2.8%)	1,344 (3.1%)	43,431
Milk		11,826 (27.3%)	7,339 (16.9%)	5,830 (13.4%)	4,729 (10.9%)	2,858 (6.6%)	10,770 (24.8%)	43,352
Soy milk		30,240 (71.1%)	6,500 (15.3%)	2,199 (5.2%)	1,314 (3.1%)	688 (1.6%)	1,574 (3.7%)	42,515
Yogurt, lactic drinks		6,211 (13.9%)	7,667 (17.1%)	7,699 (17.2%)	6,346 (14.2%)	3,994 (8.9%)	12,925 (28.8%)	44,842

*Since there are missing values for each item, totals may not match.

13. Overall mental health (Q13)

1) For overall mental health (K6), among the 38,065 valid responses, the number of those with 13 points and above[1] was 3,701 (9.7%) (Fig 7). The average points were 5.2 points.
For males, among the 16,874 valid responses, the number of those with 13 points and above was 1,413 (8.4%). For females, among the 21,191 valid responses, 13 points and above were 2,288 (10.8%) (Fig 8). The average points for males and females were 4.7 and 5.6 points respectively.
Table 25 (next page) shows this data by age group.

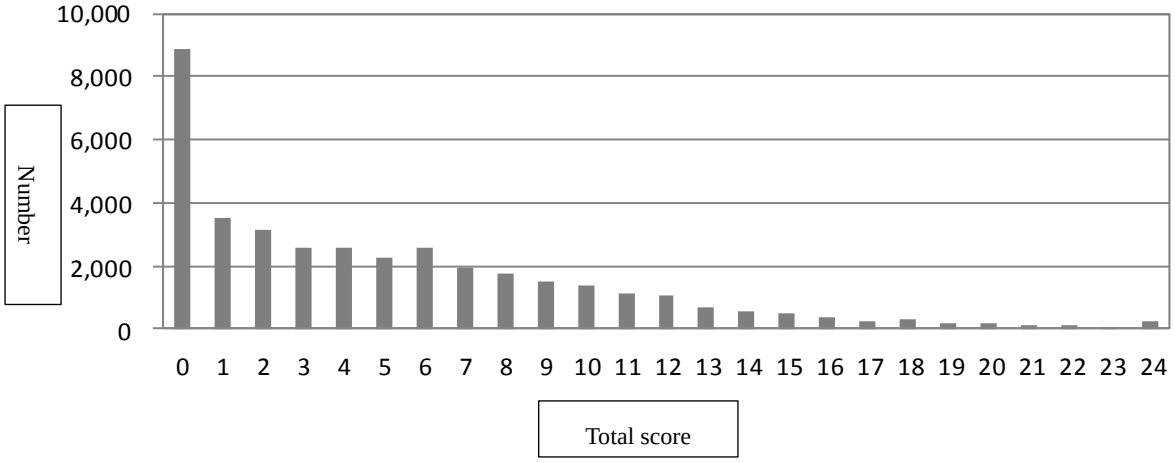


Fig. 7 The general mental state (K6) : Overall

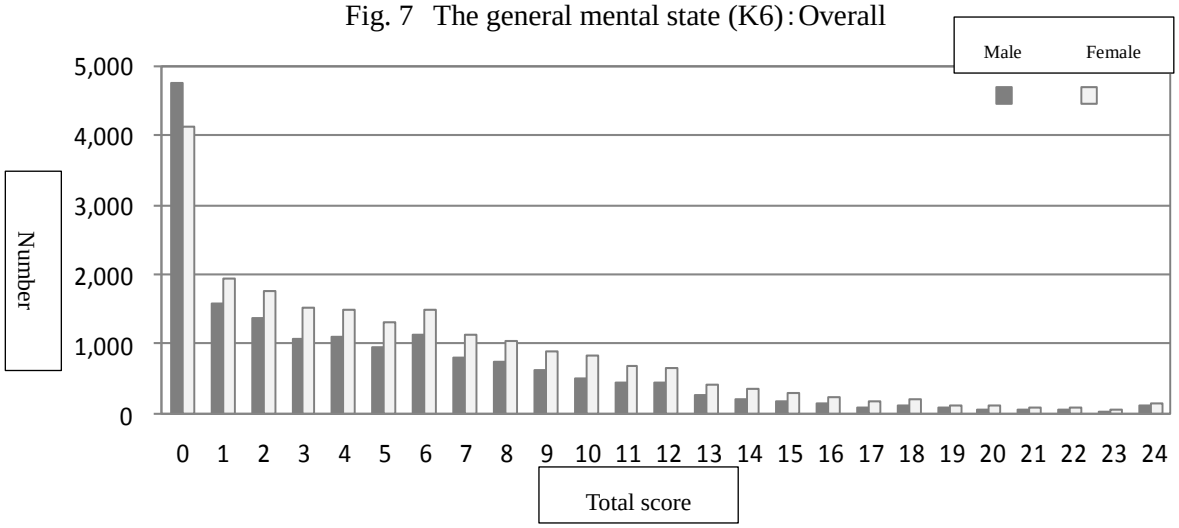


Fig. 8 The general mental state (K6) : By gender

Table 25. General mental health state (K6): by age group

Age	13 points and above	Number of valid responses
10s	47 (5.2%)	899
20s	186 (9.2%)	2,030
30s	408 (9.4%)	4,326
40s	433 (10.1%)	4,308
50s	582 (10.0%)	5,797
60s	892 (9.0%)	9,963
70 and above	1,153 (10.7%)	10,742

1) A standard value indicated by previous research

2) For whether or not there were difficulties in daily life due to such experience and condition, those who answered 'not at all' were 23,481 (59.3%); 'just a little' were 9,556 (24.1%); 'sometimes' were 4,314 (10.9%); 'most of the time' were 1,032 (2.6%); and 'always' were 1,188 (3.0%).

14. Experiences during the disaster (Q14)

1) Experiences from the disaster (multiple answers) were: 'earthquake' for 41,827; 'tsunami' for 8,352; 'nuclear power plant accident' for 40,795; and 'none' for 374.
2) For whether or not one experienced a life-threatening event, those who answered 'yes' were 25,102 (59.4%) and 'no' were 17,184 (40.6%).

15. Traumatic response (Q15)

1) Among the 37,885 valid responses, those who had 44 points and above[2] for traumatic response (PCL) were 5,999 (15.8%) (Fig 9). The average score was 30.4 points.
   For males, among the 16,749 valid responses, 44 points and above were 2,423 (14.5%). For females, among the 21,136 valid responses, 44 points and above were 3,576 (16.9%) (Fig 10). The average points for males and females were 29.6 and 31.0 points, respectively.
   The data based on age group is shown in table 26 (next page).
2) For whether or not there were difficulties in daily life due to such experience and condition, 'yes' were 9,074 (23.4%) and 'no' were 29,678 (76.6%).

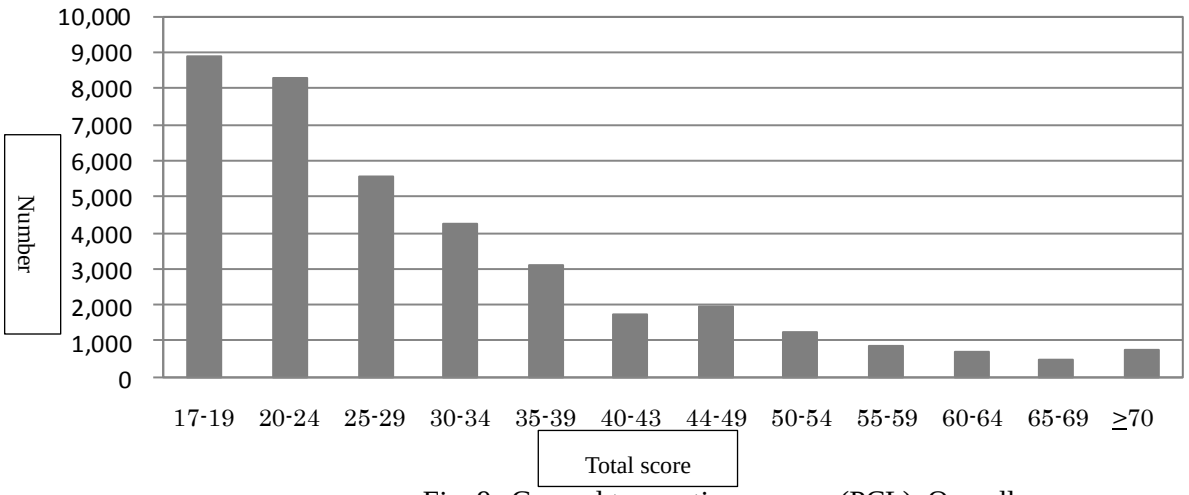


Fig. 9 General traumatic response (PCL) : Overall

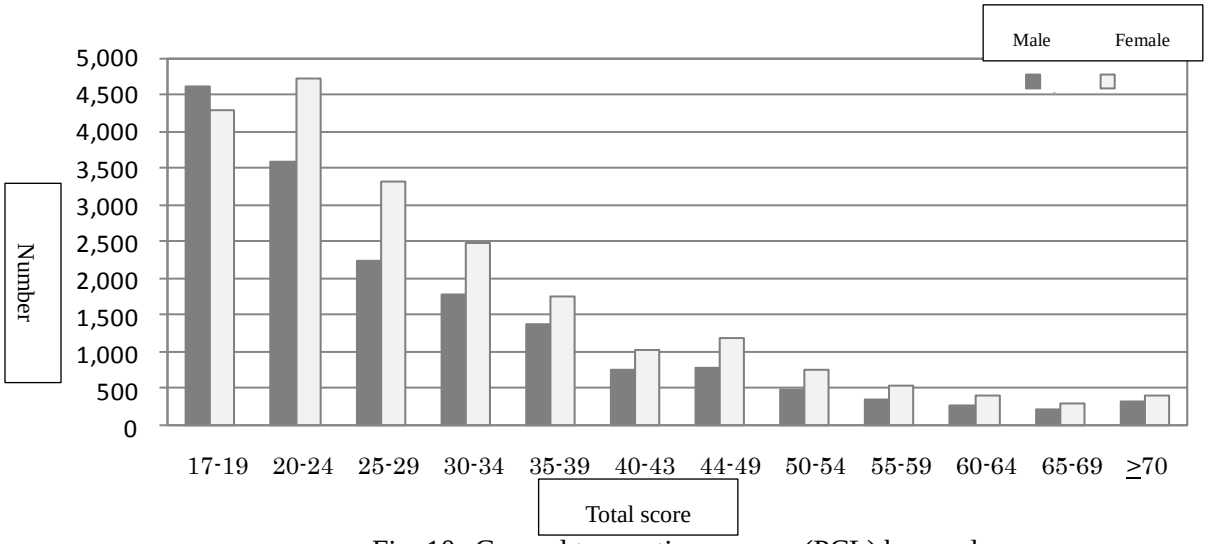


Fig. 10 General traumatic response (PCL) by gender

Table 26. General traumatic response (PCL) : by age group

Age	44 points and above	Number of valid responses
10s	34 (3.8%)	897
20s	181 (9.0%)	2,006
30s	462 (10.7%)	4,310
40s	558 (13.0%)	4,297
50s	772 (13.4%)	5,778
60s	1,522 (15.3%)	9,974
70s and above	2,470 (23.3%)	10,623

2) A standard value indicated by previous research

16. Difficulties in daily life (Q16)

1) The frequency of experiencing difficulties in daily life within the past month was: 1,732 (19.6%) for ‘frequent’; 4,229 (47.8%) for ‘sometimes’; 2,284 (25.8%) for ‘rarely’; and 604 (6.8%) for ‘never’.

