Basic Survey (Radiation Dose Estimates)

Reported on 18 June 2018

1. Summary of Survey

1.1 Purpose

In consideration of radiation effects of the Fukushima Daiichi Nuclear Power Plant accident caused by the Great East Japan Earthquake, we aim to estimate external exposure doses of Fukushima residents from their behaviour records, and to inform them of the results for their future health management.

1.2 Target Groups

① Those who were registered as residents in Fukushima Prefecture from 11 March to 1 July 2011.

② Those who lived in Fukushima without being registered as residents and who commuted to Fukushima from outside for work, school, or other reasons (hereinafter, “Temporary Visitors”). They were sent questionnaires for the Basic Survey, if requested.

2. Response Rates and Radiation Dose Estimates

2.1 Response Rates of Residents

The overall effective response rate to the Basic Survey (radiation dose estimates), for the entire population of Fukushima Prefecture, was 27.6% (567,810 of 2,055,266) as of 31 March 2018. Among the respondents, 74,100 (*1) answered with the simplified questionnaire.

Table 1 Response rates to the Basic Survey

As of 31 March 2018

		2,055,266	
Responses	Original questionnaire	493,710	24.0%
	Simplified questionnaire*	74,100	3.6%
	Total	567,810	27.6%

*Preliminary figures
Fractions have been rounded.

The number of responses received from 1 July 2017 to 31 Mar 2018 is 981 in total, 72 with the original questionnaire, and 909 with a simplified one. Questionnaires in which the responses make dose calculation difficult are excluded.

Response ratio for each age group is as Table 2

Table 2 Response rate by age group

As of 31 March 2018

Age group (years)	0～9	10～19	20～29	30～39	40～49	50～59	60～	Total
Response rate	46.6%	36.0%	18.2%	24.8%	22.5%	23.0%	27.9%	27.6%

※ Fractions have been rounded.

(*1) The number of submissions using the simplified questionnaire could not be fixed yet, because the simplified questionnaire can be used only for some specific types of behaviour patterns and those who did not follow the specific behaviour patterns are required to respond with the original questionnaire instead of the simplified one. Checking all submissions using simplified questionnaires is not finished yet. The status of response rates, dose estimation and results notification stated below are the sum of simplified and original questionnaires.

2.2 Radiation Dose Estimates

Out of 567,810 total responses, excluding the cases where dose estimation proved difficult*, dose estimation for 553,207 have been completed out of 553,705 valid responses (99.9%), and results have been returned to 553,072 respondents (See Table 3).

Tbale 3 Response rates to the Basic Survey

As of 31 March 2018

Area	Survey population a	Responses b	Response rate c=b/a	Valid responses d	Ratio of valid responses e=d/a	Completed dose estimates f	Proportion g=f/d	Returned results h	Proportion i=h/d
Kempoku	504,033	152,210	30.2%	149,298	29.6%	149,281	100.0%	149,234	100.0%
Kenchu	557,189	136,930	24.6%	133,832	24.0%	133,791	100.0%	133,784	100.0%
Kennan	152,226	35,432	23.3%	34,622	22.7%	34,593	99.9%	34,586	99.9%
Aizu	267,201	58,083	21.7%	55,885	20.9%	55,766	99.8%	55,758	99.8%
Minami-aizu	30,788	6,414	20.8%	6,107	19.8%	6,107	100.0%	6,106	100.0%
Soso	195,590	90,202	46.1%	87,489	44.7%	87,438	99.9%	87,377	99.9%
Iwaki	348,239	88,539	25.4%	86,472	24.8%	86,231	99.7%	86,227	99.7%
Total	2,055,266	567,810	27.6%	553,705	26.9%	553,207	99.9%	553,072	99.9%

※Including areas covered by the initial survey of people in Yamakiya, Namie and Iitate.

※Please refer to Annex 1 for situation by municipality.

※Fractions have been rounded.

* Includes cases where additional inquiry (soliciting details through follow-up direct contact) was impossible due to lack of contact information, or where dose estimation proved difficult by clear refusal of respondents (includes refusal of contact with the Call Centre).

* Table 3, 4, and Appendix 1 include the data in the estimation period less than four months. For those data, results of dose estimates were returned, specifying periods applied for dose estimation.

2.3 Response rate and dose estimation for temporary visitors

We have been estimating doses for non-residents who were visiting or staying in Fukushima Prefecture at the time of the accident (See Table 4.).

Table 4 Response rates of temporary visitors to the Basic Survey

As of 31 March 2018

Number of requests a	Responses b	Response rate c=b/a	Valid responses d	Ratio of valid responses e=d/a	Completed dose estimates f	Proportion g=f/d	Returned results h	Proportion i=h/d
4,031	2,045	50.7%	2,035	50.5%	2,035	100.0%	2,035	100.0%

※Fractions have been rounded.

3. Results of Radiation Dose Estimates

Table 5 shows a breakdown of completed dose estimation (from Table 3), excluding cases of data covering less than four months.

Radiation doses for a total of 474,473 residents have been estimated to date. The results for 465,286 respondents (excluding radiation workers) suggest that the doses for about 87% of the respondents in Kempoku and about 92% in Kenchu were <2 mSv. The doses for approximately 88% of the respondents in Kennan and more than 99% of those in Aizu and Minami-aizu were <1 mSv. Doses for about 77 % of respondents in Soso and more than 99% of respondents in Iwaki were also <1 mSv.

Table 5 Estimated external radiation doses (initial and full-scale surveys) As of 31 March 2018

Effective Dose (mSv)	Total	Excluding radiation workers				By area (excluding radiation workers)													
						Kempoku *		Kenchu		Kennan		Aizu		Minami-aizu		Soso **		Iwaki	
<1	295,028	289,307	62.2%	93.8%		24,939	20.0%	58,414	51.5%	26,226	88.2%	45,862	99.3%	4,974	99.3%	55,812	77.3%	73,080	99.1%
1-2	149,620	147,277	31.7%			83,781	67.0%	46,330	40.8%	3,490	11.7%	310	0.7%	37	0.7%	12,697	17.6%	632	0.9%
2-3	26,102	25,729	5.5%	5.9%	99.8%	15,701	12.6%	8,267	7.3%	18	0.1%	25	0.1%	0	–	1,688	2.3%	30	0.0%
3-4	1,580	1,500	0.3%			472	0.4%	427	0.4%	0	–	1	0.0%	0	–	596	0.8%	4	0.0%
4-5	551	505	0.1%	0.2%		40	0.0%	5	0.0%	0	–	0	–	0	–	459	0.6%	1	0.0%
5-6	442	390	0.1%			19	0.0%	3	0.0%	0	–	0	–	0	–	367	0.5%	1	0.0%
6-7	268	230	0.0%	0.1%		10	0.0%	1	0.0%	0	–	1	0.0%	0	–	218	0.3%	0	–
7-8	155	116	0.0%		0.2%	1	0.0%	0	–	0	–	0	–	0	–	115	0.2%	0	–
8-9	118	78	0.0%	0.0%		1	0.0%	0	–	0	–	0	–	0	–	77	0.1%	0	–
9-10	72	41	0.0%			0	–	0	–	0	–	0	–	0	–	41	0.1%	0	–
10-11	70	37	0.0%	0.0%		0	–	1	0.0%	0	–	0	–	0	–	36	0.0%	0	–
11-12	52	30	0.0%			1	0.0%	0	–	0	–	0	–	0	–	29	0.0%	0	–
12-13	37	13	0.0%	0.0%	0.0%	0	–	0	–	0	–	0	–	0	–	13	0.0%	0	–
13-14	36	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	315	15	0.0%		0.0%	0	–	0	–	0	–	0	–	0	–	15	0.0%	0	–
Total	474,473	465,286	100.0%	100.0%	100.0%	124,965	100%	113,448	100%	29,734	100%	46,199	100%	5,011	100%	72,181	100%	73,748	100%
Max	66mSv	25mSv				11mSv		10mSv		2.6mSv		6.0mSv		1.9mSv		25mSv		5.9mSv	
Mean value	0.9mSv	0.8mSv				1.4mSv		1.0mSv		0.6mSv		0.2mSv		0.1mSv		0.8mSv		0.3mSv	
Median	0.6mSv	0.6mSv				1.4mSv		0.9mSv		0.5mSv		0.2mSv		0.1mSv		0.5mSv		0.3mSv	

* Including Yamakiya.

** Including Namie and Iitate.

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

Excluding those with estimation period less than four months.

*Estimated external radiation doses by region, by age group and sex, and by city/town/village are shown in Appendix 2, 3, and 4 respectively.

4. Evaluation of the effective dose estimation 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.

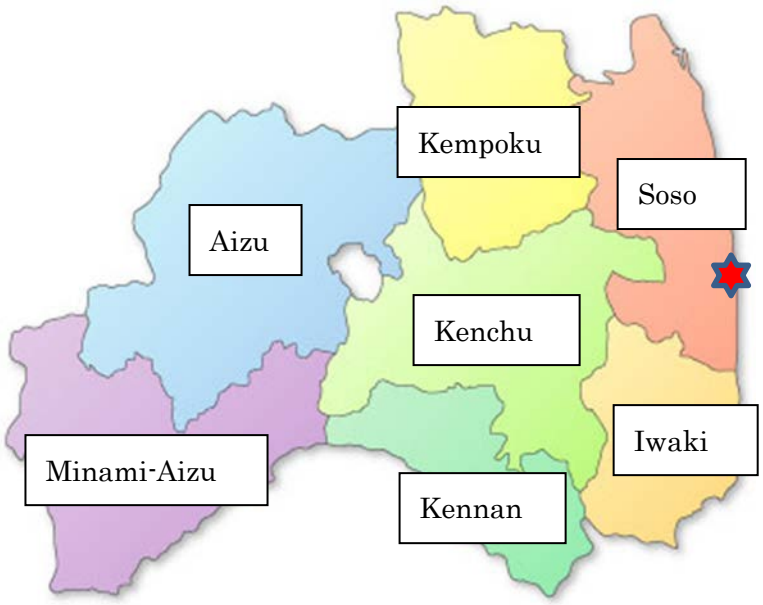
Reference

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.

5. Query Response Guidance

In the latter half of FY 2017, we conducted response guidance activities at Thyroid Ultrasound Examination venues, 6 times in the Aizu region during winter vacation season (late December), 1 time in the Shirakawa region (Saigo village) on February, 8 times during spring vacation season (late March) in Iwaki.

Also, points of contact remain open for those who wish to know about their level of exposure. Reissuance of questionnaires can still be requested through the homepage of the Radiation Medical Science Centre and the Call Centre. In addition, the simplified questionnaires are available at municipal offices. .



Appendix 1

Response rates to Basic Survey by district

(Initial and full-scale surveys)

As of 31 March 2018

Area	District	Survey population a	Responses b	Response rate c=b/a	Valid responses d	Ratio of valid responses e=d/a	Completed dose estimates f	Proportion g=f/d	Returned results h	Propotion i=h/d	Note
Kempoku	Fukushima	295,641	93,880	31.8%	92,373	31.2%	92,365	100.0%	92,337	100.0%	
	Nihonmatsu	60,857	16,912	27.8%	16,547	27.2%	16,547	100.0%	16,545	100.0%	
	Date	67,576	18,283	27.1%	17,823	26.4%	17,817	100.0%	17,806	99.9%	
	Motomiya	31,760	9,112	28.7%	8,943	28.2%	8,943	100.0%	8,942	100.0%	
	Kori	13,207	3,883	29.4%	3,774	28.6%	3,774	100.0%	3,774	100.0%	
	Kunimi	10,316	3,028	29.4%	2,941	28.5%	2,940	100.0%	2,940	100.0%	
	Kawamata	15,885	5,182	32.6%	5,011	31.5%	5,009	100.0%	5,004	99.9%	
	Otama	8,791	1,930	22.0%	1,886	21.5%	1,886	100.0%	1,886	100.0%	
	Subtotal	504,033	152,210	30.2%	149,298	29.6%	149,281	100.0%	149,234	100.0%	
Kenchu	Koriyama	339,682	87,184	25.7%	85,418	25.1%	85,411	100.0%	85,407	100.0%	
	Sukagawa	80,156	17,277	21.6%	16,841	21.0%	16,828	99.9%	16,828	99.9%	
	Tamura	41,723	10,564	25.3%	10,200	24.4%	10,196	100.0%	10,195	100.0%	
	Kagamiishi	13,109	2,918	22.3%	2,855	21.8%	2,850	99.8%	2,850	99.8%	
	Tenei	6,469	1,255	19.4%	1,224	18.9%	1,224	100.0%	1,224	100.0%	
	Ishikawa	17,489	4,229	24.2%	4,125	23.6%	4,123	100.0%	4,123	100.0%	
	Tamakawa	7,335	1,505	20.5%	1,457	19.9%	1,456	99.9%	1,456	99.9%	
	Hirata	7,053	1,665	23.6%	1,609	22.8%	1,609	100.0%	1,609	100.0%	
	Asakawa	7,163	1,527	21.3%	1,492	20.8%	1,489	99.8%	1,488	99.7%	
	Furudono	6,321	1,322	20.9%	1,287	20.4%	1,287	100.0%	1,287	100.0%	
	Miharu	18,989	4,874	25.7%	4,778	25.2%	4,773	99.9%	4,773	99.9%	
	Ono	11,700	2,610	22.3%	2,546	21.8%	2,545	100.0%	2,544	99.9%	
	Subtotal	557,189	136,930	24.6%	133,832	24.0%	133,791	100.0%	133,784	100.0%	
Kennan	Shirakawa	65,428	16,126	24.6%	15,794	24.1%	15,775	99.9%	15,771	99.9%	
	Nishigo	20,088	5,055	25.2%	4,938	24.6%	4,935	99.9%	4,934	99.9%	
	Izumizaki	6,931	1,439	20.8%	1,400	20.2%	1,400	100.0%	1,399	99.9%	
	Nakajima	5,306	1,017	19.2%	992	18.7%	992	100.0%	992	100.0%	
	Yabuki	18,341	4,116	22.4%	4,010	21.9%	4,009	100.0%	4,009	100.0%	
	Tanagura	15,384	3,047	19.8%	2,982	19.4%	2,979	99.9%	2,979	99.9%	
	Yamatsuri	6,491	1,481	22.8%	1,434	22.1%	1,431	99.8%	1,431	99.8%	
	Hanawa	10,061	2,327	23.1%	2,276	22.6%	2,276	100.0%	2,275	100.0%	
	Samegawa	4,196	824	19.6%	796	19.0%	796	100.0%	796	100.0%	
	Subtotal	152,226	35,432	23.3%	34,622	22.7%	34,593	99.9%	34,586	99.9%	
Aizu	Aizuwakamatsu	127,816	29,711	23.2%	28,739	22.5%	28,684	99.8%	28,683	99.8%	
	Kitakata	53,199	11,098	20.9%	10,670	20.1%	10,633	99.7%	10,628	99.6%	
	Kitashiobara	3,276	611	18.7%	588	17.9%	586	99.7%	586	99.7%	
	Nishiaizu	7,725	1,457	18.9%	1,355	17.5%	1,355	100.0%	1,355	100.0%	
	Bandai	3,888	795	20.4%	777	20.0%	777	100.0%	776	99.9%	
	Inawashiro	16,271	3,666	22.5%	3,534	21.7%	3,533	100.0%	3,532	99.9%	
	Aizubange	17,881	3,283	18.4%	3,139	17.6%	3,135	99.9%	3,135	99.9%	
	Yugawa	3,513	728	20.7%	695	19.8%	692	99.6%	692	99.6%	
	Yanaizu	4,077	729	17.9%	697	17.1%	693	99.4%	693	99.4%	
	Mishima	2,031	374	18.4%	340	16.7%	340	100.0%	340	100.0%	
	Kaneyama	2,544	630	24.8%	574	22.6%	574	100.0%	574	100.0%	
	Showa	1,569	354	22.6%	327	20.8%	327	100.0%	327	100.0%	
	Aizumisato	23,411	4,647	19.8%	4,450	19.0%	4,437	99.7%	4,437	99.7%	
	Subtotal	267,201	58,083	21.7%	55,885	20.9%	55,766	99.8%	55,758	99.8%	
Minami-aizu	Shimogo	6,649	1,256	18.9%	1,198	18.0%	1,198	100.0%	1,198	100.0%	
	Hinoemata	614	142	23.1%	133	21.7%	133	100.0%	133	100.0%	
	Tadami	5,030	1,149	22.8%	1,087	21.6%	1,087	100.0%	1,087	100.0%	
	Minami-aizu	18,495	3,867	20.9%	3,689	19.9%	3,689	100.0%	3,688	100.0%	
	Subtotal	30,788	6,414	20.8%	6,107	19.8%	6,107	100.0%	6,106	100.0%	
Soso	Soma	37,365	13,314	35.6%	12,807	34.3%	12,803	100.0%	12,785	99.8%	
	Minami-soma	70,010	30,284	43.3%	29,484	42.1%	29,475	100.0%	29,463	99.9%	
	Hirono	5,164	2,233	43.2%	2,143	41.5%	2,140	99.9%	2,138	99.8%	
	Naraha	7,963	4,189	52.6%	4,031	50.6%	4,022	99.8%	4,020	99.7%	
	Tomioka	15,749	8,636	54.8%	8,420	53.5%	8,412	99.9%	8,406	99.8%	
	Kawauchi	2,996	1,542	51.5%	1,488	49.7%	1,487	99.9%	1,487	99.9%	
	Okuma	11,473	6,087	53.1%	5,862	51.1%	5,861	100.0%	5,860	100.0%	
	Futaba	7,051	3,951	56.0%	3,850	54.6%	3,845	99.9%	3,843	99.8%	
	Namie	21,334	12,985	60.9%	12,690	59.5%	12,680	99.9%	12,671	99.9%	
	Katsurao	1,541	825	53.5%	768	49.8%	768	100.0%	768	100.0%	
	Shinchi	8,356	2,710	32.4%	2,611	31.2%	2,610	100.0%	2,608	99.9%	
	Iitate	6,588	3,446	52.3%	3,335	50.6%	3,335	100.0%	3,328	99.8%	
	Subtotal	195,590	90,202	46.1%	87,489	44.7%	87,438	99.9%	87,377	99.9%	
Iwaki	Iwaki	348,239	88,539	25.4%	86,472	24.8%	86,231	99.7%	86,227	99.7%	
Total		2,055,266	567,810	27.6%	553,705	26.9%	553,207	99.9%	553,072	99.9%	

Appendix 2

Basic Survey, Fukushima Health Management Survey

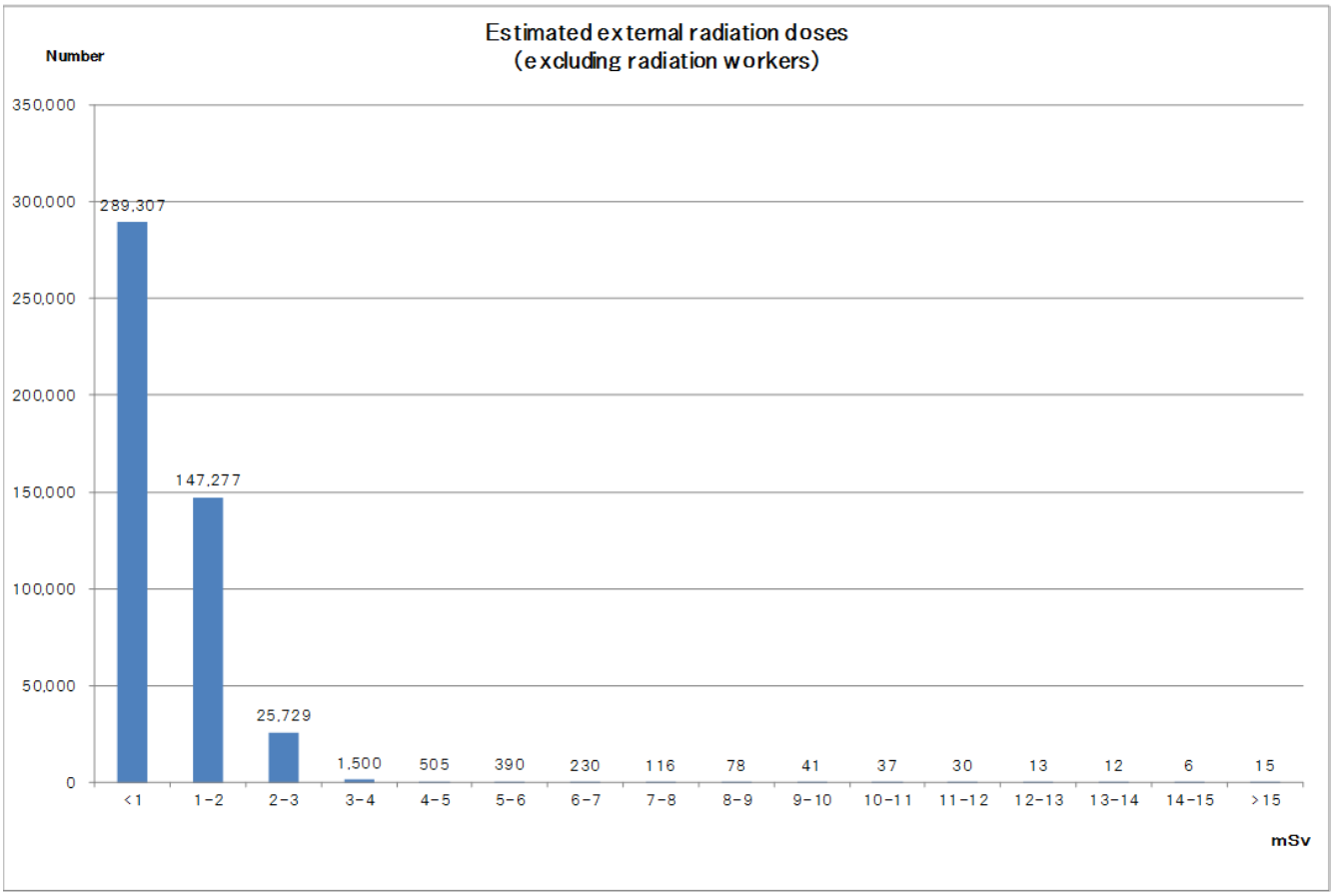
Estimated external radiation doses in the first four months (from 11 March – 11 July) As of 31 March 2018

Initial and full-scale surveys

Estimated external radiation doses by region

Effective Dose (mSv)	Total	Excluding radiation workers	By region							Population(%) excluding radiation workers		
			Kempoku	Kenchu	Kennan	Aizu	Minami-aizu	Soso	Iwaki			
<1	295,028	289,307	24,939	58,414	26,226	45,862	4,974	55,812	73,080	62.2	93.8	99.8
1-2	149,620	147,277	83,781	46,330	3,490	310	37	12,697	632	31.7		
2-3	26,102	25,729	15,701	8,267	18	25	0	1,688	30	5.5	5.9	
3-4	1,580	1,500	472	427	0	1	0	596	4	0.3		
4-5	551	505	40	5	0	0	0	459	1	0.1	0.2	
5-6	442	390	19	3	0	0	0	367	1	0.1		0.2
6-7	268	230	10	1	0	1	0	218	0	0.0	0.1	
7-8	155	116	1	0	0	0	0	115	0	0.0		
8-9	118	78	1	0	0	0	0	77	0	0.0	0.0	
9-10	72	41	0	0	0	0	0	41	0	0.0		
10-11	70	37	0	1	0	0	0	36	0	0.0	0.0	0.0
11-12	52	30	1	0	0	0	0	29	0	0.0		
12-13	37	13	0	0	0	0	0	13	0	0.0	0.0	
13-14	36	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	315	15	0	0	0	0	0	15	0	0.0	0.0	100.0
Total	474,473	465,286	124,965	113,448	29,734	46,199	5,011	72,181	73,748	100.0	100.0	
Max	66	25	11	10	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			
Median	0.6	0.6	1.4	0.9	0.5	0.2	0.1	0.5	0.3			

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



Appendix 3-1

Estimated external radiation doses from 11 March – 11 July

As of 31 March 2018

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

Effective Dose (mSv)	Age at the time of the disaster (years)									Total
	0 ～ 9	10 ～ 19	20 ～ 29	30 ～ 39	40 ～ 49	50 ～ 59	60 ～ 69	70 ～ 79	80 ～	
<1	48,156	44,718	21,397	34,328	28,657	32,876	36,324	25,723	17,128	289,307
1-2	23,044	21,757	10,167	18,354	16,681	18,552	19,496	12,291	6,935	147,277
2-3	6,479	4,280	1,141	2,348	2,250	2,972	3,424	1,995	840	25,729
3-4	253	159	81	158	153	230	233	164	69	1,500
4-5	19	47	35	39	75	95	81	76	38	505
5-6	14	13	29	34	47	86	73	66	28	390
6-7	3	6	10	22	24	45	52	47	21	230
7-8	4	4	8	9	13	35	22	14	7	116
8-9	2	6	2	7	8	16	16	12	9	78
9-10	0	1	2	3	3	12	11	5	4	41
10-11	1	1	2	2	6	11	5	6	3	37
11-12	0	0	1	3	0	5	8	11	2	30
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	3	3	6	1	2	15
Total	77,975	70,992	32,876	55,308	47,922	54,951	59,761	40,414	25,087	465,286

Appendix 3-2

Estimate external radiation doses from 11 March through 11 July

As of 31 March 2018

Estimate external radiation doses by sex (excluding radiation workers)

Effective Dose (mSv)	By sex				Total	Proportion(%)
	Male	Proportion (%)	Female	Proportion (%)		
<1	129,106	60.6	160,201	63.5	289,307	62.2
1-2	68,241	32.0	79,036	31.3	147,277	31.7
2-3	13,977	6.6	11,752	4.7	25,729	5.5
3-4	953	0.4	547	0.2	1,500	0.3
4-5	282	0.1	223	0.1	505	0.1
5-6	199	0.1	191	0.1	390	0.1
6-7	130	0.1	100	0.0	230	0.0
7-8	64	0.0	52	0.0	116	0.0
8-9	49	0.0	29	0.0	78	0.0
9-10	24	0.0	17	0.0	41	0.0
10-11	23	0.0	14	0.0	37	0.0
11-12	16	0.0	14	0.0	30	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	12	0.0	3	0.0	15	0.0
Total	213,093	100.0	252,193	100.0	465,286	100.0

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

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

Appendix 4

As of 31 March 2018

Estimated external radiation doses by region in the first four months 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	16,176	52,575	9,381	151	13	10	4	0	0	0	0	0	0	0	0	0	78,310
	Nihonmatsu	1,318	8,663	3,530	90	1	0	0	0	0	0	0	0	0	0	0	0	13,602
	Date	4,385	9,075	1,135	147	8	2	3	1	1	0	0	0	0	0	0	0	14,757
	Motomiya	746	5,462	1,259	24	1	0	0	0	0	0	0	0	0	0	0	0	7,492
	Kori	315	2,751	66	2	0	1	0	0	0	0	0	0	0	0	0	0	3,135
	Kunimi	967	1,436	12	0	0	0	0	0	0	0	0	0	0	0	0	0	2,415
	Kawamata	639	2,750	185	56	17	6	3	0	0	0	0	1	0	0	0	0	3,657
	Otama	393	1,069	133	2	0	0	0	0	0	0	0	0	0	0	0	0	1,597
Kempoku Subtotal		24,939	83,781	15,701	472	40	19	10	1	1	0	0	1	0	0	0	0	124,965
Kenchu	Koriyama	24,028	40,759	7,816	417	5	3	1	0	0	0	0	0	0	0	0	0	73,029
	Sukagawa	10,832	3,213	335	4	0	0	0	0	0	0	0	0	0	0	0	0	14,384
	Tamura	7,678	681	24	3	0	0	0	0	0	0	0	0	0	0	0	0	8,386
	Kagamiishi	2,363	74	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,437
	Tenei	405	587	59	1	0	0	0	0	0	0	0	0	0	0	0	0	1,052
	Ishikawa	3,185	39	2	0	0	0	0	0	0	0	0	0	0	0	0	0	3,226
	Tamakawa	1,179	18	3	0	0	0	0	0	0	0	0	0	0	0	0	0	1,200
	Hirata	1,300	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,334
	Asakawa	1,227	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,242
	Furudono	1,070	14	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1,086
	Miharu	3,122	813	24	2	0	0	0	0	0	0	1	0	0	0	0	0	3,962
	Ono	2,025	83	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2,110
Kenchu Subtotal		58,414	46,330	8,267	427	5	3	1	0	0	0	1	0	0	0	0	0	113,448
Kennan	Shirakawa	12,405	1,278	9	0	0	0	0	0	0	0	0	0	0	0	0	0	13,692
	Nishigo	2,243	2,024	3	0	0	0	0	0	0	0	0	0	0	0	0	0	4,270
	Izumizaki	1,159	21	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1,181
	Nakajima	837	13	1	0	0	0	0	0	0	0	0	0	0	0	0	0	851
	Yabuki	3,368	83	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3,452
	Tanagura	2,542	28	3	0	0	0	0	0	0	0	0	0	0	0	0	0	2,573
	Yamatsuri	1,153	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,162
	Hanawa	1,866	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,889
	Samegawa	653	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	664
Kennan Subtotal		26,226	3,490	18	0	0	0	0	0	0	0	0	0	0	0	0	0	29,734
Aizu	Aizuwakamats	23,689	160	13	0	0	0	1	0	0	0	0	0	0	0	0	0	23,863
	Kitakata	8,893	56	3	1	0	0	0	0	0	0	0	0	0	0	0	0	8,953
	Kitashiobara	477	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	481
	Nishiaizu	1,016	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,018
	Bandai	656	9	1	0	0	0	0	0	0	0	0	0	0	0	0	0	666
	Inawashiro	2,856	31	3	0	0	0	0	0	0	0	0	0	0	0	0	0	2,890
	Aizubange	2,630	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,645
	Yugawa	588	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	592
	Yanaizu	550	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	554
	Mishima	247	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	247
	Kaneyama	406	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	409
	Showa	245	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	246
	Aizumisato	3,609	23	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3,635
Aizu Subtotal		45,862	310	25	1	0	0	1	0	0	0	0	0	0	0	0	0	46,199
Minami-aizu	Shimogo	968	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	973
	Hinoemata	103	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	103
	Tadami	879	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	884
	Minami-aizu	3,024	27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3,051
Minami-aizu Subtotal		4,974	37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5,011
Soso	Soma	10,021	467	87	20	5	0	0	0	0	2	0	0	0	0	0	0	10,602
	Minami-soma	19,117	6,221	513	99	35	3	7	4	1	0	0	1	0	0	0	0	26,001
	Hirono	1,836	58	2	0	0	0	1	0	1	0	0	0	0	0	0	0	1,898
	Naraha	3,393	131	13	2	0	1	1	0	0	0	0	0	0	0	0	0	3,541
	Tomioka	5,827	1,102	98	18	3	2	0	3	2	0	0	1	0	0	0	0	7,056
	Kawauchi	962	350	16	1	0	1	1	1	0	0	0	0	0	0	0	0	1,332
	Okuma	3,370	1,284	112	17	6	4	4	3	0	2	2	1	0	4	0	1	4,810
	Futaba	2,671	468	77	18	6	4	3	6	2	1	0	2	0	0	0	2	3,260
	Namie	5,749	2,117	383	68	40	17	12	13	9	6	11	7	5	4	3	8	8,452
	Katsurao	502	162	24	4	0	1	0	0	0	0	0	0	0	0	0	0	693
	Shinchi	2,178	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,198
	Iitate	186	317	363	349	364	334	189	85	62	30	23	17	8	4	3	4	2,338
Soso Subtotal		55,812	12,697	1,688	596	459	367	218	115	77	41	36	29	13	12	6	15	72,181
Iwaki	Iwaki	73,080	632	30	4	1	1	0	0	0	0	0	0	0	0	0	0	73,748
Total		289,307	147,277	25,729	1,500	505	390	230	116	78	41	37	30	13	12	6	15	465,286
Proportion (%)		62.2	31.7	5.5	0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
		93.8		5.9		0.2		0.1		0.0		0.0		0.0		0.0	0.0	100.0
		99.8				0.2						0.0					0.0	100.0
Non-residents		1,473	273	18	2	0	0	0	0	0	0	0	0	0	0	0	1	1,767
Total+Non-residents		290,780	147,550	25,747	1,502	505	390	230	116	78	41	37	30	13	12	6	16	467,053

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

Report of Third-Round Thyroid Ultrasound Examinations
(Second Full-Scale Thyroid Screening Program)

Reported on 18 June 2018

1. Summary

1.1 Purpose

In order to monitor the long-term health of children, we are now engaged in the second Full-scale Thyroid Screening Program (third-round examination). The first round was Preliminary Baseline Screening for initial assessment of thyroid glands, and the second round was the first Full-scale Thyroid Screening Program to assess any changes.

