Report on the Basic Survey (Radiation Dose Estimates), the Fukushima Health Management Survey

1. Summary of Survey

1.1 Purpose

Considering the 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 behavior records and inform them of the results for their future health management.

1.2 Survey Population

A. Those who were registered as residents of Fukushima Prefecture from March 11 to July 1, 2011.
B. Those who lived or stayed in Fukushima without being registered as residents and who commuted to Fukushima from outside for work, school, or other reasons (from now on, “Temporary Residents”). We sent them basic survey questionnaires when requested.

2. Response Rates and Radiation Dose Estimates

2.1 Response Rates of Residents

The overall response rate to the Basic Survey (radiation dose estimates) for the entire Fukushima Prefecture population was 27.7% (569,691 out of 2,055,238) as of March 31, 2024. Among those respondents, 75,619 (*1) answered with the simplified questionnaire (Table 1).
The responses received from April 1, 2023, to March 31, 2024 (FY2023) were 75 with the original questionnaire and 178 with the simplified one, for a total of 253.

Table 1 Response rate to the Basic Survey

As of March 31, 2024

Survey Population	2,055,238	Response Rate
Original questionnaire	494,072	24.0%
Simplified questionnaire	75,619	3.7%
Total Responses	569,691	27.7%

(*1) The number of submissions using the simplified questionnaire is subject to change, because we may need to ask some respondents who used the simplified questionnaire to resubmit using the original questionnaire, based on the content of their simplified questionnaire responses.

Table 2 shows the response rates for each age group.

Table 2 Response rate by age group

As of March 31, 2024

Age group	0 - 9	10 - 19	20 - 29	30 - 39	40 - 49	50 - 59	60-	Total
Response Rate	46.8%	36.4%	18.2%	24.9%	22.5%	23.0%	27.9%	27.7%

*Percentages have been rounded

2.2 Radiation Dose Estimates

Out of 569,691 total responses, 555,573 were accepted as valid. Others had incomplete or invalid answers, from which movements and/or location history were inadequately documented for dose estimation (*2). Among valid responses, 555,446 dose estimates have been completed, and results have been reported to 555,258 respondents (Table 3) (*3).

Table 3 Basic Survey response, dose estimation and notification summary by region

As of March 31, 2024

Region	Survey population a	Responses b	Response rate c=b/a	Valid response d	Valid response rate e=d/a	Estimates completed f	Completion rate g=f/d	Results notified h	Notification rate i=h/d
Kenpoku	504,015	152,531	30.3%	149,609	29.7%	149,586	100.0%	149,534	99.9%
Kenchu	557,176	137,369	24.7%	134,270	24.1%	134,224	100.0%	134,212	100.0%
Kennan	152,226	35,678	23.4%	34,869	22.9%	34,857	100.0%	34,847	99.9%
Aizu	267,198	58,466	21.9%	56,264	21.1%	56,245	100.0%	56,236	100.0%
Minamiaizu	30,788	6,428	20.9%	6,121	19.9%	6,121	100.0%	6,120	100.0%
Soso	195,594	90,300	46.2%	87,590	44.8%	87,584	100.0%	87,492	99.9%
Iwaki	348,241	88,919	25.5%	86,850	24.9%	86,829	100.0%	86,817	100.0%
Total	2,055,238	569,691	27.7%	555,573	27.0%	555,446	100.0%	555,258	99.9%

Some figures include preliminary survey data (Yamakiya District of Kawamata Town, Namie Town, and Iitate Village).
Refer to Appendix 1 for the results of each municipality. (*3)
*Percentages have been rounded

(*2) Incomplete or invalid responses are those in which additional information was necessary for dose estimation (e.g., by soliciting details of their behavior through direct contact, etc.), but was not obtained because the respondents' contact information was not available or because respondents declined to participate in the survey (including those informed through our Call Center).

(*3) The number of responses, valid responses, dose estimates completed, and results returned in Table 3, Table 4, and Appendix 1 include data from the responses that did not contain behavior records for the full four months after March 11, which is the period favored for dose estimation.

2.3 Response rates and dose estimates for temporary residents

We have been estimating doses for non-residents who visited or stayed in Fukushima Prefecture at the time of the accident (Table 4).(*3)

Table 4 Summary of temporary residents' response status

As of March 31, 2024

Questionnaires sent a	Reponses b	Reponse rate c=b/a	Valid responses d	Valid response rate e=d/a	Estimates completed f	Completion rate g=f/d	Results notified h	Notification rate i=h/d
4,203	2,190	52.1%	2,180	51.9%	2,180	100.0%	2,180	100.0%

*Percentages have been rounded

3. Results of Radiation Dose Estimates

Table 5 shows the breakdown of dose estimates from Table 3, excluding those with an estimation period of less than four months.

Radiation doses for a total of 476,705 residents have been estimated to date. Results for 467,484 respondents (excluding radiation workers) suggest that about 87% of the respondents in Kenpoku and about 92% in Kenchu were exposed to <2 mSv. The doses for approximately 88% of the respondents in Kennan and more than 99% of those in Aizu and Minamiaizu were <1 mSv. Furthermore, the doses for about 77 % of respondents in Soso and more than 99% of respondents in Iwaki were also <1 mSv.

Table 5 Summary of estimated effective dose distribution

As of March 31, 2024

Effective dose (mSv)	Total	Excluding radiation workers				Summary by region, excluding radiation workers													
						Kenpoku (*4)		Kenchu		Kennan		Aizu		Minamiaizu		Soso (*5)		Iwaki	
< 1	296,711	290,978	62.2%	93.8%		24,992	20.0%	58,626	51.5%	26,455	88.2%	46,336	99.3%	4,987	99.3%	55,920	77.3%	73,662	99.1%
< 2	150,063	147,713	31.6%			83,987	67.0%	46,503	40.8%	3,522	11.7%	312	0.7%	37	0.7%	12,715	17.6%	637	0.9%
< 3	26,190	25,816	5.5%	5.8%	99.8%	15,744	12.6%	8,308	7.3%	18	0.1%	25	0.1%	0	—	1,691	2.3%	30	0.0%
< 4	1,587	1,504	0.3%			473	0.4%	429	0.4%	0	—	1	0.0%	0	—	597	0.8%	4	0.0%
< 5	551	505	0.1%	0.2%		40	0.0%	5	0.0%	0	—	0	—	0	—	459	0.6%	1	0.0%
< 6	442	390	0.1%			19	0.0%	3	0.0%	0	—	0	—	0	—	367	0.5%	1	0.0%
< 7	270	231	0.0%	0.1%		10	0.0%	1	0.0%	0	—	1	0.0%	0	—	219	0.3%	0	—
< 8	155	116	0.0%		0.2%	1	0.0%	0	—	0	—	0	—	0	—	115	0.2%	0	—
< 9	118	78	0.0%	0.0%		1	0.0%	0	—	0	—	0	—	0	—	77	0.1%	0	—
<10	73	41	0.0%			0	—	0	—	0	—	0	—	0	—	41	0.1%	0	—
<11	70	37	0.0%	0.0%		0	—	1	0.0%	0	—	0	—	0	—	36	0.0%	0	—
<12	52	30	0.0%			1	0.0%	0	—	0	—	0	—	0	—	29	0.0%	0	—
<13	37	13	0.0%	0.0%	0.0%	0	—	0	—	0	—	0	—	0	—	13	0.0%	0	—
<14	36	12	0.0%			0	—	0	—	0	—	0	—	0	—	12	0.0%	0	—
<15	27	6	0.0%	0.0%		0	—	0	—	0	—	0	—	0	—	6	0.0%	0	—
≥15	323	14	0.0%		0.0%	0	—	0	—	0	—	0	—	0	—	14	0.0%	0	—
Total	476,705	467,484	100.0%	100.0%	100.0%	125,268	100%	113,876	100%	29,995	100%	46,675	100%	5,024	100%	72,311	100%	74,335	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		0.7mSv		0.3mSv	
Median	0.6mSv	0.6mSv				1.4mSv		0.9mSv		0.5mSv		0.2mSv		0.1mSv		0.5mSv		0.3mSv	

(*4) Includes the Preliminary survey responses and results of Yamakiya district, Kawamata Town

(*5) Includes the Preliminary survey responses and results of Namie Town and Iitate Village

*Percentages are rounded to one decimal place

*The summary data is calculated excluding those estimation periods were less than four months

・Distribution of estimated external doses by area, by age group, by gender, and by municipality (Appendix 2, 3-1, 3-2, and 4, respectively).

4. Evaluation of the effective dose estimation results

The latest effective radiation dose estimates show similar trends to those observed thus far in prior years. Since previous epidemiological studies indicate no significant health effects at doses ≤100 mSv[1)], we concluded that radiation doses estimated so far are unlikely to cause adverse effects on health. However, 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, Volume 2, submitted to the General Assembly, with scientific annexes.

5. Questionnaire Response Guidance Sessions

In FY2023, we held 27 response guidance sessions in total, at Thyroid Ultrasound Examination venues in 7 regions in the prefecture as follows.

First half of the year: 10 times between July 21, 2023 and August 20, 2023
Second half of the year: 17 times between November 26, 2023 and March 26, 2024

Contact opportunities remain open for those who wish to discuss their level of exposure. Reissuance of questionnaires can still be requested through the homepage of the Radiation Medical Science Center and the Call Center. In addition, information leaflets about the Basic Survey are available at municipal offices.

Appendix 1

Response rates to the Basic Survey by municipality

(Entire prefecture data including preliminary survey)

As of March 31, 2024

Region & Municipalities		Survey population	Total responses	Response rate	Valid responses	Valid response rate	Estimates completed	Completion rate	Results sent	Notified rate	Remarks
		a	b	c=b/a	d	e=d/a	f	g=f/d	h	i=h/d	
Kenpoku	Fukushima	295,632	94,101	31.8%	92,592	31.3%	92,574	100.0%	92,542	99.9%	
	Nihonmatsu	60,854	16,942	27.8%	16,577	27.2%	16,575	100.0%	16,573	100.0%	
	Date	67,574	18,328	27.1%	17,863	26.4%	17,861	100.0%	17,849	99.9%	
	Motomiya	31,759	9,116	28.7%	8,947	28.2%	8,947	100.0%	8,946	100.0%	
	Koori	13,207	3,886	29.4%	3,777	28.6%	3,777	100.0%	3,777	100.0%	
	Kunimi	10,316	3,030	29.4%	2,942	28.5%	2,942	100.0%	2,942	100.0%	
	Kawamata	15,883	5,190	32.7%	5,017	31.6%	5,017	100.0%	5,012	99.9%	
	Otama	8,790	1,938	22.0%	1,894	21.5%	1,893	99.9%	1,893	99.9%	
	Total	504,015	152,531	30.3%	149,609	29.7%	149,586	100.0%	149,534	99.9%	
Kenchu	Koriyama	339,671	87,468	25.8%	85,701	25.2%	85,660	100.0%	85,655	99.9%	
	Sukagawa	80,156	17,344	21.6%	16,908	21.1%	16,904	100.0%	16,904	100.0%	
	Tamura	41,723	10,591	25.4%	10,227	24.5%	10,226	100.0%	10,223	100.0%	
	Kagamiishi	13,109	2,924	22.3%	2,861	21.8%	2,861	100.0%	2,861	100.0%	
	Tenei	6,469	1,259	19.5%	1,228	19.0%	1,228	100.0%	1,228	100.0%	
	Ishikawa	17,489	4,251	24.3%	4,147	23.7%	4,147	100.0%	4,147	100.0%	
	Tamakawa	7,333	1,511	20.6%	1,463	20.0%	1,463	100.0%	1,462	99.9%	
	Hirata	7,053	1,667	23.6%	1,611	22.8%	1,611	100.0%	1,611	100.0%	
	Asakawa	7,163	1,533	21.4%	1,498	20.9%	1,498	100.0%	1,497	99.9%	
	Furudono	6,321	1,326	21.0%	1,291	20.4%	1,291	100.0%	1,291	100.0%	
	Miharu	18,989	4,883	25.7%	4,787	25.2%	4,787	100.0%	4,786	100.0%	
	Ono	11,700	2,612	22.3%	2,548	21.8%	2,548	100.0%	2,547	100.0%	
	Total	557,176	137,369	24.7%	134,270	24.1%	134,224	100.0%	134,212	100.0%	
Kennan	Shirakawa	65,428	16,249	24.8%	15,918	24.3%	15,909	99.9%	15,905	99.9%	
	Nishigo	20,088	5,083	25.3%	4,966	24.7%	4,965	100.0%	4,964	100.0%	
	Izumizaki	6,931	1,444	20.8%	1,405	20.3%	1,405	100.0%	1,404	99.9%	
	Nakajima	5,306	1,025	19.3%	1,000	18.8%	1,000	100.0%	1,000	100.0%	
	Yabuki	18,341	4,142	22.6%	4,036	22.0%	4,034	100.0%	4,033	99.9%	
	Tanagura	15,384	3,080	20.0%	3,015	19.6%	3,015	100.0%	3,015	100.0%	
	Yamatsuri	6,491	1,487	22.9%	1,440	22.2%	1,440	100.0%	1,438	99.9%	
	Hanawa	10,061	2,342	23.3%	2,291	22.8%	2,291	100.0%	2,290	100.0%	
	Samegawa	4,196	826	19.7%	798	19.0%	798	100.0%	798	100.0%	
	Total	152,226	35,678	23.4%	34,869	22.9%	34,857	100.0%	34,847	99.9%	
Aizu	Aizuwakamatsu	127,814	29,892	23.4%	28,917	22.6%	28,908	100.0%	28,907	100.0%	
	Kitakata	53,199	11,153	21.0%	10,725	20.2%	10,724	100.0%	10,719	99.9%	
	Kitashiobara	3,276	613	18.7%	590	18.0%	590	100.0%	590	100.0%	
	Nishiaizu	7,725	1,464	19.0%	1,362	17.6%	1,362	100.0%	1,362	100.0%	
	Bandai	3,888	796	20.5%	778	20.0%	778	100.0%	777	99.9%	
	Inawashiro	16,271	3,672	22.6%	3,540	21.8%	3,540	100.0%	3,539	100.0%	
	Aizubange	17,881	3,333	18.6%	3,189	17.8%	3,185	99.9%	3,185	99.9%	
	Yugawa	3,513	749	21.3%	716	20.4%	713	99.6%	713	99.6%	
	Yanaizu	4,077	734	18.0%	702	17.2%	702	100.0%	702	100.0%	
	Mishima	2,029	375	18.5%	341	16.8%	341	100.0%	341	100.0%	
	Kaneyama	2,544	631	24.8%	575	22.6%	575	100.0%	575	100.0%	
	Showa	1,569	354	22.6%	327	20.8%	327	100.0%	327	100.0%	
	Aizumisato	23,412	4,700	20.1%	4,502	19.2%	4,500	100.0%	4,499	99.9%	
	Total	267,198	58,466	21.9%	56,264	21.1%	56,245	100.0%	56,236	100.0%	
Minamiaizu	Shimogo	6,649	1,260	19.0%	1,202	18.1%	1,202	100.0%	1,202	100.0%	
	Hinoemata	614	144	23.5%	135	22.0%	135	100.0%	135	100.0%	
	Tadami	5,030	1,152	22.9%	1,090	21.7%	1,090	100.0%	1,090	100.0%	
	Minamiaizu	18,495	3,872	20.9%	3,694	20.0%	3,694	100.0%	3,693	100.0%	
	Total	30,788	6,428	20.9%	6,121	19.9%	6,121	100.0%	6,120	100.0%	
Soso	Soma	37,365	13,332	35.7%	12,825	34.3%	12,824	100.0%	12,805	99.8%	
	Minamisoma	70,013	30,319	43.3%	29,519	42.2%	29,519	100.0%	29,498	99.9%	
	Hirono	5,165	2,243	43.4%	2,153	41.7%	2,152	100.0%	2,150	99.9%	
	Naraha	7,963	4,191	52.6%	4,033	50.6%	4,033	100.0%	4,025	99.8%	
	Tomioka	15,749	8,649	54.9%	8,433	53.5%	8,431	100.0%	8,422	99.9%	
	Kawauchi	2,996	1,543	51.5%	1,489	49.7%	1,489	100.0%	1,489	100.0%	
	Okuma	11,473	6,092	53.1%	5,868	51.1%	5,868	100.0%	5,867	100.0%	
	Futaba	7,051	3,953	56.1%	3,853	54.6%	3,853	100.0%	3,846	99.8%	
	Namie	21,334	12,995	60.9%	12,701	59.5%	12,700	100.0%	12,685	99.9%	
	Katsurao	1,541	825	53.5%	768	49.8%	768	100.0%	768	100.0%	
	Shinchi	8,356	2,712	32.5%	2,613	31.3%	2,612	100.0%	2,609	99.8%	
	Iitate	6,588	3,446	52.3%	3,335	50.6%	3,335	100.0%	3,328	99.8%	
	Total	195,594	90,300	46.2%	87,590	44.8%	87,584	100.0%	87,492	99.9%	
Iwaki	Iwaki	348,241	88,919	25.5%	86,850	24.9%	86,829	100.0%	86,817	100.0%	
Grand Total		2,055,238	569,691	27.7%	555,573	27.0%	555,446	100.0%	555,258	99.9%	

Appendix 2

Basic Survey

Estimation Period - 4 months (from March 11 to July 11)

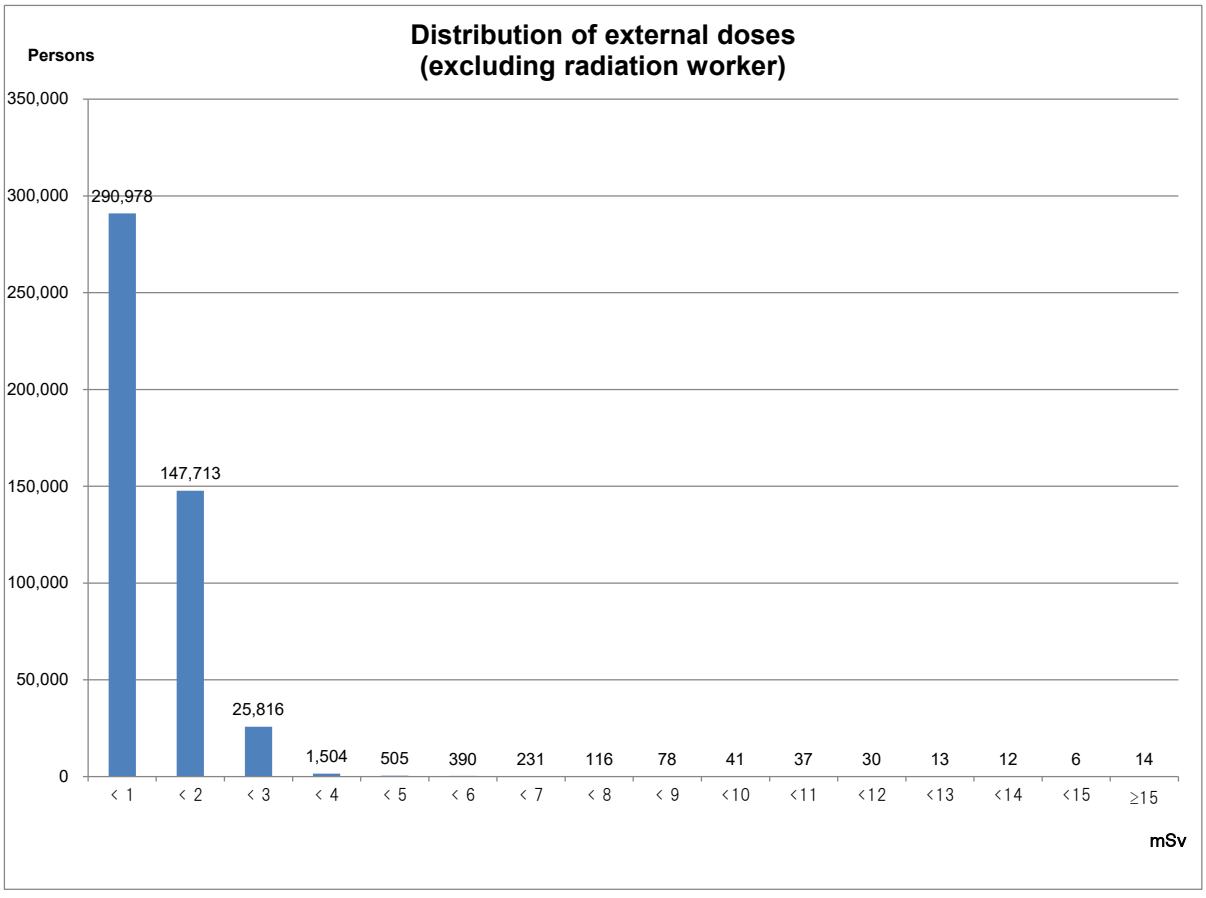
As of March 31, 2024

(Entire prefecture data including preliminary survey)

Distribution of estimated external doses by region

Estimated dose (mSv)	Total	Excluding radiation workers	Breakdown by region							Proportion (%)		
			Kenpoku	Kenchu	Kennan	Aizu	Minami aizu	Soso	Iwaki			
< 1	296,711	290,978	24,992	58,626	26,455	46,336	4,987	55,920	73,662	62.2	93.8	99.8
< 2	150,063	147,713	83,987	46,503	3,522	312	37	12,715	637	31.6		
< 3	26,190	25,816	15,744	8,308	18	25	0	1,691	30	5.5	5.8	
< 4	1,587	1,504	473	429	0	1	0	597	4	0.3		
< 5	551	505	40	5	0	0	0	459	1	0.1	0.2	
< 6	442	390	19	3	0	0	0	367	1	0.1		0.2
< 7	270	231	10	1	0	1	0	219	0	0.0	0.1	
< 8	155	116	1	0	0	0	0	115	0	0.0		
< 9	118	78	1	0	0	0	0	77	0	0.0	0.0	
<10	73	41	0	0	0	0	0	41	0	0.0		
<11	70	37	0	1	0	0	0	36	0	0.0	0.0	0.0
<12	52	30	1	0	0	0	0	29	0	0.0		
<13	37	13	0	0	0	0	0	13	0	0.0	0.0	
<14	36	12	0	0	0	0	0	12	0	0.0		
<15	27	6	0	0	0	0	0	6	0	0.0	0.0	
≥15	323	14	0	0	0	0	0	14	0	0.0	0.0	0.0
Total	476,705	467,484	125,268	113,876	29,995	46,675	5,024	72,311	74,335	100.0	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	0.7	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

Estimation Period - 4 months (From March 11 to July 11)

As of March 31, 2024

Distribution of estimated external doses by age group (excluding radiation workers)

Estimated Dose (mSv)	Age at the time of the disaster (years-old)									Total
	0 - 9	10 - 19	20 - 29	30 - 39	40 - 49	50 - 59	60 - 69	70 - 79	80 -	
< 1	48,546	45,510	21,443	34,504	28,829	32,916	36,338	25,736	17,156	290,978
< 2	23,167	21,958	10,180	18,389	16,727	18,560	19,499	12,294	6,939	147,713
< 3	6,516	4,314	1,143	2,355	2,252	2,975	3,425	1,996	840	25,816
< 4	253	161	81	158	154	230	233	164	70	1,504
< 5	19	47	35	39	75	95	81	76	38	505
< 6	14	13	29	34	47	86	73	66	28	390
< 7	3	7	10	22	24	45	52	47	21	231
< 8	4	4	8	9	13	35	22	14	7	116
< 9	2	6	2	7	8	16	16	12	9	78
<10	0	1	2	3	3	12	11	5	4	41
<11	1	1	2	2	6	11	5	6	3	37
<12	0	0	1	3	0	5	8	11	2	30
<13	0	0	0	0	1	6	4	1	1	13
<14	0	0	1	1	1	4	3	2	0	12
<15	0	0	0	0	0	3	3	0	0	6
≥15	0	0	0	0	2	3	6	1	2	14
Total	78,525	72,022	32,937	55,526	48,142	55,002	59,779	40,431	25,120	467,484

Appendix 3-2

Estimation Period - 4 months (From March 11 to July 11)

As of March 31, 2024

Distribution of estimated external doses by gender (excluding radiation workers)