   ∗ The responses for 2), 3), 4) are from only those that answered Yes to Q 15-2, and ‘frequent’, ‘sometimes’ and ‘rarely’ for Q 16-1).

2) The proportion of those who have difficulties related to work, school and housework, etc. were: 276 (3.7%) for ‘none’; 3,375 (45.2%) for ‘slight’; 2,563 (34.4%) for ‘moderate’; 715 (9.6%) for ‘severe’, and 531 (7.1%) for ‘extremely severe’.
3) The proportion of those who have difficulties in human relations and spending days off were: 377 (5.0%) for ‘none’; 3,147 (41.3%) for ‘slight’; 2,720 (35.7%) for ‘moderate’; 863 (11.3%) for ‘severe’; and 508 (6.7%) for ‘extremely severe’.
4) The proportion of those who have difficulties in family communication and roles were: 629 (8.3%) for ‘none’; 3,016 (39.8%) for ‘slight’; 2,547 (33.6%) for ‘moderate’; 857 (11.3%) for ‘severe’; and 530 (7.0%) for ‘extremely severe’.

17. Current living conditions (Q17)

1) For whether or not one had to live separately from family due to disaster, 16,154 (36.1%) answered ‘yes’ and 28,644 (63.9%) answered ‘no’.
2) For the number of residents in one household (including self), the proportion before the disaster was: 3,025 (7.1%) for ‘living alone’; 9,504 (22.3%) for ‘2 residents’; 8,294 (19.5%) for ‘3 residents’; 7,387 (17.3%) for ‘4 residents’; 5,434 (12.8%) for ‘5 residents’; 4,465 (10.5%) for ‘6 residents’; 2,804 (6.6%) for ‘7 residents’; 1,105 (2.6%) for ‘8 residents’ 368 (0.9%) for ‘9 residents’; and 212 (0.5%) for ’10 residents and above’.

   The current proportion was: 5,993 (13.7%) for ‘living alone’; 15,278 (34.9%) for ‘2 residents’; 9,027 (20.6%) for ‘3 residents’; 6,358 (14.5%) for ‘4 residents’; 3,517 (8.0%) for ‘5 residents’; 2,050 (4.7%) for ‘6 residents’; 1,057 (2.4%) for ‘7 residents’; 330 (0.8%) for ‘8 residents’; 144 (0.3%) for ‘9 residents’; and 70 (0.2%) for ’10 residents and above’.
3) For current residence (multiple answers), 12,199 lived in municipally subsidized rental housing; 6,713 in temporary housing; 333 in restoration public housing; 6,008 in rented houses or apartments; 1,146 in relative’s houses; 18,542 in owned houses; and 671 in other kinds of habitats.
4) The number of times of moving since the disaster to present was: 0 times for 5,110 (12.1%); 1 time for 5,136 (12.2%); 2 times for 5,750 (13.6%); 3 times for 7,050 (16.7%) ; 4 times for 6,274 (14.9%) ; and 5 times for 5,379 (12.8%); and more than 6 times for 7,454 (17.7%).
5) For the form of employment: 12,381 (28.6%) were full-time or independent; 3,636 (8.4%) were part-time; and 27,322 (63.0%) were unemployed (including students and homemakers).
6) For the work situation (Has your work situation changed due to the disaster and nuclear accident?) 18,567 (47.6%) said ‘it changed’ while 20,435 (52.4%) said ‘it did not change’.

7) Among those who responded ‘it changed’, the details of this change (multiple answers) were: 2,352 for ‘I started a new job’; 8,874 for ‘I lost my job’; 2,575 for ‘I changed my job’; 2,726 for ‘My position changed within the same company or organization; and 4,070 for other.

8) For how one sees their financial circumstances; 5,892 (14.1%) said ‘tough’; 10,969 (26.2%) said ‘slightly tough’; 23,066 (55.1%) said ‘normal’; 1,438 (3.4%) said ‘slightly comfortable’; and 498 (1.2%) said ‘comfortable’.

18. Human relations (Q18)

For current human relations in daily life (LSNS-6), among the 39,833 valid responses, 15,812 (39.7%) had less than 12 points[3] (Fig 11). The average score was 13.1 points.

For males, among the 17,392 valid responses, 7,359 (42.3%) had less than 12 points. For females, among the 22,441 valid responses, 8,453 (37.7%) had less than 12 points (Fig 12). The average score for males and females were 12.8 points and 13.3 points respectively.

The data by age group is shown in Table 27 (next page).

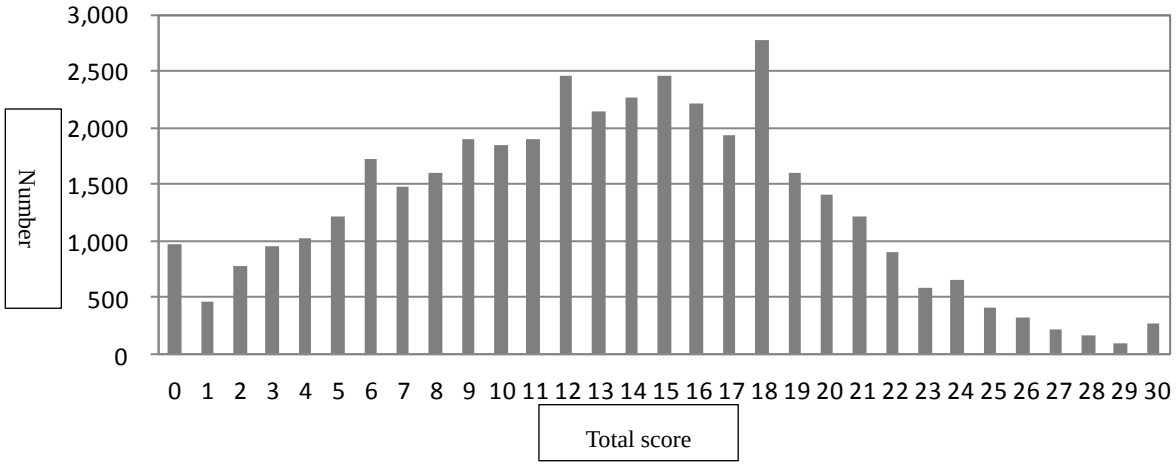


Fig. 11 Human relations (LSNS-6): Overall

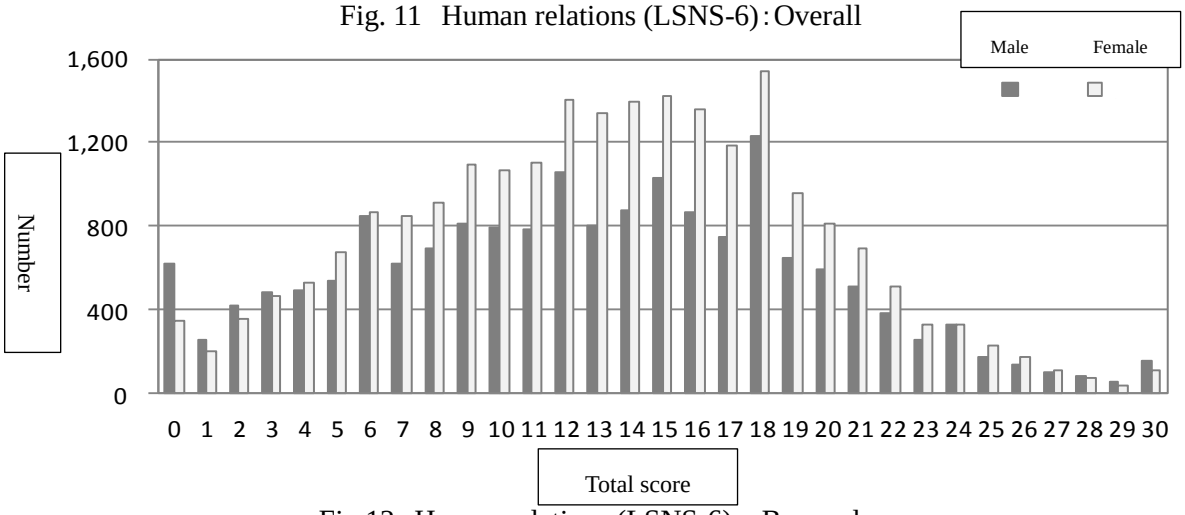


Fig 12 Human relations (LSNS-6): By gender

Table 27 Human relations (LSNS-6) : by age group

Age	Less than 12 points	12 points and above	Number of valid responses
10s	246 (26.9%)	670 (73.1%)	916
20s	813 (39.5%)	1,246 (60.5%)	2,059
30s	2,096 (47.9%)	2,278 (52.1%)	4,374
40s	2,441 (56.0%)	1,917 (44.0%)	4,358
50s	3,011 (50.8%)	2,922 (49.2%)	5,933
60s	3,981 (38.2%)	6,452 (61.8%)	10,433
70s and above	3,224 (27.4%)	8,536 (72.6%)	11,760

3) A standard value indicated by previous research

19. Currently residing area (Q19)

The data for the currently residing area (please answer the following questions regarding the area you currently reside) is shown in Table 28.

Table 28 Currently residing area

		Strongly agree	Somewhat agree	Not sure	Somewhat disagree	Strongly disagree	Number of valid responses
1	The people in this area help each other mutually.	4,483 (10.1%)	16,914 (38.2%)	14,844 (33.5%)	4,166 (9.4%)	3,877 (8.8%)	44,284
2	The people in this area can be trusted.	3,872 (8.8%)	15,924 (36.1%)	17,533 (39.7%)	3,670 (8.3%)	3,149 (7.1%)	44,148
3	The people in this area greet each other.	8,355 (18.8%)	22,780 (51.3%)	8,984 (20.2%)	2,610 (5.9%)	1,690 (3.8%)	44,419
4	If there are issues in this area, people work together in order to find solutions.	4,672 (10.6%)	16,614 (37.7%)	16,080 (36.5%)	3,451 (7.8%)	3,260 (7.4%)	44,077

20. Awareness of health effects caused by radiation (Q20)

Awareness of health effects caused by radiation is shown in Table 29.