1.2 Group

In addition to the participants of Preliminary Baseline Screening (Fukushima residents born between 2 April 1992 and 1 April 2011), the Full-scale Thyroid Screening (from the second-round examination) also includes those who were born between 2 April 2011 and 1 April 2012.

1.3 Implementation Period

The Second Full-scale Screening Program started 1 May 2016 and will cover examinees up to age 20 on a municipality-by-municipality schedule to FY 2017. Thereafter, we will revise the schedule to screen examinees every five years – at ages 25, 30, 35, etc. – to make it easier for examinees to remember when they are due for examination. In transition, examinations will be scheduled to avoid intervals greater than 5 years between examinations.

1.4 Responsible Organizations

Fukushima Prefecture commissioned Fukushima Medical University (FMU) to conduct the survey in cooperation with institutions inside and outside Fukushima (the number of contracts is as of 31 March 2018).

1.4-1 Primary examination

Inside Fukushima Prefecture	69 medical institutions
Outside Fukushima Prefecture	111 medical institutions

1.4-2 Confirmatory examination

Inside Fukushima Prefecture	5 medical institutions including FMU
Outside Fukushima Prefecture	36 medical institutions

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 primary examination, starting from April 2018.

A1: No nodules / cysts

A2: Nodules ≤5.0 mm or cysts ≤20.0 mm

-Diagnostic Criteria (B)

Those with B test results 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 results 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.

We recommend medical follow-up for those requiring it due to confirmatory test results.

1.5-3 Flow chart

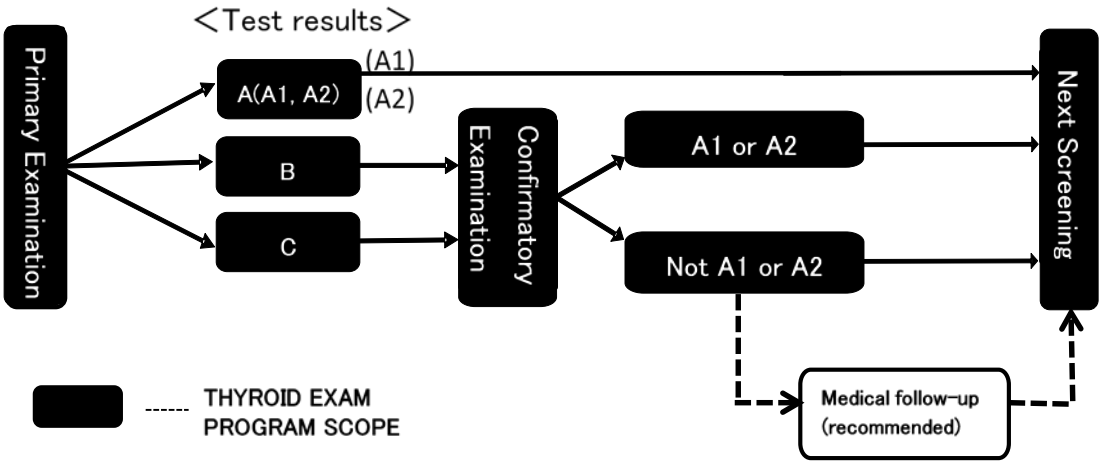


Fig.1 Flow chart

1.6 Target Municipalities

25 target municipalities for FY 2016

34 target municipalities for FY 2017

Fig.2 Target Municipalities

2. Results as of 31 March 2018

2.1 Results of Primary Examination

2.1-1 Progress Report

The Primary Examination started 1 May 2016 targeted at 336,668 people in 59 municipalities (25 municipalities in FY2016 and 34 municipalities in FY2017) and so far carried out for 216,358 people (64.3%). *1), *2)

Out of which, results have been confirmed for 203,826 participants (94.2%) and results notifications have been dispatched accordingly. *3)

As the results, 202,459 (99.3%) were classified as A (A1 or A2), 1,367 (0.7%) were B, and none was C.

Table 1. Screening test coverage

as of 31 March 2018

	Survey 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 2016	191,875	125,669 (65.5)	8,663	124,270 (98.9)	43,252 (34.8)	80,245 (64.6)	773 (0.6)	0 (0.0)
FY 2017	144,793	90,689 (62.6)	3,220	79,556 (87.7)	28,267 (35.5)	50,695 (63.7)	594 (0.7)	0 (0.0)
Total	336,668	216,358 (64.3)	11,883	203,826 (94.2)	71,519 (35.1)	130,940 (64.2)	1,367 (0.7)	0 (0.0)

Table 2. Number and proportion with nodules/cysts

as of 31 March 2018

	Number of confirmed screening results	Number and proportion of children with nodules/cysts			
		Nodules		Cysts	
	a	≥5.1 mm b (b/a)	≤5.0 mm c (c/a)	≥20.1 mm d (d/a)	≤20.0 mm e (e/a)
FY 2016	124,270	773 (0.6)	412 (0.3)	0 (0.0)	80,615 (64.9)
FY 2017	79,556	593 (0.7)	352 (0.4)	1 (0.0)	50,949 (64.0)
Total	203,826	1,366 (0.7)	764 (0.4)	1 (0.0)	131,564 (64.5)

*1) Examination status of each municipality is as Appendix 1

*2) Examination status outside of Fukushima is as Appendix 2.

*3) The result of examination of each municipality is as Appendix 3.

●Ratios are rounded to the 1st decimal place.

●The examination participants in FY2016 and FY 2017 are those examined during 2-year intervals, whereas those who receive examination at 5-year intervals (birth year FY1992, 1993) are excluded. The results of examinations with 5-year intervals will be shown separately.

2.1-2 Participation rates by age group

Participation rate of age group 18-23 (age as of 1 April 2016) in target municipalities for FY 2016 was 16.4%.

Participation rate of age group 18-24 (age as of 1 April 2017) in target municipalities for FY 2017 was 15.4%.

Table 3. Participation rates in target municipalities by age group

As of 31 March 2018

		Total	Age group (years)			
FY 2016 target municipalities	Age group (years)		4–7	8–12	13–17	18–23
	Survey population (a)	191,875	36,619	51,003	56,840	47,413
	Participants (b)	125,669	26,364	45,477	46,068	7,760
	Proportion (%) (b/a)	65.5	72.0	89.2	81.0	16.4
FY 2017 target municipalities	Age group (years)		5–7	8–12	13–17	18–24
	Survey population (a)	144,793	19,315	37,166	41,995	46,317
	Participants (b)	90,689	14,915	33,884	34,779	7,111
	Proportion (%) (b/a)	62.6	77.2	91.2	82.8	15.4
Total	Survey population (a)	336,668	55,934	88,169	98,835	93,730
	Participants (b)	216,358	41,279	79,361	80,847	14,871
	Proportion (%) (b/a)	64.3	73.8	90.0	81.8	15.9

●Age groups were formed with the age as of 1 April of each Fiscal Year.

2.1-3 Comparison of Full-scale Thyroid Screenings

Comparison of Third- and Second- Round Examination results of those who participated in both is as shown in table 4.

Among 189,106 participants who were diagnosed as A1 or A2 in the Second-Round Examination, 188,466 (99.7%) had A1 or A2 results, and 640 (0.3%) were diagnosed as B in the Third-Round Examination Program.

Among 1,061 participants who were diagnosed as B in the Second-Round Examination, 415(39.1%) had A1 or A2 results, and 646 (60.9%) were diagnosed as B in the Third-Round Examination Program.

Table 4. Comparison of Full-scale Thyroid Screenings

As of 31 March 2018

			Total test results of the First Full-scale Thyroid Screening*1 (%) a	Results of the Third-Round Examination *2			
				A		B d d/a (%)	C e e/a (%)
				A1 b b/a (%)	A2 c c/a (%)		
Results of the Second-round Examination	A	A1	74,992 (100.0)	54,277 (72.4)	20,594 (27.5)	121 (0.2)	0 (0.0)
		A2	114,114 (100.0)	11,333 (9.9)	102,262 (89.6)	519 (0.5)	0 (0.0)
	B		1,061 (100.0)	59 (5.6)	356 (33.6)	646 (60.9)	0 (0.0)
	C		0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
	No participation		13,659 (100.0)	5,850 (42.8)	7,728 (56.6)	81 (0.6)	0 (0.0)
Total			203,826 (100.0)	71,519 (35.1)	130,940 (64.2)	1,367 (0.7)	0 (0.0)

*1 Upper figure shows the results of Second-Round Examination of those who confirmed of Third-Round results.

It is not the breakdown of total of Second-Round results (270,529).

*2 Upper figure is the breakdown of Third-Round Examination against Second-Round results. Lower figure is the ratio(%).

2.2 Results of Confirmatory Examination

2.2-1 Progress Report

The Confirmatory Examination have been conducted since October 2016 and so far 1,367 of 803 people (58.7%) have received the examination.. Of those, 689 (85.8%) have completed.*4)

Of 689 participants, 68 (A1 and A2 results from Table 5) were confirmed to meet A1 or A2 diagnostic criteria (including those with other thyroid conditions), and were advised to take their next regularly scheduled examination 9.9%).

Those with neither A1 nor A2 results (from Table 5) were 621 (90.1%), and they were recommended to have medical follow-up after 6 to 12-months, or were advised to take their next regularly scheduled examination, though beyond the threshold level of A2.

Table 5. Confirmatory testing coverage and results

As of 31 March 2018

	Number of those requiring confirmatory test	Participants	Confirmed test results				
		Proportion (%)	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 2016	773	562 (72.7)	517 (92.0)	4 (0.8)	48 (9.3)	465 (89.9)	29 (6.2)
FY 2017	594	241 (40.6)	172 (71.4)	1 (0.6)	15 (8.7)	156 (90.7)	6 (3.8)
Total	1,367	803 (58.7)	689 (85.8)	5 (0.7)	63 (9.1)	621 (90.1)	35 (5.6)

*4) Examination status of each region is as Appendix 5.

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

Among those who underwent FNAC, 12 had nodules classified as suspicious or malignant.

7 of them were male, and 5 were female. Age at the time of the confirmatory testing ranged from 12 to 23 years (mean age: 17.1±3.2 years). The minimum and maximum tumor diameters were 8.7 and 33.0 mm. Mean tumor diameter was 15.7 ± 8.1 mm.

Results from the full-scale examination (the second-round examination) of the 12 people showed that 8 were A (2 was A1 and 6 were A2), 1 was B and three have not yet had the examination.

Table 6. Results of FNAC

Target municipalities in FY 2016

Suspicious or malignant	11*5)
Male to female ratio	6:5

Target municipalities in FY 2017

Suspicious or malignant	1 *5)
Male to female ratio	1:0

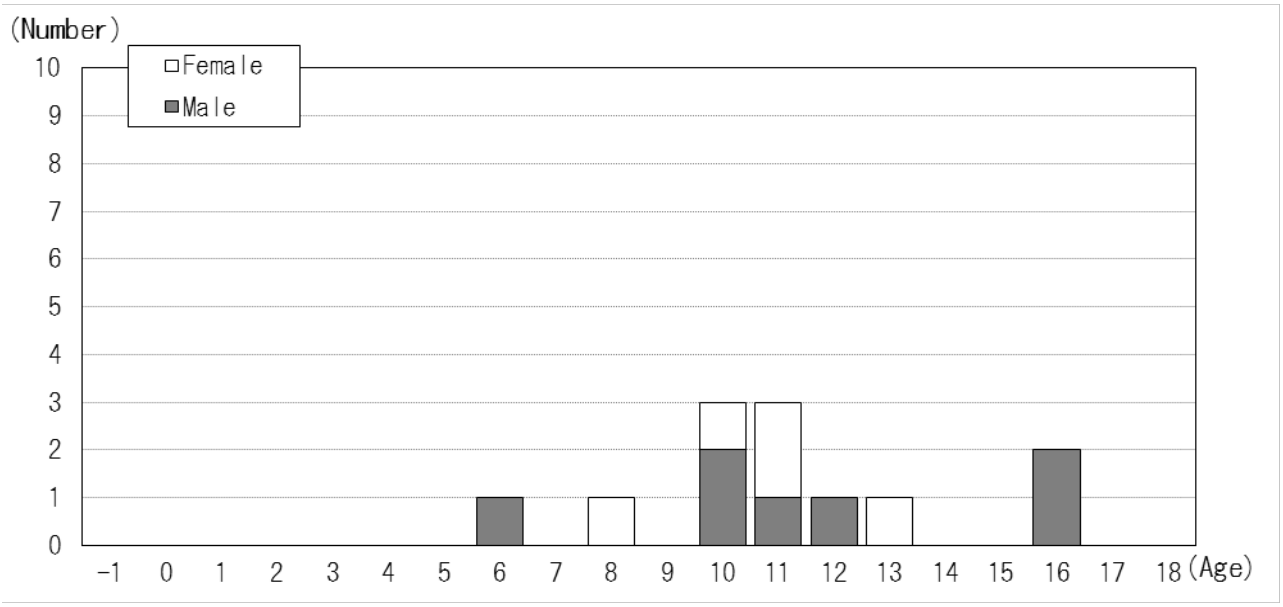
Total

Suspicious or malignant	12 *5)
Male to female ratio	7:5
Mean age (SD, min-max) Mean tumor size	17.1 (3.2, 12-23), 11.2 (2.9, 6-16) at the time of the disaster 15.7 mm (8.1 mm, 8.7-33.0 mm)

*5) Surgical cases are as shown in Appendix 6.

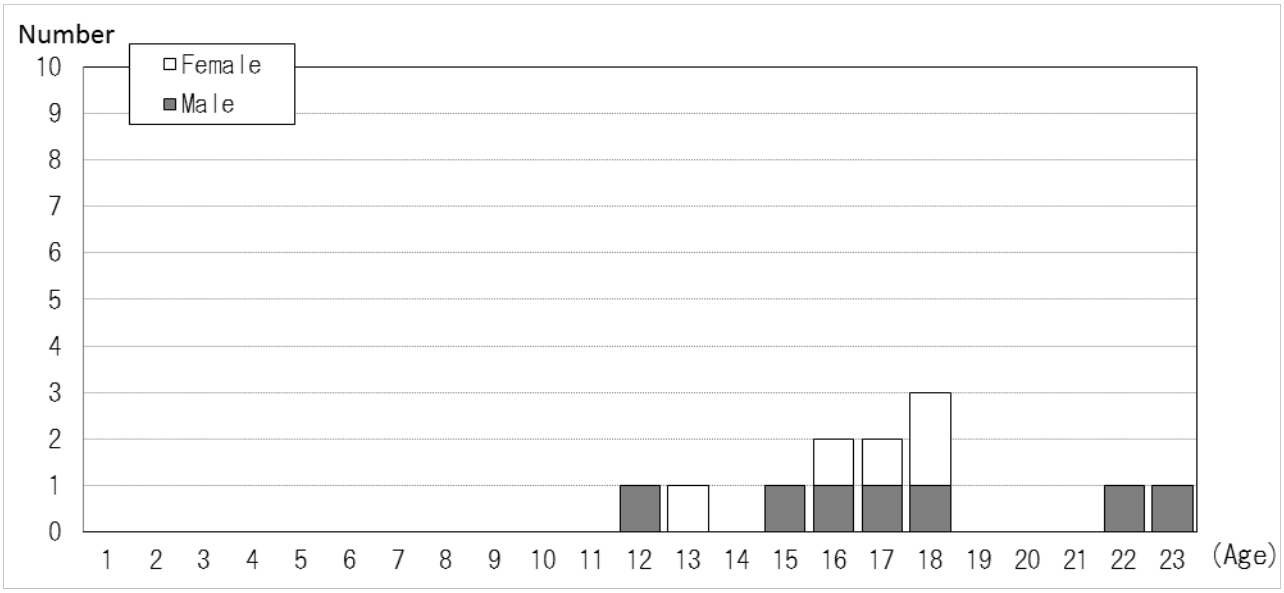
2.2-3 Age and sex distribution of 12 Suspicious or malignant cases by FNAC

Fig.3 Age as of 11 March 2011



The horizontal axis begins at -1 to include residents of Fukushima Prefecture born between 2 April 2011 and 1 April 2012.

Fig. 4 Age as of the date of confirmatory examination



2.2-4 Estimated radiation dose of 12 Suspicious or malignant cases by FNAC

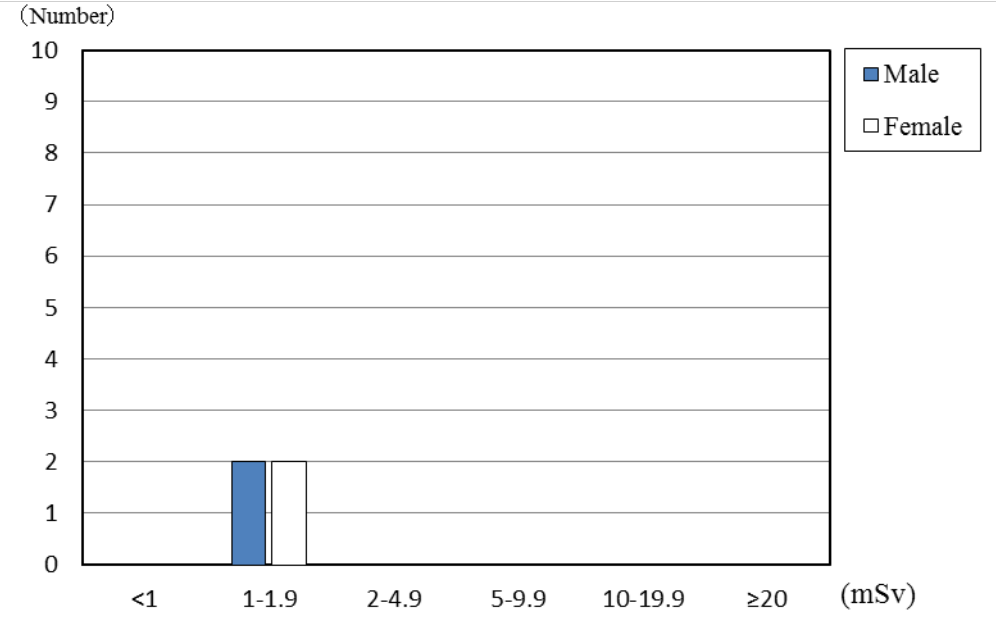
4 (40.0%) of the 12 people participated in the Basic Survey (radiation dose estimates), and 4 received the results. The highest effective dose documented was 1.5 mSv.

Table 7. A breakdown of dose estimates for participants of the Basic Survey As of 31 March 2017

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

●Estimates are based on effective external radiation doses.

Fig. 5 Effective dose of the respondents



2.2-5 Blood and urinary iodine test results as of 31 March 2018

Table 8. Blood test results Mean±SD (Abnormal value)

	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 7)	2.13-4.07 7)	0.340-3.880 7)	≤33.7	<28.0	<16.0
12 suspicious or malignant	1.2 ± 0.1 (0.0%)	3.5 ± 0.7 (16.7%)	1.9 ± 1.1 (25.0%)	31.9 ± 48.2 (25.0%)	− (25.0%)	− (16.7%)
Other 657	1.2 ± 0.2 (5.0%)	3.6 ± 0.5 (6.1%)	1.3 ± 0.8 (8.1%)	25.5 ± 64.9 (13.5%)	− (7.9%)	− (14.5%)

Table 9. Urinary iodine (μg/day) (μg/day)

	Minimum	25th percentile	Median	75th percentile	Maximum
12 suspicious or malignant	69	143.8	221.5	259.3	424
Other 657	26	109	172	319	8910

1) FT4: Free Thyroxine; higher among patients with thyrotoxicosis (such as Graves’ disease) and lower with hypothyroidism (such as Hashimoto’s thyroiditis).
2) FT3: Free Triiodothyronine; higher among patients with thyrotoxicosis (such as Graves’ disease) and lower with hypothyroidism (such as 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 neoplastic tissue 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 interval varies according to age.

2.2-6 Confirmatory test results by area as of 31 March 2018

The proportion of findings suspicious for malignancy or actually malignant was 0.01% in 13 municipalities in the nationally designated evacuation zones and Nakadori, 0% in Hamadori, and Aizu.

Table 10 Confirmatory test results by area

	Number of those screened	Participants who required confirmatory test	Proportion who required confirmatory test (%)*	Number who underwent confirmatory test	Suspicious or malignant cases	Proportion of suspicious or malignant cases (%)
13 municipalities[1)]	26,916	204	0.8	140	4	0.01
Nakadori[2)]	121,206	728	0.6	517	8	0.01
Hamadori[3)]	40,790	244	0.6	81	0	0.00
Aizu[4)]	27,446	191	0.7	65	0	0.00
Total	216,358	1,367	0.6	803	12	0.01

Priority is given to those in urgent clinical need.

1) Tamura, Minami-soma, Date, Kawamata, Hirono, Naraha, Tomioka, Kawauchi, Okuma, Futaba, Namie, Katsurao, Iitate

2) 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

3) Iwaki, Soma, Shinchi

4) Aizuwakamatsu, Kitakata, Shimogo, Hinoemata, Tadami, Minami-aizu, Kitashiobara, Nishiaizu, Bandai, Inawashiro, Aizubange, Yugawa, Yanaizu, Mishima, Kaneyama, Showa, Aizumisato

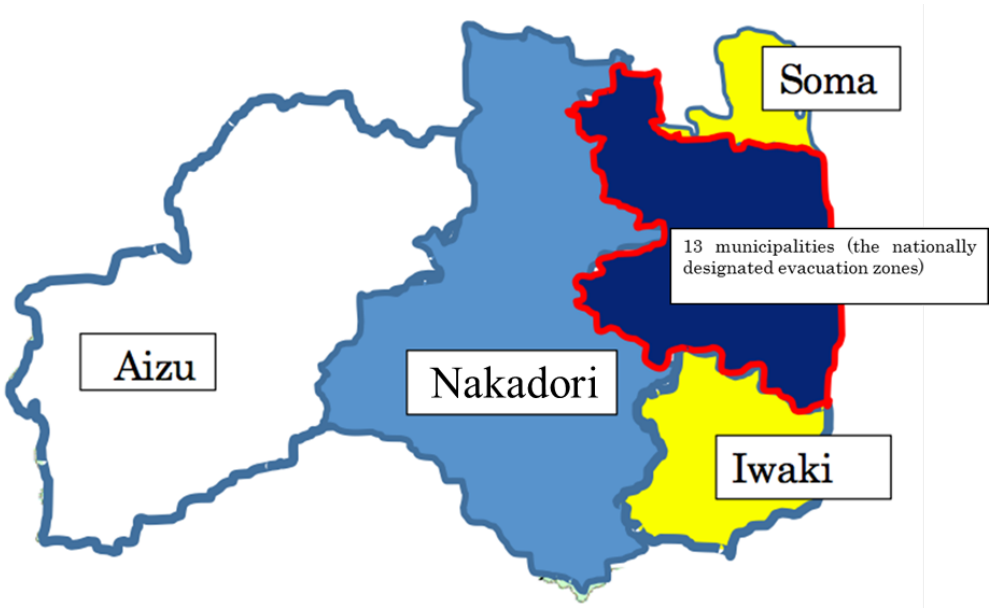


Fig.6 Regional division

2.3 Mental Health Care

2.3-1 Support for participants of primary examination

Since July 2015, we offer person-to-person explanations to participants at public venues where primary examinations take place. After the examination, medical doctors explain the results showing the ultrasound image in private consultation booths at the venue. As of 31 March 2018, 27,467 (84.7%) of 32,421 participants visited the consultation booths. In case the booths cannot be set up at school, alternatives such as briefing sessions at schools and telephonic supports are offered.

※ The number of those who used the consultation booths includes participants receiving the second round and age-25 examinations.

2.3-2 Support for participants of confirmatory examination

We set up a support team for participants of the confirmatory examination to address their anxiety and concerns, including online support.

Since the start of full-scale thyroid screening, 1,026 participants (359 males and 667 females) have received support as of 31 March 2018. The number of supports provided was 2,272 in total. Of these, 1,282 (56.4%) received supports at their first examination and 934 (41.1%) at subsequent examination (includes 131 (6.0%) at FNAC) – and 56 (2.5%) at informed consent.

In cooperation with teams of medical staff at hospitals, we offer similar services to those who moved on to the health insurance medical care.

※ The number of those who used the consultation booths at Confirmatory Examination includes participants receiving the second round and age-25 examinations.

2.4 For those who have not received the full scale thyroid screening (third-round examination)

We have notified the examination again for those who have not received the full-scale examination (third-round examination).

In addition to the screening at inspection organizations inside and outside the prefecture, we also conduct screening at general venues such as public facilities.

Appendix 1

Thyroid ultrasound examination (TUE) coverage by municipality

As of 31 March 2018

	Survey population	Participants		Proportion (%)	Number and proportion*2 of participants by age group				Participants living outside Fukushima	Proportion (%)
			Screened outside Fukushima*1		4-9	10-14	15-19	≥20		
	a	b		b/a					c*3	c/b
Screening coverage by municipality in FY 2016										
Kawamata	2,142	1,403	34	65.5	408	544	408	43	43	3.1
					29.1	38.8	29.1	3.1		
Namie	3,315	1,936	495	58.4	580	661	572	123	570	29.4
					30.0	34.1	29.5	6.4		
Iitate	987	602	23	61.0	174	261	150	17	31	5.1
					28.9	43.4	24.9	2.8		
Minami-soma	11,540	7,024	1,213	60.9	2,200	2,719	1,824	281	1,279	18.2
					31.3	38.7	26.0	4.0		
Date	10,210	7,059	239	69.1	2,026	2,673	2,090	270	255	3.6
					28.7	37.9	29.6	3.8		
Tamura	6,344	4,047	98	63.8	1,269	1,594	1,099	85	104	2.6
					31.4	39.4	27.2	2.1		
Hirono	975	535	61	54.9	163	185	151	36	62	11.6
					30.5	34.6	28.2	6.7		
Naraha	1,281	763	94	59.6	211	270	221	61	96	12.6
					27.7	35.4	29.0	8.0		
Tomioka	2,751	1,456	288	52.9	389	503	446	118	307	21.1
					26.7	34.5	30.6	8.1		
Kawauchi	297	171	15	57.6	47	72	49	3	15	8.8
					27.5	42.1	28.7	1.8		
Okuma	2,259	1,333	265	59.0	414	495	349	75	291	21.8
					31.1	37.1	26.2	5.6		
Futaba	1,133	458	113	40.4	139	183	114	22	122	26.6
					30.3	40.0	24.9	4.8		
Katsurao	211	129	4	61.1	36	50	32	11	6	4.7
					27.9	38.8	24.8	8.5		
Fukushima	49,340	33,904	2,037	68.7	10,267	12,181	10,140	1,316	2,330	6.9
					30.3	35.9	29.9	3.9		
Nihonmatsu	9,308	6,329	225	68.0	1,954	2,455	1,741	179	243	3.8
					30.9	38.8	27.5	2.8		
Motomiya	5,615	3,891	122	69.3	1,316	1,445	1,026	104	121	3.1
					33.8	37.1	26.4	2.7		
Otama	1,468	1,050	34	71.5	358	405	256	31	36	3.4
					34.1	38.6	24.4	3.0		
Koriyama	59,468	37,887	2,777	63.7	11,557	14,371	10,545	1,414	2,996	7.9
					30.5	37.9	27.8	3.7		
Kori	1,854	1,347	38	72.7	424	501	366	56	39	2.9
					31.5	37.2	27.2	4.2		
Kunimi	1,405	1,012	29	72.0	275	384	303	50	25	2.5
					27.2	37.9	29.9	4.9		
Tenei	966	632	24	65.4	191	258	162	21	22	3.5
					30.2	40.8	25.6	3.3		
Shirakawa	11,352	7,604	274	67.0	2,260	2,847	2,233	264	327	4.3
					29.7	37.4	29.4	3.5		
Nishigo	3,722	2,546	105	68.4	786	950	700	110	115	4.5
					30.9	37.3	27.5	4.3		
Izumizaki	1,163	797	12	68.5	239	310	222	26	21	2.6
					30.0	38.9	27.9	3.3		
Miharu	2,769	1,754	44	63.3	454	628	586	86	48	2.7
					25.9	35.8	33.4	4.9		
Subtotal	191,875	125,669	8,663	65.5	38,137	46,945	35,785	4,802	9,504	7.6
					30.3	37.4	28.5	3.8		

*1) The number of participants examined at facilities outside Fukushima or by teams dispatched from FMU (as of 28 February 2018)

*2) The upper layer shows number of participants, lower shows proportion of each group

*3) Number of participants who are registered as residents outside of Fukushima.