Estimated dose (mSv)	By gender				Total	Proportion (%)
	Male	Proportion (%)	Female	Proportion (%)		
< 1	129,734	60.6	161,244	63.6	290,978	62.2
< 2	68,418	32.0	79,295	31.3	147,713	31.6
< 3	14,023	6.6	11,793	4.7	25,816	5.5
< 4	955	0.4	549	0.2	1,504	0.3
< 5	282	0.1	223	0.1	505	0.1
< 6	199	0.1	191	0.1	390	0.1
< 7	130	0.1	101	0.0	231	0.0
< 8	64	0.0	52	0.0	116	0.0
< 9	49	0.0	29	0.0	78	0.0
<10	24	0.0	17	0.0	41	0.0
<11	23	0.0	14	0.0	37	0.0
<12	16	0.0	14	0.0	30	0.0
<13	6	0.0	7	0.0	13	0.0
<14	8	0.0	4	0.0	12	0.0
<15	3	0.0	3	0.0	6	0.0
≥15	11	0.0	3	0.0	14	0.0
Total	213,945	100.0	253,539	100.0	467,484	100.0

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

Basic Survey
Summary of estimated dose results (Estimation period for 4 months from March 11 to July 11)

Appendix 4

As of March 31, 2024

Distribution of estimated external doses by municipality (excluding radiation workers)

Region	Municipality	Mean dose	Estimated cumulative doses)																Total
			< 1	< 2	< 3	< 4	< 5	< 6	< 7	< 8	< 9	< 10	< 11	< 12	< 13	< 14	< 15	≥ 15	
Kenpoku	Fukushima	1.4	16,211	52,717	9,412	151	13	10	4	0	0	0	0	0	0	0	0	0	78,518
	Nihonmatsu	1.6	1,318	8,680	3,540	91	1	0	0	0	0	0	0	0	0	0	0	0	13,630
	Date	1.3	4,397	9,106	1,135	147	8	2	3	1	1	0	0	0	0	0	0	0	14,800
	Motomiya	1.5	746	5,464	1,261	24	1	0	0	0	0	0	0	0	0	0	0	0	7,496
	Koori	1.3	315	2,754	66	2	0	1	0	0	0	0	0	0	0	0	0	0	3,138
	Kunimi	1.0	968	1,437	12	0	0	0	0	0	0	0	0	0	0	0	0	0	2,417
	Kawamata	1.2	643	2,754	185	56	17	6	3	0	0	0	0	1	0	0	0	0	3,665
	Otama	1.3	394	1,075	133	2	0	0	0	0	0	0	0	0	0	0	0	0	1,604
	Subtotal	1.4	24,992	83,987	15,744	473	40	19	10	1	1	0	0	1	0	0	0	0	125,268
Kenchu	Koriyama	1.3	24,093	40,902	7,853	419	5	3	1	0	0	0	0	0	0	0	0	0	73,276
	Sukagawa	0.7	10,888	3,229	338	4	0	0	0	0	0	0	0	0	0	0	0	0	14,459
	Tamura	0.4	7,704	684	24	3	0	0	0	0	0	0	0	0	0	0	0	0	8,415
	Kagamiishi	0.5	2,372	76	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,448
	Tenei	1.2	405	590	60	1	0	0	0	0	0	0	0	0	0	0	0	0	1,056
	Ishikawa	0.3	3,209	39	2	0	0	0	0	0	0	0	0	0	0	0	0	0	3,250
	Tamakawa	0.3	1,185	19	3	0	0	0	0	0	0	0	0	0	0	0	0	0	1,207
	Hirata	0.3	1,301	35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,336
	Asakawa	0.3	1,236	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,251
	Furudono	0.3	1,074	14	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1,090
	Miharu	0.7	3,131	817	24	2	0	0	0	0	0	0	1	0	0	0	0	0	3,975
	Ono	0.3	2,028	83	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2,113
	Subtotal	1.0	58,626	46,503	8,308	429	5	3	1	0	0	0	1	0	0	0	0	0	113,876
Kennan	Shirakawa	0.7	12,528	1,287	9	0	0	0	0	0	0	0	0	0	0	0	0	0	13,824
	Nishigo	0.9	2,250	2,047	3	0	0	0	0	0	0	0	0	0	0	0	0	0	4,300
	Izumizaki	0.4	1,164	21	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1,186
	Nakajima	0.4	845	13	1	0	0	0	0	0	0	0	0	0	0	0	0	0	859
	Yabuki	0.4	3,393	83	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3,477
	Tanagura	0.4	2,577	28	3	0	0	0	0	0	0	0	0	0	0	0	0	0	2,608
	Yamatsuri	0.1	1,162	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,171
	Hanawa	0.2	1,881	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,904
	Samegawa	0.3	655	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	666
	Subtotal	0.6	26,455	3,522	18	0	0	0	0	0	0	0	0	0	0	0	0	0	29,995
Aizu	Aizuwakamatsu	0.2	23,910	161	13	0	0	0	1	0	0	0	0	0	0	0	0	0	24,085
	Kitakata	0.3	8,983	56	3	1	0	0	0	0	0	0	0	0	0	0	0	0	9,043
	Kitashiobara	0.4	481	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	485
	Nishiaizu	0.1	1,023	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,025
	Bandai	0.3	657	9	1	0	0	0	0	0	0	0	0	0	0	0	0	0	667
	Inawashiro	0.2	2,863	31	3	0	0	0	0	0	0	0	0	0	0	0	0	0	2,897
	Aizubange	0.3	2,680	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,695
	Yugawa	0.4	609	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	613
	Yanaizu	0.2	558	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	563
	Mishima	0.2	248	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	248
	Kaneyama	0.1	407	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	410
	Showa	0.2	245	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	246
	Aizumisato	0.3	3,672	23	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3,698
	Subtotal	0.2	46,336	312	25	1	0	0	1	0	0	0	0	0	0	0	0	0	46,675
Minamiaizu	Shimogo	0.1	972	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	977
	Hinoemata	0.1	105	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	105
	Tadami	0.1	882	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	887
	Minami-aizu	0.1	3,028	27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3,055
	Subtotal	0.1	4,987	37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5,024
Soso	Soma	0.6	10,042	467	87	20	5	0	0	0	0	2	0	0	0	0	0	0	10,623
	Minamisoma	0.7	19,146	6,231	514	99	35	3	7	4	1	0	0	1	0	0	0	0	26,041
	Hirono	0.3	1,845	59	2	0	0	0	1	0	1	0	0	0	0	0	0	0	1,908
	Naraha	0.3	3,403	131	13	2	0	1	1	0	0	0	0	0	0	0	0	0	3,551
	Tomioka	0.5	5,836	1,108	100	18	3	2	1	3	2	0	0	1	0	0	0	0	7,074
	Kawauchi	0.6	963	350	16	1	0	1	1	1	0	0	0	0	0	0	0	0	1,333
	Okuma	0.8	3,374	1,284	112	17	6	4	4	3	0	2	2	1	0	4	0	1	4,814
	Futaba	0.6	2,676	468	77	19	6	4	3	6	2	1	0	2	0	0	0	1	3,265
	Namie	0.8	5,767	2,118	383	68	40	17	12	13	9	6	11	7	5	4	3	8	8,471
	Katsurao	0.7	502	162	24	4	0	1	0	0	0	0	0	0	0	0	0	0	693
	Shinchi	0.5	2,180	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,200
	Iitate	4.0	186	317	363	349	364	334	189	85	62	30	23	17	8	4	3	4	2,338
	Subtotal	0.7	55,920	12,715	1,691	597	459	367	219	115	77	41	36	29	13	12	6	14	72,311
Iwaki	**Iwaki**	0.3	73,662	637	30	4	1	1	0	0	0	0	0	0	0	0	0	0	74,335
Total (A)		0.8	290,978	147,713	25,816	1,504	505	390	231	116	78	41	37	30	13	12	6	14	467,484
Proportion (%)			62.2	31.6	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		5.8		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
Temporary visitors (B)			1,607	284	18	2	0	0	0	0	0	0	0	0	0	0	0	1	1,912
Total (A) + (B)			292,585	147,997	25,834	1,506	505	390	231	116	78	41	37	30	13	12	6	15	469,396

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

Report on the Results of Mental Health and Lifestyle Survey for FY2022

1. Purpose

The Great East Japan Earthquake of March 11, 2011, the subsequent accident at the Fukushima Daiichi Nuclear Power Plant, and life under prolonged evacuation have caused great anxiety and psychological distress among Fukushima residents. The objectives of the Mental Health and Lifestyle Survey are to properly assess our residents' physical, psychological, and lifestyle conditions, and provide them with appropriate care and social support.

2. Methods

2-1 Eligible persons

- Those who were registered as residents in covered areas* from March 11, 2011, to April 1, 2012 (even after moving from those areas)
- Those who were registered as residents of municipalities designated as evacuation zones as of April 1, 2022
- Others, as warranted, based on Basic Survey results, even if the above conditions are not met

The total number of eligible persons: 193,785 (as of October 31, 2023)

Ages 0–3 Survey: born from April 2, 2019, to April 1, 2022,	2,274 persons
Ages 4–6 Survey: born from April 2, 2016, to April 1, 2019,	2,957 persons
Elementary School Students Survey: born from April 2, 2010, to April 1, 2016,	7,350 persons
Junior High School Students Survey: born from April 2, 2007 to April 1, 2010,	5,207 persons
Adults Survey: born on April 1, 2007, or before	175,997 persons

* Covered areas: Municipalities designated as evacuation zones by the Japanese Government in 2011. Hirono Town, Naraha Town, Tomioka Town, Kawauchi Village, Okuma Town, Futaba Town, Namie Town, Katsurao Village, Iitate Village, Minamisoma City, Tamura City, Kawamata Town, and parts of Date City (including specific spots recommended for evacuation)

2-2 Survey details

A. Survey sheets

Survey sheets developed for each age group were mailed to eligible persons. The Adults Survey sheets were to be answered by the addressees themselves, and other survey sheets (Junior High School Students Survey and surveys for younger age groups) were to be answered by parents/guardians of the addressees. The Junior High School Students Survey also contains questions to be answered by the addressees themselves.

The 2021 questionnaire reflects the decisions of the 40th Prefectural Oversight Committee Meeting, which considered the possibility that many survey items might be burdensome for respondents, so the number of survey items was reduced. Questions were focused on general mental health, sleep status, alcohol consumption, and other topics directly related to our support (reducing by about half the general mental health-related items of the Questionnaire). The questions were also slightly modified (e.g., smoking questions included vaping with electronic cigarettes).

B. Mailing dates

Survey sheets were mailed out in order from January 30, 2023.

C. Method of answering

Responses were returned either by post or online.
(Online responses were accepted from the day the survey sheets were delivered through April 30, 2023.)

2-3 Data tabulation period

Responses received from the start of FY2023 through October 31, 2023, were tabulated.

3. Summary of Survey Results

The results were tabulated by age groups including children (Ages 0 – 3, Ages 4 – 6, Elementary School Students, Junior High School Students) and adults. Due to some unreported items, totals may not match the number of valid responses. Percentages in this text and tabulation results are rounded, so they may not add up to 100%.

To mark yearly trends, the first survey year for FY2011 (or the second year for FY2012), the fifth year for FY2015, and the tenth year for FY2020, FY2021, and this year's survey for FY2022 — excluding questions about 'COVID-19 influences on daily lives' — and this year's results are indicated in their respective graphs and figures.

3-1 Results of the Children's Surveys (Ages 0 – 3, Ages 4 – 6, Elementary School Students, and Junior High School Students Surveys)

A. Number of respondents (and rates)

Total responses (and response rates) to the surveys on children (ages 0–3, ages 4–6, elementary school, and junior high school) in FY2022 are as indicated in Table 1 and Figure 1.

The percentages of online responses in FY2022 were 43.6% for those aged 0 to 3, 43.8% for those aged 4 to 6, 42.1% for elementary school students, and 43.5% for junior high school students; these were the highest numbers ever in terms of proportion.

Table 1 FY2022 Number of total responses and valid responses (response rates)

Age group	Respondents	Response Rate	Valid responses	Response Rate
0-3	296	(13.0)	296	(13.0)
4-6	333	(11.3)	333	(11.3)
Elementary school students	860	(11.7)	859	(11.7)
Junior high school students	681	(13.1)	680	(13.1)
Total	2,170	(12.2)	2,168	(12.2)

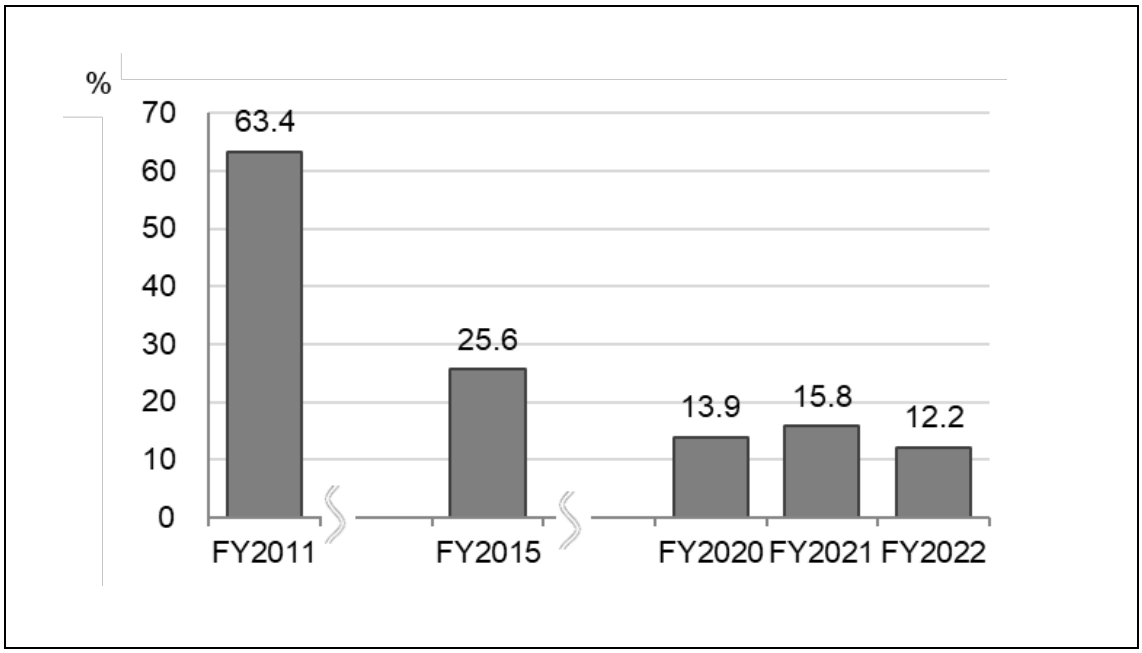


Figure 1 Changes in response rates for the children's surveys

B. Frequency of daily exercise

In the FY2022 survey, “Rarely” was the response of 2.1% in ages 2-3, 3.6% in ages 4-6, 35.5% of elementary school students, and 34.8% of junior high school students (see Figure 2 – 5).

According to a national survey on school children conducted in FY2022*1, the proportions of those who exercise for less than 60 minutes per week (excluding PE classes at school) were 8.8% of elementary school boys and 14.6% of elementary school girls, 8.1% of junior high school boys and 18.1% of junior high school girls. Although the national survey results are not directly comparable to our survey, they are worthy of attention and action.

*1 Sports Agency “FY2022 National Survey on Physical Fitness, Athletic Performance, and Exercise Habits” Chapter 1. Summary of the Survey Results, https://www.mext.go.jp/sports/content/20221215-spt_sseisaku02-000026462_5.pdf

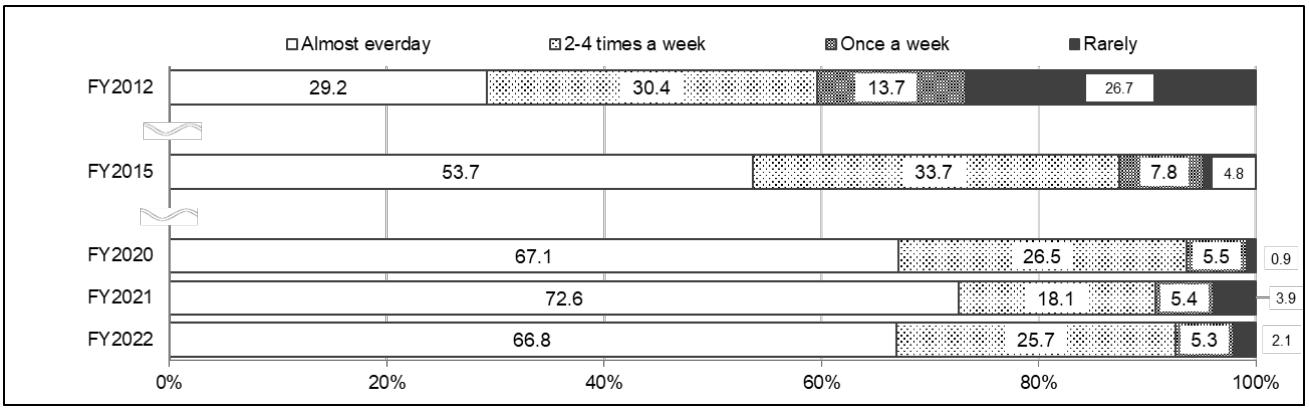


Figure 2 Changes in frequency of exercise: ages 2–3

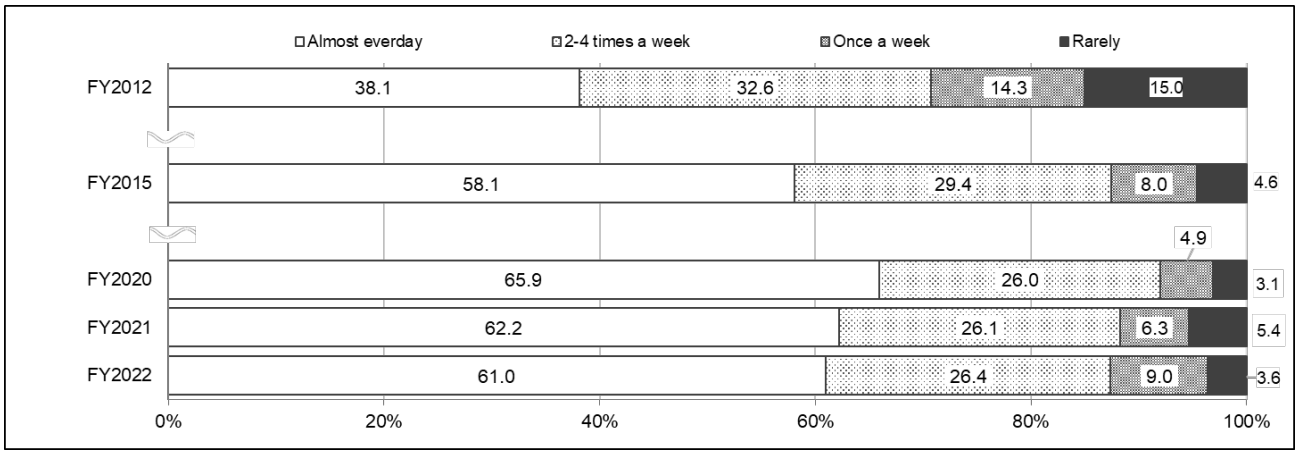


Figure 3 Changes in frequency of exercise: ages 4–6

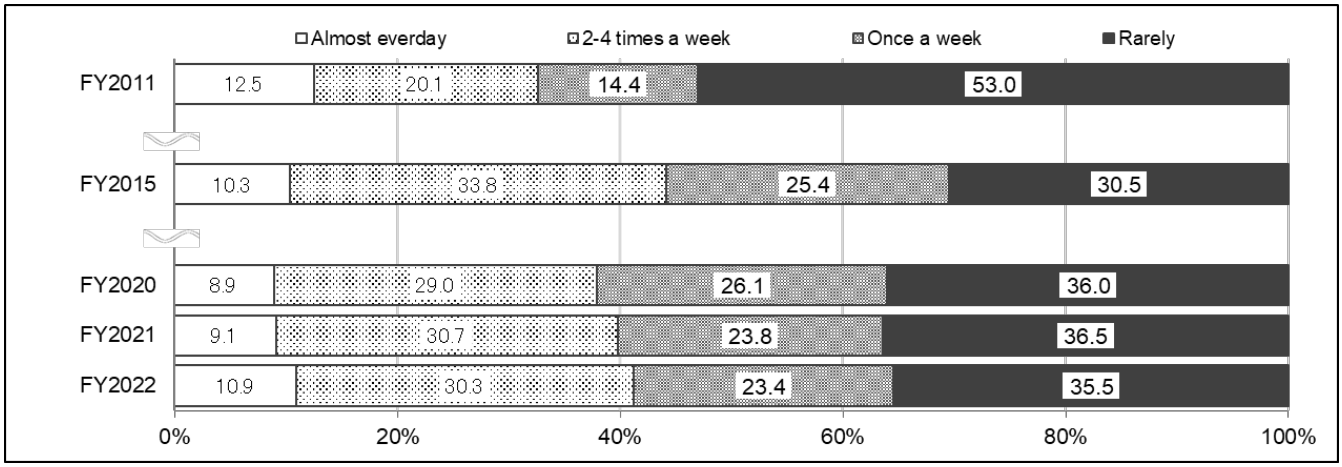


Figure 4 Changes in frequency of exercise: elementary school students

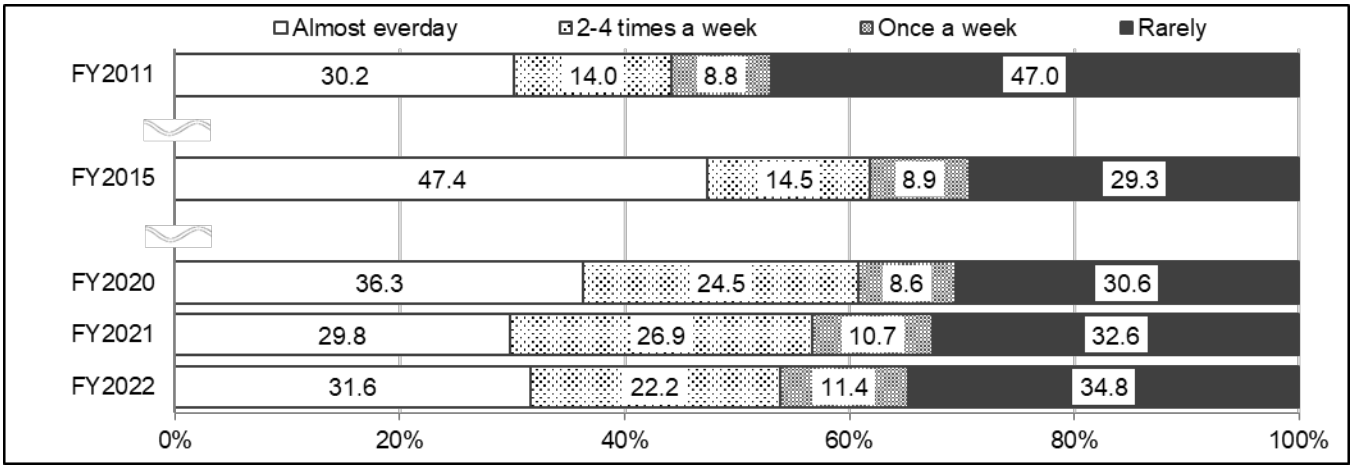


Figure 5 Changes in frequency of exercise: junior high school students

C. Proportion of those scoring 16 points or higher on SDQ

(assessment of children's emotions and behavior)

Children's emotions and behaviors were surveyed using the SDQ (Strengths and Difficulties Questionnaire, with a cutoff value of 16 based on previous studies). In FY2022, the proportion of children with high-risk scores (SDQ score of 16 or higher) showing certain problematic behavior was 10.2% for children aged 4 to 6, 10.3% for elementary school children, and 11.2% for junior high school students (Figure 6).