Table 29. Awareness of health effects caused by radiation

(Upper row is the number of individuals/lower row is proportion)

		Possibility is very low	←	→	Possibility is very high	Number of valid responses
1	How likely do you think health disorders (for example, cancer) will occur in the future due to the current radiation exposure?	10,809 (27.9%)	12,557 (32.4%)	8,365 (21.6%)	6,979 (18.0%)	38,710
2	How likely do you think health disorders will occur in future generations (children or grandchildren) due to the current radiation exposure?	8,218 (21.4%)	11,705 (30.5%)	9,951 (25.9%)	8,508 (22.2%)	38,382

Data from the FY 2013 Mental Health and Lifestyle Survey for the age group 0-3

			Number	Proportion
Gender	(1,634 valid responses)	・Boys	824	50.4%
(Average age 2.0)		・Girls	810	49.6%
By address	(1,634 valid responses)	・Within the prefecture	1,191	72.9%
		・Outside the prefecture	443	27.1%
Q1 Health condition	(1,601 valid responses)	・Very good	521	32.5%
		・Good	681	42.5%
		・Normal	381	23.8%
		・Bad	18	1.1%
		・Very bad	0	0.0%
Q2 Height and weight		(Listed in the main document by gender and age)		—
Q3 Currently treated diseases	(1,621 valid responses)	・No	1,158	71.4%
		・Yes	463	28.6%
		(Listed in the main document by gender and age)		
Q4 Experience of hospitalization	(1,629 valid responses)	・No	1,238	76.0%
		・Yes	391	24.0%
		(Listed in the main document by gender and age)		
Q5 Medical exam experience				
1) CT scan	(1,629 valid responses)	・No	1,516	93.1%
		・Yes	70	4.3%
		・Not sure	43	2.6%
2) Exam using X-rays	(1,604 valid responses)	・No	1,486	92.6%
		・Yes (Examination contents)	60	3.7%
		(Fluoroscopy)	(43)	—
		(Angiography)	(9)	—
		(Nuclear medicine scan)	(2)	—
		・Not sure	58	3.6%
Q6 Experience of radiation therapy	(1,628 valid responses)	・No	1,604	98.5%
		・Yes	4	0.2%
		・Not sure	20	1.2%
Q7 Sleep time and naps				
1) Sleep time	(1,624 valid responses)	・Average sleep hours: 9 h 59 min		
	(1,632 valid responses)	・Average sleep time: 9:11 PM		
	(1,631 valid responses)	・Average wake-up time: 7:14 AM		
2) Naps	(1,619 valid responses)	・No	215	13.3%
		・Yes	1,404	86.7%
	(1,382 valid responses)	(Average nap time: 1 h 53 min)		
Q8 Regular amount of exercise	(1,119 valid responses)	・Almost every day	504	45.0%
		・2-4 times a week	355	31.7%
		・Once a week	144	12.9%
		・Rarely	116	10.4%
Q9 Diet				
1) Breast milk	(1,564 valid responses)	・Yes	225	14.4%
		・No	1,339	85.6%
2) Frequency of eating	—	・Listed in the main document		—
Q10 Child rearing	(1,630 valid responses)	・Yes	207	12.7%
		・No	710	43.6%
		・Not sure	713	43.7%

* Brackets indicate included numbers.

Data from the FY 2013 Mental Health and Lifestyle Survey for the age group 4-6

			Number	Proportion
Gender	(2,032 valid responses)	・Boys	1,022	50.3%
(Average age 4.8)		・Girls	1,010	49.7%
By address	(2,032 valid responses)	・Within the prefecture	1,409	69.3%
		・Outside the prefecture	623	30.7%
Q1. Health condition	(1,983 valid responses)	・Very good	534	26.9%
		・Good	827	41.7%
		・Normal	591	29.8%
		・Bad	28	1.4%
		・Very bad	3	0.2%
Q2. Height and weight		(Listed in the main document by gender and age)		—
Q3. Currently treated diseases	(2,021 valid responses)	・No	1,278	63.2%
		・Yes	743	36.8%
		(Breakdown is listed in the main document)		
Q4. Experience of hospitalization	(2,025 valid responses)	・No	1,415	69.9%
		・Yes	610	30.1%
		(Breakdown is listed in the main document)		
Q5. Medical exam experience				
1) CT scan	(2,019 valid responses)	・No	1,826	90.4%
		・Yes	129	6.4%
		・Not sure	64	3.2%
2) Exam using X-rays	(2,000 valid responses)	・No	1,828	91.4%
		・Yes (Examination contents)	102	5.1%
		(Fluoroscopy)	(76)	—
		(Angiography)	(14)	—
		(Nuclear medicine scan)	(3)	—
		・Not sure	70	3.5%
Q6. Experience of radiation therapy	(2,014 valid responses)	・No	1,975	98.1%
		・Yes	2	0.1%
		・Not sure	37	1.8%
Q7. Sleep time and naps				
1) Sleep time	(2,028 valid responses)	・Average sleep hours: 9 h 44 min		
	(2,031 valid responses)	・Average sleep time: 9:11 PM		
	(2,031 valid responses)	・Average wake-up time: 6:56 AM		
2) Naps	(2,009 valid responses)	・No	1,272	63.3%
		・Yes	737	36.7%
	(697 valid responses)	(Average nap time: 1 h 39 min)		
Q8. Regular amount of exercise	(1,929 valid responses)	・Almost every day	791	41.0%
		・2-4 times a week	610	31.6%
		・Once a week	249	12.9%
		・Rarely	279	14.5%
Q9. Diet				
Frequency of eating	—	・Listed in the main document		—
Q10. SDQ	(2,027 valid responses)	・Average total score: 9.7 points		
1) SDQ	(1,020 valid responses)	・Male average total score: 10.4 points		
	(1,007 valid responses)	・Female average total score: 9.0 points		
		・16 points and above	288	14.2%
		(Male)	(170)	—
		(Female)	(118)	—
		・20 points and above	110	5.4%
		(Male)	(69)	—
		(Female)	(41)	—
2) Presence or absence of difficult issues	(2,019 valid responses)	・No	1,504	74.5%
		・Yes (minor issues)	427	21.1%
		・Yes (clear issues)	76	3.8%
		・Yes (serious issues)	12	0.6%
3) Level of upset	(497 valid responses)	・Not at all	197	39.6%
		・A little	270	54.3%
		・Very	24	4.8%
		・Greatly	6	1.2%

* Brackets indicate included numbers.

Data from the FY 2013 Mental Health and Lifestyle Survey for primary school students

			Number	Proportion
Gender	(3,987 valid responses)	・Boys	2,054	51.5%
(Average age: 9.4)		・Girls	1,933	48.5%
By address	(3,987 valid responses)	・Within the prefecture	2,932	73.5%
		・Outside the prefecture	1,055	26.5%
Q1 Health condition	(3,828 valid responses)	・Very good	882	23.0%
		・Good	1,680	43.9%
		・Normal	1,208	31.6%
		・Bad	50	1.3%
		・Very bad	8	0.2%
Q2 Height and weight		(Listed in the main document by gender and age)		—
Q3 Currently treated diseases	(3,942 valid responses)	・No	2,492	63.2%
		・Yes	1,450	36.8%
		(Breakdown is listed in the main document)		
Q4 Experience of hospitalization	(3,955 valid responses)	・No	2,528	63.9%
		・Yes	1,427	36.1%
		(Breakdown is listed in the main document)		
Q5 Medical exam experience				
1) CT scan	(3,947 valid responses)	・No	3,284	83.2%
		・Yes	479	12.1%
		・Not sure	184	4.7%
2) Examination using X-rays	(3,897 valid responses)	・No	3,466	88.9%
		・Yes (Examination contents)	220	5.6%
		(Fluoroscopy)	(147)	—
		(Angiography)	(36)	—
		(Nuclear medicine scan)	(14)	—
		・Not sure	211	5.4%
Q6 Experience of radiation therapy	(3,932 valid responses)	・No	3,824	97.3%
		・Yes	6	0.2%
		・Not sure	102	2.6%
Q7 Sleep time and naps				
1) Sleep time	(3,959 valid responses)	・Average sleep hours: 8 h 54min		
	(3,966 valid responses)	・Average sleep time: 9:31 PM		
	(3,966 valid responses)	・Average wake-up time: 6:27 AM		
Q8 Regular amount of exercise	(3,734 valid responses)	・Almost every day	294	7.9%
		・2-4 times a week	1,033	27.7%
		・Once a week	940	25.2%
		・Rarely	1,467	39.3%
Q9 Diet				
Frequency of eating	—	・Listed in the main document		—
Q10 SDQ	(3,974 valid responses)	・Average total score: 9.4 points		
1) SDQ	(2,044 valid responses)	・Male average total score: 10.0 points		
	(1,930 valid responses)	・Female average total score: 8.8 points		
		・16 points and above	583	14.7%
		(Male)	(346)	—
		(Female)	(237)	—
		・20 points and above	226	5.7%
		(Male)	(146)	—
		(Female)	(80)	—
2) Presence or absence of difficult issues	(3,966 valid responses)	・No	2,750	69.3%
		・Yes (minor issues)	988	24.9%
		・Yes (clear issues)	183	4.6%
		・Yes (serious issues)	45	1.1%
3) Level of upset	(1,170 valid responses)	・Not at all	277	23.7%
		・A little	785	67.1%
		・Very	87	7.4%
		・Greatly	21	1.8%

*Brackets indicate included numbers.

Data from the FY 2013 Mental Health and Lifestyle Survey for middle school students

			Number	Proportion
Gender	(1,820 valid responses)	・Boys	890	48.9%
（Average age: 13.9）		・Girls	930	51.1%
By address	(1,820 valid responses)	・Within the prefecture	1,425	78.3%
		・Outside the prefecture	395	21.7%
Q1 Health condition	(1,124 valid responses)	・Very good	341	30.3%
		・Good	344	30.6%
		・Normal	406	36.1%
		・Bad	30	2.7%
		・Very bad	3	0.3%
Q2 Height and weight		Listed in the main document by gender and age		—
Q3 Sleep				
1) Sleep time	(1,137 valid responses)	・Average sleep hours: 7 h 8min		
2) Sleep for the past month	(1,139 valid responses)	・Sufficient	504	44.2%
		・Slightly insufficient	520	45.7%
		・Insufficient	115	10.1%
Q4 Regular amount of exercise	(1,142 valid responses)	・Almost every day	538	47.1%
		・2-4 times a week	159	13.9%
		・Once a week	91	8.0%
		・Rarely	354	31.0%
Q5 Diet	—	・Listed in the main document		—
Q6 Experience at disaster	Multiple answers	・Earthquake	1,076	—
		・Tsunami	155	—
		・Nuclear power plant accident	1,027	—
		・None	2	—
Q7 Currently treated diseases	(1,777 valid responses)	・No	1,258	70.8%
		・Yes	519	29.2%
		(Breakdown is listed in the main document)		
Q8 Experience of hospitalization	(1,777 valid responses)	・No	1,140	64.2%
		・Yes	637	35.8%
		(Breakdown is listed in the main document)		
Q9 Medical exam experience				
1) CT scan	(1,769 valid responses)	・No	1,420	80.3%
		・Yes	282	15.9%
		・Not sure	67	3.8%
2) Examination using X-rays	(1,750 valid responses)	・No	1,556	88.9%
		・Yes (Examination contents)	113	6.5%
		(Fluoroscopy)	(80)	—
		(Angiography)	(25)	—
		(Nuclear medicine scan)	(3)	—
		・Not sure	81	4.6%
Q10 Experience of radiation therapy	(1,764 valid responses)	・No	1,723	97.7%
		・Yes	5	0.3%
		・Not sure	36	2.0%
Q11 SDQ	(1,776 valid responses)	・Average total score: 8.7 points		
1) SDQ	(873 valid responses)	・Male average total score: 9.3 points		
	(903 valid responses)	・Female average total score: 8.2 points		
		・16 points and above	234	13.2%
		(Male)	(139)	—
		(Female)	(95)	—
		・20 points and above	112	6.3%
		(Male)	(62)	—
		(Female)	(50)	—
2) Presence or absence of difficult issues	(1,770 valid responses)	・No	1,231	69.5%
		・Yes (minor issues)	384	21.7%
		・Yes (clear issues)	100	5.6%
		・Yes (serious issues)	55	3.1%
3) Level of upset	(520 valid responses)	・Not at all	81	15.6%
		・A little	347	66.7%
		・Very	66	12.7%
		・Greatly	26	5.0%

Brackets indicate included numbers.