●Proportions are rounded to the 1st decimal place.

●Age groups were formed based on the age at the full-scale screening (third-round examination).

As of 31 March 2018

	Survey population	Participants		Proportion (%)	Number and proportion*2 of participants by age group				Participants living outside Fukushima	Proportion (%)
			Screened outside Fukushima*1		4-9	10-14	15-19	≥20		
	a	b		b/a					c*3	c/b
Screening coverage by municipality in FY 2017										
Iwaki	56,810	36,162	1,752	63.7	8,763	13,672	11,443	2,284	1,805	5.0
					24.2	37.8	31.6	6.3		
Sukagawa	14,113	9,169	260	65.0	2,568	3,470	2,661	470	265	2.9
					28.0	37.8	29.0	5.1		
Soma	6,252	3,785	242	60.5	1,133	1,405	1,091	156	278	7.3
					29.9	37.1	28.8	4.1		
Kagamiishi	2,417	1,578	42	65.3	434	614	466	64	42	2.7
					27.5	38.9	29.5	4.1		
Shinchi	1,320	843	33	63.9	212	333	260	38	41	4.9
					25.1	39.5	30.8	4.5		
Nakajima	972	638	6	65.6	177	240	198	23	7	1.1
					27.7	37.6	31.0	3.6		
Yabuki	3,041	1,955	42	64.3	632	736	517	70	51	2.6
					32.3	37.6	26.4	3.6		
Ishikawa	2,530	1,600	34	63.2	485	591	465	59	45	2.8
					30.3	36.9	29.1	3.7		
Yamatsuri	930	576	14	61.9	187	219	147	23	13	2.3
					32.5	38.0	25.5	4.0		
Asakawa	1,210	814	26	67.3	214	316	247	37	31	3.8
					26.3	38.8	30.3	4.5		
Hirata	1,101	690	8	62.7	208	268	195	19	11	1.6
					30.1	38.8	28.3	2.8		
Tanagura	2,749	1,737	34	63.2	532	677	473	55	39	2.2
					30.6	39.0	27.2	3.2		
Hanawa	1,492	885	23	59.3	260	348	241	36	23	2.6
					29.4	39.3	27.2	4.1		
Samegawa	617	379	12	61.4	120	153	95	11	16	4.2
					31.7	40.4	25.1	2.9		
Ono	1,716	1,018	19	59.3	318	422	247	31	18	1.8
					31.2	41.5	24.3	3.0		
Tamakawa	1,210	794	9	65.6	222	333	218	21	10	1.3
					28.0	41.9	27.5	2.6		
Furudono	946	620	16	65.5	197	232	156	35	13	2.1
					31.8	37.4	25.2	5.6		
Hinoemata	94	47	5	50.0	14	13	17	3	4	8.5
					29.8	27.7	36.2	6.4		
Minami-aizu	2,512	1,463	24	58.2	435	559	427	42	17	1.2
					29.7	38.2	29.2	2.9		
Kaneyama	177	89	1	50.3	19	42	25	3	2	2.2
					21.3	47.2	28.1	3.4		
Showa	127	71	0	55.9	25	26	20	0	2	2.8
					35.2	36.6	28.2	0.0		
Mishima	174	107	1	61.5	24	44	37	2	1	0.9
					22.4	41.1	34.6	1.9		
Shimogo	873	525	7	60.1	160	200	147	18	8	1.5
					30.5	38.1	28.0	3.4		
Kitakata	8,079	4,894	88	60.6	1,332	1,903	1,514	145	96	2.0
					27.2	38.9	30.9	3.0		
Nishiaizu	885	471	8	53.2	135	175	142	19	13	2.8
					28.7	37.2	30.1	4.0		
Tadami	642	390	6	60.7	119	147	111	13	4	1.0
					30.5	37.7	28.5	3.3		
Inawashiro	2,383	1,496	38	62.8	455	560	417	64	44	2.9
					30.4	37.4	27.9	4.3		
Bandai	555	355	9	64.0	105	143	98	9	11	3.1
					29.6	40.3	27.6	2.5		
Kitashiobara	502	318	7	63.3	98	129	79	12	8	2.5
					30.8	40.6	24.8	3.8		
Aizumisato	3,311	2,052	40	62.0	568	832	559	93	36	1.8
					27.7	40.5	27.2	4.5		
Aizubange	2,790	1,730	47	62.0	489	679	487	75	35	2.0
					28.3	39.2	28.2	4.3		
Yanaizu	538	340	3	63.2	103	129	95	13	3	0.9
					30.3	37.9	27.9	3.8		
Aizuwakamatsu	21,119	12,688	361	60.1	3,581	4,808	3,898	401	376	3.0
					28.2	37.9	30.7	3.2		
Yugawa	606	410	3	67.7	121	159	115	15	2	0.5
					29.5	38.8	28.0	3.7		
Subtotal	144,793	90,689	3,220	62.6	24,445	34,577	27,308	4,359	3,370	3.7
					27.0	38.1	30.1	4.8		
Total	336,668	216,358	11,883	64.3	62,582	81,522	63,093	9,161	12,874	6.0
					28.9	37.7	29.2	4.2		

Appendix 2

Thyroid ultrasound examination (TUE) coverage by prefecture

As of 28 February 2018

Prefecture	Number of test venues	Participants *
Hokkaido	6	**337**
Aomori	1	**132**
Iwate	3	**290**
Miyagi	2	**2,469**
Akita	1	**180**
Yamagata	3	**586**
Ibaraki	4	**733**
Tochigi	7	**730**
Gunma	2	**219**
Saitama	3	**552**
Chiba	4	**510**
Tokyo	13	**1,942**
Kanagawa	5	**985**
Niigata	2	**569**
Toyama	2	**23**
Ishikawa	1	**40**

Prefecture	Number of test venues	Participants *
Fukui	1	**22**
Yamanashi	2	**103**
Nagano	2	**134**
Gifu	1	**42**
Shizuoka	2	**103**
Aichi	4	**215**
Mie	1	**20**
Shiga	1	**22**
Kyoto	3	**97**
Osaka	7	**228**
Hyogo	2	**133**
Nara	2	**29**
Wakayama	1	**6**
Tottori	1	**10**
Shimane	1	**15**
Okayama	3	**57**

Prefecture	Number of test venues	Participants *
Hiroshima	1	**33**
Yamaguchi	1	**22**
Tokushima	1	**9**
Kagawa	1	**14**
Ehime	1	**12**
Kochi	1	**13**
Fukuoka	3	**78**
Saga	1	**5**
Nagasaki	2	**23**
Kumamoto	1	**30**
Oita	1	**14**
Miyazaki	1	**29**
Kagoshima	1	**18**
Okinawa	1	**50**

Total	110	**11,883**

●The number of participants includes those who received examination at facilities outside Fukushima or by teams dispatched by Fukushima Medical University.

●The number of dispatches of FMU teams for examinations outside Fukushima was 1, to Kanagawa.

Appendix 3

Results of primary examination by municipality

As of 31 March 2018

	Participants	Confirmed results b	Number by test results				Nodules		Cysts	
			Proportion (%)				Proportion (%)		Proportion (%)	
			A		B	C				
	a	Proportion (%) b/a (%)	A1	A2			≥5.1 mm	≤5.0 mm	≥20.1 mm	≤20.0 mm
Screening coverage by municipality in FY 2016										
Kawamata	1,403	1,400	484	907	9	0	9	7	0	912
		99.8	34.6	64.8	0.6	0.0	0.6	0.5	0.0	65.1
Namie	1,936	1,827	614	1,199	14	0	14	8	0	1,202
		94.4	33.6	65.6	0.8	0.0	0.8	0.4	0.0	65.8
Iitate	602	601	200	397	4	0	4	2	0	397
		99.8	33.3	66.1	0.7	0.0	0.7	0.3	0.0	66.1
Minami-soma	7,024	6,929	2,517	4,360	52	0	52	30	0	4,383
		98.6	36.3	62.9	0.8	0.0	0.8	0.4	0.0	63.3
Date	7,059	7,038	2,440	4,549	49	0	49	23	0	4,573
		99.7	34.7	64.6	0.7	0.0	0.7	0.3	0.0	65.0
Tamura	4,047	4,038	1,486	2,507	45	0	45	22	0	2,531
		99.8	36.8	62.1	1.1	0.0	1.1	0.5	0.0	62.7
Hirono	535	463	164	295	4	0	4	3	0	294
		86.5	35.4	63.7	0.9	0.0	0.9	0.6	0.0	63.5
Naraha	763	629	234	392	3	0	3	0	0	394
		82.4	37.2	62.3	0.5	0.0	0.5	0.0	0.0	62.6
Tomioka	1,456	1,272	442	820	10	0	10	1	0	825
		87.4	34.7	64.5	0.8	0.0	0.8	0.1	0.0	64.9
Kawauchi	171	164	39	124	1	0	1	0	0	125
		95.9	23.8	75.6	0.6	0.0	0.6	0.0	0.0	76.2
Okuma	1,333	1,163	403	749	11	0	11	5	0	751
		87.2	34.7	64.4	0.9	0.0	0.9	0.4	0.0	64.6
Futaba	458	394	156	236	2	0	2	0	0	237
		86.0	39.6	59.9	0.5	0.0	0.5	0.0	0.0	60.2
Katsurao	129	127	49	78	0	0	0	1	0	78
		98.4	38.6	61.4	0.0	0.0	0.0	0.8	0.0	61.4
Fukushima	33,904	33,732	11,835	21,711	186	0	186	101	0	21,804
		99.5	35.1	64.4	0.6	0.0	0.6	0.3	0.0	64.6
Nihonmatsu	6,329	6,313	2,254	4,014	45	0	45	22	0	4,038
		99.7	35.7	63.6	0.7	0.0	0.7	0.3	0.0	64.0
Motomiya	3,891	3,883	1,349	2,517	17	0	17	8	0	2,528
		99.8	34.7	64.8	0.4	0.0	0.4	0.2	0.0	65.1
Otama	1,050	1,049	372	671	6	0	6	3	0	675
		99.9	35.5	64.0	0.6	0.0	0.6	0.3	0.0	64.3
Koriyama	37,887	37,710	12,934	24,548	228	0	228	128	0	24,652
		99.5	34.3	65.1	0.6	0.0	0.6	0.3	0.0	65.4
Kori	1,347	1,344	491	843	10	0	10	4	0	850
		99.8	36.5	62.7	0.7	0.0	0.7	0.3	0.0	63.2
Kunimi	1,012	1,010	336	666	8	0	8	2	0	671
		99.8	33.3	65.9	0.8	0.0	0.8	0.2	0.0	66.4
Tenei	632	627	208	412	7	0	7	1	0	417
		99.2	33.2	65.7	1.1	0.0	1.1	0.2	0.0	66.5
Shirakawa	7,604	7,519	2,611	4,870	38	0	38	21	0	4,893
		98.9	34.7	64.8	0.5	0.0	0.5	0.3	0.0	65.1
Nishigo	2,546	2,505	811	1,683	11	0	11	7	0	1,687
		98.4	32.4	67.2	0.4	0.0	0.4	0.3	0.0	67.3
Izumizaki	797	791	267	522	2	0	2	5	0	522
		99.2	33.8	66.0	0.3	0.0	0.3	0.6	0.0	66.0
Miharu	1,754	1,742	556	1,175	11	0	11	8	0	1,176
		99.3	31.9	67.5	0.6	0.0	0.6	0.5	0.0	67.5
Subtotal	125,669	124,270	43,252	80,245	773	0	773	412	0	80,615
		98.9	34.8	64.6	0.6	0.0	0.6	0.3	0.0	64.9

●Proportions are rounded to the 1st decimal place.

As of 31 March 2018

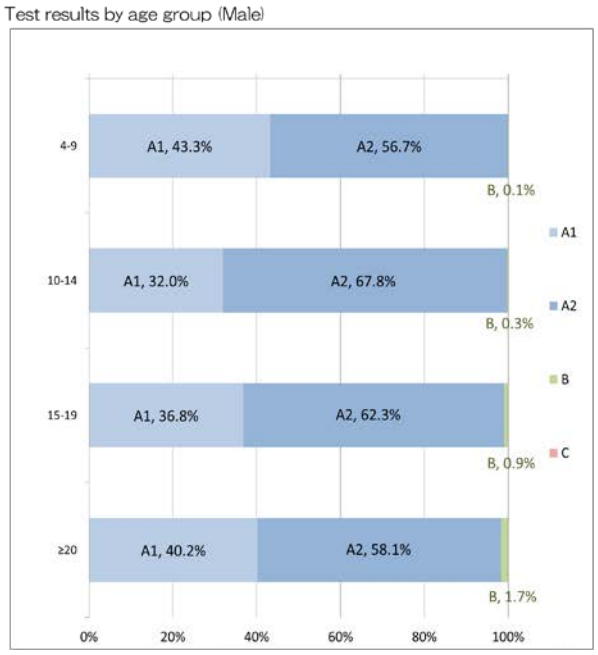
	Participants	Confirmed results b	Number by test results				Nodules		Cysts	
			Proportion (%)				Proportion (%)		Proportion (%)	
			A		B	C				
	a	Proportion (%) b/a (%)	A1	A2			≥5.1 mm	≤5.0 mm	≥20.1 mm	≤20.0 mm
Screening coverage by municipality in FY 2017										
Iwaki	36,162	25,652	8,901	16,546	205	0	205	110	0	16,629
		70.9	34.7	64.5	0.8	0.0	0.8	0.4	0.0	64.8
Sukagawa	9,169	9,089	3,181	5,829	79	0	79	38	0	5,870
		99.1	35.0	64.1	0.9	0.0	0.9	0.4	0.0	64.6
Soma	3,785	3,758	1,512	2,214	32	0	32	20	0	2,231
		99.3	40.2	58.9	0.9	0.0	0.9	0.5	0.0	59.4
Kagamiishi	1,578	1,568	520	1,036	12	0	12	7	0	1,042
		99.4	33.2	66.1	0.8	0.0	0.8	0.4	0.0	66.5
Shinchi	843	839	303	529	7	0	7	4	0	531
		99.5	36.1	63.1	0.8	0.0	0.8	0.5	0.0	63.3
Nakajima	638	631	216	413	2	0	2	4	0	412
		98.9	34.2	65.5	0.3	0.0	0.3	0.6	0.0	65.3
Yabuki	1,955	1,937	670	1,260	7	0	7	4	0	1,262
		99.1	34.6	65.0	0.4	0.0	0.4	0.2	0.0	65.2
Ishikawa	1,600	1,588	627	953	8	0	8	4	0	956
		99.3	39.5	60.0	0.5	0.0	0.5	0.3	0.0	60.2
Yamatsuri	576	568	193	372	3	0	3	1	0	374
		98.6	34.0	65.5	0.5	0.0	0.5	0.2	0.0	65.8
Asakawa	814	812	288	515	9	0	9	3	0	521
		99.8	35.5	63.4	1.1	0.0	1.1	0.4	0.0	64.2
Hirata	690	679	266	408	5	0	5	2	0	409
		98.4	39.2	60.1	0.7	0.0	0.7	0.3	0.0	60.2
Tanagura	1,737	1,710	617	1,084	9	0	9	8	0	1,090
		98.4	36.1	63.4	0.5	0.0	0.5	0.5	0.0	63.7
Hanawa	885	878	318	551	9	0	9	4	0	554
		99.2	36.2	62.8	1.0	0.0	1.0	0.5	0.0	63.1
Samegawa	379	379	139	237	3	0	3	3	0	239
		100.0	36.7	62.5	0.8	0.0	0.8	0.8	0.0	63.1
Ono	1,018	1,014	306	701	7	0	7	3	0	704
		99.6	30.2	69.1	0.7	0.0	0.7	0.3	0.0	69.4
Tamakawa	794	788	279	506	3	0	3	6	0	507
		99.2	35.4	64.2	0.4	0.0	0.4	0.8	0.0	64.3
Furudono	620	611	234	374	3	0	3	2	0	375
		98.5	38.3	61.2	0.5	0.0	0.5	0.3	0.0	61.4
Hinoemata	47	47	21	26	0	0	0	0	0	26
		100.0	44.7	55.3	0.0	0.0	0.0	0.0	0.0	55.3
Minami-aizu	1,463	1,458	545	902	11	0	11	3	0	906
		99.7	37.4	61.9	0.8	0.0	0.8	0.2	0.0	62.1
Kaneyama	89	89	31	57	1	0	1	1	0	57
		100.0	34.8	64.0	1.1	0.0	1.1	1.1	0.0	64.0
Showa	71	71	34	37	0	0	0	0	0	37
		100.0	47.9	52.1	0.0	0.0	0.0	0.0	0.0	52.1
Mishima	107	107	28	78	1	0	1	1	0	79
		100.0	26.2	72.9	0.9	0.0	0.9	0.9	0.0	73.8
Shimogo	525	524	219	300	5	0	5	1	0	304
		99.8	41.8	57.3	1.0	0.0	1.0	0.2	0.0	58.0
Kitakata	4,894	4,873	1,739	3,098	36	0	36	27	0	3,109
		99.6	35.7	63.6	0.7	0.0	0.7	0.6	0.0	63.8
Nishiaizu	471	469	174	291	4	0	4	1	0	290
		99.6	37.1	62.0	0.9	0.0	0.9	0.2	0.0	61.8
Tadami	390	389	144	243	2	0	2	1	0	245
		99.7	37.0	62.5	0.5	0.0	0.5	0.3	0.0	63.0
Inawashiro	1,496	1,487	521	952	14	0	14	7	0	962
		99.4	35.0	64.0	0.9	0.0	0.9	0.5	0.0	64.7
Bandai	355	354	131	221	2	0	2	2	0	222
		99.7	37.0	62.4	0.6	0.0	0.6	0.6	0.0	62.7
Kitashiobara	318	316	105	209	2	0	2	1	0	209
		99.4	33.2	66.1	0.6	0.0	0.6	0.3	0.0	66.1
Aizumisato	2,052	2,043	761	1,268	14	0	14	12	0	1,274
		99.6	37.2	62.1	0.7	0.0	0.7	0.6	0.0	62.4
Aizubange	1,730	1,725	581	1,130	14	0	14	17	0	1,133
		99.7	33.7	65.5	0.8	0.0	0.8	1.0	0.0	65.7
Yanaizu	340	340	121	219	0	0	0	0	0	219
		100.0	35.6	64.4	0.0	0.0	0.0	0.0	0.0	64.4
Aizuwakamatsu	12,688	12,356	4,392	7,881	83	0	82	53	1	7,915
		97.4	35.5	63.8	0.7	0.0	0.7	0.4	0.0	64.1
Yugawa	410	407	150	255	2	0	2	2	0	256
		99.3	36.9	62.7	0.5	0.0	0.5	0.5	0.0	62.9
Subtotal	90,689	79,556	28,267	50,695	594	0	593	352	1	50,949
		87.7	35.5	63.7	0.7	0.0	0.7	0.4	0.0	64.0
Total	216,358	203,826	71,519	130,940	1,367	0	1,366	764	1	131,564
		94.2	35.1	64.2	0.7	0.0	0.7	0.4	0.0	64.5

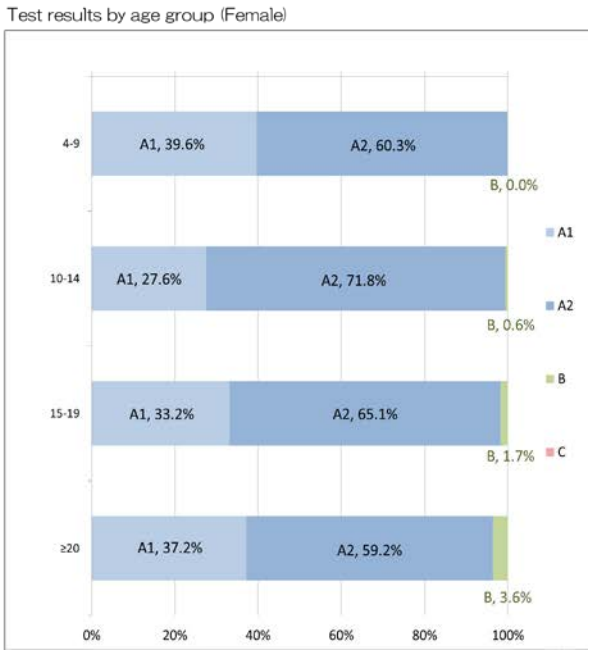
Appendix 4

1. Thyroid ultrasound examination results by age and sex

As of 31 March 2018

Ages	A						B			C			Total		
	A1			A2											
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
4-9	13,055	11,294	24,349	17,110	17,179	34,289	17	12	29	0	0	0	30,182	28,485	58,667
10-14	12,386	10,243	22,629	26,240	26,672	52,912	100	226	326	0	0	0	38,726	37,141	75,867
15-19	11,293	10,140	21,433	19,125	19,870	38,995	269	521	790	0	0	0	30,687	30,531	61,218
≥20	1,413	1,695	3,108	2,043	2,701	4,744	58	164	222	0	0	0	3,514	4,560	8,074
Total	38,147	33,372	71,519	64,518	66,422	130,940	444	923	1,367	0	0	0	103,109	100,717	203,826





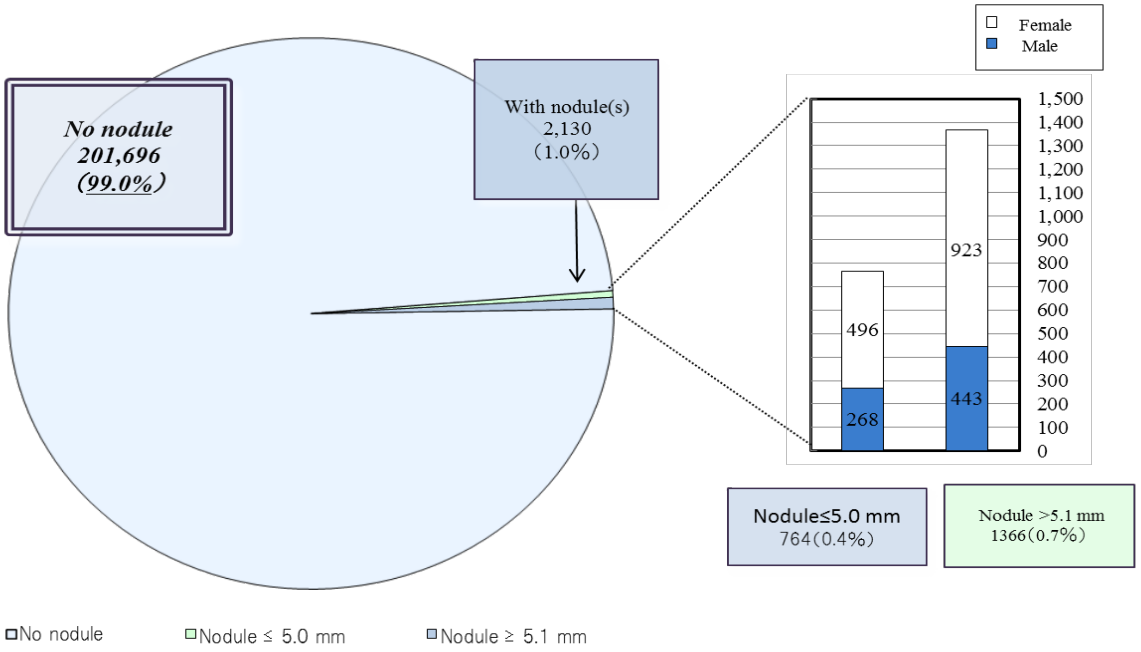
●Proportions are rounded to the 1st decimal place.

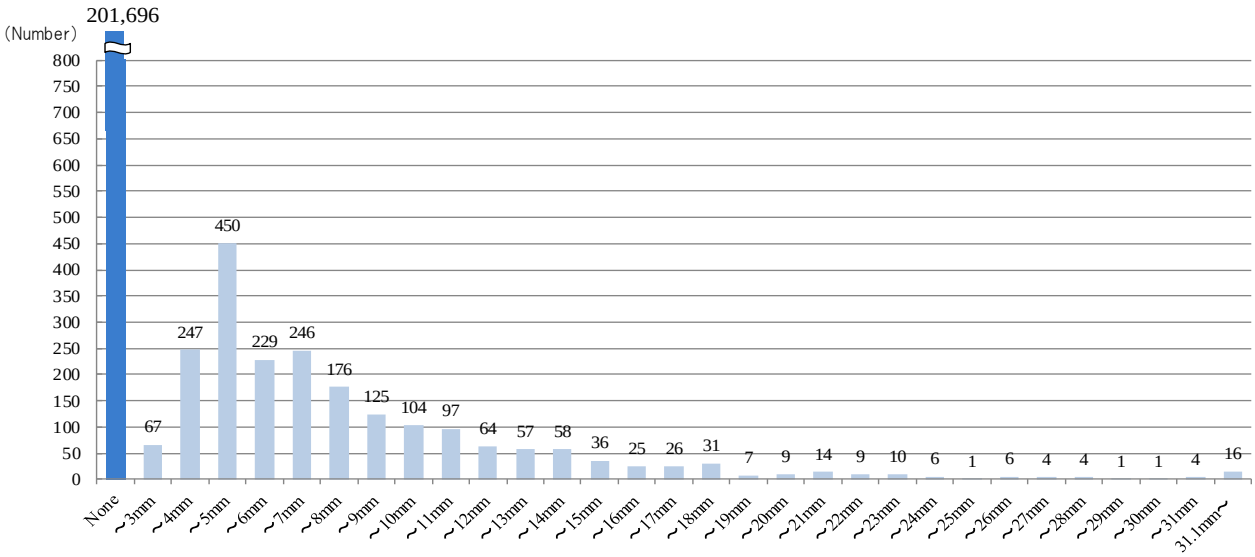
●Ages are at the time when the participants underwent the testing (the Second Full-scale Thyroid Screening).