Compared with the 9.5% with high-risk scores in a survey covering children who were not affected by the disaster (*2), the proportion of Fukushima children with high-risk scores was higher for all age groups in FY2011, especially among children aged 4 to 6 (24.4%). The percentage declined thereafter for all age groups, with some leveling from FY2019 through FY2021, where percentages stayed about the same as prior studies, but increased in all age groups in FY2022 (Figure 6). A comparison of boys and girls showed that high-risk scores were generally higher among boys than girls, consistent with prior results (Figure 7–9). By residential location at the time of the survey (both in and outside Fukushima Prefecture), the proportion of those with high-risk scores was higher among those living outside Fukushima among children at elementary school age (Figure 10).

[About SDQ]

The SDQ consists of 25 questions related to children's emotions and behaviors, which are to be answered by the child's parent/guardian according to what extent each question applies to the child's behavior over the past six months. Scores of 16 or higher are considered to be indicative of certain problematic behaviors that warrant expert support.

*2 Matsuishi T, et al. (2008) Scale properties of the Japanese version of the Strengths and Difficulties Questionnaire (SDQ): A study of infant and school children in community samples. Brain and Development. 30: 410-415.

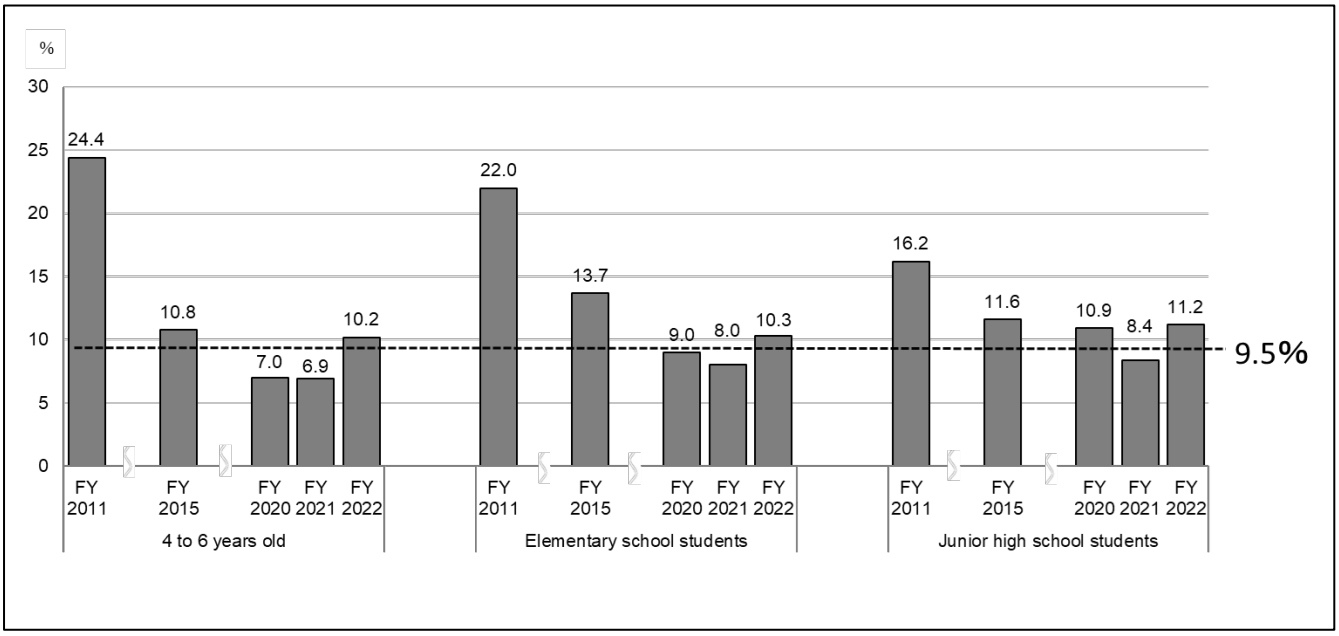


Figure 6 Changes in the proportion of those scoring 16 points or higher in SDQ: all age groups

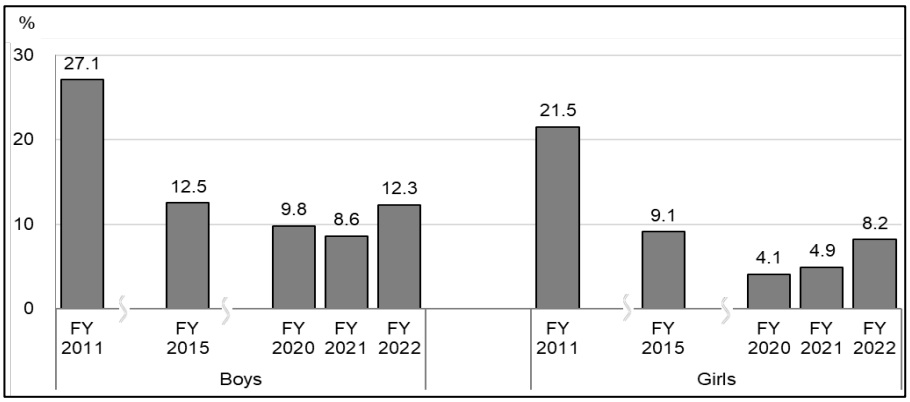


Figure 7 Changes in the proportion of those scoring 16 points or higher in SDQ: ages 4–6

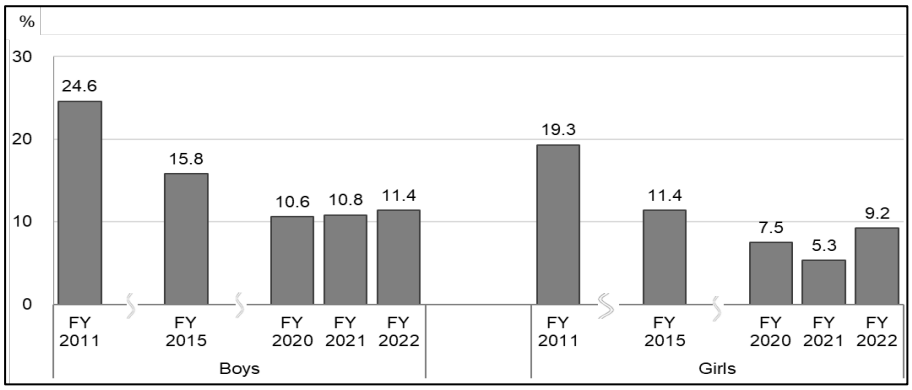


Figure 8 Changes in the proportion of those scoring 16 points or higher in SDQ: elementary school students

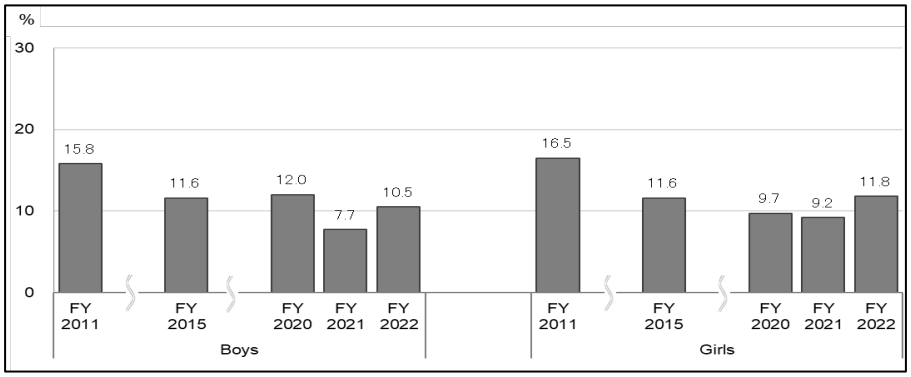


Figure 9 Changes in the proportion of those scoring 16 points or higher in SDQ: junior high school students

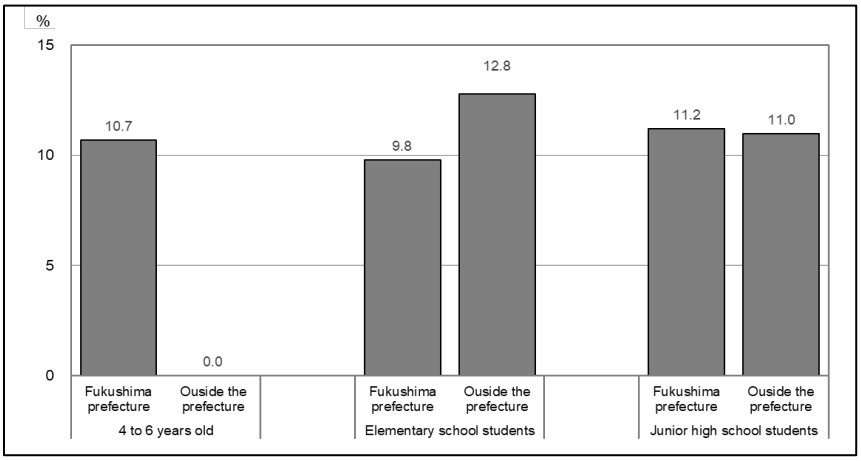


Figure 10 Changes in the proportion of those scoring 16 points or higher in SDQ, by the location of residence at the time of the FY2022 survey.

D. Influence on daily life due to the spread of COVID-19

In the FY2022 survey, those who responded that COVID-19 exerted influence on their daily life "To some extent" or "Significantly" accounted for 46.9% of those aged 0 to 3, 55.9% of those aged 4 to 6, 48.8% of elementary school students, 50.7% of junior high school students themselves and 51.1% of the guardians of junior high school students (*). Generally, the percentage of children affected was lower than the previous year (Figure 11).

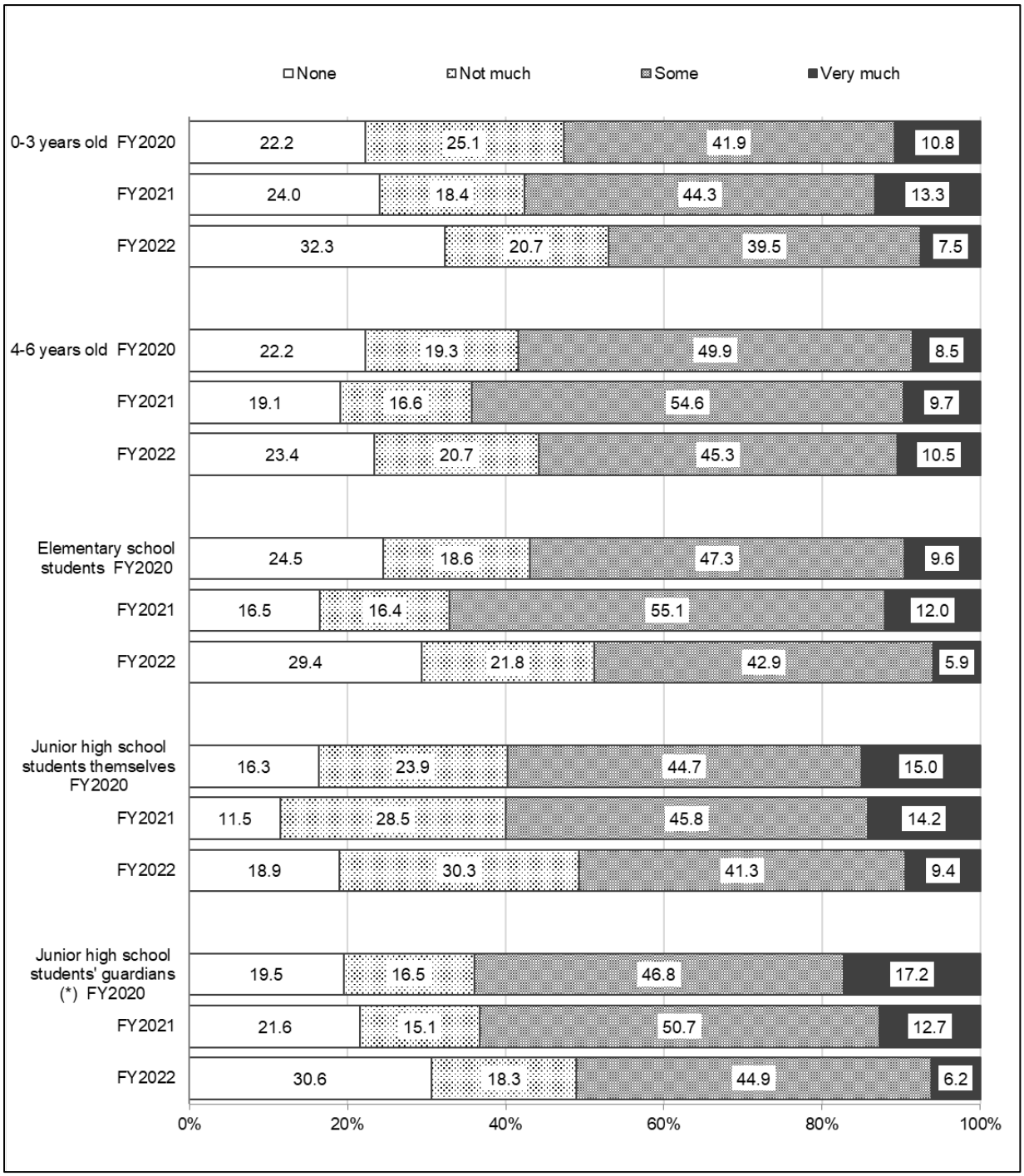


Figure 11 Influence on daily life by COVID-19 epidemic

*From the standpoint of parents/guardians

3-2 Results of the Adults Survey (aged 16 or older)

A. Number of respondents (response rate)

In the FY2022 survey, the number of adults (ages 16 and older) respondents (response rate) was 35,021 (19.9%), and the number of those who made valid responses (valid response rate) was 34,893 (19.8%) (Figure 12). By age group, the number of respondents (response rate) was 4,376 (9.1%) for those 16 to 39 years old, 9,605 (15.6%) for those 40 to 64 years old, and 21,040 (31.8%) for those 65 years and older (Figure 13). An online response system was introduced in FY2016, and the percentage of online responses was the highest ever in FY2022, at 20.3%.

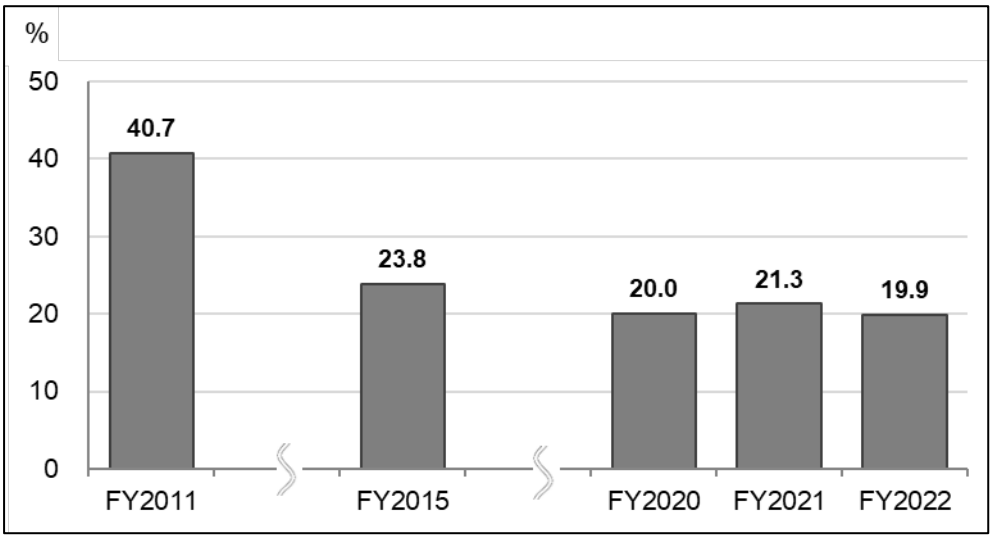


Figure 12 Changes in the response rates in the Adults Survey

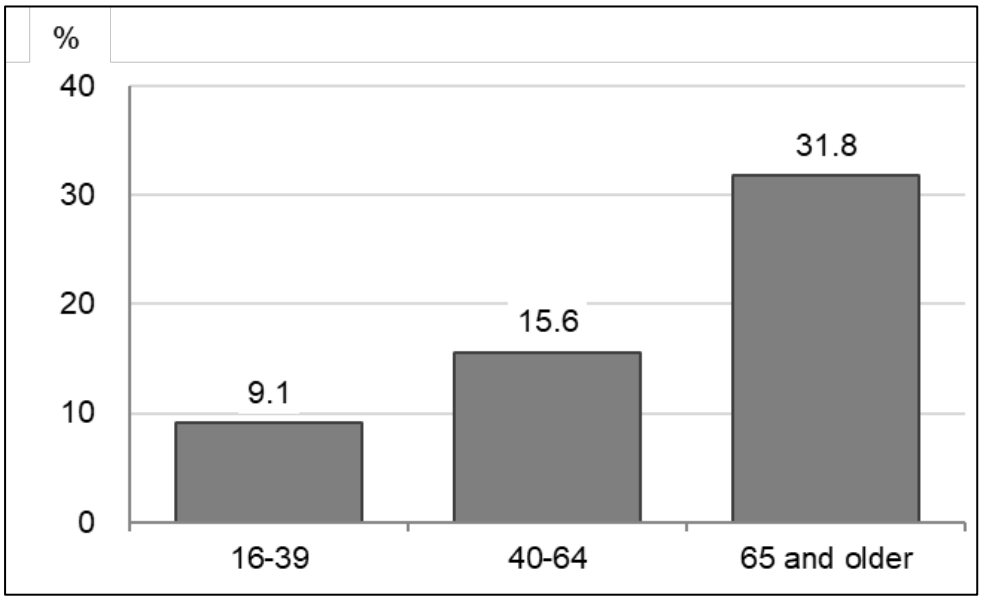


Figure 13 Response rates in the FY2022 Adults Survey, by age group

B. Subjective health condition

Regarding self-reported health conditions in FY2022, "Very good" or "Good" answers reached 29.1% (Figure 14). When looked at by age group, the proportion of those who answered "Very good" or "Good" was higher in younger generations: 22.2% for ages 65 and older, and 52.7% for ages 16 to 39 (Figure 15).

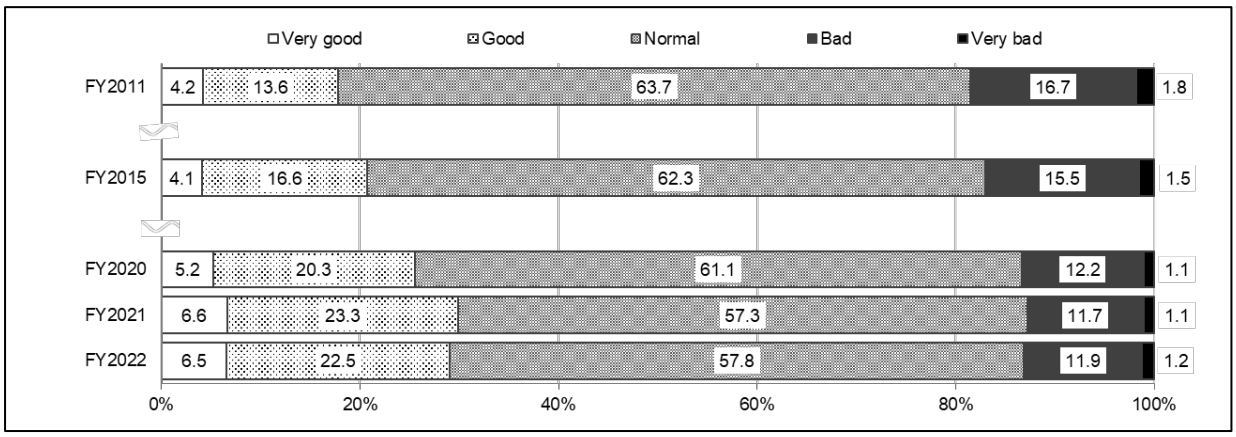


Figure 14 Changes in subjective health condition

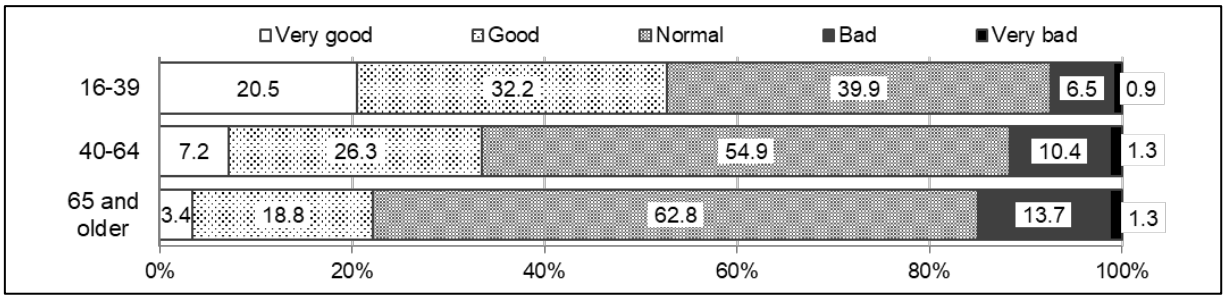


Figure 15 Subjective health condition by age group in the FY2022 Adults Survey

C. Sufficiency of sleep

38.5% of the respondents answered “Sufficient” in the FY2022 survey. Conversely, the proportion of those who answered “Very insufficient” or “Greatly insufficient or couldn’t get any sleep” was 14.1% (Figure 16).

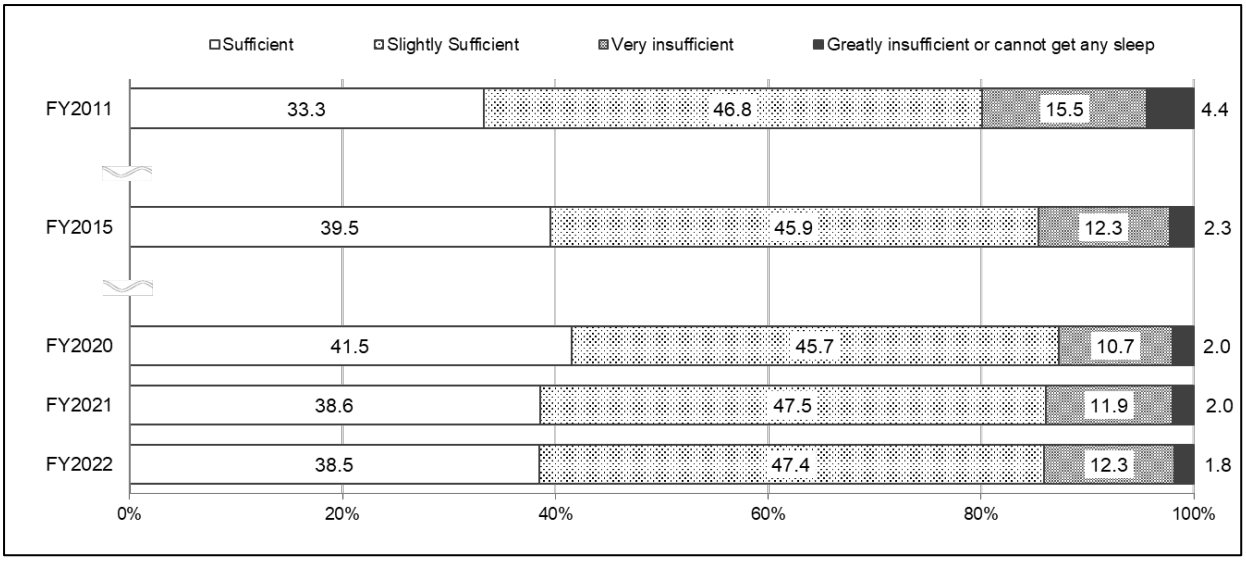


Figure 16 Changes in the degree of sleep sufficiency in adults

D. Frequency of exercise

The exercise frequency of "Almost every day" and "2-4 times a week" improved gradually, reaching 42.2% in the FY2022 survey (Figure 17). A national survey (*3) showed 40.6% for those who exercise more than 2 days a week, although not directly comparable with our survey because of differences in participants' age and other attributes, indicating that the exercise habits of Fukushima residents were similar to those in Japan overall. When looked at by residential location at the time of the survey, those living in Fukushima prefecture tended to exercise more frequently than those living outside the prefecture (Figure 18).