Data from the FY 2013 Mental Health and Lifestyle Survey for adults

			Number	Proportion
Gender	(46,377 valid responses)	・Male	20,401	44.0%
(Average age: 59.2)		・Female	25,976	56.0%
By address	(46,377 valid responses)	・Within the prefecture	38,612	83.3%
		・Outside the prefecture	7,765	16.7%
Q1 Health condition	(39,693 valid responses)	・Very good	1,501	3.8%
		・Good	6,408	16.1%
		・Normal	24,437	61.6%
		・Bad	6,714	16.9%
		・Very bad	633	1.6%
Q2 Height and weight	—	・Listed in the main document		—
Q3 Medical history	—	・Listed in the main document		—
Q4 Medical exam experience				
1) CT scan	(44,912 valid responses)	・No	22,935	51.1%
		・Yes	20,291	45.2%
		・Not sure	1,686	3.8%
2) Fluoroscopy	(44,423 valid responses)	・No	18,818	42.4%
		・Yes	24,647	55.5%
		・Not sure	958	2.2%
3) Other examinations	(44,434 valid responses)	・No	36,372	81.9%
		・Yes (Examination contents)	5,936	13.4%
		(Angiography)	(4,009)	—
		(Nuclear medicine scan)	(484)	—
		(PET scan)	(1,458)	—
		・Not sure	2,126	4.8%
Q5 Experience of radiation therapy	(44,869 valid responses)	・No	42,740	95.3%
		・Yes	1,109	2.5%
		・Not sure	1,020	2.3%
Q6 Daily living functions				
1) Daily living functions	—	・Listed in the main document		
2) Participation in recreational activities	(45,151 valid responses)	・No/ Rarely	27,586	61.1%
		・Sometimes	13,359	29.6%
		・Frequently	4,206	9.3%
Q7 Sleep				
1) Sleep time	(44,744 valid responses)	・Average sleep hours: 7 h 5 min		
2) Sleep for the past month	(38,763 valid responses)	・Sufficient	15,371	39.7%
		・Slightly insufficient	17,427	45.0%
		・Very insufficient	4,945	12.8%
		・Greatly insufficient or couldn't get any sleep	1,020	2.6%
3) Experience related to sleep	—	・Listed in the main document		—
Q8 Exercise	(45,689 valid responses)	・Almost every day	7,062	15.5%
		・2-4 times a week	10,211	22.3%
		・Once a week	7,069	15.5%
		・Rarely	21,347	46.7%
Q9 Opportunity to laugh	(45,664 valid responses)	・Every day	12,452	27.3%
		・1-5 times per week	18,648	40.8%
		・1-3 times per month	8,792	19.3%
		・Rarely	5,772	12.6%

*Brackets indicate included numbers.

			Number	Proportion
Q10 Smoking				
1)Second-hand smoking	(43,804 valid responses)	・Every day	9,293	21.2%
		・4-5 times per week	2,772	6.3%
		・Sometimes	12,564	28.7%
		・Rarely	19,175	43.8%
2) Smoking (before disaster)	(42,530 valid responses)	・No	30,139	70.9%
		・Yes	12,391	29.1%
3) Smoking	(39,945 valid responses)	・No	22,920	57.4%
		・Quit	9,623	24.1%
		・Yes	7,402	18.5%
		(Average cigarettes per day: 16.7)		—
		(Average smoking years: 28.6)		—
Q11 Alcohol				
1) Alcohol consumption before disaster	(42,894 valid responses)	No/ Rarely	22,845	53.3%
		・Yes (more than once a month)	20,049	46.7%
2) Alcohol consumption	(42,325 valid responses)	No/ Rarely	22,248	52.6%
		・Quit	1,393	3.3%
		・Yes (more than once a month)	18,684	44.1%
		(Type of alcohol and frequency are listed in the main document)		—
3) Frequency of consumption	(17,953 valid responses)	・Listed in the main document		
4) Daily alcohol consumption	(16,991 valid responses)	・180 ml on average		
5) Experiences related to alcohol	(17,011 valid responses)	・Listed in the main document		—
Q12 Diet	*Multiple answers	・Listed in the main document		—
Q13 Mental health state (K6)				
1) Mental health state (K6)	(38,065 valid responses)	・Average score: 5.2 points		
	(16,874 valid responses)	・Average male score: 4.7		
	(21,191 valid responses)	・Average female score: 5.6 points		
		・13 points and above	3,701	9.7%
		(Male)	(1,413)	—
		(Female)	(2,288)	—
		(Listed in the main document by age group)		—
2) Level of disabilities in daily life	(39,571 valid responses)	・None	23,481	59.3%
		・A little	9,556	24.1%
		・Sometimes	4,314	10.9%
		・Mostly	1,032	2.6%
		・Always	1,188	3.0%
Q14 The Great East Japan Earthquake				
1) Disaster experience	*Multiple answers	・Earthquake	41,827	—
		・Tsunami	8,352	—
		・Nuclear power plant accident	40,795	—
		・None	374	—
2) Life-threatening experience	(42,286 valid responses)	・Yes	25,102	59.4%
		・No	17,184	40.6%
Q15 Traumatic response (PCL)				
1) Traumatic response (PC	(37,885 valid responses)	・Average score: 30.4 points		
	(16,749 valid responses)	・Average male score: 29.6 points		
	(21,136 valid responses)	・Average female score: 31.0 points		
		・44 points and above	5,999	15.8%
		(Male)	(2,423)	—
		(Female)	(3,576)	—
		(Listed in the main document by age group)		—
2) Difficulties in daily life	(38,752 valid responses)	・Yes	9,074	23.4%
		・No	29,678	76.6%
Q16 Difficulties in daily life (PCL)				
1) Frequency of difficulties in daily life		・Frequently	1,732	19.6%
	(8,849 valid responses)	・Sometimes	4,229	47.8%
		・Rarely	2,284	25.8%
		・Never	604	6.8%

*Brackets indicate included numbers.

			Number	Proportion
Q16 Difficulties in daily life (PCL)				
2) Difficulties at work/school		・None	276	3.7%
	(7,460 valid responses)	・Slight	3,375	45.2%
		・Moderate	2,563	34.4%
		・Severe	715	9.6%
		・Very severe	531	7.1%
3) Difficulties in social life		・None	377	5.0%
	(7,615 valid responses)	・Slight	3,147	41.3%
		・Moderate	2,720	35.7%
		・Severe	863	11.3%
		・Very severe	508	6.7%
4) Level of difficulties in family communication and roles		・None	629	8.3%
	(7,579 valid responses)	・Slight	3,016	39.8%
		・Moderate	2,547	33.6%
		・Severe	857	11.3%
		・Very severe	530	7.0%
Q17 Current living conditions				
1) Living conditions with f	(44,798 valid responses)	・Yes	16,154	36.1%
		・No	28,644	63.9%
2) Number of people within household	(42,598 valid responses)	・Alone	3,025	7.1%
Before the disaster		・2 people	9,504	22.3%
		・More than 3 people	30,069	70.6%
		*Details are listed in the main document.		
At present	(43,824 valid responses)	・Alone	5,993	13.7%
		・2 people	15,278	34.9%
		・More than 3 people	22,553	51.5%
		*Details are listed in the main document.		
3) Current residence	*Multiple answers	・Municipally subsidized rental housing	12,199	—
		・Temporary housing	6,713	—
		・Restoration public housing	333	—
		・Rented house/apartment	6,008	—
		・Relative's home	1,146	—
		・Owned house	18,542	—
		・Other	671	—
4) Number of moves since the disaster	(42,153 valid responses)	・None	5,110	12.1%
		・Once	5,136	12.2%
		・Twice	5,750	13.6%
		・Three times	7,050	16.7%
		・Four times	6,274	14.9%
		・Five times	5,379	12.8%
		・More than six times	7,454	17.7%
5) Form of employment	(43,339 valid responses)	・Full-time/self-employed	12,381	28.6%
		・Part-time	3,636	8.4%
		・Unemployed (including students and homemakers)	27,322	63.0%
6) Work situation	(39,002 valid responses)	・It changed	18,567	47.6%
		・It didn't change	20,435	52.4%
7) Work changes	*Multiple answers	・Started a new job	2,352	—
		・Lost a job	8,874	—
		・Changed jobs	2,575	—
		・Position change	2,726	—
		・Other	4,070	—
8) Current financial circumstances	(41,863 valid responses)	・Tough	5,892	14.1%
		・Slightly tough	10,969	26.2%
		・Normal	23,066	55.1%
		・Slightly comfortable	1,438	3.4%
		・Comfortable	498	1.2%
Q18 Human relations (LSNS-6)				
	(39,833 valid responses)	・Average score: 13.1 points		
	(17,392 valid responses)	・Male average score: 12.8 points		
	(22,441 valid responses)	・Female average score: 13.3 points		
		・Less than 12 points	15,812	39.7%
		(Male)	(7,359)	—
		(Female)	(8,453)	—
		(Listed in the main document by age group)	—	—
Q19 Currently residing area	—	・Listed in the main document	—	—
Q20 Health effects of radiation	—	・Listed in the main document	—	—
Q21-24	—	・Omitted	—	—

Result of Mental Health and Lifestyle Survey for FY 2013
A report on support

1. Purpose

The Great East Japan Earthquake on 11 March 2011 and the following accident at the Fukushima Daiichi Nuclear Power Plant brought the residents of Fukushima Prefecture psychological distress or post-traumatic stress disorder (PTSD) caused by anxiety, evacuation, loss of property, and fearful experiences. The survey started in FY 2011 to understand the residents' mental health and lifestyle, and provide them with appropriate care.

As mental health services should involve medium- and long-term support, we will continue to conduct the survey to convey a strong message of ongoing care and support to the participants. Additionally, further support is needed based on understanding the changes in their situation that have occurred as well as the causes of these changes.

The survey responses were analyzed by doctors and other professionals at Fukushima Medical University (FMU). A Mental Health Support Team consisting of clinical psychologists, public health nurses and others performed consultations to those determined to require counseling or support for mental health or lifestyle problems.

2. Methods

2.1. Support Group

Respondents to the Mental Health and Lifestyle Survey for FY 2013, who are residents of nationally designated evacuation areas born on or before 1 April 2013, and apply to the following selection criteria.

We have five types of surveys according to age.

Age 0-3 years : Participants born between April 2, 2010 and April 1, 2013.
Age 4-6 years : Participants born between April 2, 2007 and April 1, 2010.
Primary School : Participants born between April 2, 2001 and April 1, 2007.
Middle School : Participants born between April 2, 1998 and April 1, 2001.
Adults : Participants born on or before April 1, 1998.