2. Nodule size

As of 31 March 2018

Nodule size	Total	Male	Female	Class	Proportion
None	201,696	102,398	99,298	A1	99.0%
≤ 3.0 mm	67	32	35	A2	0.4%
3.1-5.0 mm	697	236	461		
5.1-10.0 mm	880	287	593	B	0.7%
10.1-15.0 mm	312	105	207		
15.1-20.0 mm	98	24	74		
20.1-25.0 mm	40	16	24		
≥ 25.1 mm	36	11	25		
Total	203,826	103,109	100,717		

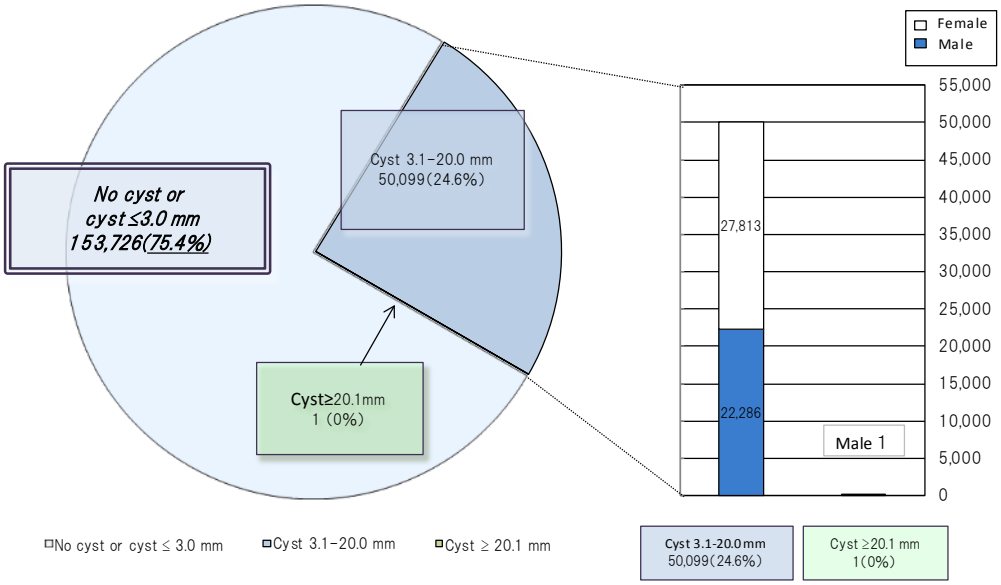


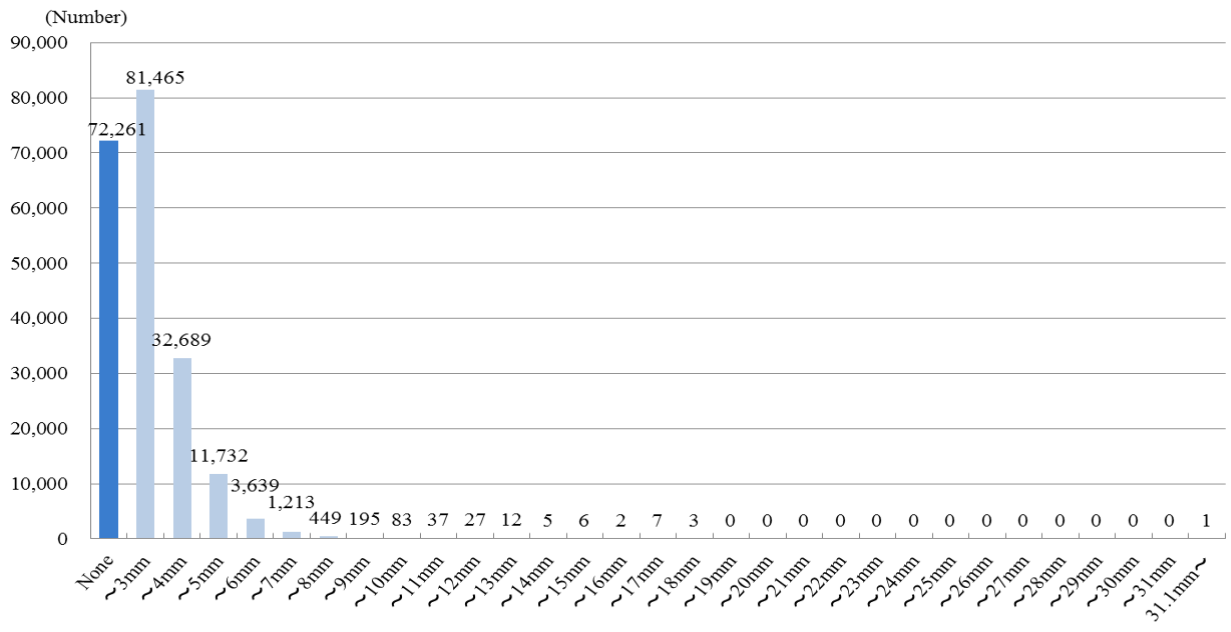


3. Cyst size

As of 31 March 2018

Nodule size	Total	Male	Female	Class	Proportion
None	72,261	38,406	33,855	A1	75.4%
≤ 3.0 mm	81,465	42,416	39,049	A2	24.6%
3.1-5.0 mm	44,421	20,294	24,127		
5.1-10.0 mm	5,579	1,962	3,617		
10.1-15.0 mm	87	25	62		
15.1-20.0 mm	12	5	7		
20.1-25.0 mm	0	0	0	B	0.000%
≥ 25.1 mm	1	1	0		
Toal	203,826	103,109	100,717		





Appendix 5

As of 31 March 2017

District	Number of those screened	Participants who required confirmatory test	Number of those who underwent confirmatory test					Number of confirmed results				
			Total	Ages 4-9	Ages 10-14	Ages 15-19	≥ 20	Total	A1	A2	Not A1 or A2	
												Aspiration biopsy cytology
	a	b Proportion (%) b/a	c Proportion (%) c/b	d Proportion (%) d/c	e Proportion (%) e/c	f Proportion (%) f/c	g Proportion (%) g/c	h Proportion (%) h/c	i Proportion (%) i/h	j Proportion (%) j/h	k Proportion (%) k/h	l Proportion (%) l/h
13 municipalities[1]	26,916	204	140	1	32	86	21	129	0	16	113	11
		0.8	68.6	0.7	22.9	61.4	15.0	92.1	0.0	12.4	87.6	9.7
Nakador[2]	121,206	728	517	14	107	300	96	463	4	36	423	21
		0.6	71.0	2.7	20.7	58.0	18.6	89.6	0.9	7.8	91.4	5.0
Hamadori[3]	40,790	244	81	0	6	46	29	59	1	6	52	2
		0.6	33.2	0.0	7.4	56.8	35.8	72.8	1.7	10.2	88.1	3.8
Aizu[4]	27,446	191	65	4	15	34	12	38	0	5	33	1
		0.7	34.0	6.2	23.1	52.3	18.5	58.5	0.0	13.2	86.8	3.0
Total	216,358	1,367	803	19	160	466	158	689	5	63	621	35
		0.6	58.7	2.4	19.9	58.0	19.7	85.8	0.7	9.1	90.1	5.6

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

i, j) Those who will take Full-scale Thyroid Screening from April 2018.

k) Those who were recommended to have a medical examination after 6 to 12 months, or who were advised to take their next regularly scheduled examination, though beyond the threshold level of A2.

●Proportions are rounded to the 1st decimal place.

●Ages are at the time when the participants underwent the testing (the Second Full-scale Thyroid Screening).

1) Tamura, Minami-soma, Date, Kawamata, Hirono, Naraha, Tomioka, Kawauchi, Okuma, Futaba, Namie, Katsurao, Iitate

2) 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

3) Iwaki, Soma, Shinchi

4) Aizuwakamatsu, Kitakata, Shimogo, Hinoemata, Tadami, Minami-aizu, Kitashiobara, Nishiaizu, Bandai, Inawashiro, Aizubange, Yugawa, Yanaizu, Mishima, Kaneyama, Showa, Aizumisato

Appendix 6

Surgical cases for malignancy or suspicion of malignancy

1. Target municipalities in FY 2016

   Suspicious or malignant: 11 (9 surgical cases: 9 papillary thyroid carcinomas)

2. Target municipalities in FY 2017

   Suspicious or malignant: 1 (0 surgical case)

3. Total for cases FY 2016 - 2017

   Suspicious or malignant: 12 (9 surgical cases: 9 papillary thyroid carcinomas)

3. Summary of results of examinations at age 25 (as of 31 Mar 2018)

3.1 The results of Primary Examination

3.1-1 The status of Primary Examination

The Primary Examination was started in May, 2017, targeting 22,653 people turning 25 in FY 2017, and so far 1,902 (8.4%) have received the examination. Among the examined, we have confirmed the results of 1,846 (97.1%) and the results notifications have been dispatched accordingly.

As the results, 1,766 (95.7%) were classified as A (A1 or A2 in Table 1), 80 (4.3%) were classified as B and none classified as C.

Table 1. Screening test coverage

As of 31 March 2018

	Survey 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)
Targets (FY1992 born)	22,653	1,902 (8.4)	592	1,846 (97.1)	754 (40.8)	1,012 (54.8)	80 (4.3)	0 (0.0)
Total	22,653	1,902 (8.4)	592	1,846 (97.1)	754 (40.8)	1,012 (54.8)	80 (4.3)	0 (0.0)

Table 2. Number and proportion with nodules/cysts

As of 31 March 2018

	Number of confirmed screening results	Number and proportion of children with nodules/cysts			
		Nodules		Cysts	
	a	≥5.1 mm b (b/a)	≤5.0 mm c (c/a)	≥20.1 mm d (d/a)	≤20.0 mm e (e/a)
Targets (FY1992 born)	1,846	79 (4.3)	38 (2.1)	1 (0.1)	1,050 (56.9)
Total	1,846	79 (4.3)	38 (2.1)	1 (0.1)	1,050 (56.9)

●Proportions are rounded to the 1st decimal place.

●As for the participants of the examinations at the age 25, the figures will be added up for each FY in later reports.

3.1-2 Comparison with the previous examination results

Comparison of results of examination at age 25 and that of previous one is as shown in Table 3.

Out of 1,227 who were classified as A (A1 or A2) in the previous examination, 1,203(98.0%) were A (A1 or A2), 24 (2.0%) were B in the examination at age 25.

Also, out of 42 people who were classified as B in the previous examination, 14 (33.3%) were A (A1 or A2)and 28(66.7%) were B in the examination at age 25.

Table 3. Comparison with the previous results

As of 31 March 2018

			Total of previous results *1 (%) a	Results of examination at the age 25 *2			
				A		B	C
				A1 b b/a (%)	A2 c c/a (%)	d d/a (%)	e e/a (%)
Previous results	A	A1	524 (100.0)	419 (80.0)	102 (19.5)	3 (0.6)	0 (0.0)
		A2	703 (100.0)	91 (12.9)	591 (84.1)	21 (3.0)	0 (0.0)
	B		42 (100.0)	1 (2.4)	13 (31.0)	28 (66.7)	0 (0.0)
	C		0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
	No participation		577 (100.0)	243 (42.1)	306 (53.0)	28 (4.9)	0 (0.0)
Total			1,846 (100.0)	754 (40.8)	1,012 (54.8)	80 (4.3)	0 (0.0)

*1 The upper figure is the number of participants with confirmed results of previous examination

*2 The upper figure is the breakdown of results of age 25 examinations against previous results. The lower figure is its proportion.

3.2 Results of Confirmatory Examination

3.2-1 The status of Confirmatory Examination

Out of 80 targeted persons, 41(51.3%) have received and 31(75.6%) have completed the examination.

31 out of foregoing 31 (other than A1 and A2 in Table 4) (100%) include participants who will receive medical treatments (planned) after 6 months or 1 year and participants who will take the next examination even though their results exceeded the threshold levels of A2.

Table 4. Confirmatory testing coverage and results

As of 31 March 2018

	Number of those 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)
Targets (FY1992 born)	80	41 (51.3)	31 (75.6)	0 (0.0)	0 (0.0)	31 (100.0)	0 (0.0)
Toatl	80	41 (51.3)	31 (75.6)	0 (0.0)	0 (0.0)	31 (100.0)	0 (0.0)

Outline of Mental Health and Lifestyle Survey for FY 2016
Reported on June 2018

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 about radiation, 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.

Based on the understanding gained from the results of the Mental Health and Lifestyle Survey for FY 2011-2015, we will continue watching for changes of mental health and lifestyle among residents, and offer care when necessary.

2. Methods

2-1 Target Groups

• Those who were registered as residents of municipalities designated as evacuation zones from 11 March 2011 till 1 April 2012. Note that these people remain as the target group even after their departure from the designated evacuation zones.

• Those who were registered as residents of municipalities designated as evacuation zones as of 1 April 2016.

• Those as deemed necessary based on Basic Survey results, even if the above conditions are not met.

208,044 (As of 31 October 2017)

〔Designated evacuation zones〕

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:	3,668 individuals born from 2 April 2013 to 1 April 2016
Ages 4-6 Survey:	4,194 individuals born from 2 April 2010 to 1 April 2013
Primary School Survey:	10,479 individuals born from 2 April 2004 to 1 April 2010
Middle School Survey:	5,837 individuals born from 2 April 2001 to 1 April 2004
Adults Survey:	183,866 individuals born before 1 April 2001

2-2 Survey Methods

Survey sheets (self-administered or completed by parents) were mailed to the participants.

2-3 Data Tabulation Period

Data tabulation period was from 2 February 2017 through 31 October 2017.

2-4 Number of Respondents and Valid Responses

The numbers of respondents (response rates) were as follows: 799 (21.8%) for the ages 0-3 survey; 889 (21.2%) for the ages 4-6 survey; 2,234(21.3%) for the primary school survey; 1,005 (17.2%) for the middle school survey; and 37,569 (20.4%) for adults survey.

The numbers of valid responses (valid response rates) were as follows: 798 (21.8%) for the ages 0-3 survey; 889 (21.2%) for the ages 4-6 survey; 2,209 (21.1%) for the primary school survey; 1,002 (17.2%) for the middle school survey; and 37,465 (20.4%) for adults survey.

The results were tabulated by item for each question, as shown in the report. Due to some unreported items, the total may not match the aforementioned valid responses. Since the proportions in the report are rounded, there are instances where the total does not add up to 100%.

3. Results

3-1 Age 0-3 years

- Of 3,668 people in the Target Group, 798 (21.8%) valid responses received.
- Regarding the health conditions, 99.4% of responses indicated no particular issues (‘very good’, ‘good’, ‘normal’), which showed a slight increase from the results of FY 2015 (98.7%).
- The average sleep was 9 hours and 53 minutes and the average nap was 1 hour and 54 minutes, which are at the same level as the results of FY 2015 survey (average sleep: 9 hours and 52 minutes, average nap: 1 hour and 56 minutes), and also not significantly different from another major survey result[1)] (10 hours and 7 minutes) aimed at younger children in daycare (3-year-old) .

3-2 Age 4-6 years

- Of 4,194 people in the Target Group, 889 (21.2%) valid responses received.
- Regarding the health conditions, 99.5% of responses indicated no particular issues (‘very good’, ‘good’, ‘normal’), which was almost the same as the FY 2015 survey (99.1%).
- Regarding exercise habits, 3.5% responded “almost no exercise on a daily basis”, showing a decrease from FY2015 (4.6%).
- Average sleep was 9 hours and 37 minutes, and average nap was 1 hour and 33 minutes which are in the same levels as FY2015 (average sleep: 9 hours and 40 minutes; average nap: 1 hour and 30 minutes), also not significantly different from national survey results[1)] (9 hours and 55 minutes) aimed at older children in daycare (5 year-old).
- In the survey on children’s emotions and behavior (SDQ Japanese Edition), 11.1% of the 888 valid responses scored 16 or higher, which is the threshold score from the preceding study, and 3.9% scored 20 or higher, which is the initial support standard. Compared to the FY 2015 survey (10.8% scoring 16 or higher, 3.2% scoring 20 or higher), proportion at 16 or higher remained the same, while 20 or higher showed a slight trend of increase.

  Tabulating the results by gender, for boys, of the 432 valid respondents, 13.0% scored 16 or higher, and 4.6% scored 20 or higher, showing a slight trend of increase compared to FY 2015 (16 or higher 12.5%, 20 or higher 3.8%). For girls, of the 456 valid respondents, 9.4% scored 16 or higher, and

3.3% scored 20 or higher, compared to FY 2015 (16 or higher 9.1%, 20 or higher 2.6%), while the proportion at 16 or higher remained the same, 20 or higher showed a slight trend of increase.

As for the distribution of 16 or higher cases in locations at the time of research, within Fukushima was 10.4% of 710 valid responses, outside Fukushima was 14.0% of 178 valid responses. Compared to the FY2015 (in 10.9%, out 10.5%), proportions in Fukushima slightly decreased, while outside Fukushima showed a trend of increase.

3-3 Primary School

- Of 10,479 people in the Target Group, 2,209 (21.1%) valid responses were received.
- Regarding the health conditions, 98.9% of responses indicated no particular issues (‘very good’, ‘good’, ‘normal’), which was almost the same as the FY 2015 survey (98.7%).
- Regarding the exercise habits, 32.8% of respondents answered that they rarely exercise outside of physical education, showed an increase from that of FY 2015 (30.5%). Compared to the report from a national survey[3)] in FY 2013, 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, exercise habits are still insufficient.
- The average of sleep was 8 hours and 52 minutes, which was similar to that of FY 2015 survey (8 hours and 54 minutes), and was also almost the same as that in a national survey[2)] (boys: 9 hours and 00 minute, girls: 8 hours and 56 minutes).
- Regarding SDQ scores, of the 2,207 valid respondents, 12.6% scored 16 or higher and 4.6% scored 20 or higher. Compared to the FY 2015 survey (13.7% scoring 16 or higher, 5.7% scoring 20 or higher), both of the proportions of those scored 16 or higher and 20 or higher were on a decreasing trend.

  Tabulating the results by gender, for boys, of the 1,109 valid responses, 15.0% scored 16 or higher, and 6.4% scored 20 or higher. Compared to the FY 2015 survey (15.8% scoring 16 or higher, 7.0% scoring 20 or higher), both of the proportions of those scored 16 or higher and 20 or higher were on a decreasing trend. Among the 1,098 valid responses for girls, 10.3% scored 16 or higher, and 2.8% scored 20 or higher. Compared to the FY 2015 survey (11.4% scoring 16 or higher, 4.3% scoring 20 or higher), both of the proportions of those scored 16 or higher and 20 or higher were on a decreasing trend.

  As for the distribution of 16 or higher cases in locations at the time of research, within Fukushima was 12.0% of 1,681 valid responses, outside Fukushima was 14.8% of 526 valid responses. Compared to the FY2015 (in 12.5%, out 17.1%), both of the proportions in and out of Fukushima showed a trend of decrease.

3-4 Middle School

- Of 5,837 people in the Target Group, 1,002 (17.2%) valid responses received.
- Regarding the health conditions, 96.9% of responses indicated no particular issues (‘Very good’, ‘Good’, ‘Normal’), resulted in the same level as the FY 2015 (97.1%) survey.
- Regarding the exercise habits, 30.8% responded that they rarely exercise outside of physical education, showed a slight increase from the FY 2015 survey (29.3 %).
- Average of sleep was 7 hours and 6 minutes, which was almost the same as the FY 2015 survey (7 hours and 7 minutes).
- Regarding the SDQ scores, of the 915 valid respondents, 12.3% scored 16 or higher and 4.9% scored 20 or higher. Compared to the FY 2015 survey (11.6% scored 16 or higher and 4.5% scored 20 or higher), the proportion of 16 or higher slightly increased while that of 20 or higher remained at the same level.

  Tabulating the results by gender, for boys, of the 483 valid respondents, 13.7% scored 16 or higher, and 6.0% scored 20 or higher. Compared to the FY 2015 survey (11.6% scored 16 or higher and 4.6% scored 20 or higher), both proportions increased. Among the 432 valid responses for girls, 10.9% scored 16 or higher, and 3.7% scored 20 or higher. Compared to the FY 2015 survey (11.6% scoring 16 or higher, 4.5% scoring 20 or higher), both proportions slightly decreased.

  As for the distribution of 16 or higher cases in locations as at the time of research, within Fukushima was 11.0% of 724 valid responses, outside Fukushima was 17.3% of 191 valid responses. Compared to the FY2015 (in 10.9%, out 13.9%), the proportion in Fukushima remained the same while out of Fukushima showed an increase trend

General Summary of Children

- In regards to the exercise habits, the proportion of group that rarely exercises indicated an trend of increase.
- The average sleep was similar to the FY 2015 survey.
- The SDQ was used as an indicator to evaluate children’s mental health. The percentage of people scoring 16 or higher on the SDQ was still higher for all groups compared to the percentage (9.5%) in prior research on the general population in unaffected areas of Japan[4)]. However, when compared to the FY 2015 survey, the trends appeared to vary by items of research, gender and locations.

3-5 Adults (people born on or before April 1, 2001)

Mental Health

- Of 183,866 people in the Target Group, 37,465 (20.4%) valid responses received.
- Regarding the health conditions, 83.0% of responses indicated no particular issues ('Very good', 'Good', 'Normal'), consistent with levels as the FY 2015 survey (82.9%).
- Asked about their sleep, 60.7% of respondents were dissatisfied with their sleep, which is at the same level as the FY 2015 survey (60.5%).
- Regarding the exercise habits, 42.2% of respondents rarely exercised, showing a slight decrease from the FY 2015 survey (42.7%).
- The percentage of current smokers was 15.4%, which was slightly lower than the FY 2015 survey (16.8%). The percentage of current drinkers was 41.1%, which was at the same level as the FY 2015 survey (41.0%). However, the percentage of heavy drinkers (those who drink at least four drinks or more per day) was 8.2%, which was similar to the FY 2015 survey (7.8%). The proportion of heavy drinkers by gender, 17.1% for male, 9.2% for female, were at the same levels as FY 2015 survey (male:17.2%, female 9.0%).
- Regarding the K6, 6.8% scored 13 or higher in the FY 2016 survey, remained at the same level as the FY 2015 survey (7.1%). However this proportion in general region in Japan in normal time is reported to be 3.0%[5], indicating our results are still high. While 6.4% of males scored 13 or higher, 7.2% of females scored 13 or higher. The similar trend was observed in the FY 2015 survey. Separating the results by age groups, age groups of 20s had the highest proportion of those scored 13 or higher 8.8%, and age group of 60s had the lowest ratio of 4.9%. Compared to the FY 2015 survey, the proportion of 13 or higher increased in the 10s age group, while it decreased in the 70s or older age group. Proportions remained the same in other age groups.

  As for the distribution of 13 or higher cases in locations at the time of research, within Fukushima was 6.4% of 26,974 valid responses, outside Fukushima was 9.4% of 4,662 valid responses, indicating that the results are at the same levels as the FY2015 (in 6.6%, out 9.7%).
- PCL-4, which is used to detect the trauma response, showed that 9.9% was above 12 points. While the proportion for males was 9.0%, for females it was 10.7%. Among age groups, 70s was the highest at 15.5% while 10s was the lowest at 3.0%.

  As for the distribution of PCL-4 12 or higher cases in locations at the time of research, within Fukushima was 9.6% of 25,745 valid responses, outside Fukushima was 11.7% of 4,517.
- As for the recognition of radiation health effects, to the question about radiation health effects in later years such as cancers, 34.8% responded as "possibility is extremely low," 32.7% as "possibility is low," 18.5% as "possibility is high," and 14.0% as "possibility is extremely high". Compared to the FY 2015 survey (19.0% "possibility is high" and 13.8% "possibility is extremely high"), the proportion presuming a possibility high or extremely high showed a decreasing trend.
- To the question about the possibility of genetic effects to the future generations, 31.0% responded "very low", 32.9% "low", 20.9% "high", and 15.2% "very high". Compared to FY 2015 survey

(high: 22.0%, very high: 15.6%), the proportion of respondents who answered “high” or “very high” shows a declining trend.

- To the question if the respondent have connections to someone to counsel with in case of mental or physical problems, 89.1% responded “Yes” and 10.9% “No.” Among those who responded “Yes,” 28,327 referred to “family, relatives,” 15,590 “friends, acquaintances,” and 8,464 “medical facilities except for psychiatrists” as possible consultants. Compared to the FY2015 survey (73.8% responded “yes”), the proportion shows an increasing trend.

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Results of Mental Health and Lifestyle Survey for FY 2016
Reported on June 2018

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 about radiation, 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.

Based on the understanding gained from the results of the Mental Health and Lifestyle Survey for FY 2011-2015, we will continue watching for changes of mental health and lifestyle among residents, and offer care when necessary.

2. Methods

2-1 Target Groups

• Those who were registered as residents of municipalities designated as the evacuation zones from 11 March 2011 till 1 April 2012. Note that these people remain as the target group even after their departure from the designated evacuation zones.

• Those who were registered as residents of municipalities designated as the evacuation zones as of 1 April 2016.

• Those as deemed necessary based on Basic Survey results, even though above conditions are not met.

208,044（As of 31 October 2017）

〔Designated evacuation zones〕

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:	3,668 individuals born from 2 April 2013 to 1 April 2016
Ages 4-6 Survey:	4,194 individuals born from 2 April 2010 to 1 April 2013
Primary School Survey:	10,479 individuals born from 2 April 2004 to 1 April 2010
Middle School Survey:	5,837 individuals born from 2 April 2001 to 1 April 2004
Adults Survey:	183,866 individuals born before 1 April 2001

2-2 Survey Methods

Survey sheets (self-administered or completed by parents) were mailed to the participants.

2-3 Data Tabulation Period

Data tabulation period was from 2 February 2017 through 31 October 2017.

2-4 Numbers of Respondents and Valid Responses

The numbers of respondents (response rates) were as follows: 799 (21.8%) for the ages 0-3 survey; 889 (21.2%) for the ages 4-6 survey; 2,234(21.3%) for the primary school survey; 1,005 (17.2%) for the

middle school survey; and 37,569 (20.4%) for adults survey.

The numbers of valid responses (valid response rates) were as follows: 798 (21.8%) for the ages 0-3 survey; 889 (21.2%) for the ages 4-6 survey; 2,209 (21.1%) for the primary school survey; 1,002 (17.2%) for the middle school survey; and 37,465 (20.4%) for adults survey.

The results were tabulated by item for each question, as shown in the report. Due to some unreported items, the total may not match the aforementioned valid responses. Since the proportions in the report are rounded, there are instances where the total does not add up to 100%.

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

		FY 2016	FY 2015	FY 2014	FY 2013	FY 2012		FY 2011
Participants	0-3 years	3,668	3,697	3,842	4,164	4,625	Children 1	11,717
	4-6 years	4,194	4,803	5,103	5,169	5,047		
	Primary school age	10,479	10,655	10,861	11,167	11,413	Children 2	11,791
	Middle school age	5,837	5,987	6,066	6,013	6,023	Children 3	6,077
	(Subtotal)	(24,178)	(25,142)	(25,872)	(26,513)	(27,108)	(Subtotal	29,585)
	Adults	183,866	184,758	186,881	185,859	184,507	Adults	180,604
	Total	208,044	209,900	212,753	212,372	211,615	Total	210,189
Respondents (%)	0-3 years	799 (21.8)	944 (25.5)	1,077 (28.0)	1,635 (39.3)	2,143 (46.3)	Children 1	7,824 (66.8)
	4-6 years	889 (21.2)	1,348 (28.1)	1,478 (29.0)	2,033 (39.3)	2,231 (44.2)		
	Primary school age	2,234 (21.3)	2,767 (26.0)	2,887 (26.6)	4,005 (35.9)	4,703 (41.2)	Children 2	7,509 (63.7)
	Middle school age	1,005 (17.2)	1,387 (23.2)	1,376 (22.7)	1,822 (30.3)	2,126 (35.3)	Children 3	3,412 (56.1)
	(Subtotal)	(4,927 (20.4))	(6,446 (25.6))	(6,818 (26.4))	(9,495 (35.8))	(11,203 (41.3))	(Subtotal	18,745 (63.4))
	Adults	37,569 (20.4)	44,010 (23.8)	43,845 (23.5)	46,388 (25.0)	55,076 (29.9)	Adults	73,569 (40.7)
	Total	42,496 (20.4)	50,456 (24.0)	50,663 (23.8)	55,883 (26.3)	66,279 (31.3)	Total	92,314 (43.9)
Valid responses (%)	0-3 years	798 (21.8)	944 (25.5)	1,077 (28.0)	1,634 (39.2)	2,143 (46.3)	Children 1	7,818 (66.7)
	4-6 years	889 (21.2)	1,348 (28.1)	1,478 (29.0)	2,032 (39.3)	2,230 (44.2)		
	Primary school age	2,209 (21.1)	2,740 (25.7)	2,859 (26.3)	3,987 (35.7)	4,683 (41.0)	Children 2	7,464 (63.3)
	Middle school age	1,002 (17.2)	1,387 (23.2)	1,324 (21.8)	1,820 (30.3)	2,118 (35.2)	Children 3	3,411 (56.1)
	(Subtotal)	(4,898 (20.3))	(6,419 (25.5))	(6,738 (26.0))	(9,473 (35.7))	(11,174 (41.2))	(Subtotal	18,693 (63.2))
	Adults	37,465 (20.4)	43,970 (23.8)	43,811 (23.4)	46,377 (25.0)	55,064 (29.8)	Adults	73,433 (40.7)
	Total	42,363 (20.4)	50,389 (24.0)	50,549 (23.8)	55,850 (26.3)	66,238 (31.3)	Total	92,126 (43.8)

Results of the FY 2016 Mental Health and Lifestyle Survey (Age group 0-3)

Among 3,668 people (age group 0-3) in the Mental Health and Lifestyle Survey, the valid response count was 798 (21.8%), of 64 (8.0%) via online response. The breakdown was 404 (50.6%) boys and 394 (49.4%) girls and the average age was 1.9 years old.

As for the current address, 722 (90.5%) lived within Fukushima and 76 (9.5%) lived outside Fukushima.

1. Health Condition of the Children (Q1)

Breakdown of the health condition was the following: 315 (40.3%) for 'very good'; 338 (43.2%) for 'good'; 124 (15.9%) for 'normal'; 5 (0.6%) for 'bad'; and 0 (0.0%) for 'very bad'.

2. Current Height and Weight of the Children (Q2)

The average height/weight of boys was: 79.4 cm/10.3 kg for 1 year olds as of 1 April 2017; 87.8cm/12.9 kg for 2 year olds; and 95.8 cm/15.0 kg for 3 year olds. The average height/weight of girls was: 77.4 cm/9.8 kg for 1 year olds; 87.0 cm/12.2 kg for 2 year olds; and 94.5 cm/14.1 kg for 3 year olds.

3. Currently Treated Diseases (Q3)

For currently treated diseases, 573 (72.7%) answered 'no' while 215 (27.3%) answered 'yes.'

The breakdown of diseases for those who answered 'yes' is shown in Table 2 (multiple answers allowed).

4. Experience of Hospitalization in the Past Year (Q4)

For experience of hospitalization in the past year, 680 (85.6%) answered 'no' while 114 (14.4%) answered 'yes.'

The breakdown of diseases for those who answered 'yes' is shown in Table 3 (multiple answers allowed).

Table 2. Breakdown of currently treated diseases

Disease	Count
Common cold	75
Atopic dermatitis	47
Asthma	26
Otitis media	25
Asthma, atopic dermatitis, allergic conditions other than allergic rhinitis	17
Allergic rhinitis	15
Odontopathy	15
Influenza	8
Sinusitis/ empyema	3
ADHD	1
Epilepsy	0
Other	30

Multiple answers

Table 3. Breakdown of diseases during hospitalization in the past year

Disease	Count
Common cold	55
Respiratory syncytial virus infection	17
Pneumonia	15
Influenza	11
Gastroenteritis	11
Febrile convulsion	10
Bronchitis	8
Asthma	5
Mycoplasma pneumonia	3
Rotavirus infection	3
Inguinal hernia	3
Kawasaki disease	1
Other	25

Multiple answers

5. Sleep Hours and Naps (Q5)

1) The average going-to-bed time was 9:07 PM and the average waking time was 7:00AM. The average sleep hours were 9 hour and 53 minutes.
2) For naps (Does your child take naps?), those who answered ‘no’ were 81 (10.2%) and ‘yes’ were 714 (89.8%). The average nap time was 1 hour and 54 minutes.

6. Regular Amount of Exercise (Q6)

Regarding exercise (What is the child’s regular amount of exercise?) for two year olds and above at the time of the survey, those who answered ‘almost every day’ were 274 (54.5%); ‘2-4 times a week’ were 155 (30.8%); ‘once a week’ were 57 (11.3%); and ‘barely exercise’ were 17 (3.4%).

7. Dietary Habits (Q7)

1) For breast milk (Does your child drink breast milk?), those who answered ‘yes’ were 120 (15.1%) and ‘no’ were 674 (84.9%).
2) See Table 4 for the dietary habits in the past month (among those who were one year old and above at the time of the survey).

Table 4. Dietary habits in the past month

	Yes	No	Valid responses
1. Does your child consume fish more than three days a week?	404 (53.1%)	357 (46.9%)	761
2. Does your child consume vegetables other than pickles, seaweed, or mushrooms with almost every meal?	541 (71.1%)	220 (28.9%)	761
3. Does your child consume fruit almost every day?	472 (62.2%)	287 (37.8%)	759
4. Does your child consume soy products almost every day?	531 (69.8%)	230 (30.2%)	761
5. Does your child consume dairy almost every day?	623 (81.9%)	138 (18.1%)	761

8. Child Rearing (Q8)

For child rearing (Do you ever lose confidence in child rearing?), those who answered ‘yes’ were 87 (10.9%), ‘no’ were 368 (46.2%), and ‘cannot say’ were 341 (42.8%).