*3 FY2019 National Health and Nutrition Survey, Ministry of Health, Labour and Welfare
https://www.mhlw.go.jp/content/000711007.pdf

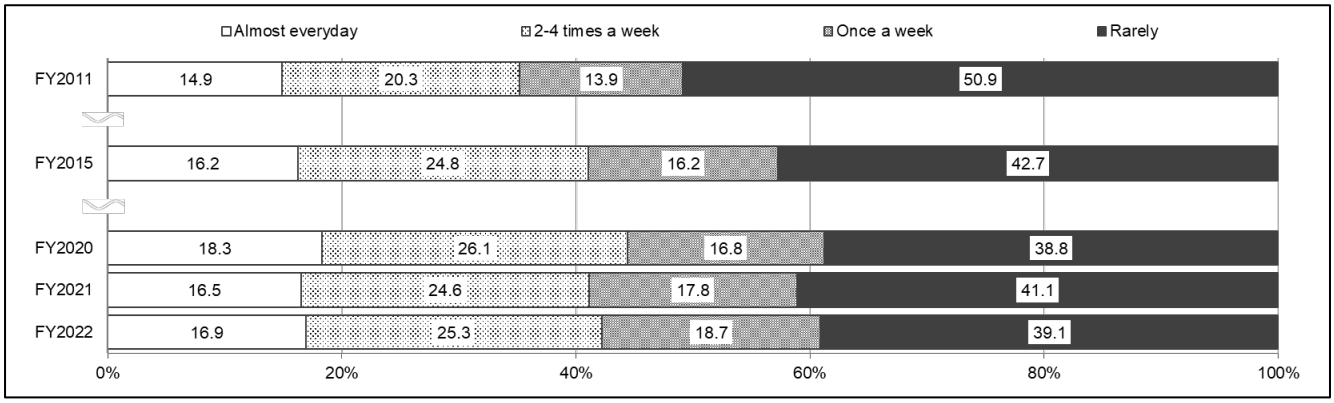


Figure 17 Changes in the frequency of exercise in adults

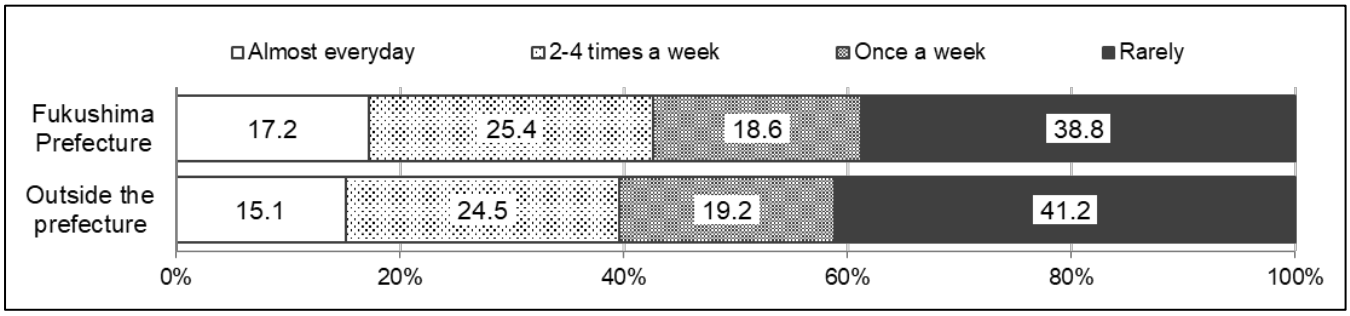


Figure 18 Frequency of exercise by location of residence at the time of the survey (in Fukushima or other prefectures) in the FY2022 Adults Survey

E. Prevalence of smoking

In the FY2022 survey, the proportion of smokers was 22.2% in males and 6.4% in females, for an overall proportion of 14.0%. (Figure 19)　Achieving the 12% target of Healthy Japan 21 (Phase 2) will require further efforts.

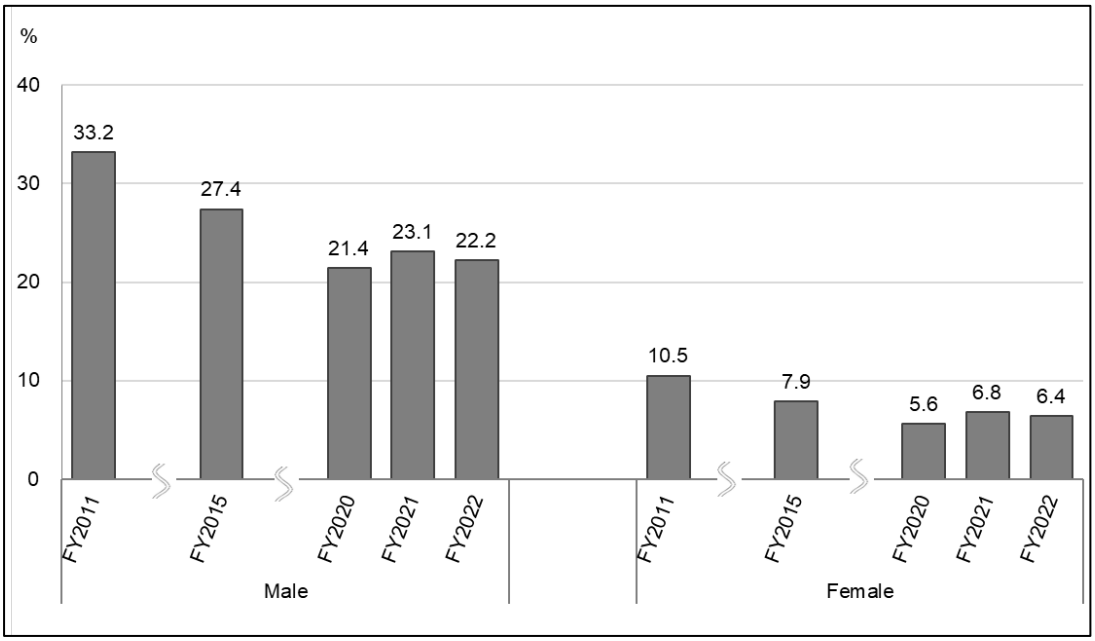


Figure 19 Changes in the prevalence of smoking, by gender

F. Proportion of those suspected of problematic drinking (CAGE score 2 points or higher)

Problematic drinking behaviors were examined using the CAGE questionnaire (with a cutoff value of 2 points based on previous studies).

In the FY2022 survey, the proportion of those with high-risk scores (CAGE score of 2 points or higher) was 14.1% in males and 6.2% in females, part of a downward trend for both (Figure 20). When looked at by age groups and gender, the percentage was the highest among those aged 40 to 64 (Figure 21). When compared by residential location at the time of the survey (in or outside the prefecture), the percentage was slightly higher among those living outside the prefecture for both males and females (Figure 22).

[About CAGE]

The CAGE questionnaire consists of 4 questions about drinking behaviors over the past 30 days, with “yes” (1) or “no” (0) answers. Those scoring 2 points or higher are considered as likely to have problematic drinking.

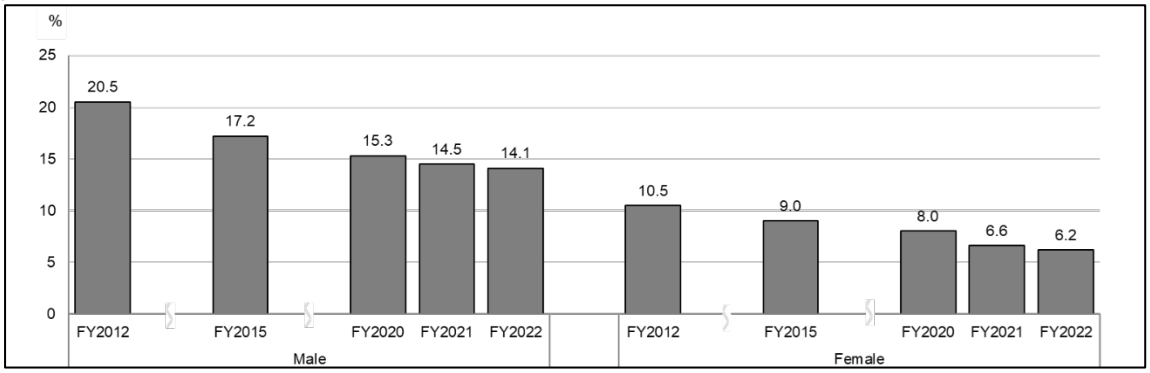


Figure 20 Changes in the proportion of those disclosing evidence of problematic drinking (2 points or higher in CAGE), by gender

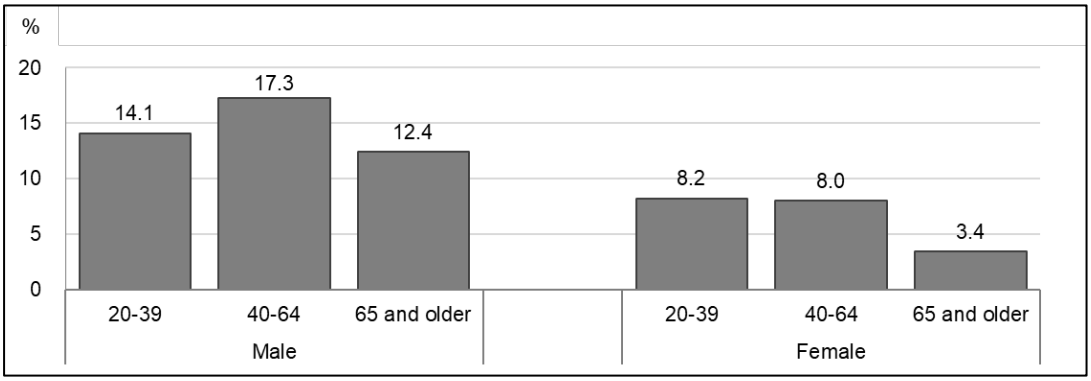


Figure 21 The proportion of those disclosing evidence of problematic drinking (2 points or higher in CAGE) in the FY2022 Survey, by age group and by gender

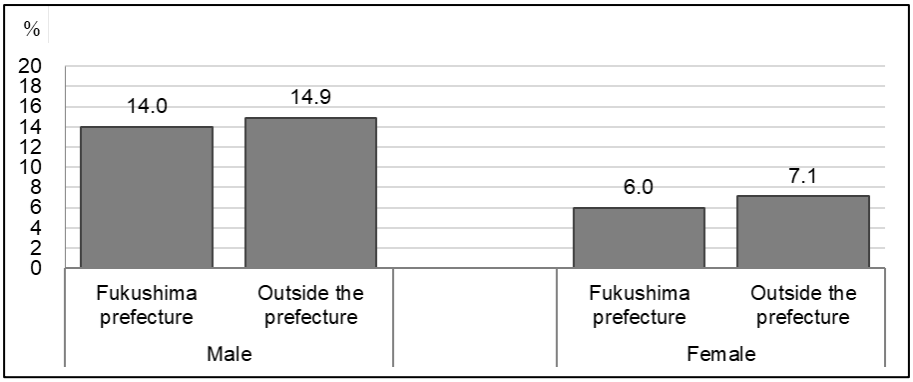


Figure 22 The proportion of those disclosing evidence of problematic drinking (2 points or higher in CAGE) in the FY2022 Survey, by residential location and by gender

G. Proportion of those judged to need support for depression or anxiety

General mental health and the possibility of a mood disorder (e.g., depression) or anxiety disorder were examined using the K6 Distress Scale (with a cutoff value of 13 based on previous studies).

In the FY2022 survey, the proportion of those with high-risk scores (K6 score of 13 points or higher) for mood disorder or anxiety disorder was 5.8% overall (Figure 23). However, the percentage is still high in Fukushima compared to a result of 3% shown in a previous study covering members of the public who were not affected by the disaster. (*4) By gender, the percentage was higher in females (6.7%) than in males (4.9%) (Figure 24). The comparison by age group showed that the percentage was higher among younger people than among older people (Figure 25). The comparison by residential area at the time of the survey (in or outside Fukushima Prefecture) showed that 5.4% of those living in the prefecture, versus 8.4% of those living outside the prefecture were at high risk (Figure 26).

[About K6]

The K6 Distress Scale consists of 6 questions about how often feelings and behaviors related to depression and anxiety occurred during the past 30 days. A score of 13 or more is considered to indicate a possible mood or anxiety disorder.

*4 Norito Kawakami. Distribution of mental health status and its related factors based on the K6 Distress Scale in a national survey (part of a research project on a system for grasping and analyzing statistical information on the health status of Japanese people from the perspective of households) supported by FY2006 Health and Labor Science Research Grant (for research projects on advanced utilization of statistical information).

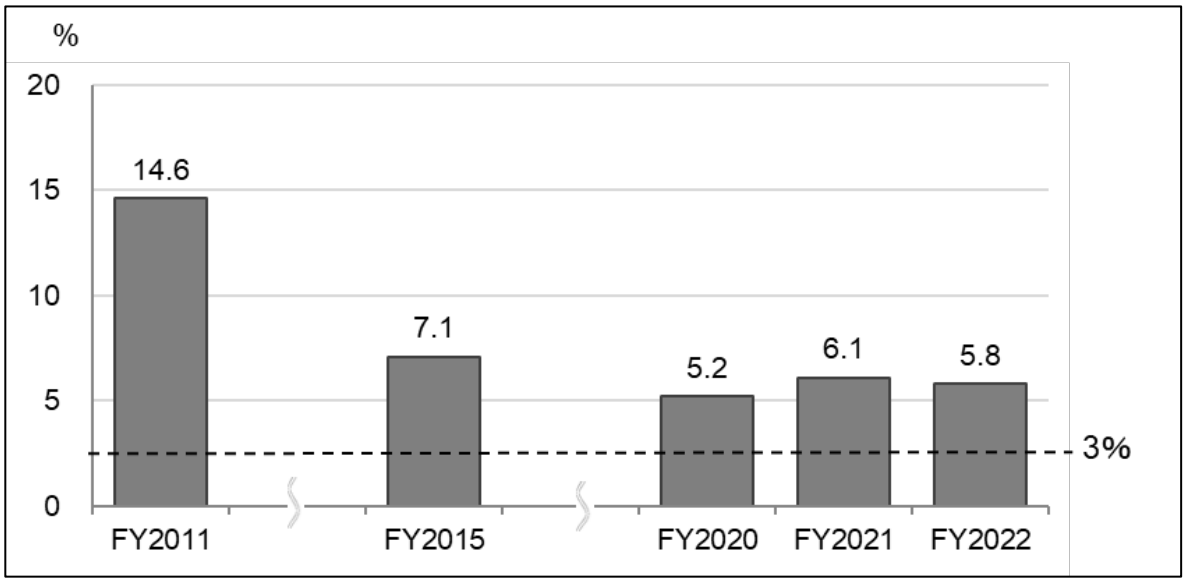


Figure 23 Changes in the proportion of those scoring 13 or higher on K6

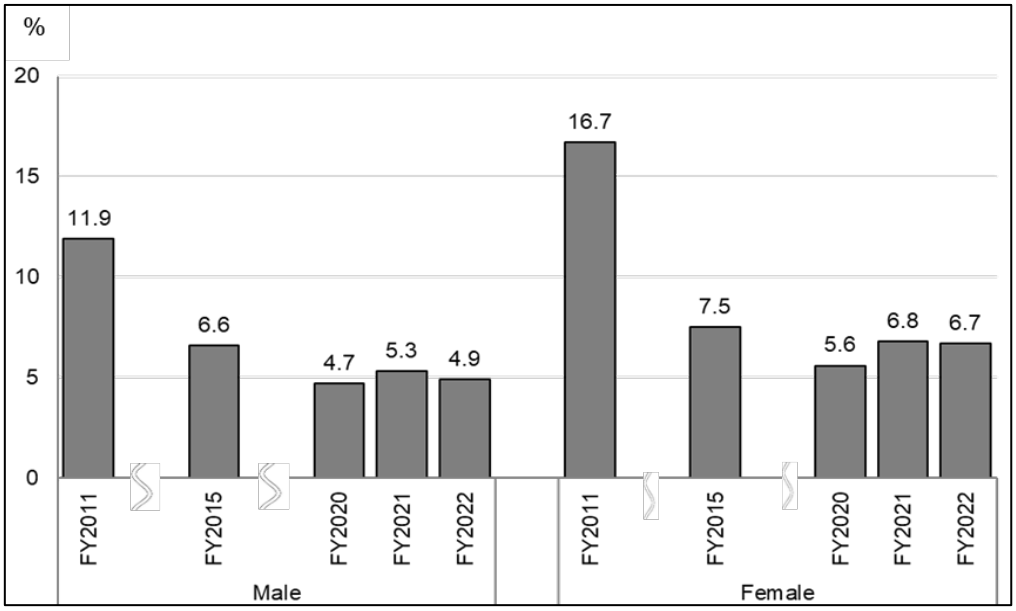


Figure 24 Changes in the proportion of those scoring 13 points or higher on K6, by gender

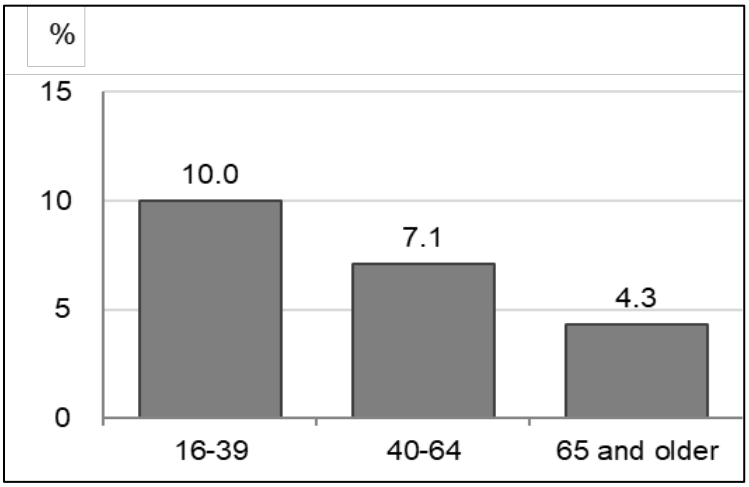


Figure 25 The proportion of those scoring 13 points or higher on K6 in the FY2022 Survey, by age group

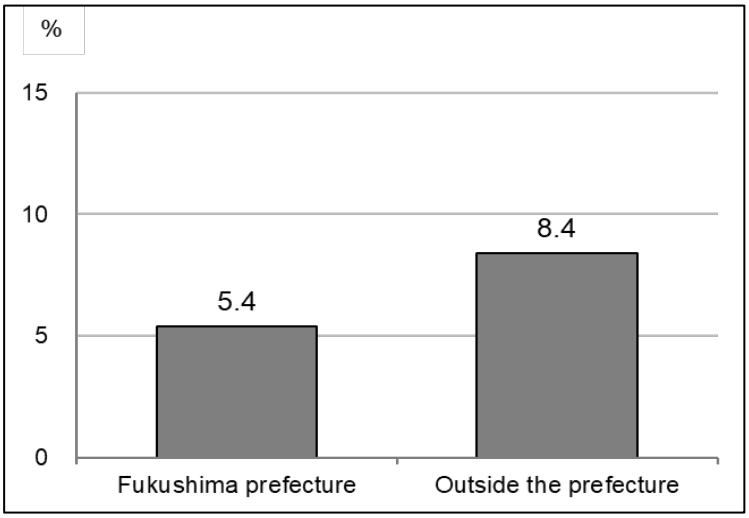


Figure 26 The proportion of those scoring 13 points or higher on K6 in the FY2022 Survey, by location of residence at the time of the survey

H. Influence on daily life due to the spread of COVID-19

In the FY2022 survey, those who responded that COVID-19 exerted influence on their daily life "Significantly" or "To some extent" (the affected group) accounted for 37.9%, which decreased compared with the last year (Figure 27). By gender, the affected group accounted for 36.9% among males and a slightly higher 38.8% among females (Figure 28). By age group, the affected group accounted for 34.6% among those ages 16 to 39, 42.0% among those ages 40 to 64, and 36.6% among those ages 65 and older (Figure 29).

On the other hand, comparing the percentages of those scoring 13 points or higher on K6 between the group of people who were affected by COVID-19 to some extent or significantly and the group of people who were not at all affected or were scarcely affected by COVID-19, the relevant percentages were considerably higher for the former group (Figure 30), showing substantial differences in mental health conditions between these groups, as in the FY2021 survey.

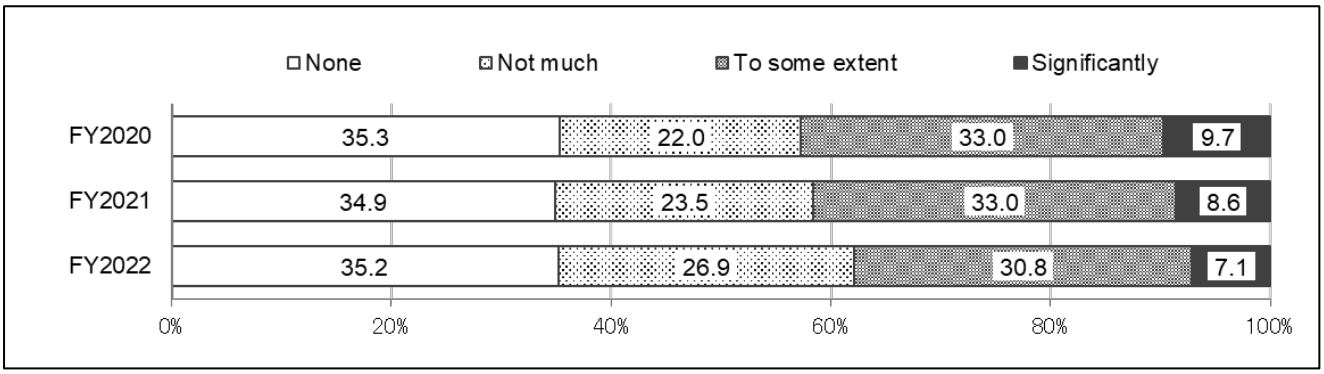


Figure 27 Influence on daily life due to the spread of COVID-19: overall

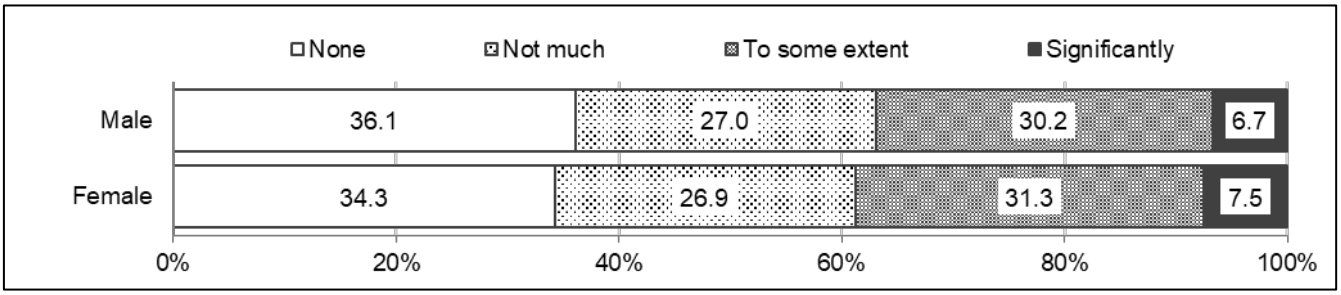


Figure 28 FY2022 Influence on daily life due to the spread of COVID-19: by gender

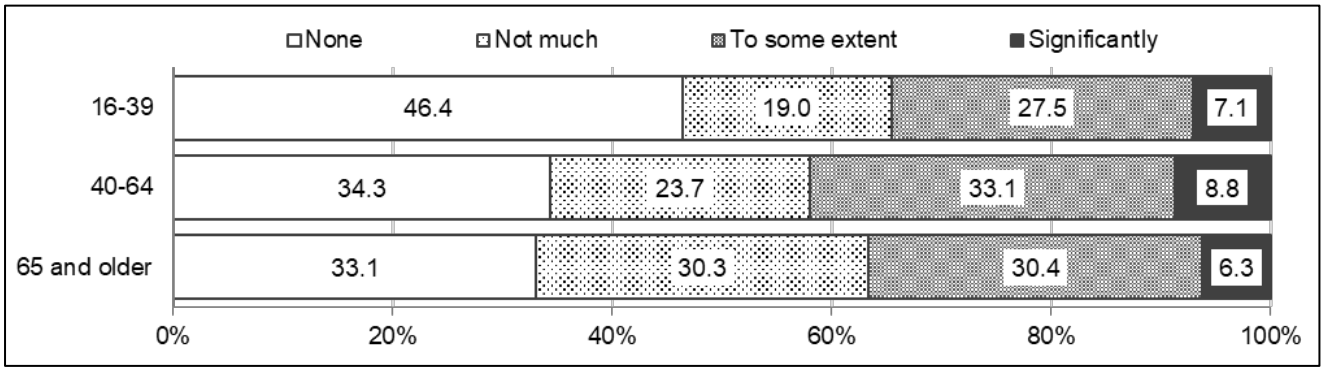


Figure 29 FY2022 Influence on daily life due to the spread of COVID-19: by age group

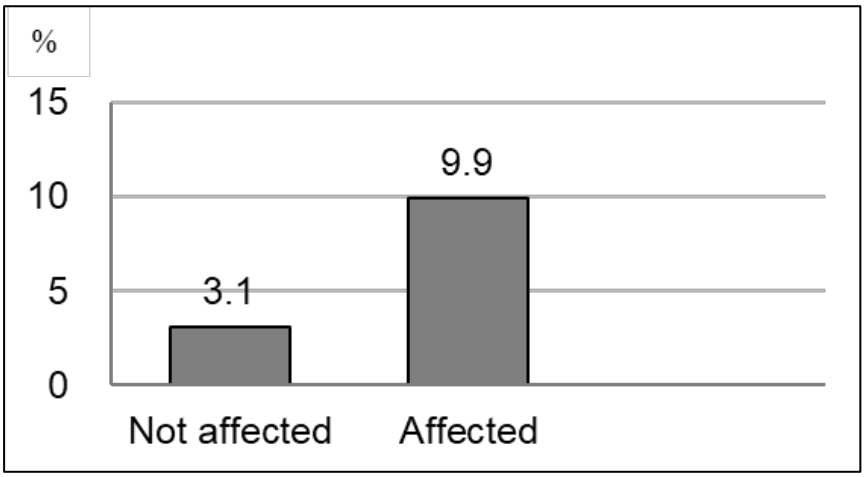


Figure 30 FY2022 Percentage of those scoring 13 points or higher on K6 by level of influence on daily life due to the spread of COVID-19

I. Risk perception of health effects of radiation

Regarding possible effects on the next generation, 22.2% responded that they think effects on the next generation are likely to occur (“Possibilities are high” and “Possibilities are very high” combined) in the FY2022 survey, continuing a downward trend (Figure 31). In a comparison by residential location at the time of the survey (in or outside the prefecture), risk perception was higher among those living outside the prefecture (Figure 32).