2.2 Criteria for Support

We provided telephone counseling or support by sending written materials according to the urgency and severity. In this survey, 'children' refers to the participants of middle school age and below.

Criteria for support are based on A) Scale scores and B) Items other than scales.

2.2-1 Telephone Counseling

Respondents who required support (A):

- Children with SDQ (Strength and Difficulties Questionnaire) score ≥20, adults with K6 (general mental health conditions) score ≥13 and PCL (trauma response) score ≥50, or adults with K6 score ≥17 regardless of their PCL score.

Respondents who required support (B):

- Children and adults identified based on the content of free-answer questions and in urgent need of support.
- Adults with a previous history of hypertension or diabetes who have not received treatment with a BMI ≥27.5 (calculated from weight and height written in the survey) and a weight gain of ≥3 kg after the disaster, or those who consume, on average, ≥540 ml alcoholic drinks per day.
- Adults with a history of mental disorders who are not currently visiting a clinic.

2.2-2 Written Materials

Respondents who required support (A):

- Children with SDQ score ≥16 (criterion in initial screening) and adults with K6 score ≥13 or PCL score ≥44 (criteria in initial screening), who did not meet the criteria for telephone counseling.

Respondents who required support (B):

- Children and adults identified based on the content of free-answer questions and not in urgent need of support.
- Adults who neither meet the above criteria nor receive medical treatment with sleep disorder, depression and decreased activity.
- Adults with CAGE (method of screening for alcoholism) score ≥2 out of 4.

We sent the respondents who required written support materials a letter with a special phone number for support, and a return postcard asking their desire for telephone support. Telephone support was provided for those who indicated their desire for support, or those who were determined to require support based on the reply content.

2.3. Categories of Results and Continued Support

The results of the telephone counseling were categorized into four groups: Follow-up 1, 2, 3, and 'Declined support.' The participants requiring continued support were given follow-up with telephone counseling, or connected to municipal governments and the Fukushima Center for Disaster Mental Health. Participants determined to require examination by a doctor were referred to a registered physician, or informed of the medical institutions and services they needed. When necessary, we contacted the participants' physicians to share information.

2.3-1 Categories of Results

Follow-up 1 : Participants confirmed to be improving or self-managing their problems.

Follow-up 2 : Participants not recovering from health problems, the emotional aftermath, adjustment problems, etc.

Follow-up 3 : Participants whose status could not be confirmed.

Declined support : Participants who clearly conveyed that they did not want support.

2.3-2 Continued Support

Follow-up : Participants requiring continued telephone counseling.

Municipal government : Participants required to be connected to municipal government.

Referral : Participants referred to registered doctors.

Sent list of registered doctors within Fukushima Prefecture:
Participants sent information of registered doctors.

Sent information of medical institutions outside the prefecture:
Participants sent information of institutions outside the prefecture for support.

Sharing information : Participants' information was shared with their home doctors.

Provided information : Participants were provided information of medical institutions or services they needed by telephone during or after the telephone counseling.

Handled by other departments:
Participants needing services related to the Basic Survey and/or Thyroid Ultrasound Examination of FMU's Radiation Medical Science Center.

3. Results

3.1 Numbers of Respondents Requiring Support and the Support Provided

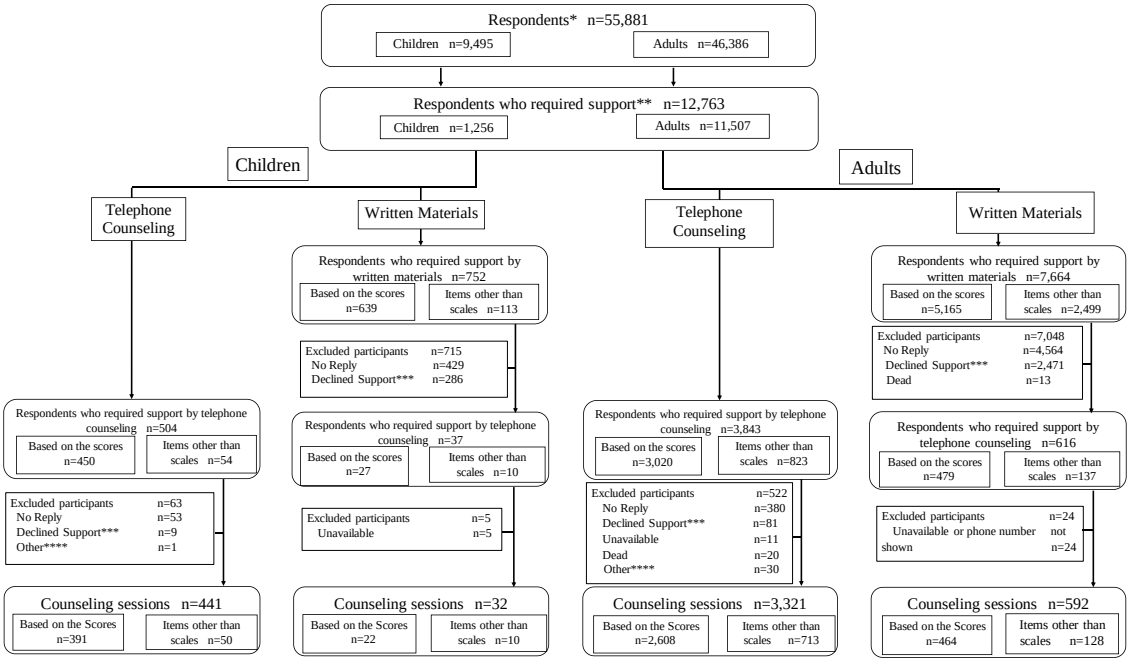
A total of 1,256 children required support; 504 of them needed telephone counseling and 752 were determined to require support with written materials. Of the 752 participants, 37 were determined to require telephone counseling based on the responses to the written materials.

A total of 11,507 adults required support; 3,843 of them needed telephone counseling and 7,664 were determined to require support with written materials. After receiving the support with written materials, 616 were determined to require telephone counseling. The number of those who only met the criteria of CAGE test scores was 2,010.

To those who were identified as requiring support but could not be reached for telephone support (except for the deceased), and to those who only met the criteria of CAGE test scores, information was provided by sending booklet made by Radiation Medical Science Center of FMU: *Mental Health and Lifestyle Support.*

Figure 1 shows the numbers of respondents requiring support and the support provided. It excludes participants who only met the criteria of CAGE test scores.

The percentages are rounded and may not total to 100%.



* Those who responded by 31 October 2014.
** Those who were determined to require support by 31 December 2014.
*** Those who declined support by replying to the written support materials.
(Excluding the participants who indicated no desire for support in the return postcard.)
**** Those who received telephone counseling but not enough support during a given time.

Figure 1: Number of participants required support and respondents who received support

3.2 Children

Since SDQ is for children aged 4 years and older, children aged 0-3 years old were determined on the basis of the free-answer question. Since few participants who had been sent written materials received telephone counseling (2 of age 0-3 years, 8 of age 4-6 years, 17 of primary school age, 5 of middle school age), the following results combine participants requiring telephone counseling with the number of those determined to require phone support based on the written materials.

3.2-1 Status of Respondents Requiring Support

A total of 541 children required support; 504 of them needed telephone counseling and 37 were determined to require telephone support on the basis of the written support materials. Of these 541 children, 321 (59.3%) were male and 220 (40.7%) were female. Phone support was successfully provided to 473 (87.4%) of the total. Respondents living within Fukushima Prefecture were 330 (69.8%) and 143 (30.2%) were living outside Fukushima (Table 1).

Table 1: Status of children requiring support (By sex and area)

Participants requiring support	Total	0-3 years	4-6 years	Primary school age	Middle school age
	541	10	124	265	142
Male	321 (59.3%)	3 (30.0%)	79 (63.7%)	165 (62.3%)	74 (52.1%)
Female	220 (40.7%)	7 (70.0%)	45 (36.3%)	100 (37.7%)	68 (47.9%)
Counseling sessions	473	9	110	232	122
Within Fukushima	330 (69.8%)	6 (66.7%)	76 (69.1%)	158 (68.1%)	90 (73.8%)
Outside Fukushima	143 (30.2%)	3 (33.3%)	34 (30.9%)	74 (31.9%)	32 (26.2%)

The numbers shown of those given support only include participants who were provided telephone counseling.

3.2-2 Participants' State of Health

In order to more comprehensively understand the situation the participants are facing, we added new question items with the help of physicians specialized in child and adolescent psychiatry. Table 2 shows the frequency of the questions and answers talked about with participants (or guardians) during the telephone support.

Table 2-1: State of health of participants who received telephone counseling

Counseling sessions	Total		0-3 years		4-6 years		Primary school age		Middle school age	
	473		9		110		232		122	
Have sleeping problems										
Yes	53	(12.9%)	0	(0.0%)	8	(7.8%)	28	(14.0%)	17	(16.7%)
No	358	(87.1%)	7	(100.0%)	94	(92.2%)	172	(86.0%)	85	(83.3%)
Unclear	62	-	2	-	8	-	32	-	20	-
Have an appetite										
Yes	367	(91.3%)	6	(85.7%)	93	(93.9%)	180	(91.4%)	88	(88.9%)
No	35	(8.7%)	1	(14.3%)	6	(6.1%)	17	(8.6%)	11	(11.1%)
Unclear	71	-	2	-	11	-	35	-	23	-
Have friendship problems										
Yes	124	(32.6%)	1	(25.0%)	19	(22.1%)	67	(34.9%)	37	(37.8%)
No	256	(67.4%)	3	(75.0%)	67	(77.9%)	125	(65.1%)	61	(62.2%)
Unclear	93	-	5	-	24	-	40	-	24	-
Full of energy										
Yes	367	(93.1%)	5	(83.3%)	93	(100.0%)	183	(93.8%)	86	(86.0%)
No	27	(6.9%)	1	(16.7%)	0	(0.0%)	12	(6.2%)	14	(14.0%)
Unclear	79	-	3	-	17	-	37	-	22	-
Somatoform Disorders										
Yes	46	(12.4%)	1	(16.7%)	10	(11.2%)	21	(11.5%)	14	(14.9%)
No	326	(87.6%)	5	(83.3%)	79	(88.8%)	162	(88.5%)	80	(85.1%)
Unclear	101	-	3	-	21	-	49	-	28	-
Rebellious										
Yes	104	(31.4%)	1	(33.3%)	24	(29.6%)	49	(30.1%)	30	(35.7%)
No	227	(68.6%)	2	(66.7%)	57	(70.4%)	114	(69.9%)	54	(64.3%)
Unclear	142	-	6	-	29	-	69	-	38	-
Irritable										
Yes	116	(34.4%)	0	(0.0%)	27	(32.5%)	56	(33.3%)	33	(39.8%)
No	221	(65.6%)	3	(100.0%)	56	(67.5%)	112	(66.7%)	50	(60.2%)
Unclear	136	-	6	-	27	-	64	-	39	-
Emotionally dependent										
Yes	109	(38.0%)	2	(100.0%)	22	(29.7%)	62	(42.8%)	23	(34.8%)
No	178	(62.0%)	0	(0.0%)	52	(70.3%)	83	(57.2%)	43	(65.2%)
Unclear	186	-	7	-	36	-	87	-	56	-
Bored										
Yes	3	(1.2%)	0	(0.0%)	0	(0.0%)	2	(1.7%)	1	(1.7%)
No	245	(98.8%)	3	(100.0%)	66	(100.0%)	119	(98.3%)	57	(98.3%)
Unclear	225	-	6	-	44	-	111	-	64	-

The participants who did not mention the issue go to 'Unclear' category.
Proportions do not include the number of 'Unclear'.