Results of the FY 2016 Mental Health and Lifestyle Survey (Age group 4-6)

Among the 4,194 people for the survey (age group 4-6), there were 889 (21.2%) valid responses, of 56 (6.3%) via online response. The breakdown was 432 (48.6%) boys and 457 (51.4%) girls with an average age of 5.1 years old.

As for the current address, 710 (79.9%) lived within Fukushima and 179 (20.1%) lived outside Fukushima.

1. Health Condition of the Children (Q1)

Breakdown of the health condition was the following: 288 (34.0%) for ‘very good’; 322 (38.0%) for ‘good’; 234 (27.6%) for ‘normal’; 4 (0.5%) for ‘bad’; and 0 (0.0%) for ‘very bad.’

2. Current Height and Weight of the Children (Q2)

The average height/weight of boys was the following: 102.3 cm/16.4 kg for 4 year olds as of 1 April 2017, 109.4 cm/18.9 kg for 5 year olds and 116.1 cm/21.8 kg for 6 year olds. The average height/weight for girls was the following: 103.0 cm/16.9 kg for 4 year olds, 108.5 cm/18.3 kg for 5 year olds, and 114.7 cm/20.6 kg for 6 year olds.

3. Currently Treated Diseases (Q3)

For currently treated diseases, 548 (62.1%) answered ‘no’ and 334 (37.9%) answered ‘yes’.

The breakdown of diseases for individuals who answered ‘yes’ is shown in Table 5 (multiple answers allowed).

4. Experience of Hospitalization in the Past Year (Q4)

For experience of hospitalization in the past year, 789 (89.4%) answered ‘no’ and 94 (10.6%) answered ‘yes’.

The breakdown of diseases for those who answered ‘yes’ is shown in Table 6 (multiple answers allowed).

Table 5. Breakdown of currently treated diseases

Disease	Count
Allergic rhinitis	80
Asthma	69
Atopic dermatitis	59
Common cold	57
Odontopathy	51
Otitis media	31
Asthma, atopic dermatitis, allergic conditions other than allergic rhinitis	21
Sinusitis/ empyema	19
Influenza	15
ADHD	11
Epilepsy	1
Other	44

Multiple answers

Table 6. Breakdown of diseases during hospitalization in the past year

Disease	Count
Common cold	48
Gastroenteritis	19
Asthma	11
Influenza	11
Pneumonia	8
Bronchitis	6
Febrile convulsion	5
Mycoplasma pneumonia	4
Inguinal hernia	4
Respiratory syncytial virus infection	3
Rotavirus infection	0
Kawasaki disease	0
Other	22

Multiple answers

5. Sleep Hours and Naps (Q5)

1) The average going-to-bed time was 9:11 PM and the average waking time was 6:49 AM. The average sleep hours were 9 hours and 37 minutes.
2) For naps (Does your child take naps?), those who answered 'no' were 561 (63.4%), and 'yes' were 324 (36.6%). The average nap time was 1 hour and 33 minutes.

6. Regular Amount of Exercise (Q6)

For exercise (What is your regular amount of exercise?), those who answered 'almost every day' were 512 (57.7%), '2-4 times a week' were 263 (29.7%), 'once a week' were 81 (9.1%), and 'barely exercise' were 31 (3.5%).

7. Dietary Habits (Q7)

See Table 7 for the dietary habits in the past month.

Table 7. Dietary habits in the past month

	Faster	Normal/ Slower	Valid responses
1. Does your child eat faster than others?	79 (8.9%)	809 (91.1%)	888
	Yes	No	Valid Responses
2. Does your child drink sugary beverages almost every day?	262 (29.5%)	627 (70.5%)	889
3. Does your child consume fish more than three days a week?	427 (48.0%)	462 (52.0%)	889
4. Does your child consume vegetables other than pickles, seaweed, or mushrooms with almost every meal?	603 (67.8%)	286 (32.2%)	889
5. Does your child consume fruit almost every day?	483 (54.4%)	405 (45.6%)	888
6. Does your child consume soy products almost every day?	500 (56.3%)	388 (43.7%)	888
7. Does your child consume dairy almost every day?	737 (82.9%)	152 (17.1%)	889
8. Does your child consume prepared foods almost every day?	102 (11.5%)	787 (88.5%)	889
9. Does your child eat out almost every day?	8 (0.9%)	881 (99.1%)	889

8. Child's Emotions and Behavior (Q8)

1) For child's emotions and behavior (SDQ Japanese version), among the 888 valid responses, 99 (11.1%) were 16 points and above[1)], and 35 (3.9%) were 20 points and above[2)] (Fig. 1). The average total points were 9.1 points.

   For boys, among the 432 valid responses, 56 (13.0%) were 16 points and above; 20 (4.6%) were 20 points and above. For girls, among the 456 valid responses, 43 (9.4%) were 16 points and above; and 15 (3.3%) were 20 points and above (Fig. 2). The average total score for boys was 9.7 points while the total score for girls was 8.5.
2) Regarding whether children have any issues in one or more areas (emotions, focus, behavior or

interaction with others), those that answered ‘no’ were 678 (76.4%), ‘yes (minor issues)’ were 174 (19.6%), ‘yes (clear issues)’ were 29 (3.3%), and ‘yes (serious issues)’ were 6 (0.7%).

3) Among those who answered ‘yes’ to the above question, regarding whether or not their child is upset or concerned due to the issue, those who answered ‘not at all’ were 103 (50%); ‘only a little’ were 91 (44.2%); ‘very’ were 10 (4.9%); and ‘greatly’ were 2 (1.0%).

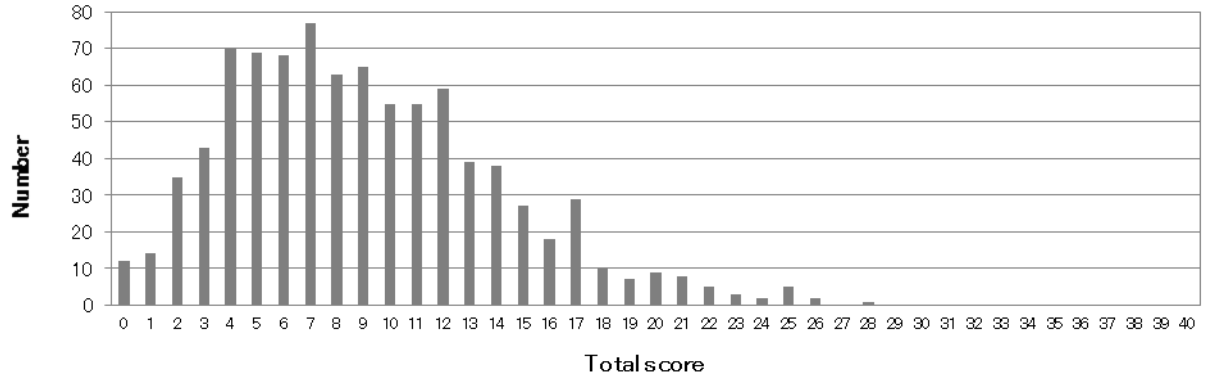


Fig. 1 Children’s emotions and behavior for age group 4-6 (SDQ)：Overall

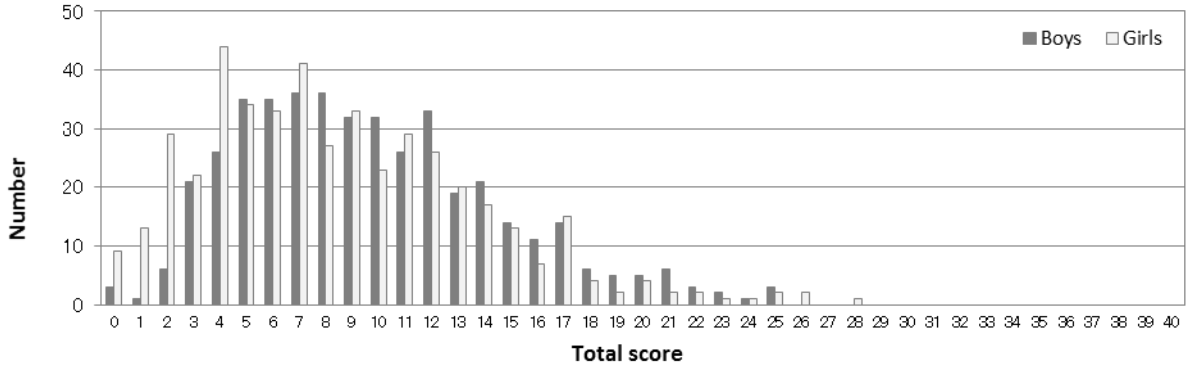


Fig. 2 Children’s emotions and behavior for age group 4-6 (SDQ) by sex

1) 16 points : A standard value indicated by previous research
2) 20 points : A standard established by Fukushima Medical University physicians to provide support

9. Nursery School and Kindergarten (Q9)

To the question “Do your children ever not want to go to nursery school or kindergarten?” 136 (15.3%) answered ‘yes,’ 719 (81.2%) answered ‘no,’ and 31 (3.5%) answered ‘the child was not attending nursery school or kindergarten at the moment.’

Results of the FY 2016 Mental Health and Lifestyle Survey (Primary school age)

Among 10,479 people of the Mental Health and Lifestyle Survey (for primary school students), 2,209 (21.1%) provided valid responses, of 147 (6.7%) via online response. . The breakdown was 1,110 (50.2%) boys and 1,099 (49.8%) girls with an average age of 9.3 years old.

As for the current address, 1,682 (76.1%) lived within Fukushima and 527 (23.9%) lived outside Fukushima.

1. Health Condition of The Children (Q1)

Breakdown of the health state was the following: 546 (26.8%) for ‘very good’; 854 (41.9%) for ‘good’; 615 (30.2%) for ‘normal’; 22 (1.1%) for ‘bad’; and 0 (0.0%) for ‘very bad’.

2. Current Height and Weight of the Children (Q2)

The average height/weight of boys was the following: 121.7 cm/24.1 kg for 1st graders; 127.3 cm/27.7 kg for 2nd graders; 134.3 cm/32.1 kg for 3rd graders; 138.8 cm/34.1 kg for 4th graders; 144.8 cm/38.5 kg for 5th graders; and 151.6 cm/43.8 kg for 6th graders. The average height/weight of girls was the following: 120.8 cm/23.4 kg for 1st graders; 125.8 cm/25.9 kg for 2nd graders; 132.2 cm/29.9 kg for 3rd graders; 139.2 cm/34.0 kg for 4th graders; 145.5 cm/39.0 kg for 5th graders; and 149.9 cm/41.8 kg for 6th graders.

3. Currently Treated Diseases (Q3)

For currently treated diseases, 1,389 (63.3%) answered ‘no’ and 806 (36.7%) answered ‘yes.’

The breakdown of diseases for those who answered ‘yes’ is shown in Table 8 (multiple answers allowed).

4. Experience of Hospitalization in the Past Year (Q4)

For experience of hospitalization in the past year, 2,046 (92.8%) answered ‘no’ and 159 (7.2%) answered ‘yes.’

The breakdown of diseases for those who answered ‘yes’ is shown in Table 9 (multiple answers allowed).

Table 8. Breakdown of currently treated diseases

Disease	Count
Allergic rhinitis	318
Odontopathy	193
Atopic dermatitis	128
Asthma	87
Common cold	66
Asthma, atopic dermatitis, allergic conditions other than allergic rhinitis	62
Sinusitis/ empyema	46
ADHD	39
Influenza	34
Otitis media	33
Epilepsy	13
Other	125

Multiple answers

Table 9. Breakdown of diseases during hospitalization in the past year

Disease	Count
Common cold	86
Influenza	47
Gastroenteritis	22
Asthma	16
Mycoplasma pneumonia	12
Bronchitis	9
Pneumonia	5
Rotavirus infection	2
Febrile convulsion	2
Inguinal hernia	2
Respiratory syncytial virus infection	1
Kawasaki disease	0
Other	27

Multiple answers

5. Sleep (Q5)

The average going-to-bed time was 9:32 PM and the average waking time was 6:24 AM. The average sleep hours were 8 hours and 52 minutes.

6. Regular Amount of Exercise (Q6)

For exercise (What is the child's regular amount of exercise?), those who answered 'almost every day' were 187 (8.5%); '2-4 times a week' were 690 (31.3%); 'once a week' were 603 (27.4%); and 'barely exercise' were 724 (32.8%).

7. Dietary Habits (Q7)

The dietary habits in the past month are shown in Table 10.

Table 10. Dietary habits in the past month

	Faster	Normal/ Slower	Valid responses
1. Does your child eat faster than others?	291 (13.2%)	1,913 (86.8%)	2,204
	Yes	No	Valid Responses
2. Does your child skip breakfast often?	144 (6.5%)	2,065 (93.5%)	2,209
3. Does your child drink sugary beverages almost every day?	565 (25.6%)	1,644 (74.4%)	2,209
4. Does your child consume fish more than three days a week?	1,083 (49.0%)	1,126 (51.0%)	2,209
5. Does your child consume vegetables other than pickles, seaweed, or mushrooms with almost every meal?	1,474 (66.8%)	734 (33.2%)	2,208
6. Does your child consume fruit almost every day?	847 (38.4%)	1,360 (61.6%)	2,207
7. Does your child consume soy products almost every day?	1,243 (56.3%)	965 (43.7%)	2,208
8. Does your child consume dairy almost every day?	1,906 (86.3%)	302 (13.7%)	2,208
9. Does your child consume prepared foods almost every day?	168 (7.6%)	2,039 (92.4%)	2,207
10. Does your child eat out almost every day?	12 (0.5%)	2,197 (99.5%)	2,209

8. Child's Emotions and Behavior (Q8)

1) For child's emotions and behavior (SDQ Japanese version), among the 2,207 valid responses, 279 (12.6%) were 16 points and above[1)], and 102 (4.6%) were 20 points and above[2)] (Fig. 3). The average total point was 8.7.

   For boys, among the 1,109 valid responses, 166 (15.0%) were 16 points and above, and 71 (6.4%) were 20 points and above. For girls, among the 1,098 valid responses, 113 (10.3%) were 16 points and above and 31 (2.8%) were 20 points and above (Fig. 4). The average total score for boys was 9.2 points while the total score for girls was 8.1 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 1,608 (73.2%); 'yes (minor issues)' were 472 (21.5%); 'yes (clear issues)' were 95 (4.3%); and 'yes (serious issues)' were 23 (1.0%).

3) Among those who answered 'yes' for the above questions, regarding whether or not the child is upset or concerned due to the issue: those who answered 'not at all' were 179 (31.1%); 'only a little' were 356 (61.9%);'very' were 34 (5.9%); and 'greatly' were 6 (1.0%).

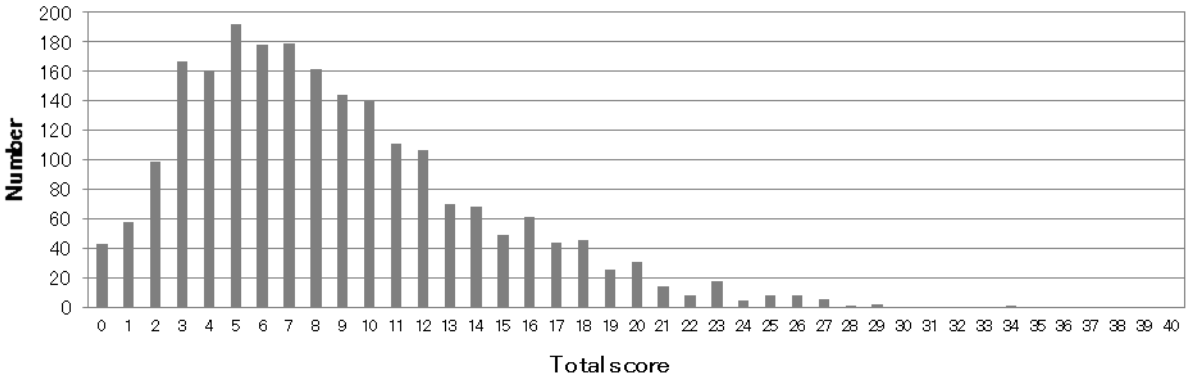


Fig. 3 Children's emotions and behavior among primary school students (SDQ): Overall

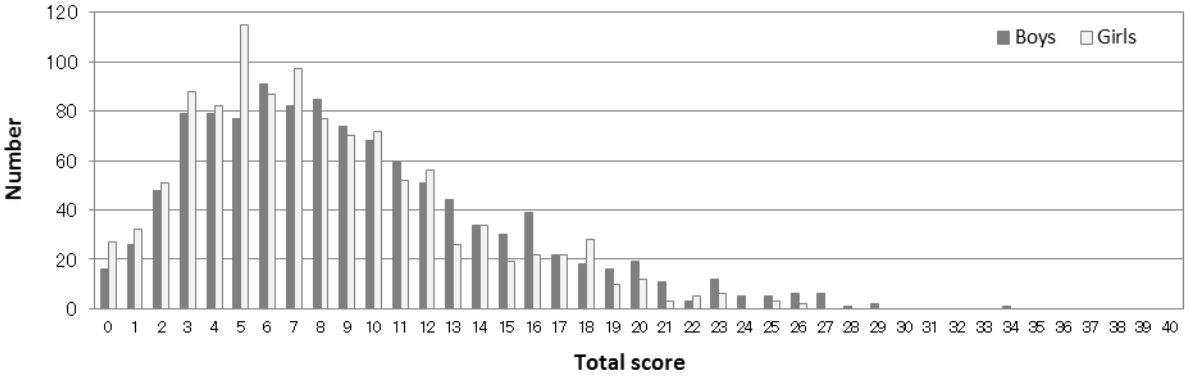


Fig. 4 Children's emotions and behavior among primary school students (SDQ) by sex

1) A standard value indicated by previous research
2) A standard established by Fukushima Medical University physicians to provide support.

9. School (Q9)

To the question "Do your children ever not want to go to school?" 222 (10.2%) answered 'yes' and 1,959 (89.8%) answered 'no.'

Results of the FY 2016 Mental Health and Lifestyle Survey (Middle school age)

Among the 5,837 people for the survey (for middle school students), there were 1,002 (17.2%) valid responses, of 80 (8.0%) via online response. . The breakdown was 526 (52.5%) boys and 476 (47.5%) girls with an average age of 13.9 years old.

As for the current address, 785 (78.3%) lived within Fukushima and 217 (21.7%) lived outside Fukushima.

1. Health Condition of the Child (Q1)

Breakdown of the health condition was the following: 192 (29.7%) for ‘very good’; 206 (31.9%) for ‘good’; 228 (35.3%) for ‘normal’; 19 (2.9%) for ‘bad’; and 1 (0.2%) for ‘very bad’.

2. Current Height and Weight of the Child (Q2)

The average height/weight of boys was the following: 158.8 cm/48.8 kg for 7th graders; 164.5 cm/54.0 kg for 8th graders; and 167.9 cm/58.3 kg for 9th graders. The average height/weight for girls were the following: 154.6 cm/46.9 kg for 7th graders; 156.3 cm/49.8 kg for 8th graders; and 156.5 cm/52.0 kg for 9th graders.

3. Sleep (Q3)

1) The average sleeping hours were 7 hours and 6 minutes.
2) For sleep satisfaction, 310 (47.8%) answered ‘sufficient’, 275 (42.4%) answered ‘slightly insufficient’, and 64 (9.9%) answered ‘insufficient’.

4. Regular Amount of Exercise (Q4)

For exercise (What is your regular amount of exercise aside from physical education classes?), those who answered ‘almost every day’ were 292 (44.8%), ‘2-4 times a week’ were 110 (16.9%), ‘once a week’ were 49 (7.5%), and ‘barely exercise’ were 201 (30.8%).

5. Dietary Habits (Q5)

The dietary habits in the past month are as shown in Table 11 (next page).

Table 11. Dietary habits in the past month

	Faster	Normal/ Slower	Valid responses
1. Do you eat faster than others?	152 (23.3%)	499 (76.7%)	651
	Yes	No	Valid responses
2. Do you skip breakfast often?	86 (13.2%)	564 (86.8%)	650
3. Do you go to sleep within 1-2 hours after dinner?	62 (9.5%)	589 (90.5%)	651
4. Do you drink sugary beverages almost every day?	210 (32.2%)	442 (67.8%)	652
5. Do you consume fish more than three days a week?	286 (43.9%)	366 (56.1%)	652
6. Do you consume vegetables other than pickles, seaweed, or mushrooms with almost every meal?	455 (69.8%)	197 (30.2%)	652
7. Do you consume fruit almost every day?	201 (30.9%)	450 (69.1%)	651
8. Do you consume soy products almost every day?	349 (53.6%)	302 (46.4%)	651
9. Do you consume dairy almost every day?	539 (82.8%)	112 (17.2%)	651
10. Do you consume prepared foods almost every day?	93 (14.3%)	557 (85.7%)	650
11. Do you eat out almost every day?	3 (0.5%)	647 (99.5%)	650

6. Currently Treated Diseases (Q6)

For currently treated diseases, 616 (67.4%) answered ‘no’ while 298 (32.6%) answered ‘yes.’

The breakdown of diseases for individuals who answered ‘yes’ is shown in Table 12 (multiple answers allowed).

7. Experience of Hospitalization in the Past Year (Q7)

For experience of hospitalization in the past year, 885 (97.0%) answered ‘no’ and 27 (3.0%) answered ‘yes.’

The breakdown of those who answered ‘yes’ is shown in Table 13 (multiple answers allowed).

Table 12. Breakdown of currently treated diseases

Disease	Count
Allergic rhinitis	125
Odontopathy	71
Atopic dermatitis	43
Asthma	24
Asthma, atopic dermatitis, allergic conditions other than allergic rhinitis	23
ADHD	14
Sinusitis/ empyema	11
Common cold	8
Influenza	7
Epilepsy	6
Otitis media	1
Other	67

Multiple answers

Table 13. Breakdown of diseases during hospitalization in the past year

Disease	Count
Common cold	14
Influenza	11
Gastroenteritis	3
Pneumonia	1
Bronchitis	1
Asthma	0
Mycoplasma pneumonia	0
Respiratory syncytial virus infection	0
Rotavirus infection	0
Febrile convulsion	0
Kawasaki disease	0
Inguinal hernia	0
Other	7

Multiple answers

8. Child's Emotions and Behavior (Q8)

1) For child's emotions and behavior (SDQ Japanese version), among the 915 valid responses, 113 (12.3%) were 16 points and above[1)] and 45 (4.9 %) were 20 points and above[2)] (Fig. 5). The average total point was 8.2.

   For boys, among the 483 valid responses, 66 (13.7%) were 16 points and above and 29 (6.0%) were 20 points and above. For girls, among the 432 valid responses, 47 (10.9%) were 16 points and above and 16 (3.7%) were 20 points and above (Fig. 6). The average total score for boys was 8.5 points and the total score for girls was 7.9.

2) Regarding whether children have any issues in one or more areas (emotions, focus, behavior or interaction with others), those who answered 'no' were 634 (69.7%),'yes (minor issues)' were 191 (21.0%), 'yes (clear issues)' were 60 (6.6%), and 'yes (serious issues)' were 24 (2.6%).

3) Among those that answered 'yes' for the above question, regarding whether or not the child is confused or concerned due to the issue, those who answered 'not at all' were 47 (17.6%), 'only a little' were 164 (61.4%), 'very' were 37 (13.9%), and 'greatly' were 19 (7.1%).

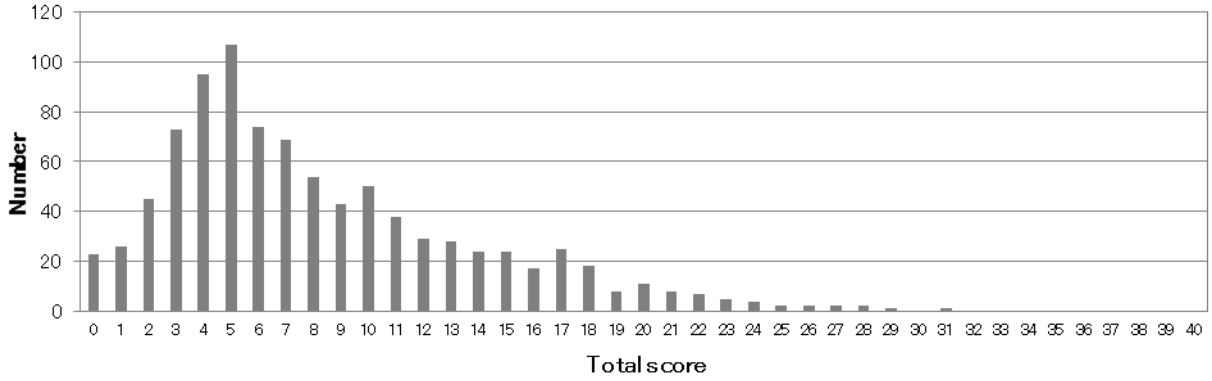


Fig. 5 Children' s emotions and behavior for middle school students (SDQ) : Overall

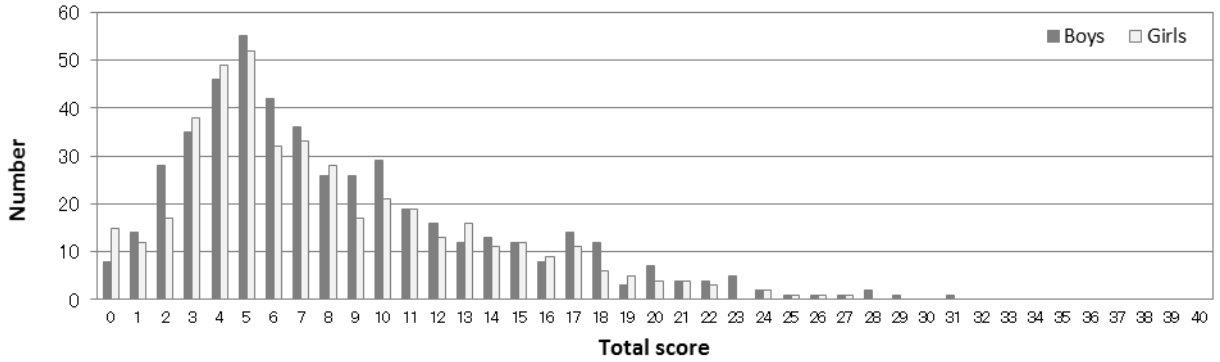


Fig. 6 Children's emotions and behavior for middle school students (SDQ) by sex

1) A standard value indicated by previous research
2) A standard established by Fukushima Medical University physicians to provide support.

9. School (Q9)

To the question "Do your children ever not want to go to school?" 126 (14.1%) answered 'yes' and 769 (85.9%) answered 'no.'

Results of the FY 2016 Mental Health and Lifestyle Survey (Adults)

Among the 183,866 adults for the Mental Health and Lifestyle Survey, there were 37,465 (20.4%) valid responses, of 1,566 (4.2%) via online response. The breakdown was 16,986 (45.3%) males and 20,479 (54.7%) females with an average age of 61.9 years old.

As for the current address, 32,062 (85.6%) lived within Fukushima and 5,403 (14.4%) lived outside Fukushima.

1. Health condition (Q1)

Breakdown of the health condition was the following: 1,346 (4.2%) for 'very good'; 5,385 (16.7%) for 'good'; 19,960 (62.0%) for 'normal'; 4,979 (15.5%) for 'bad'; and 505 (1.6%) for 'very bad'.

2. Height and Weight (Q2)

1) The average height/weight of males was 165.8 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 580 (3.6%); 18.5 kg/m^2 and above and less than 25.0 kg/m^2 were 9,835 (60.3%); 25.0 kg/m^2 and above and less than 27.5 kg/m^2 were 3,506 (21.5%); 27.5 kg/m^2 and above and less than 30.0 kg/m^2 were 1,494 (9.2%); and 30.0 kg/m^2 and above were 901 (5.5%).

   The average height/weight of females was 153.1 cm/54.2 kg and the average BMI was 23.2 kg/m^2. For females, those with a BMI less than 18.5 kg/m^2 were 1,464 (7.6%); 18.5 kg/m^2 and above and less than 25.0 kg/m^2 were 12,529 (65.2%); 25.0 kg/m^2 and above and less than 27.5 kg/m^2 were 2,893 (15.0%); 27.5 kg/m^2 and above and less than 30.0 kg/m^2 were 1,324 (6.9%); and 30.0 kg/m^2 and above were 1,016 (5.3%).

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 4,363 (12.3%); 'it did not change (±3 kg)' were 28,034 (79.4%); and 'it decreased by 3 kg or more' were 2,931 (8.3%).

   For body weight change for males, those who answered 'it increased by 3 kg or more' were 1,833 (11.4%); 'it did not change (±3 kg)' were 12,885 (80.0%); and 'it decreased by 3 kg or more' were 1,387 (8.6%).

   For body weight change for females, those who answered 'it increased by 3 kg or more' were 2,530 (13.2%); 'it didn't change (±3 kg)' were 15,149 (78.8%); and 'it decreased by 3 kg or more' were 1,544 (8.0%).

3. Medical History in the Past Year (Q3)

Medical history in the past year (Have you been diagnosed with some of the following diseases in the past year?) is shown in Table 14.