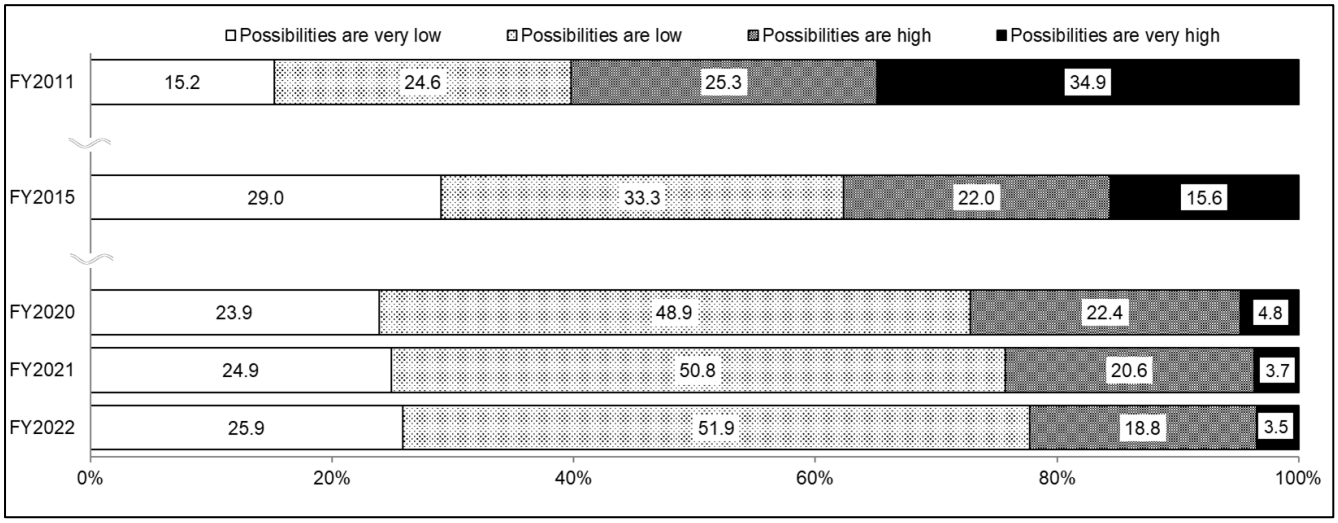


Figure 31 Changes in the proportion of risk perception of radiation effects to the next generation (risk perception)

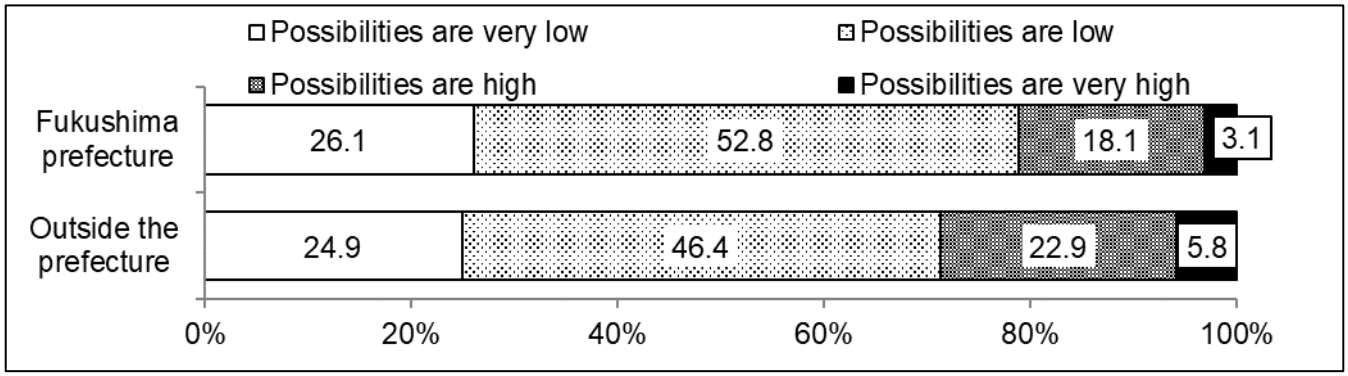


Figure 32 FY2022 Changes in the proportion of risk perception of radiation effects on the next generation, by location of residence at the time of the survey (risk perception)

J. Availability of consultation resources

The FY2022 survey asked, “Do you know anyone or any organization you can consult with when you have physical or mental problems?” A total of 6,069 participants (17.8%) answered “No.”

(3) Conclusions

The results of the child survey indicate an increase in the percentage of children exhibiting emotional and behavioral issues as identified by the SDQ, across all age groups compared to the previous year. As the impact of the COVID-19 pandemic on daily life has decreased for all age groups, it is essential to monitor the rising percentage of high-risk SDQ scores.

For the general population (ages 16 and older), there has been a slight improvement in exercise habits, potentially due to the decrease in disruption to daily life caused by COVID-19. Additionally, there has been a slight improvement in problematic drinking scores. However, while there has been a slight improvement in the rate of high-risk cases as measured by the K6 scale of general mental health since the previous year, the rate remains high in comparison to that of the general population not affected by the disaster. Furthermore, the high percentage of young generation and residents living outside the prefecture who scored high on the K6 scale persists. On the other hand, concerning the health effects of radiation, in FY2022, approximately three-quarters of the residents indicated that they believed there was a "low" or "very low" risk of health effects on the next generation due to radiation. Additionally, the trend of the percentage of residents who are concerned about this issue continues to decrease.

4. Outline of Post-Survey Support

As part of the Mental Health and Lifestyle Survey, we fed back individual results that can be useful to residents for their better mental and physical health management and we offer support to those judged to need counseling or support regarding their mental health or lifestyle habits, to ascertain their circumstances, to provide advice for improvements, and to connect them to health or medical facilities.

4-1 Coverage of support

Out of those who responded to the FY2022 Mental Health and Lifestyle Survey, those who were judged to need counseling or support by telephone or mail were covered as support candidates.

Tabulation in this report covers those who responded by October 31, 2023, and to which we provided support by December 31, 2023.

4-2 Individual result reports

Individual result reports were sent in July and October to those who responded by August 31, 2023, to help guide their understanding of mental health and lifestyle issues and better manage their health.

Table 2 shows the numbers and contents of the result report.

Table 2 FY2022 Number of individual result reports sent out

Type of survey sheet	Number of notices sent	Contents
For children ages 0 - 3	295	Height, weight, fitness habit (children aged 2 or older)
For children ages 4 - 6	333	Height, weight, dietary habits, fitness habit, bedtime, and mental and behavioral stress reaction (SDQ score)*1
For elementary school students	857	
For junior high school students	677	
For adults	34,763	Body mass index (BMI)*2, dietary habits, fitness habit, sleep, and mental stress reaction (K6 score)*3

*1 Strength and Difficulties Questionnaire, a mental health and behavioral screening scale for children

*2 Body mass index, calculated based on height and weight as written in the survey forms

*3 Psychological distress scale, which screens for general mental illnesses such as depression and anxiety

In result reports for children, standard height and weight by age in months as of the day of filling in the survey form were provided for reference.

4-3 Criteria to identify those in need of support and methods of providing support

A. Criteria to assess the need for support

Per the level of significance and urgency, the following criteria were set to identify those in need of support (Tables 3 and 4)

Table 3 FY2022 Criteria to assess the need for support regarding issues for children

		Moods and behavior (SDQ)	Whether or not having any person or organization to consult with / problems concerning growth	Remarks / Free comment
Selection criteria	Criteria I	1) SDQ: 20 or higher	Having worries concerning growth and having no person or organization to consult with.	The urgency level should be judged by an expert.
	Criteria II	3) SDQ: 16 or higher		

Table 4 FY2022 criteria to assess the need for support regarding personal issues for adults

		Mental health	Physical health	Sleep disorder	Mental disorder	Smoking and drinking	Free comment
Selection criteria	Criteria I	1) K6: 13 points or higher	1) With hypertension or diabetes but not seeing a doctor, and (i) with BMI of 27.5 or higher or (ii) not having taken health check for a year.				The urgency level should be judged by an expert.
	Criteria II	2) K6: 10 points or higher	2) Falling under 1) above, but (i) and (ii) are not applicable	Having no mental disorder, and being very unsatisfied with sleep.	Having mental disorder, but not seeing a doctor, or making no reply to the relevant question		
	Criteria III		3) Other than 1) and 2) above, with BMI higher than 25, and not having taken health checks for a year			CAGE score 2 points or higher	

* Smoking cessation calls for smokers

B. Methods of providing support

(i) Support for those meeting Criteria I

For those who met Criteria I, our “Mental Health Support Team” of clinical psychologists, public health nurses, clinical nurses, etc., made phone calls and provided counseling. The team asked about support recipients' health conditions, assessed current problems, and recommended further examination at health/medical facilities when necessary (hereafter “telephone counseling”).

(ii) Support for those meeting Criteria II

For those who met Criteria II, we sent reply-paid postcards to confirm their intention whether or not to receive telephone counseling. Telephone counseling was provided to either those who expressed their intention to receive support or those who were judged to need support based on the content of their replies. For those having any problems with “physical and mental health” and “sleep disorders,” we also enclosed and sent “The Mental Health and Lifestyle Habits Self-Support Book” that we created, along with the results report.

(iii) Support for those meeting Criteria III

For those who met Criteria III, we sent “The Mental Health and Lifestyle Habits Self-Support Book.”

5. Summary of Results of Post-Survey Support

5-1 Telephone counseling

A. Support for issues concerning children

(i) Number of support candidates and recipients

The numbers of support candidates and recipients based on Criteria I and II are shown in Figure 33. 5.4% of respondents received telephone support, up from 3.6% in 2021. 73.8% of those eligible received telephone support, down from 78.1% in 2021.

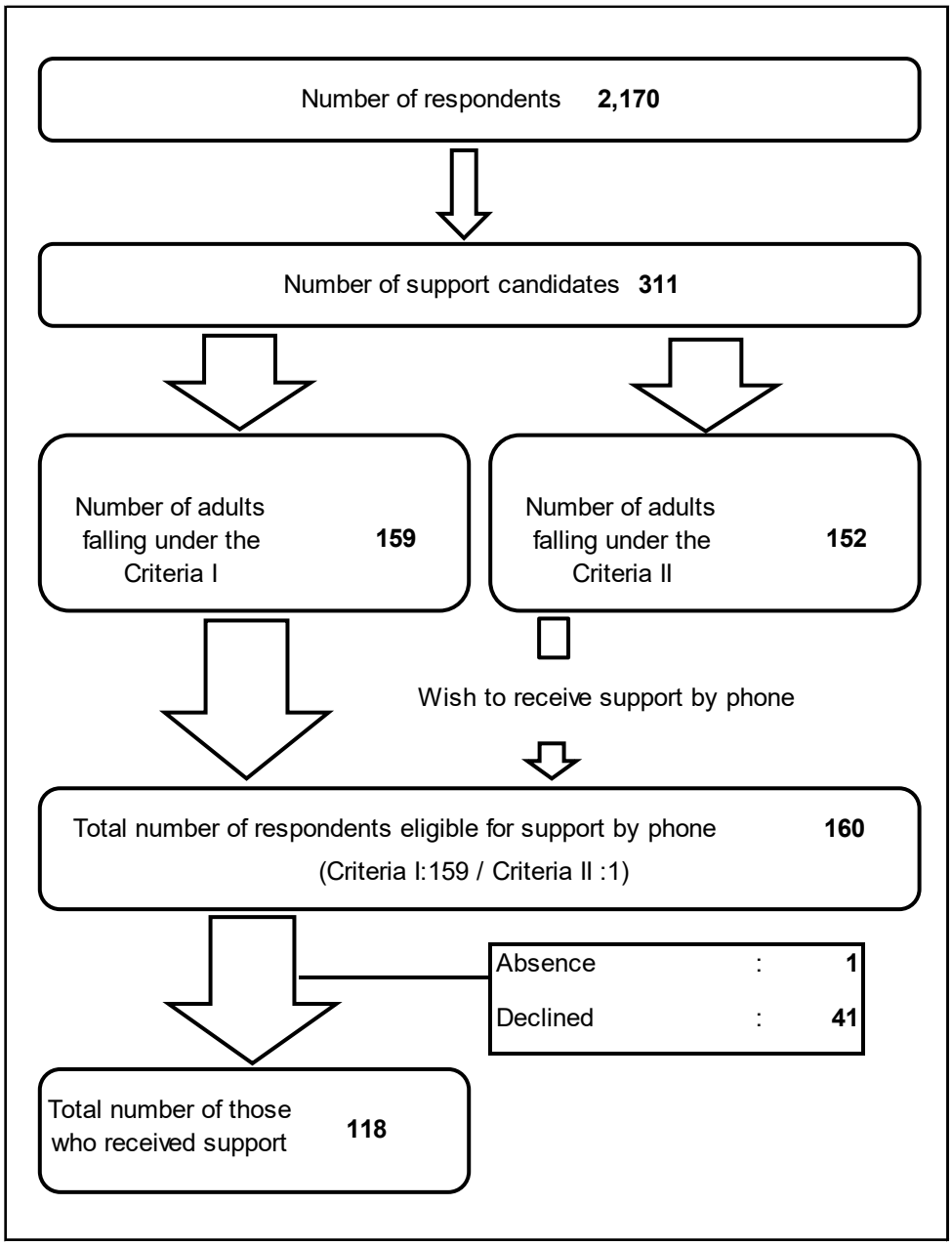


Figure 33 FY2022 Numbers of support candidates and recipients for issues regarding children

Table 5 FY2022 Support recipients by gender (children)

Classification	Boys		Girls		Total
Overall	61	(51.7%)	57	(48.3%)	118
Ages 0-3	7	(70.0%)	3	(30.0%)	10
Ages 4-6	9	(50.0%)	9	(50.0%)	18
Elementary school students	29	(60.4%)	19	(39.6%)	48
Junior high school students	16	(38.1%)	26	(61.9%)	42

Table 6 FY2022 Support recipients by place of residence (children)

Classification	Fukushima prefecture		Outside the prefecture		Total
Overall	103	(87.3%)	15	(12.7%)	118
Ages 0-3	10	(100.0%)	0	(0.0%)	10
Ages 4-6	18	(100.0%)	0	(0.0%)	18
Elementary school students	39	(81.3%)	9	(18.8%)	48
Junior high school students	36	(85.7%)	6	(14.3%)	42

B Results of Support

The Mental Health Support Team made phone calls to responders (mostly parents or guardians) and asked about current issues, based on survey responses. Table 7 shows the children's issues identified through telephone counseling. Table 8 shows the specific counseling contents for FY2022.

Table 7 Telephone counseling contents (children)

Persons / %

FY2012	FY2015	FY2020	FY2021	FY2022
Anxiety caused by the disaster, radiation or exposure 147 (23.6%)	School life related issues 54 (21.6%)	School life related issues 25 (26.3%)	School life related issues 38 (35.5%)	School life related issues 35 (29.7%)
School life related issues 136人 (21.8%)	Physical health 15 (6.0%)	Daily life 18 (18.9%)	Behavioral issues (anger, irritation, or violence) 15 (14.0%)	Physical health 15 (12.7%)
Physical health 102 (16.4%)	Sleep 9 (3.6%)	Behavioral issues (anger, irritation, or violence) 12 (12.6%)	Daily life 14 (13.1%)	Daily life 13 (11.0%)
Behavioral issues (anger, irritation, or violence) 90 (14.4%)	Behavioral issues (anger, Irritation, or violence) 8 (3.2%)	Sleep 9 (9.5%)	Anxiety over the future 9 (8.4%)	Behavioral issues (anger, irritation, or violence) 11 (9.3%)
Depression 83 (13.3%)	Dietary habit 4 (1.6%)	Physical health Dietary habit 6 each (6.3%)	Sleep 8 (7.5%)	Sleep 8 (6.8%)

*The data for FY2011 is not included because the tabulation method was different from that of other years, Therefore, Table 7 starts from FY2012.

Table 8 FY2022 Details of telephone counseling topics (children)

School life related issue	(Ages 4-6) Able to talk to my teachers, but don't want to get involved with other kids at the same age (Elementary school students) Continuously going to the school infirmary (Junior high school students) Had trouble getting along with the members of extracurricular activities, and refused to go to school
Physical health	(Ages 4-6) Language development is slow, and still not very good at holding a conversation (Ages 4-6, Elementary school students) Worry about having a tic disorder (Junior high school students) Often have a bad headache and sometimes be absent from school
Daily life	(Ages 4-6) Have a habit of biting nails Potty training doesn't go smoothly (Elementary and junior high school students) Game addiction
Behavioral issues (anger, irritation, or violence)	(Ages 0-3) Often tantrums during the terrible twos (Ages 4-6) Have been unstable and crying a lot since siblings were born (Junior high school students) Worry about the future, and that makes the children irritable
Sleep	(Ages 4-6) The nap time of 3 hours is long (Elementary and junior high school students) Staying up till midnight and unable to get up in the morning
Others	(Ages 0-3) Unable to compare the developmental status of children of the same age, because there was little contact with other people under COVID-19 outbreak (Elementary school students) Sensitive to earthquakes and cannot sleep alone at night

Telephone counseling included listening, medical consultation recommendations, lifestyle guidance, and psychoeducation. Table 9 shows the situation at the time of initial telephone counseling. Because of telephone counseling, the reasons for continuing the support were the child's condition (both physical and mental), school maladjustment, and the guardian's condition (both physical and mental).

As a follow-up support, we sent written information about medical institutions. (1 person).

Table 9 FY2022 Status of the initial telephone counseling

Persons (%)

Classification	Continuous support needed	One time support	Details unknown	Support declined	Total
Overall	16 (13.6%)	98 (83.1%)	1 (0.8%)	3 (2.5%)	118
Ages 0-3	0 (0.0%)	10 (100.0%)	0 (0.0%)	0 (0.0%)	10
Ages 4-6	2 (11.1%)	16 (88.9%)	0 (0.0%)	0 (0.0%)	18
Elementary school students	7 (14.6%)	38 (79.2%)	0 (0.0%)	3 (6.3%)	48
Junior high school students	7 (16.7%)	34 (81.0%)	1 (2.4%)	0 (0.0%)	42

・Continuous support needed:
Those who were judged to need continuous support, including those with poor physical conditions, gravely affected by the disaster, unable to adapt to society or school, experiencing isolation, or having other ongoing concerns. Continued support includes recommending consultations with specialists at healthcare/medical facilities and providing their information to other support organizations.

・One time support:
Those judged to be self-sufficient because they had seen some improvement in their physical condition or living environment or were already in contact with support resources.

・Details unknown:
No details were obtained (for various reasons).

・Support declined:
Those counseled who turned down offers of support.

B. Support for adults

(i) Number of support candidates and recipients

Figure 34 shows the number of support candidates and recipients based on Criteria I and II and support recipients. The percentage of people who received telephone support to the total number of respondents was 6.7%, not significantly different from 6.8% in FY2021. The percentage of people who received telephone support as a percentage of the total number of people eligible for support was 77.7%, a decrease from 79.2% in FY2021.

Table 10 shows the distribution of support recipients by gender and age groups. Table 11 shows the proportion of support recipients in total responses. Table 12 indicates support recipients by location of residence at the time of the survey.