Table 2-2: State of health of participants who received telephone counseling

Counseling sessions	Total 473		0-3 years 9		4-6 years 110		Primary school age 232		Middle school age 122	
Have developmental problems										
Yes	64	(20.8%)	1	(16.7%)	15	(75.0%)	30	(16.3%)	18	(18.6%)
No	243	(79.2%)	5	(83.3%)	5	(25.0%)	154	(83.7%)	79	(81.4%)
Unclear	166	-	3	-	90	-	48	-	25	-
Have emotional or behavioral problems										
Yes	92	(24.4%)	0	(0.0%)	12	(13.3%)	55	(29.6%)	25	(26.0%)
No	285	(75.6%)	5	(100.0%)	78	(86.7%)	131	(70.4%)	71	(74.0%)
Unclear	96	-	4	-	20	-	46	-	26	-
Mental disorder										
Yes	12	(3.2%)	0	(0.0%)	0	(0.0%)	7	(3.8%)	5	(5.1%)
No	363	(96.8%)	5	(100.0%)	88	(100.0%)	177	(96.2%)	93	(94.9%)
Unclear	98	-	4	-	22	-	48	-	24	-
Traumatic stress reaction										
Yes	45	(12.7%)	0	(0.0%)	7	(8.3%)	29	(16.5%)	9	(9.9%)
No	309	(87.3%)	3	(100.0%)	77	(91.7%)	147	(83.5%)	82	(90.1%)
Unclear	119	-	6	-	26	-	56	-	31	-
School adjustment										
Well-adjusted	369	(90.7%)	1	(100.0%)	88	(96.7%)	190	(91.8%)	90	(83.3%)
Fail to adjust	38	(9.3%)	0	(0.0%)	3	(3.3%)	17	(8.2%)	18	(16.7%)
Unclear	66	-	8	-	19	-	25	-	14	-
Household or environmental problem										
Yes	38	(10.1%)	0	(0.0%)	3	(3.4%)	23	(12.4%)	12	(12.2%)
No	340	(89.9%)	5	(100.0%)	86	(96.6%)	163	(87.6%)	86	(87.8%)
Unclear	95	-	4	-	21	-	46	-	24	-
Guardian's anxiety about child rearing										
Yes	125	(30.3%)	4	(57.1%)	20	(20.8%)	67	(32.5%)	34	(32.7%)
No	288	(69.7%)	3	(42.9%)	76	(79.2%)	139	(67.5%)	70	(67.3%)
Unclear	60	-	2	-	14	-	26	-	18	-
Guardian's physical problems										
Yes	43	(10.3%)	0	(0.0%)	10	(10.4%)	20	(9.7%)	13	(12.1%)
No	373	(89.7%)	7	(100.0%)	86	(89.6%)	186	(90.3%)	94	(87.9%)
Unclear	57	-	2	-	14	-	26	-	15	-
Guardian's mental problems										
Yes	71	(17.2%)	0	(0.0%)	13	(13.1%)	39	(19.0%)	19	(18.4%)
No	342	(82.8%)	6	(100.0%)	86	(86.9%)	166	(81.0%)	84	(81.6%)
Unclear	60	-	3	-	11	-	27	-	19	-
Treatments										
Psychiatry or psychosomatic medicine	37	(10.2%)	1	(12.5%)	5	(5.7%)	16	(9.1%)	15	(16.1%)
Other	41	(11.3%)	2	(25.0%)	11	(12.6%)	20	(11.4%)	8	(8.6%)
No	286	(78.6%)	5	(62.5%)	71	(81.6%)	140	(79.5%)	70	(75.3%)
Unclear	109	-	1	-	23	-	56	-	29	-
Contacting institutions for counseling										
Yes	57	(17.8%)	4	(50.0%)	10	(12.7%)	27	(17.1%)	16	(21.3%)
No	263	(82.2%)	4	(50.0%)	69	(87.3%)	131	(82.9%)	59	(78.7%)
Unclear	153	-	1	-	31	-	74	-	47	-

The participants who did not mention the issue go to 'Unclear' category.
Proportions do not include the number of 'Unclear'.

Among the participants who received the telephone support, the most frequently discussed issues were the following: 124 participants had friendship problems (32.6%), 104 talked about rebellious behaviors (31.4%), 116 discussed becoming irritable (34.4%), 109 talked about being emotionally dependent (38.0%), and 125 guardians had anxiety about child rearing (30.3%).

As of treatments, 37 visited psychiatrists or psychosomatic medicine services (10.2%), 41 visited other departments or clinics (11.3%), and 286 did not visit any clinics (78.6%).

3.2-3 Results of Telephone Counseling and Continued Support

The results of the support were categorized into 'Follow-up 1,' 'Follow-up 2,' 'Follow-up 3,' and 'Declined Support' as was the case in the previous surveys (Table 3). The breakdown below shows the criteria of 'Follow-up 2,' which were divided into the problems faced by the children and the problems faced by the guardians (Table 4). Numbers in the breakdown (Table 4) refer to the total number and the proportion in the brackets show the ratio of total number to the number of 'Follow-up 2.'

After the telephone support, 355 (75.1%) were categorized as 'Follow-up 1,' 102 (21.6%) were categorized as 'Follow-up 2,' 9 (1.9%) were categorized as 'Follow-up 3,' and 7 (1.5%) declined support (Table 3). Among the participants who were categorized as 'Follow-up 2,' 34 children (33.3%) had school adjustment problems, and 28 children (27.5%) and 39 guardians (38.2%) had mental problems.

Table 3: Results of support given (Children)

Counseling sessions	Total	0-3 years	4-6 years	Primary school age	Middle school age
	473	9	110	232	122
Follow-up 1	355 (75.1%)	8 (88.9%)	86 (78.2%)	173 (74.6%)	88 (72.1%)
Follow-up 2	102 (21.6%)	1 (11.1%)	19 (17.3%)	51 (22.0%)	31 (25.4%)
Follow-up 3	9 (1.9%)	0 (0.0%)	3 (2.7%)	5 (2.2%)	1 (0.8%)
Declined support	7 (1.5%)	0 (0.0%)	2 (1.8%)	3 (1.3%)	2 (1.6%)

Table 4: Breakdown of ‘Follow-up 2’

	Total		0-3 years		4-6 years		Primary school age		Middle school age	
Number of 'Follow-up 2'	102		1		19		51		31	
(Children)										
Physical Problems	9	(8.8%)	0	(0.0%)	2	(10.5%)	3	(5.9%)	4	(12.9%)
Mental Problems	28	(27.5%)	0	(0.0%)	0	(0.0%)	15	(29.4%)	13	(41.9%)
Emotional aftermath	14	(13.7%)	0	(0.0%)	6	(31.6%)	6	(11.8%)	2	(6.5%)
Adjustment disorder	34	(33.3%)	0	(0.0%)	13	(68.4%)	8	(15.7%)	13	(41.9%)
Other	20	(19.6%)	1	(100.0%)	5	(26.3%)	8	(15.7%)	6	(19.4%)
(Guardian)										
Physical Problems	14	(13.7%)	0	(0.0%)	2	(10.5%)	7	(13.7%)	5	(16.1%)
Mental Problems	39	(38.2%)	0	(0.0%)	9	(47.4%)	20	(39.2%)	10	(32.3%)
Child Rearing Problems	18	(17.6%)	0	(0.0%)	4	(21.1%)	7	(13.7%)	7	(22.6%)
Isolation	5	(4.9%)	0	(0.0%)	1	(5.3%)	2	(3.9%)	2	(6.5%)
Other	8	(7.8%)	1	(100.0%)	1	(5.3%)	6	(11.8%)	0	(0.0%)

As a continued support, 28 were categorized as ‘Follow-up,’ 4 were connected to municipal governments, 5 were sent list of registered doctors within Fukushima Prefecture, 1 was categorized as ‘Sharing information,’ 9 were provided information, and 1 was handled by other departments (Table 5).

Table 5: Continued support for children

Counseling sessions	Total		0-3 years		4-6 years		Primary school age		Middle school age	
	473		9		110		232		122	
Follow-up	28	(5.9%)	1	(11.1%)	5	(4.5%)	11	(4.7%)	11	(9.0%)
Municipal government	4	(0.8%)	0	(0.0%)	2	(1.8%)	1	(0.4%)	1	(0.8%)
Referral	0	(0.0%)	0	(0.0%)	0	(0.0%)	0	(0.0%)	0	(0.0%)
Sent list of registered doctors within Fukushima Prefecture	5	(1.1%)	0	(0.0%)	0	(0.0%)	4	(1.7%)	1	(0.8%)
Sent list of medical institutions outside the prefecture	0	(0.0%)	0	(0.0%)	0	(0.0%)	0	(0.0%)	0	(0.0%)
Sharing information	1	(0.2%)	0	(0.0%)	0	(0.0%)	1	(0.4%)	0	(0.0%)
Provided information	9	(1.9%)	0	(0.0%)	2	(1.8%)	4	(1.7%)	3	(2.5%)
Handled by other departments	1	(0.2%)	0	(0.0%)	1	(0.9%)	0	(0.0%)	0	(0.0%)

3.2-4 Problems Faced by Participants (children)

Since the Mental Health and Lifestyle Survey in FY 2011, we have used analytic induction to understand the problems discussed by participants on the phone. The problems fall into four broad categories: child's reaction, parent/guardian and family problems, school and neighborhood relationships, and environment. Child's reaction and parent/guardian and family problems divide into subcategories. Figure 2 is the conceptual diagram of those problems.

The content of the respondents' problems mentioned for the FY 2013 survey were categorized, as was the case in FY 2012, based on the categories from the survey for FY 2011.

Frequently mentioned problems in the FY 2013 survey were impact on school and irritability and violence (from the category 'child's reaction'), and parent/guardian's problems from the category 'parent/guardian and family problems.'