Table 14. 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	Valid responses	Diagnosed or not		Currently attending hospital as outpatient[1)]	
		No	Yes	Yes	No
Hypertension (Or high blood pressure)	36,440	20,332 (55.8%)	16,108 (44.2%)	14,522 (92.1%)	1,251 (7.9%)
Diabetes (Or high blood sugar)	35,734	30,197 (84.5%)	5,537 (15.5%)	4,810 (89.7%)	551 (10.3%)
Dyslipidemia	35,726	22,496 (63.0%)	13,230 (37.0%)	9,049 (70.9%)	3,711 (29.1%)
Mental disorder	35,931	32,292 (89.9%)	3,639 (10.1%)	2,714 (77.2%)	801[2)] (22.8%)
Cancer (Including leukemia and lymphoma)	36,137	33,674 (93.2%)	2,463 (6.8%)		
Stroke	36,288	34,507 (95.1%)	1,781 (4.9%)		
(Types of stroke) Multiple answers Cerebral infarction Cerebral hemorrhage Subarachnoid hemorrhage Other I don't know			 1,239 218 188 13 155		
Heart disease	36,365	31,590 (86.9%)	4,775 (13.1%)		
(Types of heart disease) Multiple answers Myocardial infarction Angina Arrhythmia Other I don't know			 558 1,285 2,474 725 319		
Pneumonia (Within the last 10 years)	36,516	35,269 (96.6%)	1,247 (3.4%)		
Bone fracture after age 50 (Tabulated responses from age 50 or older at the time of survey)	27,645	24,337 (88.0%)	3,308 (12.0%)		
Thyroid disease	36,308	34,896 (96.1%)	1,412 (3.9%)		
(Types of thyroid disease) Multiple answers Hyperthyroidism (Basedow disease) Hypothyroidism Other			 324 516 530		

1) Proportion of the valid responses

2) Among these, 419 individuals answered that they were not currently attending hospital as outpatient since they have recovered.

4. Sleep (Q4)

1) The average sleep hours were 7 hours and 2 minutes.
2) As for sleep satisfaction, those who answered ‘sufficient’ were 12,703 (39.3%); ‘slightly insufficient’ were 14,901 (46.1%); ‘very insufficient’ were 3,871 (12.0%); and ‘greatly insufficient or couldn’t go to sleep” were 844 (2.6%).
3) Experiences related to sleep (Have you experienced the following conditions at least three times a week?) are shown in Table 15.

Table 15. Experiences related to sleep among adults

	Yes	No	Valid responses
1. It takes time to fall sleep at night after going to bed.	12,806 (40.1%)	19,121 (59.9%)	31,927
2. I wake up during the night in the middle of sleep	20,671 (64.5%)	11,392 (35.5%)	32,063
3. I wake up before the time I set and can’t go back to sleep.	12,545 (39.9%)	18,895 (60.1%)	31,440
4. Total hour of sleep is not enough.	11,167 (36.1%)	19,783 (63.9%)	30,950
5. I feel depressed during the day.	7,653 (24.9%)	23,093 (75.1%)	30,746
6. My physical and mental activity levels during the day are low.	8,891 (28.7%)	22,142 (71.3%)	31,033
7. I feel sleepy during the day.	15,284 (48.6%)	16,182 (51.4%)	31,466

5. Exercise (Q5)

Those who answered they exercised ‘almost every day’ were 5,818 (15.9%), ‘2-4 times per week’ were 9,112 (24.9%), ‘once a week’ were 6,240 (17.0%), and ‘almost never’ were 15,484 (42.2%).

6. Smoking (Q6)

As for smoking (Do you smoke tobacco or cigarettes except for cigars and pipes?), those who answered ‘have never smoked’ were 20,197 (57.6%); ‘I quit’ were 9,447 (27.0%); and ‘yes’ were 5,399 (15.4%).

Among those who responded ‘yes’, the average smoking history was 31.6 years, the average number of cigarettes was 16.1 per day.

7. Alcohol consumption (Q7)

1) For alcohol consumption (Do you currently drink alcohol?), those who answered ‘no, or barely drink (less than once a month)’ were 19,085 (54.2%); ‘I quit’ were 1,675 (4.8%); and ‘yes (at least once a month)’ were 14,458 (41.1%).
2) Among those who answered ‘yes (at least once per month)’, those who answered ‘one day a week’ were 2,004 (14.4%); ‘two days a week’ were 1,462 (10.5%); ‘three days a week’ were 1,362 (9.8%); ‘four days a week’ were 816 (5.9%); ‘five days a week’ were 1,442 (10.4%); ‘six days a week’ were 1,749 (12.6%); and ‘seven days a week’ were 5,037 (36.3%).

3) The average alcohol consumption per day was around 2.2 drinks per day. Among the 35,218 valid responses for alcohol consumption (Q7-1), 2,874 (8.2%) consumed excessively (4 drinks and above).

4) For experience related to alcohol consumption (Answer the following questions about the past 30 days. CAGE screens for alcoholism.), the responses of each item are shown in Table 16. 'Yes' was 1 point and the total points of the four items were calculated.

The results by age group are shown in Table 17. Overall, those with 0 points were 8,171 (62.9%); 1 point was 2,924 (22.5%); 2 points were 1,152 (8.9%); 3 points were 546 (4.2%); and 4 points were 192 (1.5%).

For males, those with 0 points were 5,058 (57.1%); 1 point were 2,288 (25.8%); 2 points were 910 (10.3%); 3 points were 442 (5.0%); and 4 points were 159 (1.8%). For females, 0 points were 3,113 (75.4%); 1 point were 636 (15.4%); 2 points were 242 (5.9%); 3 points were 104 (2.5%); and 4 points were 33 (0.8%).

Table 16. Experience related to alcohol consumption (Upper row is the number of individuals/lower row is percentage)

		No	Yes	Valid responses
1	Have you ever felt you should cut down on your drinking?	9,172 (69.6%)	4,004 (30.4%)	13,176
2	Have people annoyed you by criticizing your drinking?	11,848 (90.8%)	1,194 (9.2%)	13,042
3	Have you ever felt bad or guilty about your drinking?	11,434 (87.6%)	1,621 (12.4%)	13,055
4	Have you ever had a drink first thing in the morning to steady your nerves or to get rid of a hangover (eye-opener)?	12,093 (92.5%)	975 (7.5%)	13,068

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

Table 17. Experience related to alcohol consumption by age group

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

	0 points	1 point	2 points	3 points	4 points	Valid responses
20s	468 (77.0%)	89 (14.6%)	30 (4.9%)	16 (2.6%)	5 (0.8%)	608
30s	680 (67.9%)	189 (18.9%)	83 (8.3%)	37 (3.7%)	12 (1.2%)	1,001
40s	916 (62.3%)	319 (21.7%)	143 (9.7%)	67 (4.6%)	26 (1.8%)	1,471
50s	1,184 (58.8%)	521 (25.9%)	186 (9.2%)	88 (4.4%)	36 (1.8%)	2,015
60s	2,561 (61.3%)	982 (23.5%)	389 (9.3%)	184 (4.4%)	63 (1.5%)	4,179
70s and above	2,362 (63.6%)	824 (22.2%)	321 (8.6%)	154 (4.1%)	50 (1.3%)	3,711
Overall	8,171 (62.9%)	2,924 (22.5%)	1,152 (8.9%)	546 (4.2%)	192 (1.5%)	12,985

8. Appetite (Q8)

When asked about their appetite (How often have you lost appetite in the last two weeks?), 27,878 (77.7%) answered zero, 6,262 (17.5%) answered a few days, 990 (2.8%) answered more than a week, and 735 (2.0%) answered almost every day.

9. Dietary Habits (Q9)

The dietary habits in the past month are as shown in Table 18.

Table 18. Dietary habits in the past month

	Faster	Normal/ Slower	Valid responses
1. Do you eat faster than others?	10,097 (27.3%)	26,828 (72.7%)	36,925
	Yes	No	Valid responses
2. Do you skip breakfast often?	5,561 (15.1%)	31,280 (84.9%)	36,841
3. Do you eat snacks during daytime or late at night almost every day?	10,170 (27.7%)	26,499 (72.3%)	36,669
4. Do you consume dinner within 2 hours before going-to-bed more than three times a week?	7,669 (20.9%)	28,949 (79.1%)	36,618
5. Do you consume prepared foods almost every day?	8,874 (24.1%)	27,916 (75.9%)	36,790

10. Overall mental health (Q10)

1) For overall mental health (K6), among the 31,636 valid responses, the number of those with 13 points※3 and above[1] was 2,160 (6.8%) (Fig. 7). The average points were 4.4 points.

For males, among the 14,448 valid responses, the number of those with 13 points and above was 928 (6.4%). For females, among the 17,188 valid responses, 13 points and above were 1,232 (7.2%) (Fig. 8). The average points for males and females were 4.1 and 4.6 points respectively.

Table 19 (next page) shows the data by age group.

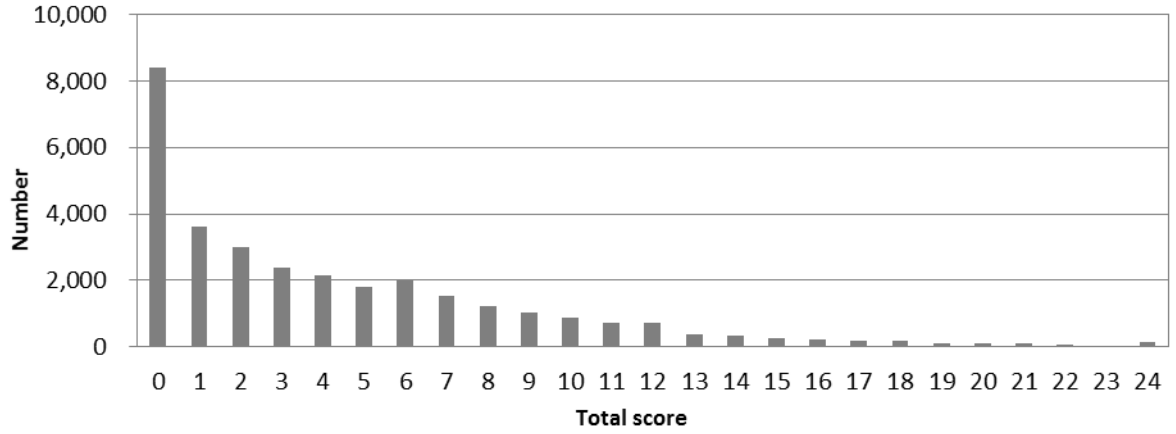


Fig. 7 The general mental health state (K6) : Overall

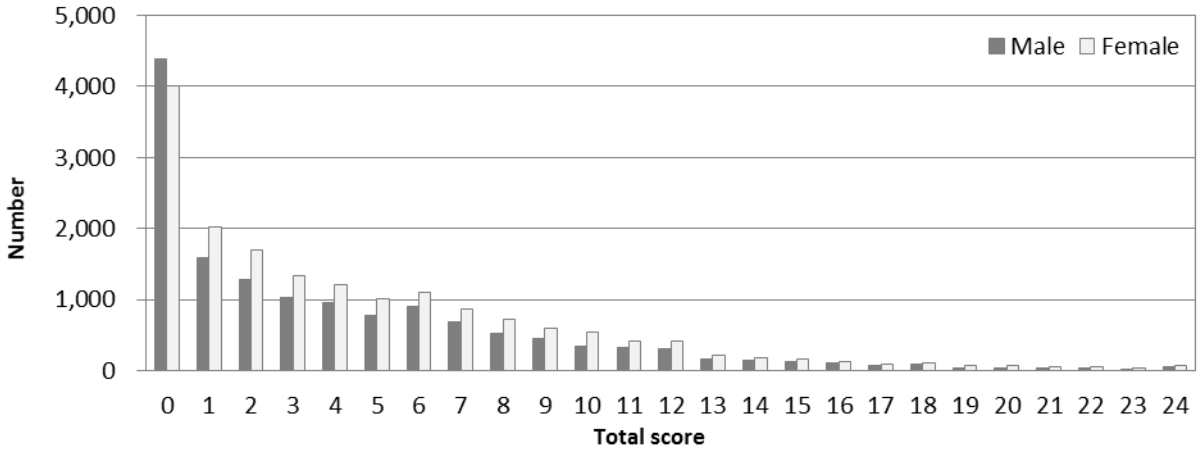


Fig. 8 The general mental health state (K6) by gender

Table 19. General mental health state (K6) by age group

	13 points and above	Valid responses
10s	47 (8.2%)	571
20s	133 (8.8%)	1,509
30s	222 (8.4%)	2,633
40s	259 (8.3%)	3,126
50s	330 (8.3%)	3,983
60s	437 (4.9%)	8,888
70 and above	732 (6.7%)	10,926

※3 13 points :A standard value indicated by previous research

2) To the question if they had problems in daily lives because of such experiences/difficulties, 21,270 (65.4%) responded “Not at all”, 7,133 (21.9%) “A little”, 2,790 (8.6%) “Sometimes” 670 (2.1%) “Most of the times”, and 638 (2.0%) “Always”.

11. Experience of Great East Japan Earthquake and Trauma Reactions (Q11)

1) About experiences related to the Great East Japan Earthquake (multiple answers), 32,115 referred to "earthquake," 6,429 to "Tsunami," 30,831 to "Nuclear Power Plant accident," and 608 to "none."

2) PTSD Checklist (PCL-4) received 30,262 valid answers, of which 3,001 (9.9%) scored more than 12 points※4 (Figure 9). The average score was 6.8.

For males, of 13,831 valid responses, 1,246 (9.0%) scored more than 12 points, and for females, of 16,431 valid answers, 1,755 (10.7%) scored more than 12 points. The average of males was 6.7, while that of females was 6.9.

Classification by age groups is as Table 20. (next page)

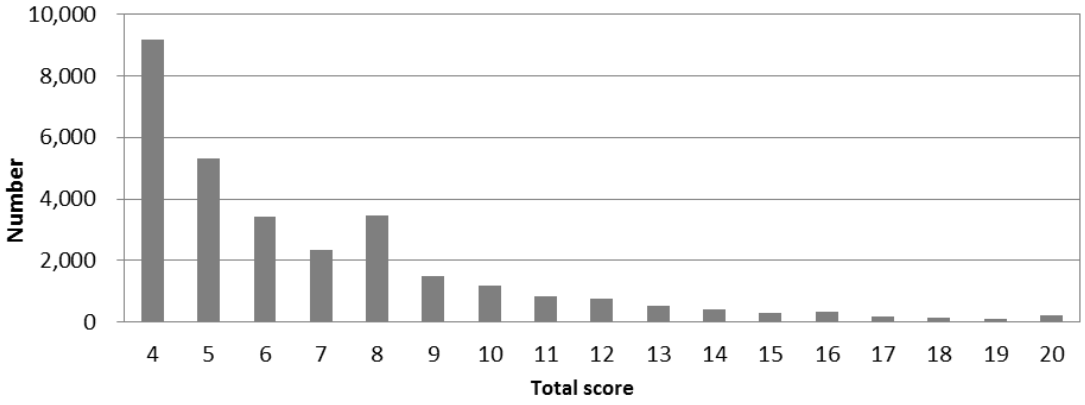


Fig. 9 Trauma Reaction of the general public (PCL-4): Overall

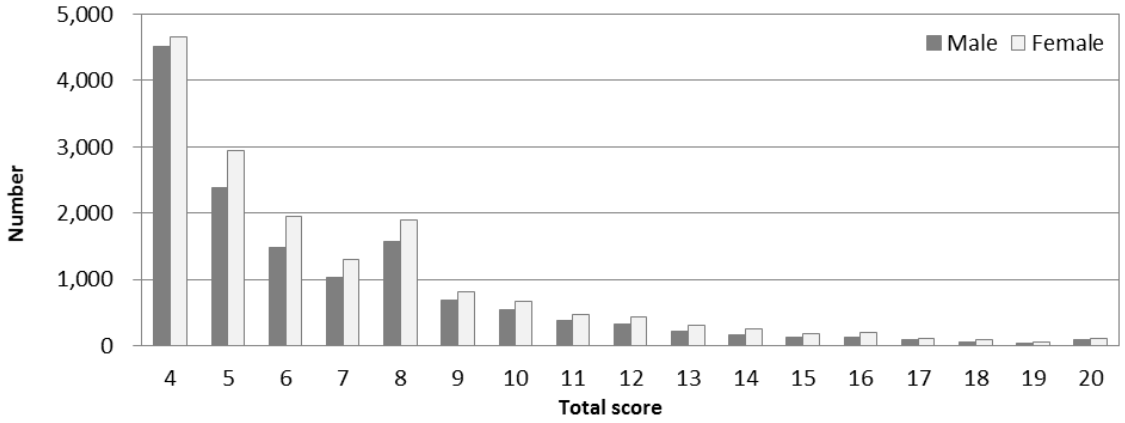


Fig. 10 Trauma Reaction of the general public (PCL-4): by gender

Table 20 Trauma Reaction of the general public (PCL-4): Classified by age groups (number (ratio))

	12 points and above	Valid responses
10s	17 (3.0%)	561
20s	74 (5.1%)	1,465
30s	133 (5.2%)	2,562
40s	217 (7.1%)	3,069
50s	295 (7.6%)	3,884
60s	685 (8.0%)	8,554
70 and above	1,580 (15.5%)	10,167

※4 12 points: A standard value indicated by previous research

12. Current Living Conditions (Q12)

1) To the question whether or not one had to live separately from family due to disaster, 11,463 (31.7%) answered 'yes' and 24,740 (68.3%) answered 'no'.
2) The number of residents in one household (including self) before the disaster was the following: one (living alone), 2,807 (8.1%); two, 8,511 (24.5%); three, 6,890 (19.8%); four, 5,790 (16.6%); five, 4,155 (11.9%); six, 3,375 (9.7%); seven, 2,051 (5.9%); eight, 811 (2.3%); nine, 244 (0.7%); and ten and above, 141 (0.4%).

   The current number of residents in one household was the following: one (living alone), 5,351 (15.0%); two, 13,064 (36.6%); three, 6,897 (19.3%); four, 4,765 (13.3%); five, 2,590 (7.3%); six, 1,697 (4.8%); seven, 913 (2.6%); eight, 294 (0.8%); nine, 87 (0.2%); and ten and above, 47 (0.1%).
3) About the current residence

   3-1) For the current residence (multiple answers allowed), 4,049 lived in municipally subsidized rental housing, 1,869 in temporary housing, 1,606 in restoration public housing, 3,952 in rented houses or apartments, 735 in relative's houses, 24,243 in owned houses, and 506 in other kinds of habitats.

   3-2) For the current evacuation status (question addressed to those who used to live in an area where evacuation was ordered and thereafter lifted), 7,923 (45.0%) responded "living in the house at the original address," 4,504 (25.6%) responded "living in a different address from the original, but in the same region where the evacuation order was lifted," and 5,192 (29.5%) responded "not living in the region where the evacuation order was lifted (occasionally visit the original house)."
4) For the form of employment, 9,570 (27.2%) were full-time or self-employed, 2,878 (8.2%) were part-time, and 22,740 (64.6%) were unemployed (including students and homemakers).
5) For how one sees their financial circumstances, 3,821 (10.6%) answered 'tough,' 8,353 (23.2%) answered 'slightly tough,' 21,546 (59.8%) answered 'normal,' 1,672 (4.6%) answered 'slightly comfortable,' and 617 (1.7%) answered 'comfortable.'
6) Asked if they (or their spouse) were pregnant before the disaster, or if they were living together with their underage children (grandchild excluded), 5,013 (16.0%) answered 'yes,' and 26,345 (84.0%) answered 'no.'

   Among those who answered 'yes,' 456 (9.1%) answered they (or their spouse) were pregnant, 2,099 (41.9%) answered they were living with their pre-school children, 1,829 (36.5%) answered they were living with their primary school children, 890 (17.8%) answered they were living with their middle school children, 1,320 (26.3%) answered they were living with their underage children who had graduated from middle school. (Multiple answers allowed.)
7) Asked if they (or their spouse) were currently pregnant, or if they were currently living with their underage children (grandchild excluded), 4,049 (13.3%) answered 'yes,' and 26,495 (86.7%) answered 'no.'

   Among those who answered 'yes,' 276 (6.8%) answered they (or their spouse) were currently pregnant, 1,686 (41.6%) answered they were living with their preschool children, 1,622 (40.1%) answered they were living with their primary school children, 952 (23.5%) answered they were living with their middle school children, and 1,012 (25.0%) answered they were living with their underage children who had graduated from middle school. (Multiple answers allowed.)

13. Awareness of Health Effects Caused By Radiation (Q13)

1) Awareness of health effects caused by radiation is shown in Table 21.

Table 21. 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	Valid responses
1	How likely do you think health disorders (for example, cancer) will occur in the future due to the current radiation exposure?	10,910 (34.8%)	10,252 (32.7%)	5,793 (18.5%)	4,388 (14.0%)	31,343
2	How likely do you think health disorders will occur in future generations (children or grandchildren) due to the current radiation exposure?	9,532 (31.0%)	10,141 (32.9%)	6,424 (20.9%)	4,685 (15.2%)	30,782

2) When asked how frequently they experienced inconveniences in daily life due to the anxieties about radiation for the past month, 1,503 (4.7%) answered 'frequently,' 4,345 (13.6%) answered 'sometimes,' 6,670 (20.8%) answered 'rarely,' and 19,519 (60.9%) answered 'never.'

14. Sources of advice (Q14)

When asked if they knew anyone or any organization that they can consult regarding mental or physical issues caused by the Great East Japan Earthquake, 32,538 (89.1%) answered 'yes,' and 3,966 (10.9%) answered 'no.'

Breakdown of sources of advice for those who answered 'yes' is shown in Table 22.

Table 22. Break down of sources of advice

	Number
Family/relatives	28,327
Friends/acquaintances	15,590
Colleagues/superiors	3,237
Municipal consultation service (City public health bureau, health center, etc.)	7,520
Prefectural consultation service (Prefectural public health bureau/public health and welfare office, etc.)	1,757
Mental health and welfare center	787
Fukushima Center for Disaster Mental Health	1,004
Visiting care/nursing care service organizations	2,323
Medical institutions such as psychosomatic medicine/psychiatry/neurology/mental clinics	4,394
Medical institutions other than the above (general internal medicine, surgical department, ophthalmology, otorhinolaryngology, orthopedics, obstetrics and gynecology, etc.	8,464
Facilities related to religion such as temples, shrines, churches, etc.	507
Other	248

(Multiple answers)

Data from the FY 2016 Mental Health and Lifestyle Survey (Age group 0-3)

			Number	Proportion
Response methods	(798 valid responses)	・Mailed Survey Sheets	734	92.0%
		・On-line	64	8.0%
Sex	(798 valid responses)	・Boys	404	50.6%
(Average age 1.9)		・Girls	394	49.4%
The address as of the time of survey	(798 valid responses)	・Within the prefecture	722	90.5%
		・Outside the prefecture	76	9.5%
Q1 Health condition	(782 valid responses)	・Very good	315	40.3%
		・Good	338	43.2%
		・Normal	124	15.9%
		・Bad	5	0.6%
		・Very bad	0	0.0%
Q2 Height and weight		(Listed in the main document by sex and age)		(P3)
Q3 Currently treated diseases	(788 valid responses)	・No	573	72.7%
		・Yes	215	27.3%
		(Breakdown is listed in the main document.)		(P3 Table 2)
Q4 Experience of hospitalization in the past year	(794 valid responses)	・No	680	85.6%
		・Yes	114	14.4%
		(Breakdown is listed in the main document.)		(P3 Table 3)
Q5 Sleep hours and naps				
1) Sleep hours	(796 valid responses)	・Average sleep hours: 9 h 53 min		
	(796 valid responses)	・Average sleep time: 9:07 PM		
	(796 valid responses)	・Average wake-up time: 7:00 AM		
2) Naps	(795 valid responses)	・No	81	10.2%
		・Yes	714	89.8%
	(702 valid responses)	(Average nap time: 1 h 54 min)		
Q6 Usual amount of exercise	(503 valid responses)	・Almost every day	274	54.5%
		・2-4 times a week	155	30.8%
		・Once a week	57	11.3%
		・Rarely	17	3.4%
Q7 Dietary habits				
1) Breast milk	(794 valid responses)	・Yes	120	15.1%
		・No	674	84.9%
2) Diet in the past month		・Listed in the main document		(P4 Table 4)
Q8 Lack of confidence in child rearing	(796 valid responses)	・Yes	87	10.9%
		・No	368	46.2%
		・Not sure	341	42.8%

Data from the FY 2016 Mental Health and Lifestyle Survey (Age group 4-6)

			Number	Proportion
Response methods	(889 Vaild responses)	・Mailed Survey Sheets	833	93.7%
		・On-line	56	6.3%
Sex	(889 Vaild responses)	・Boys	432	48.6%
(Average age 5.1)		・Girls	457	51.4%
The address as of the time of survey	(889 Vaild responses)	・Within the prefecture	710	79.9%
		・Outside the prefecture	179	20.1%
Q1 Health condition	(848 Vaild responses)	・Very good	288	34.0%
		・Good	322	38.0%
		・Normal	234	27.6%
		・Bad	4	0.5%
		・Very bad	0	0.0%
Q2 Height and weight		(Listed in the main document by sex and age)		(P5)
Q3 Currently treated diseases	(882 Vaild responses)	・No	548	62.1%
		・Yes	334	37.9%
		(Breakdown is listed in the main document)		(P5 Table 5)
Q4 Experience of hospitalization in the past year	(883 Vaild responses)	・No	789	89.4%
		・Yes	94	10.6%
		(Breakdown is listed in the main document)		(P5 Table 6)
Q5 Sleep hours and naps				
1) Sleep hours	(886 Vaild responses)	・Average sleep hours: 9 h 37 min		
	(887 Vaild responses)	・Average sleep time: 9:11 PM		
	(886 Vaild responses)	・Average wake-up time: 6:49 AM		
2) Naps	(885 Vaild responses)	・No	561	63.4%
		・Yes	324	36.6%
	(296 Vaild responses)	(Average nap time: 1 h 33 min)		
Q6 Usual amount of exercise	(887 Vaild responses)	・Almost every day	512	57.7%
		・2-4 times a week	263	29.7%
		・Once a week	81	9.1%
		・Rarely	31	3.5%
Q7 Dietary habits in the past month		(Listed in the main document)		(P6 Table 7)
Q8 Child's emotions and behavior (SDQ)				
1) SDQ	(888 Vaild responses)	・Average total score: 9.1 points		
	(432 Vaild responses)	・Male average total score: 9.7 points		
	(456 Vaild responses)	・Female average total score: 8.5 points		
		・16 points and above	99	11.1%
		(Male)	56	13.0%
		(Female)	43	9.4%
		・20 points and above	35	3.9%
		(Male)	20	4.6%
		(Female)	15	3.3%
2) Presence or absence of difficult issues	(887 Vaild responses)	・No	678	76.4%
		・Yes (minor issues)	174	19.6%
		・Yes (clear issues)	29	3.3%
		・Yes (serious issues)	6	0.7%
3) Becoming upset	(206 Vaild responses)	・Not at all	103	50.0%
		・A little	91	44.2%
		・Very	10	4.9%
		・Greatly	2	1.0%
Q9 Child resists going to nursery school or kindergarten.	(886 Vaild responses)	・Yes	136	15.3%
		・No	719	81.2%
		・The child is not attending nursery school.	31	3.5%

Data from the FY 2016 Mental Health and Lifestyle Survey (Primary school age)

			Number	Proportion
Response methods	(2,209 Vaild responses)	・Mailed Survey Sheets	2,062	93.3%
		・On-line	147	6.7%
Sex	(2,209 Vaild responses)	・Boys	1,110	50.2%
(Average age: 9.3)		・Girls	1,099	49.8%
The address as of the time of survey	(2,209 Vaild responses)	・Within the prefecture	1,682	76.1%
		・Outside the prefecture	527	23.9%
Q1 Health condition	(2,037 Vaild responses)	・Very good	546	26.8%
		・Good	854	41.9%
		・Normal	615	30.2%
		・Bad	22	1.1%
		・Very bad	0	0.0%
Q2 Height and weight		(Listed in the main document by sex and age)		(P8)
Q3 Currently treated diseases	(2,195 Vaild responses)	・No	1,389	63.3%
		・Yes	806	36.7%
		(Breakdown is listed in the main document)		(P8 Table 8)
Q4 Experience of hospitalization in the past year	(2,205 Vaild responses)	・No	2,046	92.8%
		・Yes	159	7.2%
		(Breakdown is listed in the main document)		(P8 Table 9)
Q5 Sleep hours	(2,196 Vaild responses)	・Average sleep hours: 8 h 52 min		
	(2,200 Vaild responses)	・Average sleep time: 9:32 PM		
	(2,196 Vaild responses)	・Average wake-up time: 6:24 AM		
Q6 Usual amount of exercise	(2,204 Vaild responses)	・Almost every day	187	8.5%
		・2-4 times a week	690	31.3%
		・Once a week	603	27.4%
		・Rarely	724	32.8%
Q7 Dietary habits in the past month		(Listed in the main document)		(P9 Table 10)
Q8 Child's emotions and behavior (SDQ)				
1) SDQ	(2,207 Vaild responses)	・Average total score: 8.7 points		
	(1,109 Vaild responses)	・Male average total score: 9.2 points		
	(1,098 Vaild responses)	・Female average total score: 8.1 points		
		・16 points and above	279	12.6%
		(Male)	166	15.0%
		(Female)	113	10.3%
		・20 points and above	102	4.6%
		(Male)	71	6.4%
		(Female)	31	2.8%
2) Presence or absence of difficult issues	(2,198 Vaild responses)	・No	1,608	73.2%
		・Yes (minor issues)	472	21.5%
		・Yes (clear issues)	95	4.3%
		・Yes (serious issues)	23	1.0%
3)Becoming upset	(575 Vaild responses)	・Not at all	179	31.1%
		・A little	356	61.9%
		・Very	34	5.9%
		・Greatly	6	1.0%
Q9 Child resists going to school.	(2,181 Vaild responses)	・Yes	222	10.2%
		・No	1,959	89.8%

Data from the FY 2016 Mental Health and Lifestyle Survey (Middle school age)