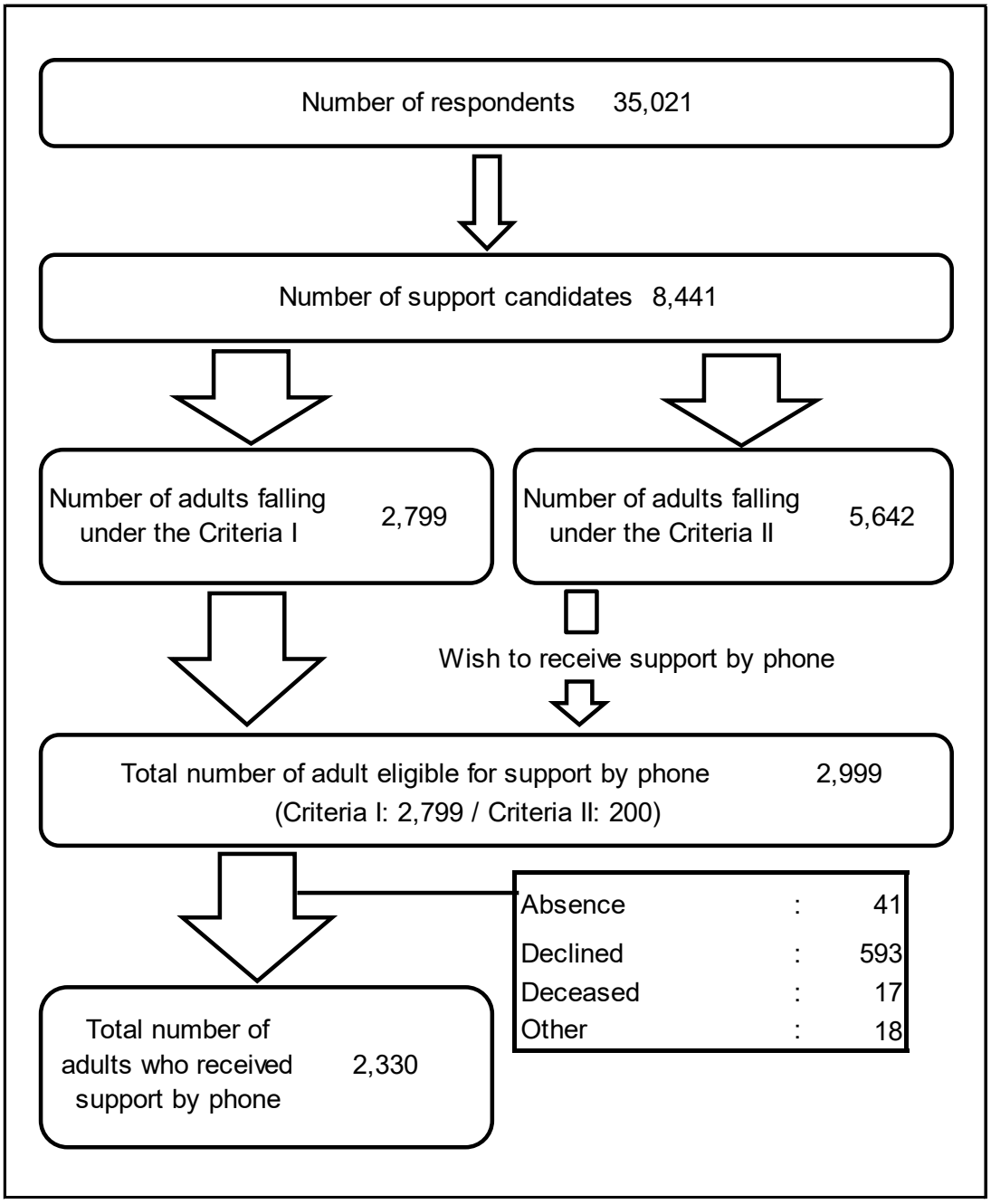


Figure 34 FY2022 number of support candidates and recipients for personal issues of adults

Table 10 FY2022 telephone support recipients by gender (adult)

Classification	16 - 39	40 - 64	65 and older	Total
Overall	300 (12.9%)	740 (31.8%)	1,290 (55.4%)	2,330
Mental Health Survey				
Male	105 (13.4%)	263 (33.6%)	415 (53.0%)	783
Female	161 (15.1%)	314 (29.5%)	589 (55.4%)	1,064
Life Style Survey				
Male	26 (8.4%)	109 (35.0%)	176 (56.6%)	311
Female	8 (4.7%)	54 (31.4%)	110 (64.0%)	172

Table 11 FY2022 telephone support recipients by age group (adult)

Number of respondents	16 - 39 4,376	40-64 9,605	65 and older 21,040	Total 35,021
Those who received the support	300	740	1,290	2,330
(%)	(6.9%)	(7.7%)	(6.1%)	(6.7%)

Table 12 FY2022 support recipients by the place of residence at the time of the survey (adult)

Classification	Fukushima Prefecture		Outside the prefecture		Total
Overall	1,897	(81.4%)	433	(18.6%)	2,330
Mental Health Survey	1,504	(81.4%)	343	(18.6%)	1,847
Life Style Survey	393	(81.4%)	90	(18.6%)	483

(ii) Results of Support

Based on the survey responses, the Mental Health Support Team provided telephone counseling and inquired about current issues. Table 13 shows the topics of telephone counseling. Table 14 shows the details of the FY2022.

Table 13 Contents of the telephone support topics (adult)

FY2012	FY2015	FY2020	FY2021	FY2022
Physical health 2,761 (46.1%)	Physical health 1,145 (44.6%)	Physical health 866 (44.0%)	Physical health 1,233 (48.1%)	Physical health 1,086 (46.6%)
Sleep 2,349 (39.2%)	Sleep 798 (31.1%)	Sleep 583 (29.6%)	Sleep 680 (26.5%)	Sleep 551 (23.6%)
Depression 1,417 (23.7%)	Depression 342 (13.3%)	Depression 296 (15.0%)	Depression 451 (17.6%)	Depression 371 (15.9%)
Family relationships 1,058 (17.7%)	Dietary habits 236 (9.2%)	Dietary habits 249 (12.7%)	Exercise habits 333 (13.0%)	Exercise habits 293 (12.6%)
Living environment 1,049 (17.5%)	Anxiety over the future 235 (9.2%)	Exercise habits 245 (12.4%)	Dietary habits 272 (10.6%)	Dietary habits 270 (11.6%)

* FY2011 is not included because the tabulation method was different from that for other years; therefore, the table starts with FY2012

Table14 FY2022 detailed contents of the telephone support (adult)

Physical health	・Diagnosed with hypertension at a health checkup, and started seeing a doctor ・Have been seeing an orthopedic surgeon for back pain and knee pain ・Have been feeling tired from work-related stress
Sleep	・Have been having trouble sleeping since the earthquake. Unable to sleep without sleeping pills ・Do not feel slept well because often wake up in the middle of the night ・Have difficulty getting into sleep with work related anxieties
Depression	・Visited to a psychosomatic medicine clinic because of the unstable moods ・Can not clear the mind at home, but also unable to get myself to do anything ・Often feel down and do not want to see people, and sometimes it affect the daily life
Exercise habit	・Participate in park golf while being careful not to get heatstroke ・Feel physical strength has declined with less opportunity to exercise after the COVID-19 outbreak. ・Do not have the opportunity to move much except for work
Dietary habit	・Being careful about the diet because of diabetes. ・Eating habits become irregular; eat twice a day or too much at one meal. ・Hard to keep food restriction
Others	・Every year in March, there is much news coverage about the earthquake, which provokes unstable feelings ・Have a family member who needs care, and tired of the burden. ・Rising costs are making living difficult

During telephone support, our staff recommendations include but are not limited to seeing a doctor / visiting a clinic, guidance on daily habits, and psychoeducation. Table 15 shows the results of the first round of telephone support, from which 118 persons with mental health issues and 90 persons with physical health issues were recommended for “continuous support” after the first session.

For further actions taken after the support, there were 7 cases in which we shared information with municipalities and the Fukushima Center for Disaster Mental Health, and sent referral forms to see a registered physician.

Table 15 FY2022 results of the first telephone support for personal issues of adults

Classification	Continuous support needed		One time support		Details unknown		Support declined		Total
Overall	176	(7.6%)	2,085	(89.5%)	20	(0.9%)	49	(2.1%)	2,330
Mental Health Survey	171	(9.3%)	1,615	(87.4%)	19	(1.0%)	42	(2.3%)	1,847
Life Style Survey	5	(1.0%)	470	(97.3%)	1	(0.2%)	7	(1.4%)	483

・Continuous support needed
Those judged as needing continuous support, for reasons of poor physical condition, being gravely affected by the disaster, being unable to adapt to society or school, seeming to be isolated, and other reasons of concern. Continuous support includes recommending consultation at healthcare/medical facilities and providing personal information to other support organizations.

・ One-time support:
Those for whom some improvements were seen in their physical conditions or living environment, and/or they were already in contact with support resources.

・Details unknown: No details were obtained (for various reasons).

・Declined support: Those who said that they would not need support.

5-2 Support by sending information brochures

For 1,926 persons (physical and mental health: 934, drinking problems: 992) who met Criteria III, we have sent “The Mental Health and Lifestyle Habits Self-Support Book.”

5-3 Consultation by incoming call

During the support period in FY2022, there were 1,072 incoming calls to the "KOKOKARA CHOUSA Dial." The breakdown of incoming calls (1,082 in total) was as follows: 505 calls were returned calls from support candidates who were not available at the time of telephone support, 163 were consultations, 329 were inquiries about the survey, and 85 were for other reasons.

Regarding inquiries about the survey, most of them pertained to changes in basic information or instructions for completing the survey, consistent with the previous year. Additionally, there were incoming calls for consultation throughout the year, regarding personal health and/or family matters, as well as relationships at work and among friends.

5-4 Conclusions

In terms of support for children, the percentage of respondents who received telephone support was 5.4%, up from 3.6% in FY2021. The topics of most concern were “school-related issues,” “physical health,” and “daily life and habits.” Based on the results of the initial telephone support, 16 people (13.6%) were judged to need “continuous support” because they were still worried about things like poor physical or mental health or school non-adjustment, which is an increase compared to 11.2% in FY2021.

In adult support, the percentage of people who received telephone support was 6.7% of the total number of respondents, similar to 6.8% in FY2021. The topics that received the most calls were “physical health,” “sleep,” and “depression,” which was the same trend as the previous year. Among those who were judged to need “continuous support” based on the results of the initial telephone support, 171 were for mental health telephone support and 5 were for lifestyle habit telephone support, for a total of 176 (7.6%), which was a decrease compared to the 9.9% in FY2021.

In both the children and adults support programs, when it was judged that support should be continued or when the person in question requested it, we provided ongoing support and confirmation of their situation by telephone, as well as introducing them to social resources. In cases where we could not reach them and provide telephone support, for example, we sent them the “The Mental Health and Lifestyle Self-Support Book” created by our center, to encourage them to check their own physical and mental health, and also provided information on the “KOKOKARA CHOUSA Dial” and various consultation services.

6. FY2022 Mental Health and Lifestyle Survey
6-1 Ages 0 to 3

						Persons	Percentage
Response method			(Valid responses:	296)	・Paper	167	56.4%
					・Online	129	43.6%
Sex			(Valid responses:	296)	・Boys	152	51.4%
(Average age: 1.9)					・Girls	144	48.6%
Residential location at the time of survey			(Valid responses:	296)	・In Fukushima prefecture	284	95.9%
					・Outside the prefecture	12	4.1%
Q1 Health condition			(Valid responses:	296)	・Very good	159	53.7%
					・Good	94	31.8%
					・Fair	41	13.9%
					・Unsatisfactory	2	0.7%
					・Very unsatisfactory	0	0.0%
Q2 Height and weight							
Height	Boys	Age 1	(Valid responses:	41)	Average height	78.7 cm	
		Age 2	(Valid responses:	51)	Average height	87.6 cm	
		Age 3	(Valid responses:	52)	Average height	94.8 cm	
	Girls	Age 1	(Valid responses:	47)	Average height	75.7 cm	
		Age 2	(Valid responses:	46)	Average height	86.7 cm	
		Age 3	(Valid responses:	42)	Average height	94.5 cm	
Weight	Boys	Age 1	(Valid responses:	45)	Average weight	10.3 kg	
		Age 2	(Valid responses:	51)	Average weight	12.7 kg	
		Age 3	(Valid responses:	54)	Average weight	14.5 kg	
	Girls	Age 1	(Valid responses:	51)	Average weight	9.8 kg	
		Age 2	(Valid responses:	50)	Average weight	11.9 kg	
		Age 3	(Valid responses:	42)	Average weight	14.5 kg	
Q3 Frequency of exercising			(Valid responses:	187)	・Almost everyday	125	66.8%
					・2-4 times a week	48	25.7%
					・Once a week	10	5.3%
					・Rarely	4	2.1%
Q4 Loss of confidence in child-rearing			(Valid responses:	296)	・Yes	59	19.9%
					・No	124	41.9%
					・Neither yes nor no	113	38.2%
Q5 Have concerns about child-rearing			(Valid responses:	296)	・Yes	51	17.2%
					・No	196	66.2%
					・Neither yes nor no	49	16.6%
Q6 Availability of consultation resources			(Valid responses:	296)	・Yes	285	96.3%
Have someone to consult with about child rearing?					・No	11	3.7%
Q7 Influence of the COVID-19 pandemic			(Valid responses:	294)	・Not at all	95	32.3%
Is the COVID-19 affecting your daily life?					・Not much	61	20.7%
					・To some extent	116	39.5%
					・Very much	22	7.5%

6-2 Ages 4 to 6

						Persons	Percentage
Response method			(Valid responses:	333)	・Paper	187	56.2%
					・Online	146	43.8%
Sex			(Valid responses:	333)	・Boys	162	48.6%
(Average age: 5.0)					・Girls	171	51.4%
Residential location at the time of survey			(Valid responses:	333)	・In Fukushima prefecture	318	95.5%
					・Outside the prefecture	15	4.5%
Q1 Health condition			(Valid responses:	331)	・Very good	150	45.3%
					・Good	123	37.2%
					・Fair	56	16.9%
					・Unsatisfactory	2	0.6%
					・Very unsatisfactory	0	0.0%
Q2 Height and weight							
Height	Boys	Age 4	(Valid responses:	48)	Average height	103.3 cm	
		Age 5	(Valid responses:	49)	Average height	107.6 cm	
		Age 6	(Valid responses:	60)	Average height	116.0 cm	
	Girls	Age 4	(Valid responses:	50)	Average height	101.9 cm	
		Age 5	(Valid responses:	51)	Average height	109.4 cm	
		Age 6	(Valid responses:	64)	Average height	115.5 cm	
Weight	Boys	Age 4	(Valid responses:	48)	Average weight	16.7 kg	
		Age 5	(Valid responses:	49)	Average weight	18.2 kg	
		Age 6	(Valid responses:	61)	Average weight	21.6 kg	
	Girls	Age 4	(Valid responses:	53)	Average weight	16.3 kg	
		Age 5	(Valid responses:	51)	Average weight	18.8 kg	
		Age 6	(Valid responses:	65)	Average weight	21.7 kg	
Q3 Frequency of exercising			(Valid responses:	333)	・Almost everyday	203	61.0%
					・2-4 times a week	88	26.4%
					・Once a week	30	9.0%
					・Rarely	12	3.6%
Q4 Child's emotion and behavior (SDQ)							
1) SDQ			(Valid responses:	333)	Average score	8.9 points	
			(Valid responses:	162)	Average score (Boys)	9.7 points	
			(Valid responses:	171)	Average score (Girls)	8.1 points	
					・≥ 16 points	34	10.2%
					(Boys)	20	12.3%
					(Girls)	14	8.2%
			(Valid responses:	318)	(In Fukushima prefecture)	34	10.7%
			(Valid responses:	15)	(Outside the prefecture)	0	0.0%
2) Developmental/psychological proble			(Valid responses:	331)	・Yes	46	13.9%
					・No	285	86.1%
Q5 Availability of consultation resources			(Valid responses:	332)	・Yes	317	95.5%
Have someone to consult with about child rearing?					・No	15	4.5%
Q6 Influence of the COVID-19 pandemic			(Valid responses:	333)	・Not at all	78	23.4%
Is the COVID-19 affecting your daily life?					・Not much	69	20.7%
					・To some extent	151	45.3%
					・Very much	35	10.5%

6-3 Elementary school student

						Persons	Percentage
Response method			(Valid responses:	859)	・Paper	497	57.9%
					・Online	362	42.1%
Sex			(Valid responses:	859)	・Boys	421	49.0%
(Average age: 9.9)					・Girls	438	51.0%
Residential location at the time of survey			(Valid responses:	859)	・In Fukushima prefecture	734	85.4%
					・Outside the prefecture	125	14.6%
Q1 Health condition			(Valid responses:	857)	・Very good	344	40.1%
					・Good	317	37.0%
					・Fair	188	21.9%
					・Unsatisfactory	7	0.8%
					・Very unsatisfactory	1	0.1%
Q2 Height and weight							
Height	Boys	Grade 1	(Valid responses:	50)	Average height	122.1 cm	
		Grade 2	(Valid responses:	59)	Average height	127.3 cm	
		Grade 3	(Valid responses:	61)	Average height	133.6 cm	
		Grade 4	(Valid responses:	52)	Average height	137.1 cm	
		Grade 5	(Valid responses:	86)	Average height	144.9 cm	
		Grade 6	(Valid responses:	102)	Average height	153.2 cm	
	Girls	Grade 1	(Valid responses:	49)	Average height	122.0 cm	
		Grade 2	(Valid responses:	60)	Average height	127.9 cm	
		Grade 3	(Valid responses:	56)	Average height	132.7 cm	
		Grade 4	(Valid responses:	46)	Average height	140.5 cm	
		Grade 5	(Valid responses:	92)	Average height	146.6 cm	
		Grade 6	(Valid responses:	122)	Average height	152.0 cm	
Weight	Boys	Grade 1	(Valid responses:	50)	Average weight	25.4 kg	
		Grade 2	(Valid responses:	61)	Average weight	28.3 kg	
		Grade 3	(Valid responses:	60)	Average weight	32.2 kg	
		Grade 4	(Valid responses:	52)	Average weight	34.6 kg	
		Grade 5	(Valid responses:	86)	Average weight	40.0 kg	
		Grade 6	(Valid responses:	102)	Average weight	46.6 kg	
	Girls	Grade 1	(Valid responses:	49)	Average weight	23.7 kg	
		Grade 2	(Valid responses:	60)	Average weight	27.4 kg	
		Grade 3	(Valid responses:	57)	Average weight	31.7 kg	
		Grade 4	(Valid responses:	46)	Average weight	36.5 kg	
		Grade 5	(Valid responses:	92)	Average weight	39.4 kg	
		Grade 6	(Valid responses:	120)	Average weight	44.3 kg	
Q3 Frequency of exercising			(Valid responses:	856)	・Almost everyday	93	10.9%
					・2-4 times a week	259	30.3%
					・Once a week	200	23.4%
					・Rarely	304	35.5%
Q4 Child's emotion and behavior (SDQ)							
1) SDQ			(Valid responses:	858)	Average score	8.3 points	
			(Valid responses:	421)	Average score (Boys)	8.9 points	
			(Valid responses:	437)	Average score (Girls)	7.8 points	
					・≥ 16 points	88	10.3%
					(Boys)	48	11.4%
					(Girls)	40	9.2%
			(Valid responses:	733)	(In Fukushima prefecture)	72	9.8%
			(Valid responses:	125)	(Outside the prefecture)	16	12.8%
2) Developmental/psychological proble			(Valid responses:	850)	・Yes	129	15.2%
					・No	721	84.8%
Q5 Availability of consultation resources			(Valid responses:	850)	・Yes	800	94.1%
Have someone to consult with about child rearing?					・No	50	5.9%
Q6 Influence of the COVID-19 pandemic			(Valid responses:	849)	・Not at all	250	29.4%
Is the COVID-19 affecting your daily life?					・Not much	185	21.8%
					・To some extent	364	42.9%
					・Very much	50	5.9%

6-4 Junior high school students

						Persons	Percentage
Response method			(Valid responses:	680)	・Paper	384	56.5%
					・Online	296	43.5%
Sex			(Valid responses:	680)	・Boys	329	48.4%
(Average age: 13.9)					・Girls	351	51.6%
Residential location at the time of survey			(Valid responses:	680)	・In Fukushima prefecture	524	77.1%
					・Outside the prefecture	156	22.9%
Q1 Health condition			(Valid responses:	490)	・Very good	161	32.9%
					・Good	162	33.1%
					・Fair	152	31.0%
					・Unsatisfactory	14	2.9%
					・Very unsatisfactory	1	0.2%
Q2 Height and weight							
Height	Boys	Grade 7	(Valid responses:	67)	Average height	161.1	cm
		Grade 8	(Valid responses:	73)	Average height	165.1	cm
		Grade 9	(Valid responses:	79)	Average height	167.6	cm
	Girls	Grade 7	(Valid responses:	97)	Average height	154.3	cm
		Grade 8	(Valid responses:	88)	Average height	155.9	cm
		Grade 9	(Valid responses:	84)	Average height	155.7	cm
Weight	Boys	Grade 7	(Valid responses:	66)	Average weight	50.7	kg
		Grade 8	(Valid responses:	73)	Average weight	54.5	kg
		Grade 9	(Valid responses:	79)	Average weight	59.4	kg
	Girls	Grade 7	(Valid responses:	97)	Average weight	47.5	kg
		Grade 8	(Valid responses:	86)	Average weight	50.0	kg
		Grade 9	(Valid responses:	84)	Average weight	51.2	kg
Q3 Frequency of exercising			(Valid responses:	491)	・Almost everyday	155	31.6%
					・2-4 times a week	109	22.2%
					・Once a week	56	11.4%
					・Rarely	171	34.8%
Q4 Influence of the COVID-19 pandemic			(Valid responses:	491)	・Not at all	93	18.9%
Is the COVID-19 affecting your daily life?					・Not much	149	30.3%
(From student himself/herself perspective)					・To some extent	203	41.3%
					・Very much	46	9.4%
Q5 Child's emotion and behavior (SDQ)							
1) SDQ			(Valid responses:	671)	Average score	8.2	points
			(Valid responses:	325)	Average score (Boys)	8.1	points
			(Valid responses:	346)	Average score (Girls)	8.2	points
					・≥ 16 points	75	11.2%
					(Boys)	34	10.5%
					(Girls)	41	11.8%
			(Valid responses:	516)	(In Fukushima prefecture)	58	11.2%
			(Valid responses:	155)	(Outside the prefecture)	17	11.0%
2) Developmental/psychological proble			(Valid responses:	664)	・Yes	93	14.0%
					・No	571	86.0%
Q6 Availability of consultation resources			(Valid responses:	667)	・Yes	633	94.9%
Have someone to consult with about child rearing?					・No	34	5.1%
Q7 Influence of the COVID-19 pandemic			(Valid responses:	666)	・Not at all	204	30.6%
Is the COVID-19 affecting your daily life?					・Not much	122	18.3%
(From parents/guardians perspective)					・To some extent	299	44.9%
					・Very much	41	6.2%

6-5 Adults

					Persons	Percentage
Response method		(Valid responses:	34,893)	・Paper	27,799	79.7%
				・Online	7,094	20.3%
Sex		(Valid responses:	34,893)	・Boys	16,476	47.2%
(Average age: 63.9)				・Girls	18,417	52.8%
Residential location at the time of survey		(Valid responses:	34,893)	・In Fukushima prefecture	29,975	85.9%
				・Outside the prefecture	4,918	14.1%
Q1 Health condition		(Valid responses:	31,759)	・Very good	2,077	6.5%
				・Good	7,153	22.5%
				・Fair	18,356	57.8%
				・Unsatisfactory	3,781	11.9%
				・Very unsatisfactory	392	1.2%
	Ags 16-39	(Valid responses:	3,791)	・Very good	777	20.5%
				・Good	1,220	32.2%
				・Fair	1,511	39.9%
				・Unsatisfactory	248	6.5%
				・Very unsatisfactory	35	0.9%
	Ages 40-64	(Valid responses:	9,141)	・Very good	657	7.2%
				・Good	2,400	26.3%
				・Fair	5,017	54.9%
				・Unsatisfactory	947	10.4%
				・Very unsatisfactory	120	1.3%
	65 and older	(Valid responses:	18,827)	・Very good	643	3.4%
				・Good	3,533	18.8%
				・Fair	11,828	62.8%
				・Unsatisfactory	2,586	13.7%
				・Very unsatisfactory	237	1.3%
Q2 Height and weight						
Height	Male	(Valid responses:	16,262)	Average height	166.5 cm	
	Female	(Valid responses:	17,989)	Average height	153.5 cm	
Weight	Male	(Valid responses:	16,284)	Average weight	67.2 kg	
	Female	(Valid responses:	18,017)	Average weight	54.4 kg	
BMI	Male	(Valid responses:	16,202)	Average BMI	24.2 kg/m^2	
	Female	(Valid responses:	17,874)	Average BMI	23.1 kg/m^2	
Q3 Past Medical history						
1) Hypertension (or high blood pressure)		(Valid responses:	33,751)	・No	17,917	53.1%
				・Yes	15,834	46.9%
				(Currently under treatment)	14,372	91.5%
				(Not under treatment)	1,338	8.5%
2) Diabetes (or uncontrolled blood sugar)		(Valid responses:	33,021)	・No	27,198	82.4%
				・Yes	5,823	17.6%
				(Currently under treatment)	5,274	91.8%
				(Not under treatment)	471	8.2%
3) Mental disorder		(Valid responses:	33,060)	・No	29,727	89.9%
				・Yes	3,333	10.1%
				(Currently under treatment)	2,403	73.7%
				(Currently not under treatment as symptoms have improved)	515	15.8%
				(Not under treatment)	342	10.5%
4) Comprehensive health check history for the past year		(Valid responses:	33,871)	・No	25,370	74.9%
				・Yes	8,501	25.1%