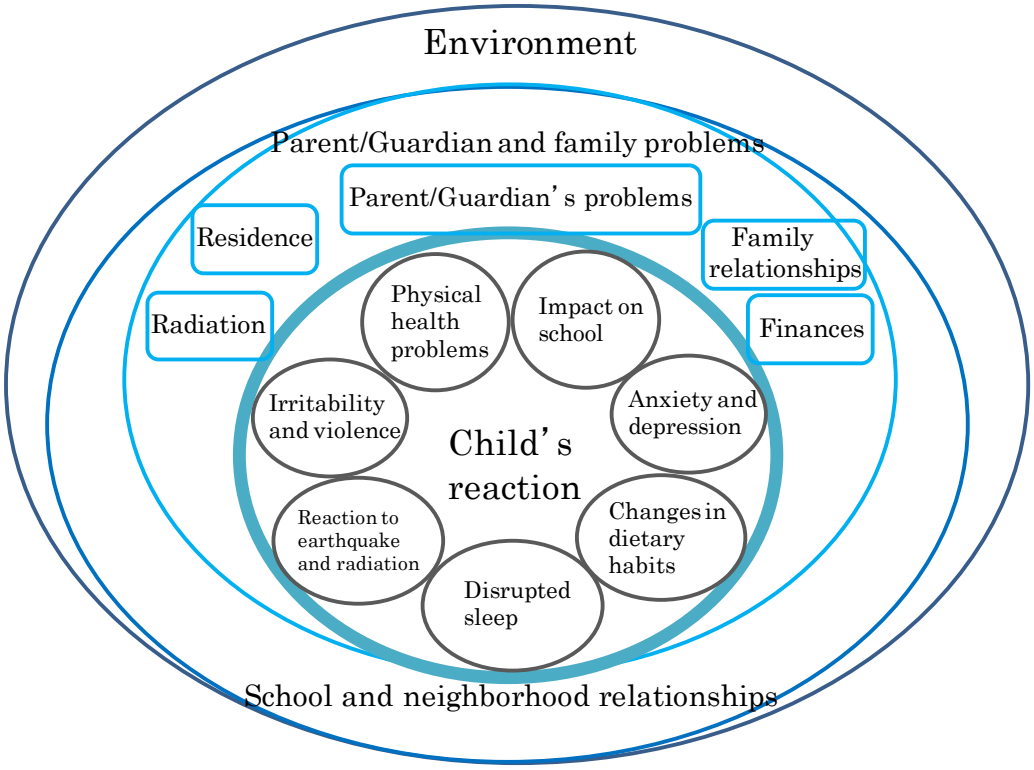


Figure 2: Conceptual diagram of problems faced by participants (children)

3.3 Adults

3.3-1 Status of Respondents Requiring Support

(Telephone Counseling)

A total of 3,843 adults required telephone counseling. Among the 3,020 participants identified on the basis of the scores, 1,150 (38.1%) were male and 1,870 (61.9%) were female. 823 participants were determined on the basis of items other than scores. Of these, 392 (47.6%) were male and 431 (52.4%) were female (Table 6). Telephone support was provided to 3,321 (86.4%). Among the participants, 2,622 (79.0%) lived within Fukushima Prefecture and 699 (21.0%) lived outside Fukushima (Table 7).

Table 6: Participants requiring telephone counseling (By sex and age group)

	Based on the scores					Based on the items other than scales				
Age group	Total	Male		Female		Total	Male		Female	
15-19	55	21	(38.2%)	34	(61.8%)	13	5	(38.5%)	8	(61.5%)
20-29	124	40	(32.3%)	84	(67.7%)	45	16	(35.6%)	29	(64.4%)
30-39	295	116	(39.3%)	179	(60.7%)	90	35	(38.9%)	55	(61.1%)
40-49	303	132	(43.6%)	171	(56.4%)	114	63	(55.3%)	51	(44.7%)
50-59	416	170	(40.9%)	246	(59.1%)	161	101	(62.7%)	60	(37.3%)
60-69	657	274	(41.7%)	383	(58.3%)	217	98	(45.2%)	119	(54.8%)
70-79	691	254	(36.8%)	437	(63.2%)	123	55	(44.7%)	68	(55.3%)
80-	479	143	(29.9%)	336	(70.1%)	60	19	(31.7%)	41	(68.3%)
Total	3,020	1,150	(38.1%)	1,870	(61.9%)	823	392	(47.6%)	431	(52.4%)

Ages are at the time of 1 April 2013.

Table 7: Participants requiring telephone counseling (By area)

	Counseling sessions		Based on the scores		Items other than scales	
Area of residence	3,321		2,608		713	
Within Fukushima	2,622	(79.0%)	2,049	(78.6%)	573	(80.4%)
Outside Fukushima	699	(21.0%)	559	(21.4%)	140	(19.6%)

The numbers shown of those given support only include participants who were provided telephone counseling.

(Written Materials)

Among the participants requiring written support materials, a total of 616 required telephone counseling. Out of the 479 participants identified on the basis of the scores, 210 (43.8%) were male and 269 (56.2%) were female. 137 participants were determined on the items other than scales. Of these, 76 (55.5%) were male and 61 (44.5%) were female (Table 8). The telephone counseling was provided to 592 (96.1%). Of these, 483 (81.6%) lived within Fukushima Prefecture and 109 (18.4%) lived outside Fukushima (Table 9).

Table 8: Participants required telephone counseling among those who required support by written materials (By sex and age group)

	Based on the scores						Based on the items other than scales					
Age group	Total	Male		Female			Total	Male		Female		
15-19	1	0	(0.0%)	1	(100.0%)		2	2	(100.0%)	0	(0.0%)	
20-29	6	2	(33.3%)	4	(66.7%)		3	1	(33.3%)	2	(66.7%)	
30-39	16	6	(37.5%)	10	(62.5%)		4	3	(75.0%)	1	(25.0%)	
40-49	19	8	(42.1%)	11	(57.9%)		12	3	(25.0%)	9	(75.0%)	
50-59	45	17	(37.8%)	28	(62.2%)		15	10	(66.7%)	5	(33.3%)	
60-69	79	39	(49.4%)	40	(50.6%)		49	28	(57.1%)	21	(42.9%)	
70-79	195	82	(42.1%)	113	(57.9%)		28	15	(53.6%)	13	(46.4%)	
80-	118	56	(47.5%)	62	(52.5%)		24	14	(58.3%)	10	(41.7%)	
Total	479	210	(43.8%)	269	(56.2%)		137	76	(55.5%)	61	(44.5%)	

Ages are at the time of 1 April 2013.

Table 9: Participants required telephone counseling among those who required support by written materials (By area)

	Counseling sessions		Based on the scores		Items other than scales	
Area of residence	592		464		128	
Within Fukushima	483	(81.6%)	380	(81.9%)	103	(80.5%)
Outside Fukushima	109	(18.4%)	84	(18.1%)	25	(19.5%)

The numbers shown of those given support only include participants who were provided telephone counseling.

3.2-2 Participants' State of Health

(Telephone Counseling)

We asked participants about their physical condition, sleep, and the medical institutions where they are treated.

Table 10: State of health of participants who received telephone counseling

Counseling sessions	Total 3,321		Based on the scores 2,608		Items other than scales 713	
Physical condition						
Improved	417	(13.4%)	280	(11.5%)	137	(20.1%)
No change	2,080	(66.6%)	1,642	(67.3%)	438	(64.2%)
Worse	502	(16.1%)	450	(18.4%)	52	(7.6%)
Have not had problems	123	(3.9%)	68	(2.8%)	55	(8.1%)
Unclear	199	—	168	—	31	—
Sleep disorders						
Improved	339	(11.2%)	245	(10.4%)	94	(13.9%)
No change	2,279	(75.0%)	1,791	(75.8%)	488	(72.3%)
Worse	243	(8.0%)	217	(9.2%)	26	(3.9%)
Have not had problems	178	(5.9%)	111	(4.7%)	67	(9.9%)
Unclear	282	—	244	—	38	—
Treatments						
Psychiatry or psychosomatic medicine	468	(15.4%)	426	(17.9%)	42	(6.3%)
Other	1,959	(64.3%)	1,587	(66.8%)	372	(55.4%)
None	621	(20.4%)	364	(15.3%)	257	(38.3%)
Unclear	273	—	231	—	42	—
Contacting institutions for counseling						
Yes	459	(28.6%)	296	(25.7%)	163	(36.0%)
No	1,145	(71.4%)	855	(74.3%)	290	(64.0%)
Unclear	1,717	—	1,457	—	260	—
Depression						
Yes	1,245	(44.2%)	1,104	(50.3%)	141	(22.7%)
No	1,570	(55.8%)	1,091	(49.7%)	479	(77.3%)
Unclear	506	—	413	—	93	—
Reaction to earthquake						
Severe	147	(7.0%)	140	(7.8%)	7	(2.2%)
Mild	277	(13.2%)	248	(13.8%)	29	(9.3%)
None	1,679	(79.8%)	1,403	(78.3%)	276	(88.5%)
Unclear	1,218	—	817	—	401	—

The participants who did not mention the issue go to 'Uncertain' category.
Proportion does not include the number of 'Unclear'.

Comparing physical conditions with a year ago, 417 (13.4%) saw improvement, 2,080 (66.6%) saw no changes, 502 (16.1%) became worse, and 123 (3.9%) have not had problems so far.

Asked about their sleep compared to a year ago, 339 (11.2%) saw improvement, 2,279 (75.0%) saw no changes, 243 (8.0%) became worse, 178 (5.9 %) have not had problems so far.

As for clinics, 468 (15.4%) were treated by psychiatrists or psychosomatic medicine specialists, 1,959 (64.3%) were treated by other specialists, and 621 (20.4%) did not see a doctor.

(Written Materials)

We provided telephone counseling to those who indicated their desire for telephone support by return postcard, and to those who were determined by the Mental Health Support Team that they required support based on the content of the reply. We asked participants over the phone about their physical condition, sleep, and what medical institutions they visited for consultation.

Table 11: State of health of participants who received telephone counseling among those who required support by written materials

Counseling sessions	Total 592		Based on the scores 464		Items other than scales 128	
Physical condition						
Improved	47	(8.7%)	35	(8.3%)	12	(9.9%)
No change	368	(67.8%)	295	(69.9%)	73	(60.3%)
Worse	97	(17.9%)	80	(19.0%)	17	(14.0%)
Have not had problems	31	(5.7%)	12	(2.8%)	19	(15.7%)
Unclear	49	—	42	—	7	—
Sleep disorders						
Improved	27	(5.2%)	18	(4.4%)	9	(7.8%)
No change	400	(76.8%)	326	(80.3%)	74	(64.3%)
Worse	25	(4.8%)	19	(4.7%)	6	(5.2%)
Have not had problems	69	(13.2%)	43	(10.6%)	26	(22.6%)
Unclear	71	—	58	—	13	—
Treatments						
Psychiatry or psychosomatic medicine	42	(7.5%)	39	(8.9%)	3	(2.4%)
Other	438	(78.1%)	365	(83.3%)	73	(59.3%)
None	81	(14.4%)	34	(7.8%)	47	(38.2%)
Unclear	31	—	26	—	5	—
Contacting institutions for counseling						
Yes	89	(41.4%)	50	(33.3%)	39	(60.0%)
No	126	(58.6%)	100	(66.7%)	26	(40.0%)
Unclear	377	—	314	—	63	—
Depression						
Yes	139	(28.8%)	117	(31.3%)	22	(20.4%)
No	343	(71.2%)	257	(68.7%)	86	(79.6%)
Unclear	110	—	90	—	20	—
Reaction to earthquake						
Severe	12	(3.6%)	12	(3.8%)	0	(0.0%)
Mild	21	(6.3%)	17	(5.4%)	4	(25.0%)
None	300	(90.1%)	288	(90.9%)	12	(75.0%)
Unclear	259	—	147	—	112	—

The participants who did not mention the issue go to 'Uncertain' category.
Proportion does not include the number of 'Unclear'.