			Number	Proportion
Response methods	(1,002 Vaild responses)	・Mailed Survey Sheets	922	92.0%
		・On-line	80	8.0%
Sex	(1,002 Vaild responses)	・Boys	526	52.5%
(Average age: 13.9)		・Girls	476	47.5%
The address as of the time of survey	(1,002 Vaild responses)	・Within the prefecture	785	78.3%
		・Outside the prefecture	217	21.7%
Q1 Health condition	(646 Vaild responses)	・Very good	192	29.7%
		・Good	206	31.9%
		・Normal	228	35.3%
		・Bad	19	2.9%
		・Very bad	1	0.2%
Q2 Height and weight		(Listed in the main document by sex and age)		(P11)
Q3 Sleep				
1) Sleep hours	(650 Vaild responses)	・Average sleep hours: 7 h 6 min		
2) Sufficiency of sleep over the past month	(649 Vaild responses)	・Sufficient	310	47.8%
		・Slightly insufficient	275	42.4%
		・Insufficient	64	9.9%
Q4Usual amount of exercise	(652 Vaild responses)	・Almost every day	292	44.8%
		・2-4 times a week	110	16.9%
		・Once a week	49	7.5%
		・Rarely	201	30.8%
Q5 Dietary habits in the past month		(Listed in the main document)		(P12 Table11)
Q6 Currently treated diseases	(914 Vaild responses)	・No	616	67.4%
		・Yes	298	32.6%
		(Breakdown is listed in the main document)		(P12 Table12)
Q7 Experience of hospitalization in the past year	(912 Vaild responses)	・No	885	97.0%
		・Yes	27	3.0%
		(Breakdown is listed in the main document)		(P12 Table13)
Q8 Child's emotions and behavior (SDQ)				
1)SDQ	(915 Vaild responses)	・Average total score: 8.2 points		
	(483 Vaild responses)	・Male average total score: 8.5 points		
	(432 Vaild responses)	・Female average total score: 7.9 points		
		・16 points and above	113	12.3%
		(Male)	66	13.7%
		(Female)	47	10.9%
		・20 points and above	45	4.9%
		(Male)	29	6.0%
		(Female)	16	3.7%
2) Presence or absence of difficult issues	(909 Vaild responses)	・No	634	69.7%
		・Yes (minor issues)	191	21.0%
		・Yes (clear issues)	60	6.6%
		・Yes (serious issues)	24	2.6%
3) Becoming upset	(267 Vaild responses)	・Not at all	47	17.6%
		・A little	164	61.4%
		・Very	37	13.9%
		・Greatly	19	7.1%
Q9 Child resists going to school.	(895 Vaild responses)	・Yes	126	14.1%
		・No	769	85.9%

Data from the FY 2016 Mental Health and Lifestyle Survey (Adults)

			Number	Proportion
Response methods	(37,465 Vaild responses)	・Mailed Survey Sheets	35,899	95.8%
		・On-line	1,566	4.2%
Sex	(37,465 Vaild responses)	・Male	16,986	45.3%
(Average age: 61.9)		・Female	20,479	54.7%
The address as of the time of survey	(37,465 Vaild responses)	・Within the prefecture	32,062	85.6%
		・Outside the prefecture	5,403	14.4%
Q1 Health condition	(32,175 Vaild responses)	・Very good	1,346	4.2%
		・Good	5,385	16.7%
		・Normal	19,960	62.0%
		・Bad	4,979	15.5%
		・Very bad	505	1.6%
Q2 Height and weight		(Listed in the main document)	(P14)	
Q3 Medical history in the past year		(Listed in the main document)	(P15 Table14)	
Q4 Sleep				
1) Sleep hours	(36,502 Vaild responses)	・Average sleep hours: 7 h 2 min		
2) Sufficiency of sleep over the past month	(32,319 Vaild responses)	・Sufficient	12,703	39.3%
		・Slightly insufficient	14,901	46.1%
		・Very insufficient	3,871	12.0%
		・Greatly insufficient or couldn't get any	844	2.6%
3) Experience related to sleep		(Listed in the main document)	(P16 Table15)	
Q5 Usual amount of exercise	(36,655 Vaild responses)	・Almost every day	5,818	15.9%
		・2-4 times a week	9,112	24.9%
		・Once a week	6,240	17.0%
		・Rarely	15,484	42.2%
Q6 Smoking	(35,043 Vaild responses)	・Have never smoked	20,197	57.6%
		・Quit	9,447	27.0%
		・Yes	5,399	15.4%
		(Average number of years of smoking : 31.6)		
		(Average cigarettes per day: 16.1)		
Q7 Alcohol				
1) Alcohol consumption	(35,218 Vaild responses)	・No/ Rarely	19,085	54.2%
		・Quit	1,675	4.8%
		・Yes (more than once a month)	14,458	41.1%
2) Frequency of consumption	(13,872 Vaild responses)	(Listed in the main document)	(P16)	
3) Daily alcohol consumption	(13,465 Vaild responses)	・2.2 dorinks on average		
4) Experiences related to alcohol	(12,985 Vaild responses)	(Listed in the main document)	(P17 Table16,17)	
Q8 Appetite	(35,865 Vaild responses)	・0 days	27,878	77.7%
		・A few days	6,262	17.5%
		・More than a week	990	2.8%
		・Almost every day	735	2.0%
Q9 Dietary habits in the past month		(Listed in the main document)	(P18 Table18)	
Q10 General mental health state				
1) Mental health state (K6)	(31,636 Vaild responses)	・Average score: 4.4 points		
	(14,448 Vaild responses)	・Male average score: 4.1points		
	(17,188 Vaild responses)	・Female average score: 4.6 points		
		・13 points and above	2,160	6.8%
		(Male)	928	6.4%
		(Female)	1,232	7.2%
		(Listed in the main document by age)	(P20 Table19)	
2) Inconveniences in daily life	(32,501 Vaild responses)	・Not at all	21,270	65.4%
		・A little	7,133	21.9%
		・Sometimes	2,790	8.6%
		・Mostly	670	2.1%
		・Always	638	2.0%

			Number	Proportion
Q11 Experience of Great East Japan Earthquake and Trauma Reactions				
1) As the experiences related to the Great East Japan Earthquake	※Multiple answers	・ Earthquake	32,115	—
		・ Tsunami	6,429	—
		・Nuclear Power Plant accident	30,831	—
		・none	608	—
2) PTSD Checklist(PCL-4)	(30,262 Vaild responses)	・Average score 6.8 Points		
	(13,831 Vaild responses)	(males) 6.7 Points		
	(16,431 Vaild responses)	(females) 6.9 Points		
		・More than 12 points	3,001	9.9%
		(males)	1,246	9.0%
		(females)	1,755	10.7%
		(Classification by age groups Details are listed in the main document.)		(P22 Table20)
Q12 Current living conditions				
1) Living conditions with family	(36,203 Vaild responses)	・Yes	11,463	31.7%
		・No	24,740	68.3%
2) Number of people within household Before the disaster	(34,775 Vaild responses)	・One (living alone)	2,807	8.1%
		・Two	8,511	24.5%
		・More than three	23,457	67.5%
		(Details are listed in the main document.)		(P23)
At present	(35,705 Vaild responses)	・One (living alone)	5,351	15.0%
		・Two	13,064	36.6%
		・More than three	17,290	48.4%
		(Details are listed in the main document.)		(P23)
3) About the current residence				
3-1) Current residence	*Multiple answers	・Municipally subsidized rental housing	4,049	—
		・Temporary housing	1,869	—
		・Restoration public housing	1,606	—
		・Rented house/apartment	3,952	—
		・Relative's house	735	—
		・Owned house	24,243	—
		・Other	506	—
3-2) For the current evacuation status	(17,619 Vaild responses)	・Living in the house at the original address	7,923	45.0%
		・Living in a different address from the original, but in the same region where the evacuation order was lifted	4,504	25.6%
		・Not living in the region where the evacuation order was lifted	5,192	29.5%
4) Form of employment	(35,188 Vaild responses)	・Full-time/self-employed	9,570	27.2%
		・Part-time	2,878	8.2%
		・Unemployed (including students and homemakers)	22,740	64.6%
5) Current financial circumstances	(36,009 Vaild responses)	・Tough	3,821	10.6%
		・Slightly tough	8,353	23.2%
		・Normal	21,546	59.8%
		・Slightly comfortable	1,672	4.6%
		・Comfortable	617	1.7%
6) Lived with a child before the disaster	(31,358 Vaild responses)	・Yes	5,013	16.0%
		(Pregnant)	456	—
		(Preschool child)	2,099	—
		(Primary school child)	1,829	—
		(Middle school child)	890	—
		(Minor who graduated from middle school)	1,320	—
		・No	26,345	84.0%
7) Currently living with a child	(30,544 Vaild responses)	・Yes	4,049	13.3%
		(Pregnant)	276	—
		(Preschool child)	1,686	—
		(Primary school child)	1,622	—
		(Middle school child)	952	—
		(Minor who graduated from middle school)	1,012	—
		・No	26,495	86.7%
Q13 Health effects caused by radiation				
1) Awareness of health effects caused by radiation		(Listed in the main document)		(P24 Table21)
2) Inconveniences in daily life	(32,037 Vaild responses)	・Frequently	1,503	4.7%
		・Sometimes	4,345	13.6%
		・Rarely	6,670	20.8%
		・Never	19,519	60.9%
Q14 Sources of advice	(36,504 Vaild responses)	・Yes	32,538	89.1%
		・No	3,966	10.9%
		(Breakdown is listed in the main document.)		(P24 Table22)

Mental Health and Lifestyle Survey for FY 2016
Summary of Support

Reported on June 2018

1. Purpose

The "Mental Health and Lifestyle Survey" aims to provide a feedback mechanism so that results of the Fukushima Health Survey can be useful to residents for their better health management and to connect those who require mental health or lifestyle-related support to appropriate health/medical facilities.

2. Target Groups

Out of those who responded to the "Mental Health and Lifestyle Survey" for FY 2016, people deemed to require counseling/support by telephone or mail were identified as Targets.

This report also tabulates those who responded by 31 October 2017 and received support by 31 December of the same year.

Age 0-3 years: Targets born between April 2, 2013and April 1, 2016.
Age 4-6 years: Targets born between April 2, 2010 and April 1, 2013.
Primary School: Targets born between April 2, 2004 and April 1, 2010.
Middle School: Targets born between April 2, 2001 and April 1, 2004.
Adults: Targets born on or before April 1, 2001.

In this survey, "Children" refers to the people in the Target Group of middle school age and younger, and "Adults" refers to people in the target Group older than the foregoing.

3. Methods

3.1 Individual Notices of Results

Survey questionnaires for FY 2016 were distributed by mail in February 2017, and the results were sent in September and October to those who responded by 31 August 2017. We introduced our special call center for the "Mental Health and Lifestyle Survey" to provide more information related to the survey results, and posted "Frequently Asked Questions about the survey results" on our Japanese website. The items of results provided to the participants are as follows:

Survey type	Items in the result
0-3 years	Height, weight, diet (1 year olds and older), exercise (2 year olds and older), bedtime
4-6 years	Height, weight, diet, exercise, bedtime, behavioral difficulties and emotional health (SDQ[1)])
Primary school age	Height, weight, diet, exercise, bedtime, behavioral difficulties and emotional health (SDQ)
Middle school age	Height, weight, diet, exercise, sleep, behavioral difficulties and emotional health (SDQ)
Adults	Obesity (BMI[2)]), diet, exercise, sleep, psychological distress scale (K6[3)])

1) Strength and Difficulties Questionnaire. Mental health and behavioral screening scale for children.

2) Body Mass Index (calculated based on height and weight written in the survey forms)

3) Psychological distress scale which screens for general mental illness such as depression and anxiety.

In the results for children, standard height and weight by age in months at the time when they completed the survey forms were provided for reference.

3.2 Support by telephone and others

In accordance with the level of significance and urgency by selection criteria, our "Mental Health Support Team" that consists of Clinical Psychologists, Public Nurses, Medical Nurses, etc. provided Telephone Counseling. In Telephone Counseling, we inquired about their health status to assess current problems, and advised further examination at health/medical facilities when necessary.

As for mail support, we sent return postcards to confirm their wishes for telephone support and introduction of our "Mental Health and Lifestyle Survey" call center. Also for those deemed to require support pertaining to their lifestyle, a brochure encouraging lifestyle improvement was enclosed. The Telephone Counseling was provided to those who requested it in the return postcard, and to those who the "Mental Health Support Team" deemed necessary.

The criteria for support are as stipulated in (A) and (B) below.

4. Criteria to select the Support Targets

4.1 Telephone Counseling

(A) Criteria by scored assessments:

- Children: SDQ※4 score ≥20,

  ※4 Since the SDQ is only applicable to those 4 years old and older, age 0-3 were decided by other items than assessment scores.

- Adults: Those with K6 scores ≥15, and those with K6 scores 13-14 with PCL-4※5 scores ≥ 12.

  ※5 PCL-4: Scale for problems or traumatic reactions associated with disaster experiences

(B) Criteria by items other than score in scales:

- Children: those who were deemed to require urgent support out of a group identified by the contents of free-answer sections.
- Adults: those who meet the lifestyle conditions below:

  -Of those who have previous history of hypertension (HT) or diabetes (DM) and not receiving medical treatments, BMI ≥27.5 kg/m^2 (HT/DM • BMI), or consume ≥42 drinks in total per week (HT/DM • Excessive drinking) (Multiply the number of days per week by the average daily drinking volume).

  -Consuming ≥42 drinks per week with a CAGE score (screening tool for alcoholism) of 4 out of 4 (high-risk drinking).

  - Those who were deemed to require urgent support out of a group identified based on the contents of free-answer sections.

4.2 Mail Support

(A) Criteria by score in scales

- Children: SDQ score ≥16 (criterion in initial screening[1]) who do not meet the foregoing criteria for Telephone Counseling.
- Adults: K6 score ≥10 (criterion for anxiety disorder in initial screening[2]) or PCL-4 score ≥12 who do not meet the foregoing criteria for telephone counseling.

(B) Criteria by items other than score in scales

- Children: those who were deemed to not require urgent support out of a group identified by the contents of free-answer sections.
- Adults: those who meet the following conditions:

  -not receiving necessary medical services while body weight increased more than 3kg/y and BMI ≥27.5.

  -consume ≥42 drinks in total per week with a CAGE score of 2 or 3.

  -unsatisfied with the quality of sleep and currently depressed or inactive during the day.

  -have a history of mental disorder and responded about their current hospital visits as none or not responding at all.

  -those who were deemed not require urgent support out of a group identified by the contents of free-answer sections.

4.3 General Information by Mail (Sending a Booklet)

Except for the Support Targets of (4.1) and (4.2), we sent a booklet to those who met the criteria below.

- Adults: weight gain of ≥3 kg/y, BMI ≥25.0 and BMI <27.5 kg/m^2 (Mild obesity).

Those who meet none of the above criteria, but with a CAGE score ≥2.

5 Categories of supports and results

In telephone counseling support, we asked about health status and current problems.

According to the types of the support, we categorized the counseling sessions as “listened carefully,” “recommended seeing a doctor,” “advised lifestyle changes,” “offered psychoeducation,” “provided information (such as social resources),” and “miscellaneous.”

The results of telephone counseling were categorized into four groups as shown in 5.1, “Follow-up 1,” “Follow-up 2,” “Follow-up 3,” and “Declined .”

As for the Continued Support, there are four categories as shown below: “Follow-up support,” “referred to outside institutions,” “mail support,” and “directed to other departments.”

5.1 Categories of Results

Follow-up 1	Targets confirmed to be improving or self-managing their problems.
Follow-up 2	Targets not fully recovering from health problems, emotional aftermath of the disaster, adjustment problems, etc.
Follow-up 3	Targets whose status could not be confirmed.
Declined	Targets who clearly conveyed that they did not want support.

5.2 Continued Support

Follow-up support:	Targets requiring continued telephone counselling.
Referred to outside institutions:	Targets required to be referred to municipal government or the Fukushima Center for Disaster Mental Health.
Mail support	Targets were sent referral, list of registered general practitioners, information of institutions outside the prefecture for support, and letters providing information for registered doctors.
Directed to other departments	Targets needing services related to the Basic Survey and/or Thyroid Ultrasound Examination of FMU's Radiation Medical Science Center.

6. Results

6.1 Providing the Results to Targets

The results were providing to 4,902 children in total, 795 for age 0-3, 888 for age 4-6, 2,220 for primary school children, and 999 middle school children. For adults, 37,275 results were informed, totaling 42,177 with the results of children.

6.2 Number of Support Targets and Supports Received

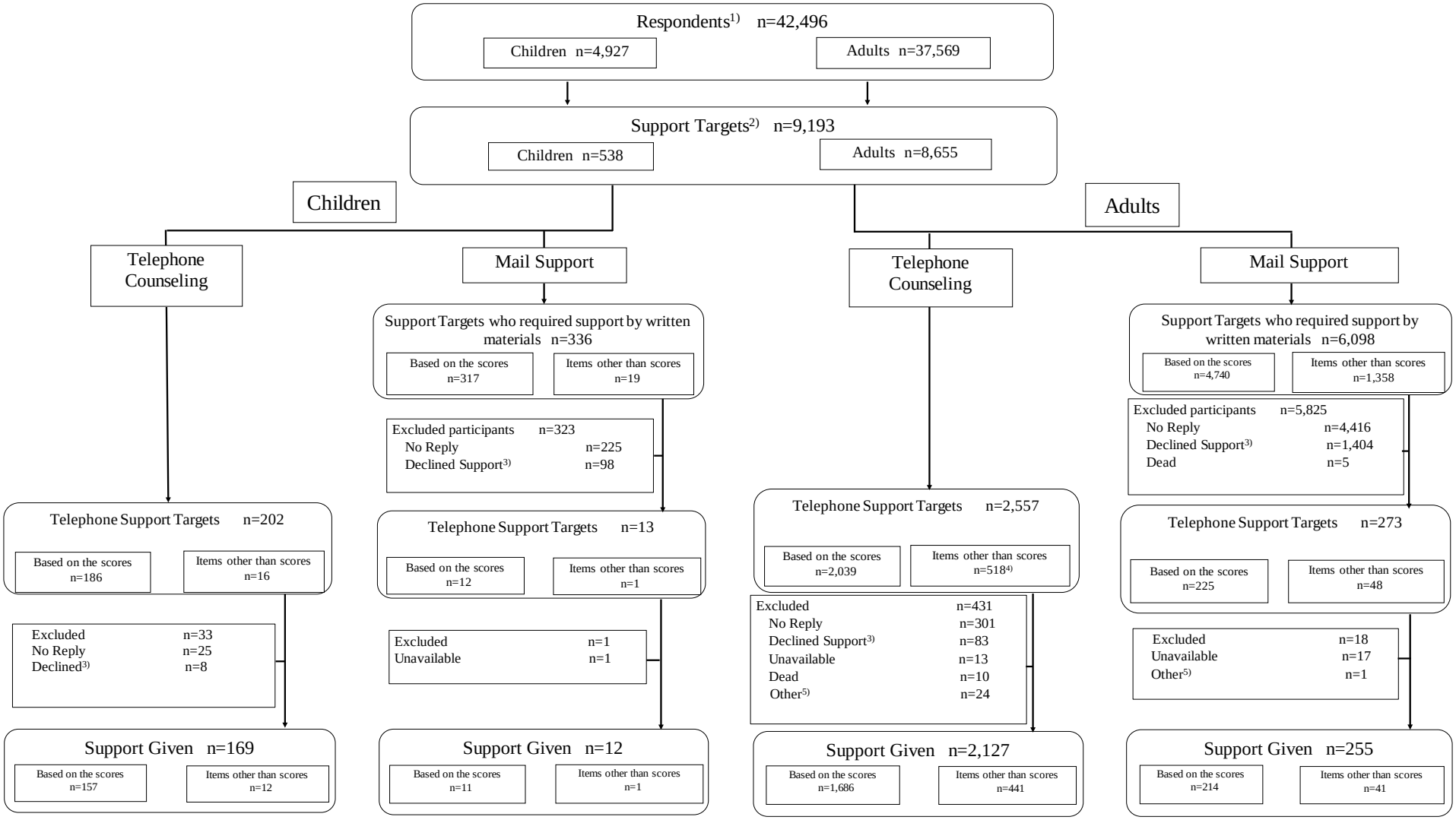
Of total 538 children identified as Support Targets, 202 needed telephone counseling and 336 required mail support. Of 336 Mail Support Targets, 13 were assessed to require telephone counseling.

Of total 8,655 adults identified as Support Targets; 2,557 needed telephone counselling and 6,098 required mail support. After receiving the mail support, 273 were assessed to require telephone counseling. The number of those with mild obesity as the criteria for sending a booklet was 330 and 1,243 met the criteria of CAGE scores. The total number to receive a booklet was 1,573.

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

Figure 1 shows the numbers of Support Targets and provided support. It excludes targets who only met the criteria for sending a booklet.

The percentages in the result table are rounded and may not total to 100%.



1) Those who responded by 31 October 2017.
2) Those who received support by 31 December 2017.
3) Those who indicated no desire for support in the return postcard.
4) The number includes 256 participants who required support by telephone counseling regarding lifestyle habits.
5) Such as those who preferred telephone support out of hours.

Figure 1: Number of Support Targets and provided supports

6.3 Telephone Support for Children

(A) Characteristics of Children identified as Support Targets

Of all children who where Support Targets; 202 required telephone counseling and 13 were assessed to require telephone support as the results of mail support, totaling 215. The status of children requiring support is per Table 1. As for gender and area distribution, there were more boys than girls and more from Fukushima than outside.

Table 1: Characteristics of children in Support Targets (By sex and area)

Support Targets	Total		0-3 years		4-6 years		Primary school age		Middle school age	
	215		5		38		114		58	
Male	139	(64.7%)	4	(80.0%)	22	(57.9%)	76	(66.7%)	37	(63.8%)
Female	76	(35.3%)	1	(20.0%)	16	(42.1%)	38	(33.3%)	21	(36.2%)
Within Fukushima	158	(73.5%)	5	(100.0%)	32	(84.2%)	80	(70.2%)	41	(70.7%)
Outside Fukushima	57	(26.5%)	0	(0.0%)	6	(15.8%)	34	(29.8%)	17	(29.3%)
Support Provided	181		3		32		101		45	
Within Fukushima	129	(71.3%)	3	(100.0%)	27	(84.4%)	68	(67.3%)	31	(68.9%)
Outside Fukushima	52	(28.7%)	0	(0.0%)	5	(15.6%)	33	(32.7%)	14	(31.1%)

Areas at the time of sending survey questionnaires in FY 2016

(B)Status of Support Targets

Based on the results of survey, we conducted Telephone Counseling to identify current problems. As a result, 71 participants appeared to have problems, the most frequent case being “school-related issue,” followed by “anger, irritation and violence,” and “physical health problem.” As for problems of parents, “school-related issue” came first, followed by “physical health problem” and “sleep”.

In order to grasp the problems of participants more comprehensively, further interviews were carried out using question items designed with advice from doctors specialized in Child Psychiatry. The results are in Table 2. “Developmental problems” and “child-rearing anxiety” were raised the most. Also, 18 (15.8%) were identified to be taking mental care.

Table 2: Status of participants who received telephone counseling

Support provided	Total		0-3 years		4-6 years		Primary school age		Middle school age	
	181		3		32		101		45	
Have sleeping problems										
Yes	10	(7.8%)	0	(0.0%)	1	(4.0%)	4	(5.8%)	5	(15.6%)
No	118	(92.2%)	2	(100.0%)	24	(96.0%)	65	(94.2%)	27	(84.4%)
Unclear	53	-	1	-	7	-	32	-	13	-
Have appetite problems										
Yes	6	(4.8%)	0	(0.0%)	0	(0.0%)	4	(5.8%)	2	(6.7%)
No	119	(95.2%)	2	(100.0%)	24	(100.0%)	65	(94.2%)	28	(93.3%)
Unclear	56	-	1	-	8	-	32	-	15	-
Have friendship problems										
Yes	13	(11.4%)	0	(0.0%)	1	(4.8%)	10	(16.9%)	2	(6.3%)
No	101	(88.6%)	2	(100.0%)	20	(95.2%)	49	(83.1%)	30	(93.8%)
Unclear	67	-	1	-	11	-	42	-	13	-
Feel energetic										
Yes	120	(98.4%)	2	(100.0%)	26	(96.3%)	61	(98.4%)	31	(100.0%)
No	2	(1.6%)	0	(0.0%)	1	(3.7%)	1	(1.6%)	0	(0.0%)
Unclear	59	-	1	-	5	-	39	-	14	-
Somatization										
Yes	11	(10.3%)	0	(0.0%)	2	(8.7%)	6	(11.5%)	3	(10.0%)
No	96	(89.7%)	2	(100.0%)	21	(91.3%)	46	(88.5%)	27	(90.0%)
Unclear	74	-	1	-	9	-	49	-	15	-
Rebellious										
Yes	16	(16.2%)	0	(0.0%)	1	(5.3%)	12	(24.0%)	3	(10.7%)
No	83	(83.8%)	2	(100.0%)	18	(94.7%)	38	(76.0%)	25	(89.3%)
Unclear	82	-	1	-	13	-	51	-	17	-
Irritable										
Yes	10	(11.0%)	0	(0.0%)	0	(0.0%)	8	(18.2%)	2	(7.7%)
No	81	(89.0%)	2	(100.0%)	19	(100.0%)	36	(81.8%)	24	(92.3%)
Unclear	90	-	1	-	13	-	57	-	19	-

"Unclear" are the cases confirmation was deemed unnecessary at the telephone support

Proportions do not include the number of 'Unclear'.

Table 2: (Cont.) State of health of participants who received telephone counseling

Support provided	Total		0-3 years		4-6 years		Primary school age		Middle school age	
	181		3		32		101		45	
Emotionally dependent										
Yes	6	(7.0%)	0	(0.0%)	3	(15.8%)	3	(7.3%)	0	(0.0%)
No	80	(93.0%)	2	(100.0%)	16	(84.2%)	38	(92.7%)	24	(100.0%)
Unclear	95	-	1	-	13	-	60	-	21	-
Bored										
Yes	0	(0.0%)	0	(0.0%)	0	(0.0%)	0	(0.0%)	0	(0.0%)
No	85	(100.0%)	2	(100.0%)	19	(100.0%)	39	(100.0%)	25	(100.0%)
Unclear	96	-	1	-	13	-	62	-	20	-
Have developmental problems										
Yes	27	(22.9%)	0	(0.0%)	5	(19.2%)	19	(30.6%)	3	(10.7%)
No	91	(77.1%)	2	(100.0%)	21	(80.8%)	43	(69.4%)	25	(89.3%)
Unclear	63	-	1	-	6	-	39	-	17	-
Emotional or behavioral problems										
Yes	14	(13.5%)	0	(0.0%)	3	(13.6%)	9	(17.6%)	2	(6.9%)
No	90	(86.5%)	2	(100.0%)	19	(86.4%)	42	(82.4%)	27	(93.1%)
Unclear	77	-	1	-	10	-	50	-	16	-
Mental disorder										
Yes	4	(3.8%)	0	(0.0%)	0	(0.0%)	3	(5.8%)	1	(3.6%)
No	100	(96.2%)	2	(100.0%)	22	(100.0%)	49	(94.2%)	27	(96.4%)
Unclear	77	-	1	-	10	-	49	-	17	-
Traumatic stress reaction after the disaster										
Yes	3	(3.0%)	0	(0.0%)	0	(0.0%)	3	(6.3%)	0	(0.0%)
No	96	(97.0%)	2	(100.0%)	21	(100.0%)	45	(93.8%)	28	(100.0%)
Unclear	82	-	1	-	11	-	53	-	17	-
School adjustment										
Well-adjusted	122	(91.7%)	2	(100.0%)	25	(96.2%)	65	(92.9%)	30	(85.7%)
Fail to adjust	11	(8.3%)	0	(0.0%)	1	(3.8%)	5	(7.1%)	5	(14.3%)
Unclear	48	-	1	-	6	-	31	-	10	-
Home or living environment problems										
Yes	4	(4.0%)	0	(0.0%)	0	(0.0%)	4	(7.8%)	0	(0.0%)
No	97	(96.0%)	2	(100.0%)	21	(100.0%)	47	(92.2%)	27	(100.0%)
Unclear	80	-	1	-	11	-	50	-	18	-
Guardian's anxiety about child rearing										
Yes	29	(25.2%)	1	(50.0%)	5	(20.8%)	19	(31.1%)	4	(14.3%)
No	86	(74.8%)	1	(50.0%)	19	(79.2%)	42	(68.9%)	24	(85.7%)
Unclear	66	-	1	-	8	-	40	-	17	-
Guardian's physical health										
Good	99	(93.4%)	2	(100.0%)	22	(100.0%)	50	(89.3%)	25	(96.2%)
Bad	7	(6.6%)	0	(0.0%)	0	(0.0%)	6	(10.7%)	1	(3.8%)
Unclear	75	-	1	-	10	-	45	-	19	-
Guardian's mental health										
Good	97	(91.5%)	2	(100.0%)	22	(100.0%)	47	(85.5%)	26	(96.3%)
Bad	9	(8.5%)	0	(0.0%)	0	(0.0%)	8	(14.5%)	1	(3.7%)
Unclear	75	-	1	-	10	-	46	-	18	-
Treatments										
Psychiatry or psychosomatic medicine	18	(15.8%)	0	(0.0%)	0	(0.0%)	14	(22.6%)	4	(13.3%)
Other	8	(7.0%)	0	(0.0%)	1	(5.0%)	4	(6.5%)	3	(10.0%)
No	88	(77.2%)	2	(100.0%)	19	(95.0%)	44	(71.0%)	23	(76.7%)
Unclear	67	-	1	-	12	-	39	-	15	-
Utilization of professional support										
Yes	26	(22.2%)	1	(33.3%)	5	(22.7%)	14	(23.3%)	6	(18.8%)
No	91	(77.8%)	2	(66.7%)	17	(77.3%)	46	(76.7%)	26	(81.3%)
Unclear	64	-	0	-	10	-	41	-	13	-

"Unclear" are the cases confirmation was deemed unnecessary at the telephone support

Proportions do not include the number of 'Unclear'.

(C)The results of support

The results of telephone counseling are in Table 3. After the telephone support, 160 (88.4%) were categorized as 'Follow-up 1,' 10 (5.5%) were categorized as 'Follow-up 2,' 9 (5.0%) were categorized as 'Follow-up 3,' and 2 (1.1%) declined support.