					Persons	Percentage
Q4	Sleeping habits (Sleep satisfaction level)					
		(Valid responses:	31,590)	・Sufficient	12,174	38.5%
				・Slightly Sufficient	14,970	47.4%
				・Very insufficient	3,870	12.3%
				・Greatly insufficient or cannot get any sleep	576	1.8%
Q5	Frequency of exercising	(Valid responses:	34,328)	・Almost everyday	5,810	16.9%
				・2-4 times a week	8,671	25.3%
				・Once a week	6,418	18.7%
				・Rarely	13,429	39.1%
	In Fukushima prefecture	(Valid responses:	29,469)	・Almost everyday	5,077	17.2%
				・2-4 times a week	7,482	25.4%
				・Once a week	5,485	18.6%
				・Rarely	11,425	38.8%
	Outside the prefecture	(Valid responses:	4,859)	・Almost everyday	733	15.1%
				・2-4 times a week	1,189	24.5%
				・Once a week	933	19.2%
				・Rarely	2,004	41.2%
Q6	Living conditions					
	1) Current place of residence	(Valid responses:	34,429)	・In Fukushima prefecture	29,254	85.0%
				・Outside the prefecture	5,175	15.0%
	2) Do you currently live alone?	(Valid responses:	34,382)	・Yes	6,060	17.6%
				・No	28,322	82.4%
	2) Do you currently work?	(Valid responses:	34,283)	・Yes (have work/under employment)	14,015	40.9%
				・No (incl. students, homemakers, etc.)	20,268	59.1%
Q7	Smoking	(Valid responses:	32,979)	・I have never smoked	18,842	57.1%
				・I quit	9,532	28.9%
				・Yes	4,605	14.0%
		(Valid responses:	15,796)	(Male)	3,503	22.2%
		(Valid responses:	17,183)	(Female)	1,102	6.4%

				Persons	Percentage
Q8 Alcohol					
1) Drinking habit	(Valid responses:	32,720)	・No, or rarely	17,726	54.2%
			・I quit	1,735	5.3%
			・Yes (Once a month or more)	13,259	40.5%
2) Experiences related to alcohol					
1. Have you ever felt the necessity of cut back on drinking ?			・No	9,060	72.5%
	(Valid responses:	12,495)	・Yes	3,435	27.5%
2.Have you ever felt offended because others accused you of drinking ?			・No	11,648	93.3%
	(Valid responses:	12,487)	・Yes	839	6.7%
3. Have you felt guilty about drinking ?			・No	11,248	90.3%
	(Valid responses:	12,462)	・Yes	1,214	9.7%
4. Have you ever had an another drink in the morning for curing a hangover ?			・No	11,780	94.5%
	(Valid responses:	12,464)	・Yes	684	5.5%
			≥ 2 points on CAGE	1,446	11.7%
	(Valid responses:	8,574)	Male	1,210	14.1%
	(Valid responses:	3,817)	Female	236	6.2%
Male	(Valid responses:	631)	Ages 20 - 39	89	14.1%
	(Valid responses:	2,722)	Ages 40-64	472	17.3%
	(Valid responses:	5,221)	Ages 65 and older	649	12.4%
Female	(Valid responses:	691)	Ages 20 - 39	57	8.2%
	(Valid responses:	1,579)	Ages 40-64	127	8.0%
	(Valid responses:	1,547)	Ages 65 and older	52	3.4%
Male	(Valid responses:	7,451)	In Fukushima prefecture	1,043	14.0%
	(Valid responses:	1,123)	Outside the prefecture	167	14.9%
Female	(Valid responses:	3,075)	In Fukushima prefecture	183	6.0%
	(Valid responses:	742)	Outside the prefecture	53	7.1%
Q9 General mental health status: Kessler psychological distress scale (K6)					
	(Valid responses:	30,015)	Average score	4.1 points	
	(Valid responses:	14,325)	Average score (Male)	3.8 points	
	(Valid responses:	15,690)	Average score (Female)	4.5 points	
			・≥ 13 points	1,753	5.8%
	(Valid responses:	14,325)	(Male)	696	4.9%
	(Valid responses:	15,690)	(Female)	1,057	6.7%
	(Valid responses:	3,781)	(Ages 16 - 39)	379	10.0%
	(Valid responses:	9,032)	(Ages 40 - 64)	642	7.1%
	(Valid responses:	17,202)	(Ages 65 and older)	732	4.3%
	(Valid responses:	25,707)	(In Fukushima prefecture)	1,393	5.4%
	(Valid responses:	4,308)	(Outside the prefecture)	360	8.4%

				Persons	Percentage
Q10 Influence of the COVID-19 pandemic					
Impact on daily life	(Valid responses:	33,224)	・Not at all	11,684	35.2%
			・Not much	8,952	26.9%
			・To some extent	10,225	30.8%
			・Very much	2,363	7.1%
Male	(Valid responses:	15,850)	・Not at all	5,726	36.1%
			・Not much	4,279	27.0%
			・To some extent	4,788	30.2%
			・Very much	1,057	6.7%
Female	(Valid responses:	17,374)	・Not at all	5,958	34.3%
			・Not much	4,673	26.9%
			・To some extent	5,437	31.3%
			・Very much	1,306	7.5%
Ages 16-39	(Valid responses:	4,325)	・Not at all	2,006	46.4%
			・Not much	821	19.0%
			・To some extent	1,190	27.5%
			・Very much	308	7.1%
Ages 40-64	(Valid responses:	9,418)	・Not at all	3,232	34.3%
			・Not much	2,234	23.7%
			・To some extent	3,121	33.1%
			・Very much	831	8.8%
Ages 65 and older	(Valid responses:	19,481)	・Not at all	6,446	33.1%
			・Not much	5,897	30.3%
			・To some extent	5,914	30.4%
			・Very much	1,224	6.3%
Kessler psychological distress scale (K6)	(Valid responses:	17,919)	・Not at all / Not much	552	3.1%
≥ 13 points	(Valid responses:	10,992)	・To some extent / Very much	1,088	9.9%
Interfering event during COVID-19 pandemic			・Deterioration of health status	6,051	-
*Multiple answers allowed			・Deterioration of a family member's health status	4,766	-
			・Nursing care for a family member	1,924	-
			・Got divorced/separated from the partner	199	-
			・Started living apart from the family	529	-
			・Death of a family member	1,244	-
			・Death of a loved one other than family members	2,515	-
			・Started working or changed jobs	540	-
			・Lost a job	368	-
			・Retired or quit a job	464	-
			・Worsening financial conditions	5,036	-
			・Increased interpersonal problems	1,319	-
			・Other significant event	1,998	-

				Persons	Percentage
Q11 Radiation health effects					
1) Risk perception of radiation health effects	(Valid responses:	30,903)			
How will current radiation exposure affect future generations?			・Very low	8,003	25.9%
			・Low	16,036	51.9%
			・High	5,795	18.8%
			・Very high	1,069	3.5%
In Fukushima prefecture	(Valid responses:	26,532)	・Very low	6,915	26.1%
			・Low	14,010	52.8%
			・High	4,793	18.1%
			・Very high	814	3.1%
Outside the prefecture	(Valid responses:	4,371)	・Very low	1,088	24.9%
			・Low	2,026	46.4%
			・High	1,002	22.9%
			・Very high	255	5.8%
2) Interference with daily life	(Valid responses:	31,171)	・Frequently	568	1.8%
In the past month, how often have you had trouble with daily life because of radiation concerns?			・Sometimes	2,117	6.8%
			・Rarely	4,314	13.8%
			・Never	24,172	77.5%
Q12 Availability of consultation resources	(Valid responses:	34,022)	・Yes	27,953	82.2%
Do you have someone to consult with or talk about you mental/physical problems?			・No (Have no one or organization to consult)	6,069	17.8%

Tabulation errors on results reports of the Thyroid Ultrasound Examination (TUE) for the Fukushima Health Management Survey (FHMS)

1. Overview

Results of the TUE Full-Scale Survey (hereafter referred to as the "FSS") (5th round survey) reported after the 49th Fukushima Prefectural Oversight Committee for the FHMS (hereafter referred to as the "Oversight Committee") on November 24, 2023, included tabulation errors arising from an incorrectly recorded birth year of one person with a diagnosis of malignant or suspicious for malignancy. Therefore, the reported figures showing the age distributions as of March 11, 2011, and at the time of the confirmatory examination, were tabulated using incorrect information.

This error prompted a review of all figures and tables related to the results of the confirmatory examination that were prepared manually and reported to the Oversight Committee before the 4th round FSS. We found errors in the figures showing the age distribution at the time of the confirmatory examination for one of the examinees with a diagnosis of malignant or malignant or suspicious for malignancy in the Preliminary Baseline Survey (the 1st round FSS).

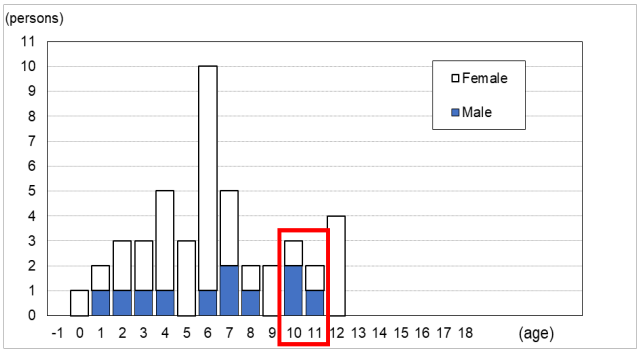
2. Corresponding figures and contents on the 5th round FSS report

Figures 4 and 5 of the report submitted to the 49th, 50th, and 51st Oversight Committees

- "Figure 4 Age distributions as of March 11, 2011"

<u>One male who was actually 11 years old was reported as 10 years old.</u>

(Erroneous data)



(Correct data)

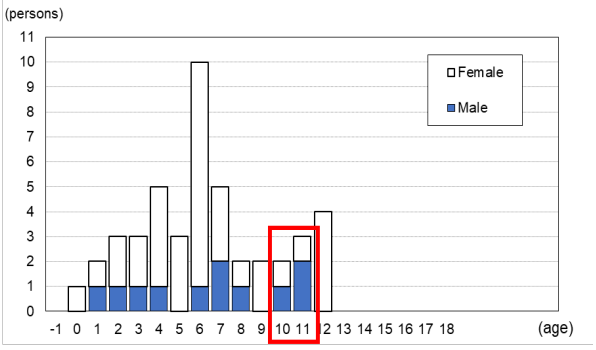


Figure 4 Age distributions as of March 11, 2011

(Results report of the 5th round FSS, 51st Oversight Committee)

・ Figure 5　Age distributions as of the date of confirmatory examination.

One male who was actually 22 years old was reported as 21 years old.

(Erroneous data)　　(Correct data)

Figure 5 Age distributions as of the date of confirmatory examination

(Results report of the 5th round FSS, 51st Oversight Committee)

3. Impact of the correction for the 5th round FSS

3-1 Impact on published papers/journals

This error was caused by manually transcribing the information necessary to summarize the report for the Oversight Committee and is not a data error in the FHMS Data Management System. In addition, since the writing of the paper is scheduled for the future, there will be no impact on the paper.

4. Error check results of reports before the 4th round FSS

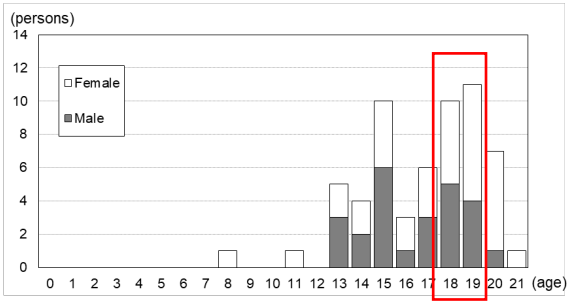
4-1 Overview

As with the 5th round FSS, one male who was actually 18 years old was reported as 19 years old, by an incorrectly transcribed date of his confirmatory examination.

4-2 Corresponding figures and contents

4-2-1 Figures for the “Age distributions as of the date of confirmatory examination” reported from the 13th (November 12, 2013) to the 15th (May 19, 2014) Oversight Committee meetings.

(Erroneous data)



(Correct data)

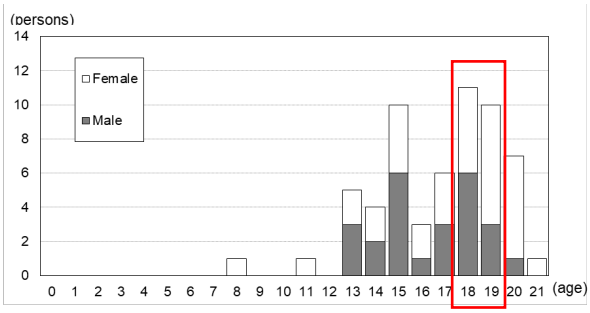
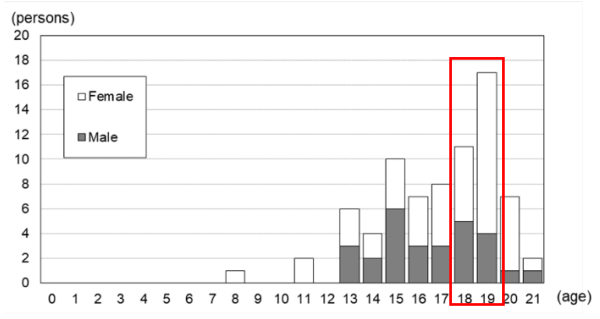


Figure for “Age distributions as of the date of confirmatory examination”

(Results report of the Preliminary Baseline Survey (the 1st round FSS), 13th Oversight Committee meeting)

(Erroneous data)



(Correct data)

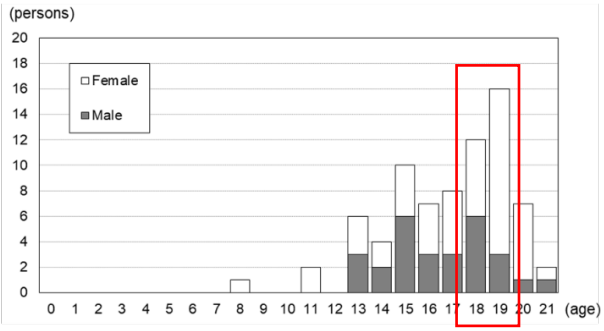
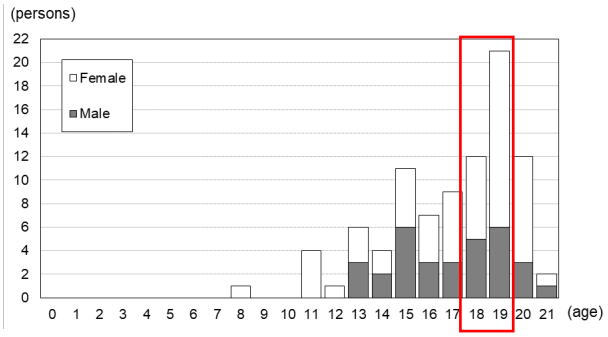


Figure for “Age distributions as of the date of confirmatory examination”

(Results report of the Preliminary Baseline Survey (the 1st round FSS), 14th Oversight Committee meeting)

(Erroneous data)



(Correct data)

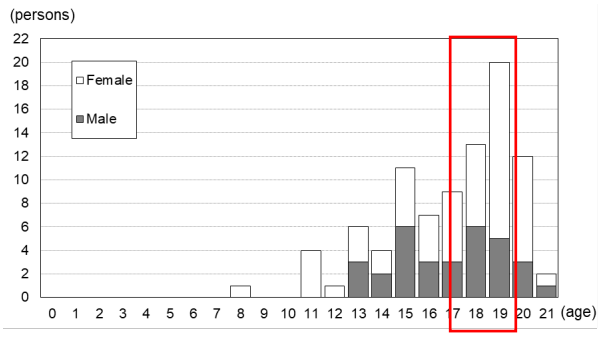


Figure for “Age distributions as of the date of confirmatory examination”

(Results report of the Preliminary Baseline Survey (the 1st round FSS), 15th Oversight Committee meeting)

4-2-2 Figures for the “Age distributions as of the date of confirmatory examination” reported from the 16th (August 24, 2014) to the 19th (May 18, 2015) Oversight Committee meetings.

(Erroneous data) (Correct data)

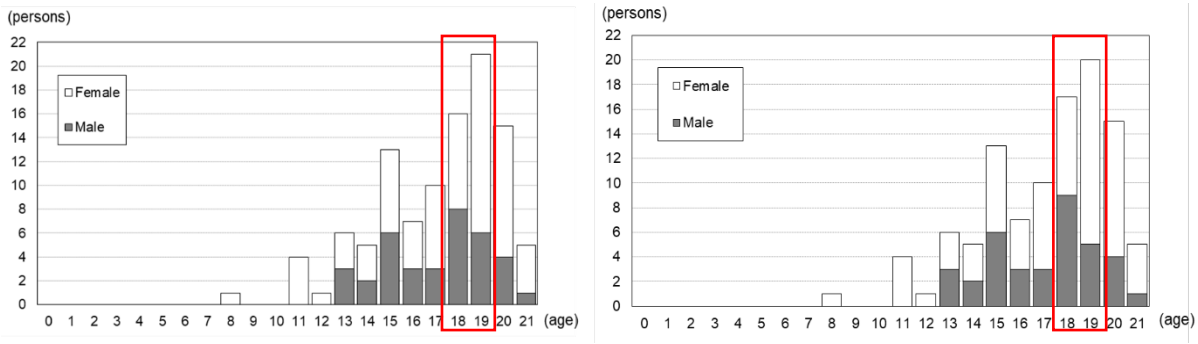


Figure 5 Age distributions as of the date of confirmatory examination

(Results report of the Preliminary Baseline Survey (the 1st round FSS), 16th Oversight Committee meeting)

(Erroneous data) (Correct data)

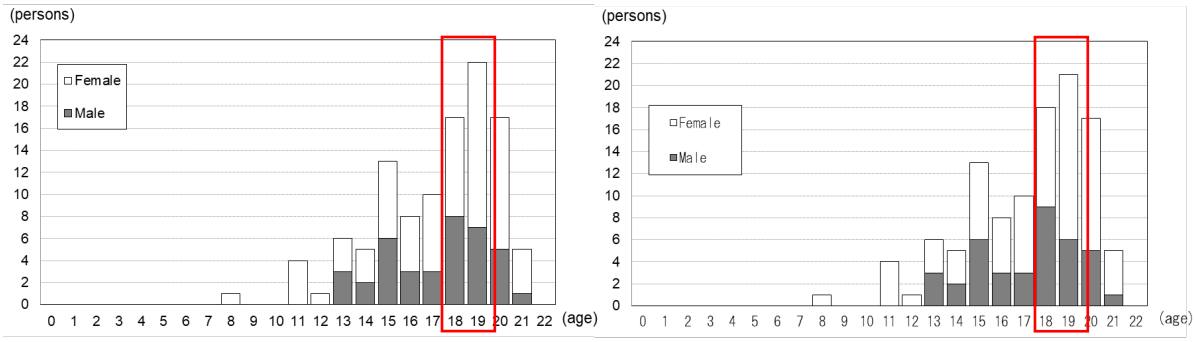


Figure 4 Age distributions as of the date of confirmatory examination

(Results report of the Preliminary Baseline Survey (the 1st round FSS), 17th Oversight Committee meeting)

(Erroneous data) (Correct data)

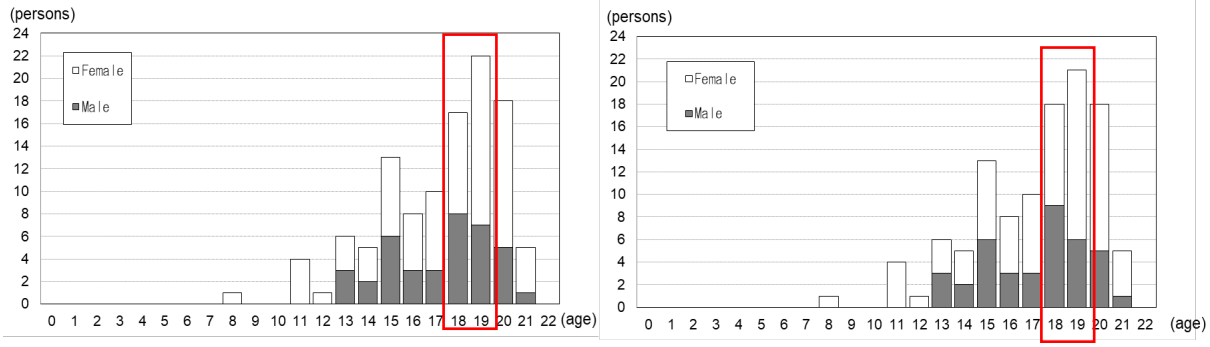
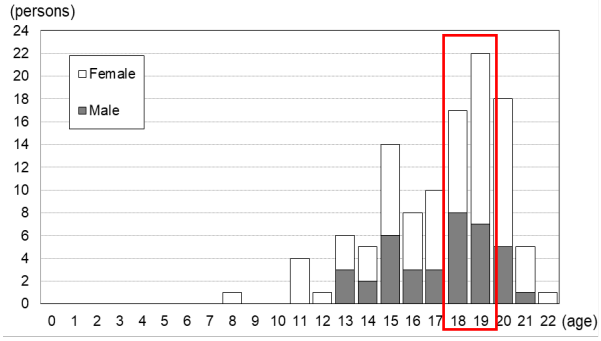


Figure 4 Age distributions as of the date of confirmatory examination

(Results report of the Preliminary Baseline Survey (the 1st round FSS), 18th Oversight Committee meeting)

52_TUE(EN)_Tabulation errors on results reports of the Thyroid Ultrasound Examination

(Erroneous data)



(Correct data)

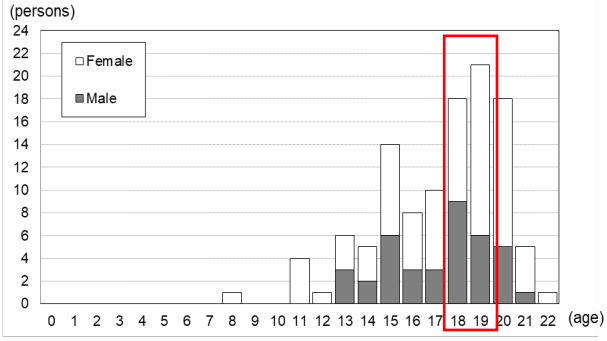


Figure 4 Age distributions as of the date of confirmatory examination

(Results report of the Preliminary Baseline Survey (the 1st round FSS), 19th Oversight Committee meeting)

4-2-3 Figure for the “Age distributions as of the date of confirmatory examination” reported for the 20th Oversight Committee meeting (August 31, 2015)

(Erroneous data) (Correct data)

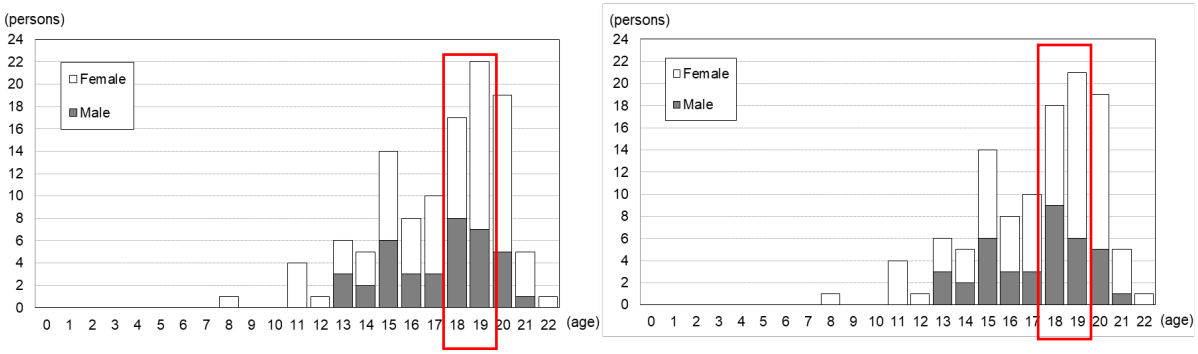


Figure 4 Age distributions as of the date of confirmatory examination

(Final report of the Preliminary Baseline Survey (the 1st round FSS), 20th Oversight Committee meeting)

4-2-4 Figure for the “Age distributions as of the date of confirmatory examination” reported for the 23rd Oversight Committee meeting (June 6, 2016)

(Erroneous data) (Correct data)

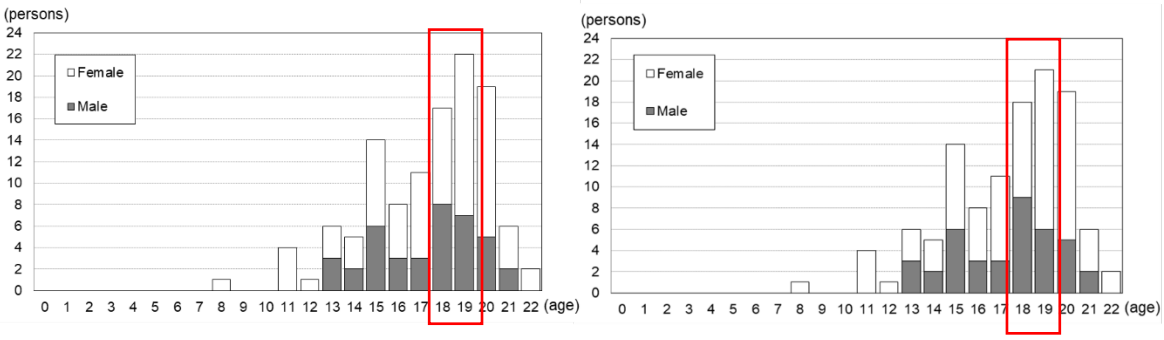


Figure 4 Age distributions as of the date of confirmatory examination

(Supplemental Report for the FY 2015 Preliminary Baseline Survey (the 1st round FSS), 23rd Oversight Committee meeting)

4-2-5 Figure for the “Age distributions as of the date of confirmatory examination” reported for the 27th Oversight Committee meeting (June 5, 2017)

(Erroneous data) (Correct data)

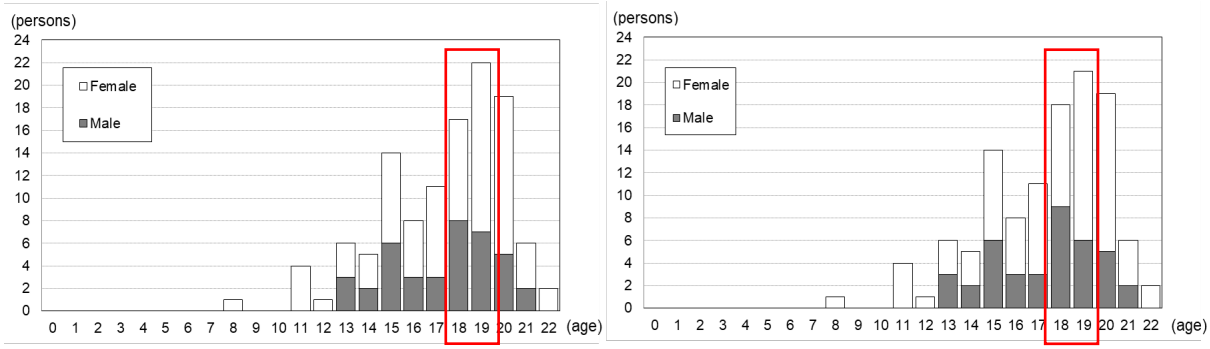


Figure 4 Age distributions as of the date of confirmatory examination

(Supplemental Report for the FY 2016 Preliminary Baseline Survey (the 1st round FSS), 27th Oversight Committee meeting)

4-3 Impact of the correction

4-3-1 Impact on published papers/journals

As with the 5th round FSS report, the error originated during the manual preparation process and does not reflect an error in the underlying data within the FHMS Data Management System. Still, in some cases, erroneous figures have been referenced.