Comparing the physical condition with a year ago, 47 (8.7%) saw improvement, 368 (67.8%) saw no changes, 97 (17.9%) became worse, 31 (5.7%) have not had problems so far.

Asked about their sleep compared to a year ago, 27 (5.2%) saw improvement, 400 (76.8%) saw no changes, 25 (4.8%) became worse, 69 (13.2%) have not had problems so far.

As for clinics, 42 (7.5%) were treated by psychiatrists or psychosomatic medicine specialists, 438 (78.1%) were treated by other specialists, and 81 (14.4%) did not see a doctor.

3.3-3 Results of Telephone Counseling and the Continued Support

The results of the support were categorized into 'Follow-up 1,' 'Follow-up 2,' 'Follow-up 3,' and 'Declined Support' as was the case in the previous surveys. The breakdown below shows the criteria of 'Follow-up 2.' Numbers in the breakdown (Table 13 and 16) refer to the total number and the proportion in the brackets show the ratio of total number to the number of 'Follow-up 2.'

(Respondents Required Telephone Counseling)

After the telephone counseling, 2,573 (77.5%) were designated as 'Follow-up 1,' 599 (18.0%) as 'Follow-up 2,' 114 (3.4%) as 'Follow-up 3,' and 35 (1.1%) as 'Declined Support' (Table 12). The reasons for 'Follow-up 2' were categorized into the following: 308 (51.4%) for physical health problems, 412 (68.8%) for mental health problems, 64 (10.7%) for emotional aftermath, 63 (10.5%) for adjustment problems, 69 (11.5%) for isolation (Table 13).

Table 12: Results of telephone counseling

Counseling sessions	Total		Based on the scores		Items other than scales	
	3,321		2,608		713	
Follow-up 1	2,573	(77.5%)	1,982	(76.0%)	591	(82.9%)
Follow-up 2	599	(18.0%)	501	(19.2%)	98	(13.7%)
Follow-up 3	114	(3.4%)	94	(3.6%)	20	(2.8%)
Declined support	35	(1.1%)	31	(1.2%)	4	(0.6%)

Table 13: Breakdown of the reasons for 'Follow-up 2'

	Total		Based on the scores		Items other than scales	
Number of 'Follow-up 2'	599		501		98	
Physical problems	308	(51.4%)	261	(52.1%)	47	(48.0%)
Mental problems	412	(68.8%)	347	(69.3%)	65	(66.3%)
Emotional aftermath	64	(10.7%)	57	(11.4%)	7	(7.1%)
Adjustment disorder	63	(10.5%)	59	(11.8%)	4	(4.1%)
Isolation	69	(11.5%)	62	(12.4%)	7	(7.1%)

For continued support, 214 were designated as 'Follow-up,' 65 were connected to the municipal government, 8 were sent a referral, 34 were sent list of registered doctors within Fukushima Prefecture, 5 were sent list of medical institutions outside Fukushima, 4 were designated as 'Sharing information,' 34 were provided information, and 6 were handled by other departments (Table 14).

Table 14: Continued support

Counseling sessions	Total		Based on the scores		Items other than scales	
	3,321		2,608		713	
Follow-up	214	(6.4%)	121	(4.6%)	93	(13.0%)
Municipal government	65	(2.0%)	56	(2.1%)	9	(1.3%)
Referral	8	(0.2%)	7	(0.3%)	1	(0.1%)
Sent list of registered doctors within Fukushima Prefecture	34	(1.0%)	29	(1.1%)	5	(0.7%)
Sent list of medical institutions outside the prefecture	5	(0.2%)	2	(0.1%)	3	(0.4%)
Sharing information	4	(0.1%)	3	(0.1%)	1	(0.1%)
Provided information	34	(1.0%)	28	(1.1%)	6	(0.8%)
Handled by other departments	6	(0.2%)	5	(0.2%)	1	(0.1%)

(Respondents Requiring Written Support Materials)

After the telephone counseling, 506 (85.5%) were designated as 'Follow-up 1,' 78 (13.2%) as 'Follow-up 2,' 6 (1.0%) as 'Follow-up 3,' and 2 (0.3%) as 'Declined Support' (Table 15). The reasons for 'Follow-up 2' were categorized into the following: 48 (61.5%) for physical health problems, 42 (53.8%) for mental health problems, 4 (5.1%) for emotional aftermath, 4 (5.1%) for adjustment problems, 3 (3.8%) for isolation (Table 16).

Table 15: Results of the telephone counseling among those who required support by written materials

Counseling sessions	Total		Based on the scores		Items other than scales	
	592		464		128	
Follow-up 1	506	(85.5%)	395	(85.1%)	111	(86.7%)
Follow-up 2	78	(13.2%)	62	(13.4%)	16	(12.5%)
Follow-up 3	6	(1.0%)	6	(1.3%)	0	(0.0%)
Declined support	2	(0.3%)	1	(0.2%)	1	(0.8%)

Table 16: Breakdown of the reasons for ‘Follow-up 2’

	Total		Based on the scores		Items other than scales	
Number of 'Follow-up 2'	78		62		16	
Physical problems	48	(61.5%)	36	(58.1%)	12	(75.0%)
Mental problems	42	(53.8%)	36	(58.1%)	6	(37.5%)
Emotional aftermath	4	(5.1%)	4	(6.5%)	0	(0.0%)
Adjustment disorder	4	(5.1%)	3	(4.8%)	1	(6.3%)
Isolation	3	(3.8%)	3	(4.8%)	0	(0.0%)

For continued support, 25 were designated as ‘Follow-up,’ 4 were connected to the municipal government, 8 were sent list of registered doctors within Fukushima Prefecture, 4 were provided information, and 4 were handled by other departments (Table 17).

Table 17: Continued support

Counseling sessions	Total		Based on the scores		Items other than scales	
	592		464		128	
Follow-up	25	(4.2%)	16	(3.4%)	9	(7.0%)
Municipal government	4	(0.7%)	2	(0.4%)	2	(1.6%)
Referral	0	(0.0%)	0	(0.0%)	0	(0.0%)
Sent list of registered doctors within Fukushima Prefecture	8	(1.4%)	7	(1.5%)	1	(0.8%)
Sent list of medical institutions outside the prefecture	0	(0.0%)	0	(0.0%)	0	(0.0%)
Sharing information	0	(0.0%)	0	(0.0%)	0	(0.0%)
Provided information	4	(0.7%)	4	(0.9%)	0	(0.0%)
Handled by other departments	4	(0.7%)	3	(0.6%)	1	(0.8%)

3.3-4 Problems Faced by Participants (adults)

Since the Mental Health and Lifestyle Survey in FY 2011, we have used analytic induction to understand the problems faced by participants. The problems fall into four broad categories: personal problems, household problems, problems with social life, and environment and culture. Personal problems, household problems, and problems with social life divide into subcategories. Figure 3 is the conceptual diagram of those problems.

The content of the respondents' problems mentioned in the FY 2013 survey were categorized, as was the case in FY 2012, based on the categories from the survey for FY 2011.

Frequently mentioned problems in the FY 2013 survey were physical problems, disrupted sleep, depression, anxiety about the future (from the category 'Personal reaction'), and changes in living environment, family relationships, changes in daily life and habits (from the category 'Household problems'), and dissatisfaction with government policies or problems with disaster claims from the category 'Problems with social life'.

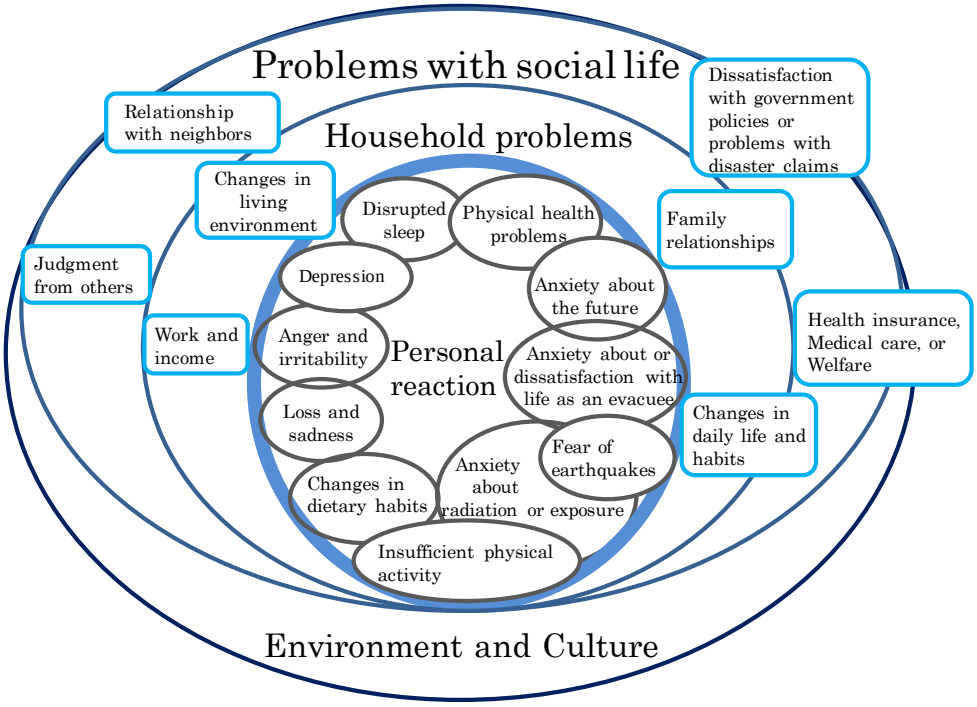


Figure 3: Conceptual diagram of problems faced by participants (adults)

4. Conclusion

The number of those who required support was 1,256 children and 11,507 adults for the Mental Health and Lifestyle Survey for FY 2013. Based only on the CAGE test scores, the number was 2,010. Among the children, 504 required telephone counseling and 752 required written support materials. The number of participants determined to require telephone support based on the content of written materials was 37. The number of adults who required telephone counseling was 3,843 and 7,664 required written materials. The number of those determined to require telephone support based on the content of written materials was 616. If those identified as requiring support could not be reached for telephone counseling (except for the deceased), information was provided by sending booklet made by Radiation Medical Science Center of FMU: *Mental Health and Lifestyle Support.* It was also distributed to those who only met the criteria of CAGE test scores.

After the telephone counseling for children, 355 (75.1%) were categorized as 'Follow-up 1*,' and 102 (21.6%) were categorized as 'Follow-up 2**.' Frequently discussed issues were impact on school, and irritability and violence form the category 'Child's reaction,' and parent or guardian's problem from the category 'Parent/Guardian and family problems.'

Among the adults, 2,573 (77.5%) were categorized as 'Follow-up 1' and 599 (18.0%) were categorized as 'Follow-up 2.' Among the respondents who required written materials, 506 (85.5%) were categorized as 'Follow-up 1' and 78 (13.2%) were categorized as 'Follow-up 2.' Frequently discussed issues were physical problems, disrupted sleep, depression, and anxiety about the future from the category 'Personal reaction,' changes in living environment, family relationships, and changes in daily life and habits from the category 'Household problems,' and dissatisfaction with government policies or problems of disaster claims from the category 'Problems with social life.'

* Participants confirmed to be improving or self-managing their problems.

** Participants not recovering from health problems, the emotional aftermath, adjustment disorder etc.