Table 3: Results of telephone counseling

Support provided	Total	0-3 years	4-6 years	Primary school age	Middle school age
	181	3	32	101	45
Follow-up 1	160 (88.4%)	3 (100.0%)	29 (90.6%)	87 (86.1%)	41 (91.1%)
Follow-up 2	10 (5.5%)	0 (0.0%)	3 (9.4%)	5 (5.0%)	2 (4.4%)
Follow-up 3	9 (5.0%)	0 (0.0%)	0 (0.0%)	7 (6.9%)	2 (4.4%)
Declined support	2 (1.1%)	0 (0.0%)	0 (0.0%)	2 (2.0%)	0 (0.0%)

Follow-up 1: Participants confirmed to be improving or self-managing their problems.
Follow-up 2: Participants not fully recovering from health problems, emotional aftermath of the disaster, adjustment problems, etc.
Follow-up 3: Participants whose status could not be confirmed.

The reasons for classifying as "Follow-up 2" are in Table 4. As for differences of problems among children and among parents, children have more mental health problems and school maladaptation while the parents raised issues about child rearing the most.

Table 4: Breakdown of the reasons for 'Follow-up 2'

	Total	0-3 years	4-6 years	Primary school age	Middle school age
Number of 'Follow-up 2'	10	0	3	5	2
(Children)					
Physical problems	1 (10.0%)	0 (0.0%)	0 (0.0%)	1 (20.0%)	0 (0.0%)
Mental problems	3 (30.0%)	0 (0.0%)	1 (33.3%)	2 (40.0%)	0 (0.0%)
School maladaptation	3 (30.0%)	0 (0.0%)	0 (0.0%)	2 (40.0%)	1 (50.0%)
Other	3 (30.0%)	0 (0.0%)	2 (66.7%)	0 (0.0%)	1 (50.0%)
(Guardian)					
Physical problems	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Mental problems	1 (10.0%)	0 (0.0%)	0 (0.0%)	1 (20.0%)	0 (0.0%)
Child rearing problems	3 (30.0%)	0 (0.0%)	1 (33.3%)	2 (40.0%)	0 (0.0%)
Isolation	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Other	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)

The breakdown provides the total number.

The results of telephone support in categories are in Table 5. The categories of support being: "listened carefully," 151 (83.4%); "recommended seeing a doctor," 3 (1.7%); "advised lifestyle changes," 3 (1.7 %); "offered psychoeducation," 13 (7.2%); "provided information by phone," 2 (1.1%); and "other (checked residents' condition)," 31 (17.1%).

Table 5: Categories of the support

Support provided	Total	0-3 years	4-6 years	Primary school age	Middle school age
	181	3	32	101	45
Listened carefully	151 (83.4%)	3 (100.0%)	30 (93.8%)	81 (80.2%)	37 (82.2%)
Recommended seeing a doctor	3 (1.7%)	0 (0.0%)	1 (3.1%)	2 (2.0%)	0 (0.0%)
Advised lifestyle changes	3 (1.7%)	0 (0.0%)	1 (3.1%)	1 (1.0%)	1 (2.2%)
Offered psychoeducation	13 (7.2%)	1 (33.3%)	2 (6.3%)	8 (7.9%)	2 (4.4%)
Provided information by phone	2 (1.1%)	0 (0.0%)	0 (0.0%)	1 (1.0%)	1 (2.2%)
Other (checked residents' condition)	31 (17.1%)	0 (0.0%)	3 (9.4%)	19 (18.8%)	9 (20.0%)

The breakdown provides the total number.

Among those who needed continued support services, “Follow-up support,” “referred to outside institution,” and “directed to other departments” had 1 case each (Table 6).

Table 6: Continued support

Support provided	Total	0-3 years	4-6 years	Primary school age	Middle school age
	181	3	32	101	45
Follow-up support	1 (0.6%)	0 (0.0%)	1 (3.1%)	0 (0.0%)	0 (0.0%)
Referred to outside institutions	1 (0.6%)	0 (0.0%)	0 (0.0%)	1 (1.0%)	0 (0.0%)
Mail support	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Directed to other departments	1 (0.6%)	0 (0.0%)	0 (0.0%)	1 (1.0%)	0 (0.0%)

Follow-up support: Participants requiring continued telephone counselling.

Referred to outside institutions:
Participants required to be referred to municipal government or the Fukushima Center for Disaster Mental Health.

Mail support: Participants were sent referral, list of registered general practitioners, information of institutions outside the prefecture for support, and letters providing information for registered doctors.

Directed to other departments:
Participants needing services related to the Basic Survey and/or Thyroid Ultrasound Examination of FMU’s Radiation Medical Science Centre.

6.4 Telephone Support for Adults

6.4-1 Support by telephone support criteria

(A) Characteristics of Support Targets of Telephone Support

A total of 2,557 adults were identified as Support Targets for telephone counseling, of which 2,039 were identified by the scores, and 518 were assessed by items other than scores. Among the Support Targets, 2,127 (83.2%) received telephone support.

The gender/age distributions of Support Targets are in Table 7. Overall, more females than males, and those in their 70s, had the largest number.

Table 7: Support Targets for telephone counseling (By sex and age group)

	Based on the scores						Based on the items other than scores					
Age group	Total	Male		Female			Total	Male		Female		
15-19	53	18	(34.0%)	35	(66.0%)		4	3	(75.0%)	1	(25.0%)	
20-29	115	37	(32.2%)	78	(67.8%)		24	10	(41.7%)	14	(58.3%)	
30-39	192	73	(38.0%)	119	(62.0%)		55	23	(41.8%)	32	(58.2%)	
40-49	216	98	(45.4%)	118	(54.6%)		74	48	(64.9%)	26	(35.1%)	
50-59	273	121	(44.3%)	152	(55.7%)		92	57	(62.0%)	35	(38.0%)	
60-69	396	197	(49.7%)	199	(50.3%)		143	96	(67.1%)	47	(32.9%)	
70-79	422	172	(40.8%)	250	(59.2%)		72	38	(52.8%)	34	(47.2%)	
80-	372	147	(39.5%)	225	(60.5%)		54	24	(44.4%)	30	(55.6%)	
Total	2,039	863	(42.3%)	1,176	(57.7%)		518	299	(57.7%)	219	(42.3%)	

Ages are as of 1 April 2016

Among the telephone support targets, 2,039 (79.7%) lived within Fukushima Prefecture and 518 (20.3%) lived outside Fukushima. Among the targets who received telephone support, 1,709 (80.3%) lived within Fukushima Prefecture and 418 (19.7%) lived outside Fukushima (Table 8).

Table 8: Telephone Support Targets (By area)

Support provided	Support given		Based on the scores		Items other than scores	
	2,557		2,039		518	
Within Fukushima	2,039	(79.7%)	1,634	(80.1%)	405	(78.2%)
Outside Fukushima	518	(20.3%)	405	(19.9%)	113	(21.8%)
Participants receiving support	2,127		1,686		441	
Within Fukushima	1,709	(80.3%)	1,364	(80.9%)	345	(78.2%)
Outside Fukushima	418	(19.7%)	322	(19.1%)	96	(21.8%)

Areas at the time of sending survey questionnaires in FY 2016.

(B) The status of Support Targets

Based on survey results, we conducted Telephone Counseling to identify current problems. As a result, 980 support targets appeared to have problems, the most frequent case being “physical health problem,” followed by “sleep” and “depression”.

The frequency and proportion of “physical health problem,” “sleep,” and “receiving status of medical care” identified during the counseling using checklists are in Table 9.

1,048 (55.1%) have physical health problems and 966 (53.2%) have sleep problems.

As for receiving medical treatment, 318 (17.8%) are visiting mental clinics/psychiatrists, 1,063 (59.6%) are visiting medical facilities other than mental clinics or psychiatric offices.

Table 9: Health status of Support Targets who received the telephone counseling

	Total		Based on the scores		Items other than scores	
Support provided	2,127		1,686		441	
Physical condition						
Good	854	(44.9%)	574	(38.2%)	280	(70.0%)
Bad	1,048	(55.1%)	928	(61.8%)	120	(30.0%)
Unclear	225	—	184	—	41	—
Changes in physical condition						
Improved	181	(10.6%)	140	(10.5%)	41	(10.9%)
No change	1,329	(77.9%)	1,038	(78.1%)	291	(77.4%)
Worsened	177	(10.4%)	143	(10.8%)	34	(9.0%)
Have not had problems	18	(1.1%)	8	(0.6%)	10	(2.7%)
Unclear	422	—	357	—	65	—
Sleeping habit						
Good	851	(46.8%)	578	(40.4%)	273	(70.5%)
Bad	966	(53.2%)	852	(59.6%)	114	(29.5%)
Unclear	310	—	256	—	54	—
Changes in sleep						
Improved	142	(8.7%)	122	(9.7%)	20	(5.5%)
No change	1,386	(85.2%)	1,058	(83.9%)	328	(89.6%)
Worsened	78	(4.8%)	70	(5.6%)	8	(2.2%)
Have not had problems	21	(1.3%)	11	(0.9%)	10	(2.7%)
Unclear	500	—	425	—	75	—
Treatments						
Psychiatry or p	318	(17.8%)	294	(20.9%)	24	(6.3%)
Other ıer	1,063	(59.6%)	876	(62.3%)	187	(49.2%)
No No	404	(22.6%)	235	(16.7%)	169	(44.5%)
Unclear ːar	342	—	281	—	61	—
Utilization of professional support						
Yes	512	(32.5%)	415	(33.9%)	97	(27.6%)
No	1,063	(67.5%)	809	(66.1%)	254	(72.4%)
Unclear	552	—	462	—	90	—
Depression						
Yes	746	(42.9%)	692	(50.8%)	54	(14.4%)
No	991	(57.1%)	670	(49.2%)	321	(85.6%)
Unclear	390	—	324	—	66	—
Anxiety over the disaster/psychological trauma						
Yes	119	(7.9%)	111	(9.8%)	8	(2.2%)
No	1,383	(92.1%)	1,023	(90.2%)	360	(97.8%)
Unclear	625	—	552	—	73	—

"Unclear" are the cases confirmation was deemed unnecessary at the telephone support

Proportions do not include the number of 'Unclear.'

(C)The results of support

The results of telephone counseling are as Table 10. After the telephone counseling, 1,840 (86.5%) were designated as ‘Follow-up 1,’ 183 (8.6%) as ‘Follow-up 2,’ 56 (2.7%) as ‘Follow-up 3,’ and 48 (2.3%) as ‘Declined Support’.

Table 10: Results of telephone counseling

	Total		Based on the scores		Items other than scores	
Support provided	2,127		1,686		441	
Follow-up 1	1,840	(86.5%)	1,453	(86.2%)	387	(87.8%)
Follow-up 2	183	(8.6%)	149	(8.8%)	34	(7.7%)
Follow-up 3	56	(2.6%)	45	(2.7%)	11	(2.5%)
Declined support	48	(2.3%)	38	(2.3%)	10	(2.3%)

Follow-up 1: Participants confirmed to be improving or self-managing their problems.
Follow-up 2: Participants not fully recovering from health problems, emotional aftermath of the disaster, adjustment problems, etc.
Follow-up 3: Participants whose status could not be confirmed.

The reasons for ‘Follow-up 2’ were as Table 11. 104 (56.8%) for physical health problems, 116 (63.4%) for mental health problems, 6 (3.3%) for social maladaptation, 19 (10.4%) for isolation.

Table 11: Breakdown of the reasons for ‘Follow-up 2’

	Total		Based on the scores		Items other than scores	
Number of 'Follow-up 2'	183		149		34	
Physical problems	104	(56.8%)	85	(57.0%)	19	(55.9%)
Mental problems	116	(63.4%)	97	(65.1%)	19	(55.9%)
Social maladaptation	6	(3.3%)	4	(2.7%)	2	(5.9%)
Isolation	19	(10.4%)	16	(10.7%)	3	(8.8%)
Other (checked residents' condition)	11	(6.0%)	8	(5.4%)	3	(8.8%)

The breakdown provides the total number.

The categories of support are: “listened carefully,” 1,846 (86.8%); “recommended seeing a doctor,” 156 (7.3%); “advised lifestyle changes,” 366 (17.2%); “offered psychological education,” 111 (5.2%); “provided information by phone,” 52 (2.4%); and “other (checked residents' condition),” 227 (10.7%). (Table 12)

Table 12: The categories of the support

	Total		Based on the scores		Items other than scores	
Support provided	2,127		1,686		441	
Listened carefully	1,846	(86.8%)	1,448	(85.9%)	398	(90.2%)
Recommended seeing a doct	156	(7.3%)	54	(3.2%)	102	(23.1%)
Advised lifestyle changes	366	(17.2%)	129	(7.7%)	237	(53.7%)
Offered psychoeducation	111	(5.2%)	91	(5.4%)	20	(4.5%)
Provided information by phone	52	(2.4%)	16	(0.9%)	36	(8.2%)
Other (checked residents' condition)	227	(10.7%)	205	(12.2%)	22	(5.0%)

The breakdown provides the total number.

Among those who needed continued support, 204 were designated as 'Follow-up support,' 13 were referred to outside institutions, 14 for Mail support, and 2 were directed to other departments (Table 13).

Table 13: Continued support

Support provided	Total		Based on the scores		Items other than scores	
	2,127		1,686		441	
Follow-up support	204	(9.6%)	70	(4.2%)	134	(30.4%)
Referred to outside institutio	13	(0.6%)	8	(0.5%)	5	(1.1%)
Mail support	14	(0.7%)	13	(0.8%)	1	(0.2%)
Directed to other departments	2	(0.1%)	1	(0.1%)	1	(0.2%)

Follow-up support: Participants requiring continued telephone counselling.

Referred to outside institutions:
Participants required to be referred to municipal government or the Fukushima Center for Disaster Mental Health.

Mail support: Participants were sent referral, list of registered general practitioners, information of institutions outside the prefecture for support, and letters providing information for registered doctors.

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

6.4-2 Telephone Counselling after Mail Support

(A) Characteristics of the Support Target (among the mail support target)

We have provided telephone counseling to those who requested it in response to the mail support and those who the "Mental Health Support Team" deemed necessary from the contents of their responses.

Of 273 participants identified as telephone support targets, 225 were by assessment scores and 48 were by other criteria. Of those, 255 (93.4%) received telephone counseling.

Gender/age distribution of the Support Targets is in Table 14. Overall, there were 132 males and 136 females. By age group, 70s had a largest number.

Table 14: Support Targets for telephone counseling among those who received mail support (By sex and age group)

	Based on the scores					Based on the items other than scores				
Age group	Total	Male		Female		Total	Male		Female	
15-19	2	2	(100.0%)	0	(0.0%)	0	0	(0.0%)	0	(0.0%)
20-29	5	0	(0.0%)	5	(100.0%)	1	0	(0.0%)	1	(100.0%)
30-39	9	4	(44.4%)	5	(55.6%)	3	2	(66.7%)	1	(33.3%)
40-49	16	8	(50.0%)	8	(50.0%)	6	2	(0.0%)	4	(0.0%)
50-59	21	11	(52.4%)	10	(47.6%)	5	3	(60.0%)	2	(40.0%)
60-69	44	17	(38.6%)	27	(61.4%)	22	15	(68.2%)	7	(31.8%)
70-79	78	36	(46.2%)	42	(53.8%)	5	3	(60.0%)	2	(40.0%)
80-	50	27	(54.0%)	23	(46.0%)	6	4	(66.7%)	2	(33.3%)
Total	225	105	(46.7%)	120	(53.3%)	48	29	(60.4%)	19	(39.6%)

Ages are as of 1 April 2016

Among the telephone support targets, 228 (85.1%) lived within Fukushima Prefecture and 40 (14.9%) lived outside Fukushima. The telephone counseling sessions were provided to 216 (84.7%) support targets who lived within Fukushima Prefecture and 39 (15.3%) who lived outside Fukushima (Table 15).

Table 15: Area distribution of the Telephone Support Targets (who received mail support)

	Support given		Based on the scores		Items other than scores	
Support provided	268		222		46	
Within Fukushima	228	(85.1%)	186	(83.8%)	42	(91.3%)
Outside Fukushima	40	(14.9%)	36	(16.2%)	4	(8.7%)
Participants receiving su	255		214		41	
Within Fukushima	216	(84.7%)	179	(83.6%)	37	(90.2%)
Outside Fukushima	39	(15.3%)	35	(16.4%)	4	(9.8%)

Areas at the time of sending survey questionnaires in FY 2016.

(B) The status of Support Targets (among the mail support target)

Based on survey results, we conducted Telephone Counseling to identify current problems. As a result, 38 appeared to have problems, the most frequent case being “physical health problem,” followed by “sleep” and “family matters.”

The frequency and proportion of “physical health problem,” “sleep,” and “receiving status of medical care” identified during counseling with checklists are in Table 16.

115 (51.3%) have physical health problems and 94 (45.4%) have sleep problems.

As for receiving status of medical treatment, 24 (11.7%) are visiting mental clinics/psychiatrists, 151 (73.7%) are visiting medical facilities other than mental clinics or psychiatrists.

Table 16: Health status of those who received telephone counseling (among mail support target)

	Total		Based on the scores		Items other than scores	
Support provided	255		214		41	
Physical condition						
Good	109	(48.7%)	88	(47.3%)	21	(55.3%)
Bad	115	(51.3%)	98	(52.7%)	17	(44.7%)
Unclear	31	—	28	—	3	—
Changes in physical condition						
Improved	19	(9.4%)	16	(9.5%)	3	(8.8%)
No change	158	(78.2%)	134	(79.8%)	24	(70.6%)
Worsened	25	(12.4%)	18	(10.7%)	7	(20.6%)
Have not had problems	0	(0.0%)	0	(0.0%)	0	(0.0%)
Unclear	53	—	46	—	7	—
Sleeping habit						
Good	113	(54.6%)	91	(53.2%)	22	(61.1%)
Bad	94	(45.4%)	80	(46.8%)	14	(38.9%)
Unclear	48	—	43	—	5	—
Changes in sleep						
Improved	15	(7.9%)	12	(7.6%)	3	(8.8%)
No change	168	(88.0%)	139	(88.5%)	29	(85.3%)
Worsened	5	(2.6%)	4	(2.5%)	1	(2.9%)
Have not had problems	3	(1.6%)	2	(1.3%)	1	(2.9%)
Unclear	64	—	57	—	7	—
Treatments						
Psychiatry or p	24	(11.7%)	21	(12.4%)	3	(8.6%)
Other	151	(73.7%)	126	(74.1%)	25	(71.4%)
No	30	(14.6%)	23	(13.5%)	7	(20.0%)
Unclear	50	—	44	—	6	—
Utilization of professional support						
Yes	68	(35.1%)	54	(33.8%)	14	(41.2%)
No	126	(64.9%)	106	(66.3%)	20	(58.8%)
Unclear	61	—	54	—	7	—
Depression						
Yes	47	(23.3%)	40	(23.8%)	7	(20.6%)
No	155	(76.7%)	128	(76.2%)	27	(79.4%)
Unclear	53	—	46	—	7	—
Anxiety over the disaster/psychological trauma						
Yes	8	(4.1%)	6	(3.8%)	2	(5.7%)
No	187	(95.9%)	154	(96.3%)	33	(94.3%)
Unclear	60	—	54	—	6	—

"Unclear" are the cases confirmation was deemed unnecessary at the telephone support

Proportions do not include the number of 'Unclear.'

(C) The results of support (among mail support target)

The results of Telephone Counseling are in Table 17. After the telephone counseling, 236 (92.5%) were designated as 'Follow-up 1,' 15 (5.9%) as 'Follow-up 2,' 2 (0.8%) as 'Follow-up 3,' and 0 (0.0%) as 'Declined Support'.

Table 17: Results of the telephone counseling among those who received mail support

Support provided	Total		Based on the scores		Items other than scores	
	255		214		41	
Follow-up 1	236	(92.5%)	196	(91.6%)	40	(97.6%)
Follow-up 2	15	(5.9%)	13	(6.1%)	2	(4.9%)
Follow-up 3	2	(0.8%)	2	(0.9%)	0	(0.0%)
Declined support	0	(0.0%)	0	(0.0%)	0	(0.0%)

Follow-up 1: Targets confirmed to be improving or self-managing their problems.
Follow-up 2: Targets not fully recovering from health problems, emotional aftermath of the disaster, adjustment problems, etc.
Follow-up 3: Targets whose status could not be confirmed.

The reasons for 'Follow-up 2' were categorized into the following: 10 (66.7%) for physical health problems, 5 (33.3%) for mental health problems, 1 (6.7%) for social maladaptation, 2 (13.3%) for isolation. (Table 18).

Table 18: Breakdown of the reasons for 'Follow-up 2 (among the mail support target)

	Total		Based on the scores		Items other than scores	
Number of 'Follow-up 2'	15		13		2	
Physical problems	10	(66.7%)	9	(69.2%)	1	(50.0%)
Mental problems	5	(33.3%)	4	(30.8%)	1	(50.0%)
Social maladaptation	1	(6.7%)	1	(7.7%)	0	(0.0%)
Isolation	2	(13.3%)	2	(15.4%)	0	(0.0%)
Other (checked residents' condition)	0	(0.0%)	0	(0.0%)	0	(0.0%)

The breakdown provides the total number.

The types of support provided are: "listened carefully," 230 (90.2%); "recommended seeing a doctor," 16 (6.3%); "advised lifestyle changes," 32 (12.5%); "offered psychological education," 10 (3.9%); "provided information by phone," 2 (0.8%); and "other (checked residents' condition)," 20 (7.8%) (Table 19).

Table 19: Categories of the support (among the mail support targets)

Support provided	Total 255		Based on the scores 214		Items other than scores 41	
Listened carefully	230	(90.2%)	190	(88.8%)	40	(97.6%)
Recommended seeing a doctor	16	(6.3%)	7	(3.3%)	9	(22.0%)
Advised lifestyle changes	32	(12.5%)	15	(7.0%)	17	(41.5%)
Offered psychoeducation	10	(3.9%)	5	(2.3%)	5	(12.2%)
Provided information by phone	2	(0.8%)	1	(0.5%)	1	(2.4%)
Provided information by phone	20	(7.8%)	17	(7.9%)	3	(7.3%)

The breakdown provides the total number.

Among those who needed continued support, 17 were categorized as “Follow-up support”, and 2 were as “Mail support” (Table 20).

Table 20: Continued support

Support provided	Total 255		Based on the scores 214		Items other than scores 41	
Follow-up support	17	(6.7%)	9	(4.2%)	8	(19.5%)
Referred to outside institutio	0	(0.0%)	0	(0.0%)	0	(0.0%)
Mail support	2	(0.8%)	1	(0.5%)	1	(2.4%)
Directed to other departments	0	(0.0%)	0	(0.0%)	0	(0.0%)

Follow-up support: Participants requiring continued telephone counselling.

Referred to outside institutions:
Participants required to be referred to municipal government or the Fukushima Center for Disaster Mental Health.

Mail support: Participants were sent referral, list of registered general practitioners, information of institutions outside the prefecture for support, and letters providing information for registered doctors.

Directed to other departments:
Participants needing services related to the Basic Survey and/or Thyroid Ultrasound Examination of FMU’s Radiation Medical Science Centre.

6.4-3 Support by items (lifestyle) other than scores

(A) Characteristics of Support Targets

Of total 256 identified as Support Targets, 157 on the basis of HT/DM • BMI, 65 by HT/DM • Excessive drinking, 7 by HT/DM • BMI • Excessive drinking, and 27 by high-risk drinking. Among the Support Targets, 189 (73.8%) were male and 67 (26.2%) were female. As for age distribution, those in their 60s had the largest number which was 69 (27.0%), followed by those in their 50s which was 61 (23.8%) and those in their 40s was 53 (20.7%). For the area distribution, 204 (79.7%) lived within Fukushima Prefecture and 52 (20.3%) lived outside Fukushima (Table 21).

Table 21: Telephone Support Targets identified by items other than scores

(By sex, age group and area)

Support provided	Total		HT/DM・BMI		HT/DM・Excessive drinking		HT/DM・BMI・Excessive drinking		High-risk drinking	
	256		157		65		7		27	
Sex										
Male	189	(73.8%)	95	(60.5%)	63	(96.9%)	7	(100.0%)	24	(88.9%)
Female	67	(26.2%)	62	(39.5%)	2	(3.1%)	0	(0.0%)	3	(11.1%)
Age group										
15-19	1	(0.4%)	1	(0.6%)	0	(0.0%)	0	(0.0%)	0	(0.0%)
20-29	11	(4.3%)	10	(6.4%)	0	(0.0%)	0	(0.0%)	1	(3.7%)
30-39	30	(11.7%)	28	(17.8%)	0	(0.0%)	0	(0.0%)	2	(7.4%)
40-49	53	(20.7%)	31	(19.7%)	15	(23.1%)	2	(28.6%)	5	(18.5%)
50-59	61	(23.8%)	32	(20.4%)	20	(30.8%)	1	(14.3%)	8	(29.6%)
60-69	69	(27.0%)	34	(21.7%)	23	(35.4%)	3	(42.9%)	9	(33.3%)
70-79	20	(7.8%)	15	(9.6%)	3	(4.6%)	1	(14.3%)	1	(3.7%)
80-	11	(4.3%)	6	(3.8%)	4	(6.2%)	0	(0.0%)	1	(3.7%)
Area of residence										
Within Fukushima	204	(79.7%)	124	(79.0%)	51	(78.5%)	6	(85.7%)	23	(85.2%)
Outside Fukushima	52	(20.3%)	33	(21.0%)	14	(21.5%)	1	(14.3%)	4	(14.8%)

Age groups are calculated on the basis of 1 April 2016.

Areas are at the time of sending survey questionnaires in FY 2016.

(B) The status of support Targets

Telephone counselling was provided to 214 targets in total: 131 with ‘HT/DM • BMI’, 54 with ‘HT/DM • Excessive drinking,’ 7 with ‘HT/DM • BMI • Excessive drinking,’ and 22 with ‘high-risk drinking.’

In the telephone counseling sessions, we asked how aware they were of the importance of exercising and diet, or risks from alcohol and smoking. Table 22 shows the results.

Table 22: Awareness of one's own lifestyle

Support provided	HT/DM・BMI	HT/DM・Excessive drinking	HT/DM・BMI・Excessive drinking	High-risk drinking
Total 214	131	54	7	22
Exercise	71 (54.2%)	16 (29.6%)	3 (42.9%)	10 (45.5%)
Dietary habits	76 (58.0%)	22 (40.7%)	3 (42.9%)	10 (45.5%)
Drinking, smoking	29 (22.1%)	31 (57.4%)	6 (85.7%)	14 (63.6%)

Multiple answers allowed.

(C) The results of support (other than scores)

At the first telephone support, we found out that 103 (48.1%) had been receiving medical care. The number of those who require continued support, such as advice on lifestyle habits, was 111 (51.9%) in total: 72 with 'HT/DM • BMI,' 24 with 'HT/DM • Excessive drinking,' 6 with 'HT/DM • BMI • Excessive drinking,' and 9 with 'high-risk drinking.' (Table 23.)

Table 23: Results of the first telephone counseling

Support provided	Total	HT/DM・BMI	HT/DM・Excessive drinking	HT/DM・BMI・Excessive drinking	High-risk drinking
	214	131	54	7	22
No follow-up support	103 (48.1%)	59 (45.0%)	30 (55.6%)	1 (14.3%)	13 (59.1%)
Follow-up support	111 (51.9%)	72 (55.0%)	24 (44.4%)	6 (85.7%)	9 (40.9%)

Multiple answers allowed.

Among the 111 participants requiring follow-up support, we have provided follow-up support for 86 (77.5%) in total: of which 51 with 'HT/DM • BMI,' 22 with 'HT/DM • Excessive drinking,' 5 with 'HT/DM • BMI • Excessive drinking,' and 8 with 'high-risk drinking.' The number of those who were confirmed to have sought professional help or made lifestyle changes was 62 (72.1%) in total: 37 with 'HT/DM • BMI,' 15 with 'HT/DM • Excessive drinking,' 3 with 'HT/DM • BMI • Excessive drinking,' and 7 with 'high-risk drinking.' The breakdown of those who improved was: 29 by doctor examination, 50 by lifestyle improvement, and 19 by both of these (Table 24).

Table 24: Results of follow-up support

Support provided	Total	HT/DM・BMI	HT/DM・Excessive drinking	HT/DM・BMI・Excessive drinking	High-risk drinking
	111	72	24	6	9
Participants receiving follow-up support	86 (77.5%)	51 (70.8%)	22 (91.7%)	5 (83.3%)	8 (88.9%)
Did not improve	24 (27.9%)	14 (27.5%)	7 (31.8%)	2 (40.0%)	1 (12.5%)
Improved	62 (72.1%)	37 (72.5%)	15 (68.2%)	3 (60.0%)	7 (87.5%)
Breakdown*					
a.Visited doctors	29 (46.8%)	14 (37.8%)	7 (46.7%)	3 (100.0%)	5 (71.4%)
b. Improved lifestyle	50 (80.6%)	35 (94.6%)	11 (73.3%)	2 (66.7%)	2 (28.6%)
a & b	19 (30.6%)	12 (32.4%)	3 (20.0%)	2 (66.7%)	2 (28.6%)

Multiple data allowed for improved content.

7. Summary

Frequently raised problems in telephone support for children are: “school related issues,” “anger, irritation and violence,” and “physical health problem” (parents raised “school related issues,” “physical health problems,” and “sleep”; for adults, “physical health problems,” “sleep,” and “depression” prevailed.

As for support provided to children, “listening carefully” was the most frequent and followed by “Psychological education”. For adults, “listening carefully” was the most common, followed by “lifestyle instruction” and “recommended seeing a doctor”.

As a result of telephone support, those categorized as “Follow-up 2 (Support Targets not fully recovering from health problems, emotional aftermath of the disaster, adjustment problems, etc.)” were 5.5% among children, declined from FY2015 survey (13.6%). The result for adults was 8.6%, declined from FY2015 survey (12.5%). The mail support target was 5.9%, declined from FY2015 survey (6.6%).

The reasons for categorizing cases to “Follow-up 2” for children are “mental problem,” “school maladjustment” (for guardians, “child rearing” was the most), for adults, “physical problem” and “mental problem” were the major reasons.

Where deemed necessary by telephone support, we moved on to “follow-up support” and “referred to outside institution” to continue watching over and confirming the status quo, and to connect cases to regional medical services. Especially, of those to whom we provided continued support based on lifestyle support standards, 70% showed changes such as visits to doctors and lifestyle improvement, indicating a certain level of effect of telephone support.

References

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