Report on the TUE Full-Scale Survey (fifth-round survey)

As of March 31, 2024

1. Summary

1.1 Purpose

To monitor the long-term health of children, we are continuing the Full-Scale Survey (fifth-round survey), following the Preliminary Baseline Survey for background assessment of thyroid glands, and prior Full-Scale Surveys (second-, third-, and fourth-round surveys) to continuously assess the status of thyroid glands.

1.2 Eligible persons

All Fukushima residents approximately 18 years old or younger at the time of the earthquake (those born between April 2, 1992 and April 1, 2012).

1.3 Implementation Period

FY2020 and FY2022, starting in April 2020:

1.3-1 For those 18 years old or younger

The examination will be carried out over 3 years, from FY2020 through FY2022.

1.3-2 For those 19 years old or older

The examination will be conducted on an age-group basis (i.e., school grade).

FY2020: those born in FY1998 and FY2000
FY2021: those born in FY1999 and FY2001
FY2022: no eligible persons

1.3-3 For those 25 years old or older

Those older than 20 are recommended to receive the examination every 5 years around the ages of 25, 30, and so on (Age 25 and Age 30 Surveys)

FY2020: those born in FY1995
FY2021: those born in FY1996
FY2022: those born in FY1992 and FY1997

Results of surveys for those 25 and 30 years old will be reported separately.

1.4 Implementing Organizations (number of medical facilities with agreements for the implementation of thyroid examinations as of March 31, 2024)

Fukushima Prefecture commissioned Fukushima Medical University (FMU) to conduct the Survey in cooperation with organizations inside and outside Fukushima for the convenience of participants.

1.4-1 Primary examination facilities

In Fukushima Prefecture	83 medical facilities
Outside Fukushima Prefecture	147 medical facilities

1.4-2 Confirmatory examination facilities

In Fukushima Prefecture	6 medical facilities, including FMU
Outside Fukushima Prefecture	40 medical facilities

1.5 Methods

1.5-1 Primary examination

Ultrasonography of the thyroid gland

Assessments are made by specialists based on the following criteria:

- Grade A
  A1: No nodules/cysts
  A2: Nodules ≤ 5.0 mm or cysts ≤ 20.0 mm
- Grade B
  B: Nodules ≥ 5.1 mm or cysts ≥ 20.1 mm
  Some A2 results may be re-classified as B results when clinically indicated.
-Grade C
  C: Urgent need for confirmatory examination, judging from the condition of the thyroid gland.

1.5-2 Confirmatory examination

Ultrasonography of the thyroid gland, blood and urine tests, 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. A medical follow-up may be recommended based on confirmatory exam results.

1.5-3 Flow chart

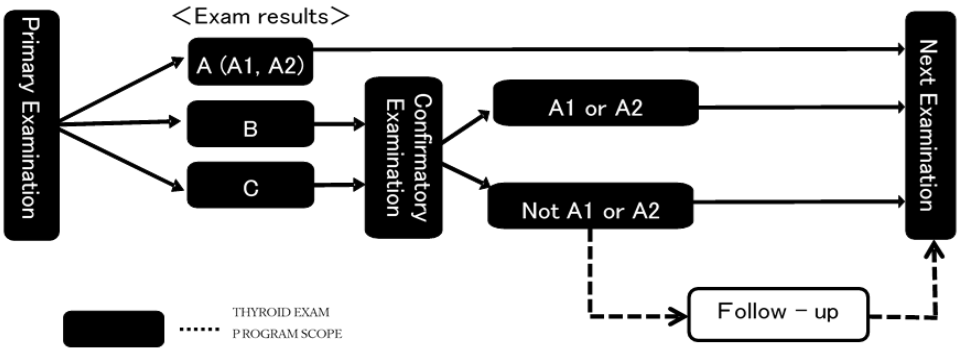


Figure 1 Flow chart

1.6 Municipalities Surveyed

The municipalities where examinations (for those 18 years old or younger) were carried out in FY2020 and FY2022 are as follows:

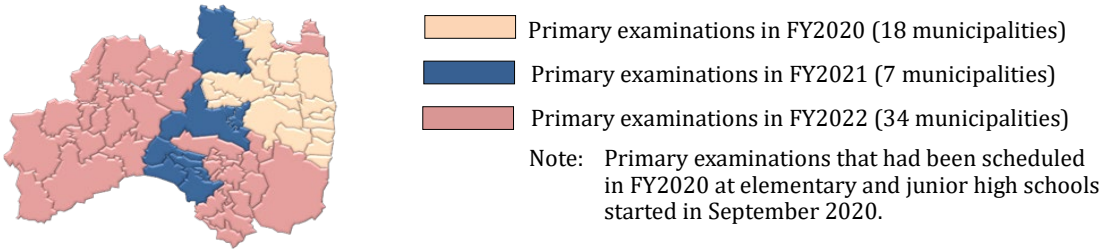


Figure 2 Municipalities covered for primary examinations at elementary and junior high schools

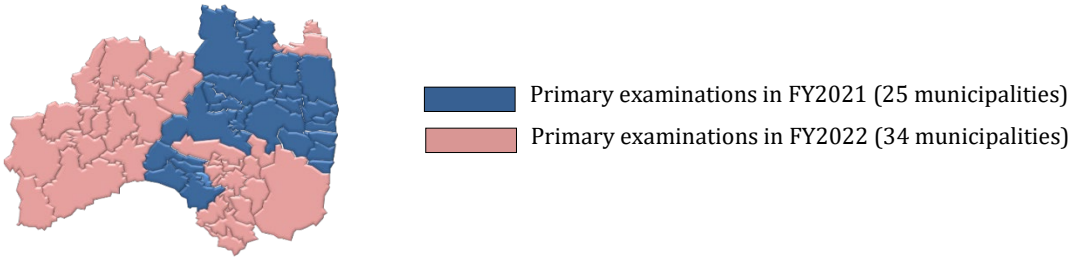


Figure 3 Municipalities covered for primary examinations at high schools and other facilities

Results of these surveys were aggregated based on the year when examinations were originally scheduled, which may differ from the year in which some examinations were conducted.

2. Results as of March 31, 2024

2.1 Results of the Primary Examination

2.1-1 Implementation status

The primary examination was completed for 113,959 participants (45.1%) by March 31, 2024. (Refer to Appendices 1 and 2 for the participation and progress summaries by municipalities in Fukushima and other prefectures.)

The results of 113,950 participants (100.0%) have been finalized and individual reports have been sent to them. (See Appendix 3 for the results by municipalities.)

Of these, 32,843 (28.8%) had Grade A1 results, 79,761 (70.0%) had Grade A2, 1,346 (1.2%) had Grade B, and none had Grade C.

Table 1 Progress and results of the primary examination

	Eligible persons	Participants (persons)			Participants with finalized results (persons)									
			Participation rate (%)	Those who participated outside Fukushima		Judgment rate (%)	Details by grade (%)							
							A				Those referred to confirmatory exam			
							A1		A2		B		C	
	a	b	(b/a)		c	(c/b)	d	(d/c)	e	(e/c)	f	(f/c)	g	(g/c)
FY2020	144,902	69,178	(47.7)	5,499	69,176	(100.0)	19,997	(28.9)	48,431	(70.0)	748	(1.1)	0	(0.0)
FY2021	108,036	44,781	(41.5)	2,471	44,774	(100.0)	12,846	(28.7)	31,330	(70.0)	598	(1.3)	0	(0.0)
Total	252,938	113,959	(45.1)	7,970	113,950	(100.0)	32,843	(28.8)	79,761	(70.0)	1,346	(1.2)	0	(0.0)

Table 2 Number and proportion of participants with nodules/cysts (See Appendix 4 for details.)

	Participants with finalized results	Participants with nodules / cysts (%)							
		Nodules				Cysts			
		≥ 5.1mm		≤ 5.0mm		≥20.1mm		≤ 20.0mm	
	a	b	(b/a)	c	(c/a)	d	(d/a)	e	(e/a)
FY2020	69,176	748	(1.1)	380	(0.5)	1	(0.0)	48,848	(70.6)
FY2021	44,774	598	(1.3)	284	(0.6)	0	(0.0)	31,673	(70.7)
Total	113,950	1,346	(1.2)	664	(0.6)	1	(0.0)	80,521	(70.7)

- Proportions are rounded to a lower decimal place. This applies to other tables as well.
- Those who receive the examination at 5-year intervals (born between FY1992 and FY1997: Age 25 and Age 30 examinations) are excluded and will be reported separately.
- Examinations for those born in FY1995 (approx. 21,000) took place in FY2020; for those born in FY1996 (approx. 21,000), FY2021; and for those born in FY1992 (approx. 23,000) and FY1997 (approx. 20,000), FY2022.

2.1-2 Participation rate by age group

Table 3 shows the participation rate for each age group as of April 1 of each fiscal year.

Table 3 Participation rates by age group

			Total	Age group		
FY2020	Age group*			8-11	12-17	18-24
	Eligible persons	(a)	144,902	37,105	61,911	45,886
	Participants	(b)	69,178	27,925	36,161	5,092
	Participation rate (%)	(b/a)	47.7	75.3	58.4	11.1
FY2021	Age group*			9-11	12-17	18-24
	Eligible persons	(a)	108,036	19,771	45,061	43,204
	Participants	(b)	44,781	14,152	25,689	4,940
	Participation rate (%)	(b/a)	41.5	71.6	57.0	11.4
Total	Eligible persons	(a)	252,938	56,876	106,972	89,090
	Participants	(b)	113,959	42,077	61,850	10,032
	Participation rate (%)	(b/a)	45.1	74.0	57.8	11.3

* Age groups are based on ages as of April 1 of each fiscal year.

2.1-3 Comparison of the fourth- and fifth-round survey results

Table 4 compares the results of two Full-Scale Surveys (fourth- and fifth-round surveys).

Among 106,592 (sum of *1) participants with Grade A (A1 and A2) results in the fourth-round survey, 105,825 (sum of *2, 99.3%) had Grade A (A1 and A2) results, and 767 (sum of *3, 0.7%) had Grade B results in the fifth-round survey.

Among 546 participants with Grade B results in the fourth-round survey, 104 (sum of *4, 19.0%) had Grade A (A1 and A2) results, and 442 (81.0%) had Grade B results in the fifth-round survey.

Table 4 Comparison of the fourth- and fifth-round surveys

			Results of the fourth-round survey*	Results of the fifth-round survey**			
				A		B	C
			a (%)	A1 b (b/a)	A2 c (c/a)	d (d/a)	e (e/a)
Results of the fourth-round survey	A	A1	34,597 *1 (100.0)	23,880 *2 (69.0)	10,582 *2 (30.6)	135 *3 (0.4)	0 (0.0)
		A2	71,995 *1 (100.0)	6,645 *2 (9.2)	64,718 *2 (89.9)	632 *3 (0.9)	0 (0.0)
	B		546 (100.0)	11 *4 (2.0)	93 *4 (17.0)	442 (81.0)	0 (0.0)
	C		0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
	Did not participate		6,812 (100.0)	2,307 (33.9)	4,368 (64.1)	137 (2.0)	0 (0.0)
Total			113,950 (100.0)	32,843 (28.8)	79,761 (70.0)	1,346 (1.2)	0 (0.0)

* Results of the fourth-round survey are from fifth-round survey participants with finalized results, not the breakdown of all fourth-round survey participants.

** Results of the fifth-round survey participants diagnosed for each grade in the fourth-round survey.

2.2 Results of the Confirmatory Examination

2.2-1 Implementation status

By March 31, 2024, of 1,346 eligible persons, 1,108 (82.3%) had participated in the confirmatory examination, and 1,079 (97.4%) had completed the entire procedure. (See Appendix 5 for the implementation status of the confirmatory examinations by area.)

Of those 1,079 participants, 102 (A1: 7, A2: 95) (9.5%) were confirmed to meet A1 or A2 diagnostic criteria by primary examination standards (including those with other thyroid conditions). After the detailed examination, 977 (90.5%) were confirmed to be outside the A1 or A2 criteria.

Table 5 Progress and results of the confirmatory examination

	Those referred to confirmatory exams	Participants (persons) (%)		Those with finalized results (%)									
			Participation Rate (%)	Determination rate (%)		A1		A2		Other than A1 or A2			
												FNAC	
	a	b	(b/a)	c	(c/b)	d	(d/c)	e	(e/c)	f	(f/c)	g	(g/f)
FY2020	748	625	(83.6)	614	(98.2)	4	(0.7)	64	(10.4)	546	(88.9)	65	(11.9)
FY2021	598	483	(80.8)	465	(96.3)	3	(0.6)	31	(6.7)	431	(92.7)	28	(6.5)
Total	1,346	1,108	(82.3)	1,079	(97.4)	7	(0.6)	95	(8.8)	977	(90.5)	93	(9.5)

2.2-2 Results of fine needle aspiration cytology (FNAC)

Among those who underwent FNAC, 46 participants had nodules classified as malignant or suspicious for malignancy: 12 were male and 34 were female.

Participants' ages at the time of the confirmatory examination ranged from 12 to 24 (mean age: 17.4 ± 3.0 years). The tumor diameters were from 5.4 mm to 46.7 mm, and the mean tumor diameter was 14.1 ± 8.3 mm.

Of these 46 participants, 34 had Grade A (A1:11, A2:23), 6 had Grade B results in the fourth-round survey, and the remaining 6 participants did not participate. Among 23 participants with Grade A2, 1 met nodule, 20 met cyst, and 2 met both cyst and nodule criteria.

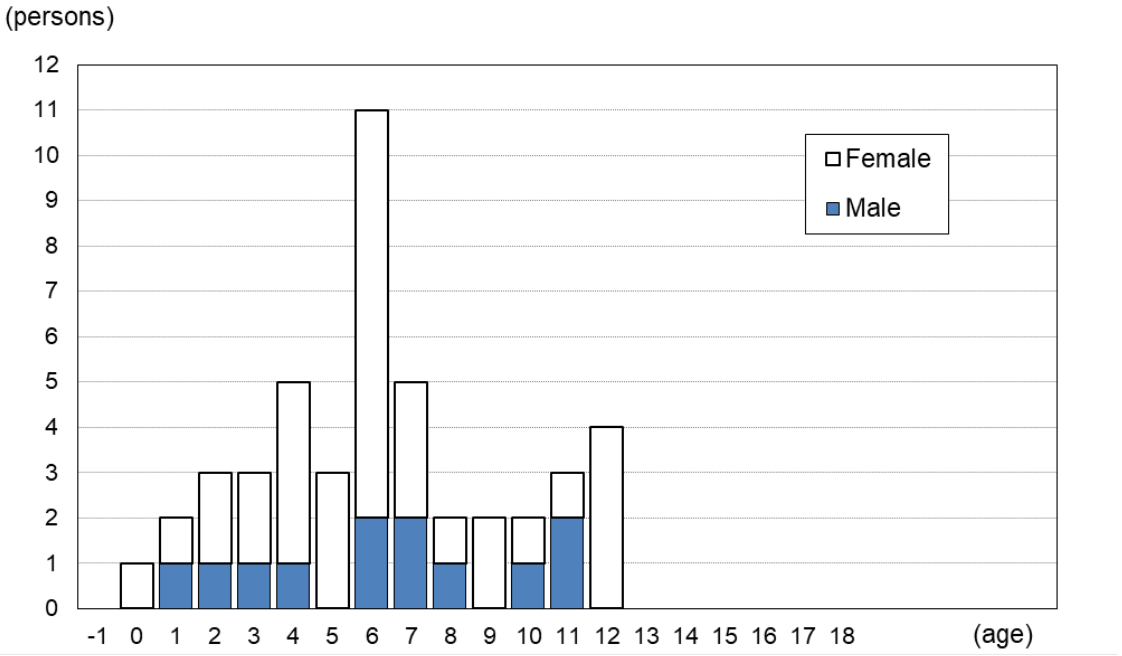
Table 6 Results of FNAC (The mean age and mean tumor size in parentheses indicate the range)

A. Municipalities surveyed in FY2020	
・Malignant or suspicious for malignancy	29*
・Male to female ratio	6:23
・Mean age ± SD (min-max)	17.5 ± 3.4 (12–24)
	6.6 ± 3.4 (1–12) at the time of the earthquake
・Mean tumor size ± SD (min-max)	11.3 ± 5.0 mm (5.4–30.1 mm)
B. Municipalities surveyed in FY2021	
・Malignant or suspicious for malignancy	17*
・Male to female ratio	6:11
・Mean age ± SD (min-max)	17.3 ± 2.2 (13–21)
	5.7± 2.9 (0–10) at the time of the earthquake
・Mean tumor size±SD (min-max)	18.9 ±10.6 mm (8.4–46.7 mm)
C. Total	
・Malignant or suspicious for malignancy	46*
・Male to female ratio	12:34
・Mean age ± SD (min-max)	17.4 ± 3.0 (12–24)
	6.3 ± 3.2 (0–12) at the time of the earthquake
・Mean tumor size ± SD (min-max)	14.1 ± 8.3 mm (5.4–46.7 mm)

* Appendix 6 shows surgery cases.

2.2-3 Age distribution of malignant or suspected malignant cases diagnosed by FNAC

The age distribution of 46 people with malignant or suspected malignant nodules based on their age as of March 11, 2011, is in Figure 4, and the age distribution based on their age at the time of confirmatory examination is in Figure 5.



Note: Those aged between 13 and 18 at the time of the disaster are not included in the fifth-round survey participants.
The horizontal axis begins at -1, including those born between April 2, 2011, and April 1, 2012.
*Those born between March 12 and April 1, 2011, are included in age 0.

Figure 4 Age distributions as of March 11, 2011

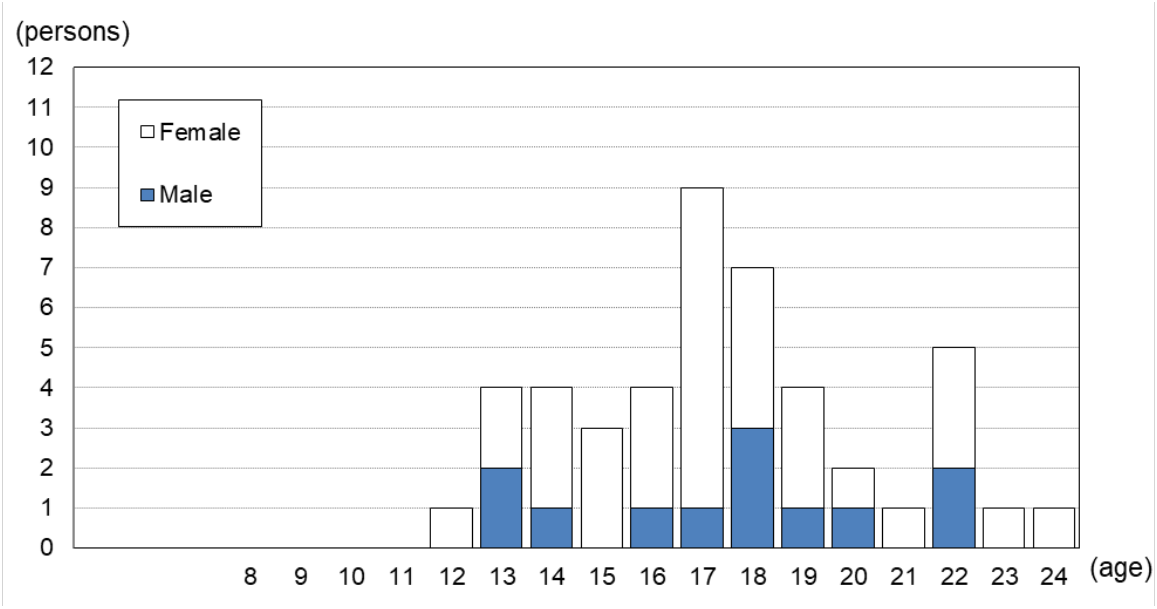


Figure 5 Age distributions as of the date of confirmatory examination

2.2-4 Basic Survey results for those deemed malignant or suspicious for malignancy by FNAC

Of those 46 people with malignant or suspicious findings, 28 (60.9%) had participated in the Basic Survey (for external radiation dose estimation), and all 28 received their results. The highest effective dose documented was 2.4 mSv.

Table 7　A breakdown of dose estimates for Basic Survey participants

Effective dose (mSv)	Age at the time of the earthquake									
	0–5		6–10		11–15		16–18		Total	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
< 1	1	5	2	7	0	3	0	0	3	15
< 2	1	1	1	2	1	1	0	0	3	4
< 5	0	2	0	0	1	0	0	0	1	2
< 10	0	0	0	0	0	0	0	0	0	0
< 20	0	0	0	0	0	0	0	0	0	0
≥ 20	0	0	0	0	0	0	0	0	0	0
Total	2	8	3	9	2	4	0	0	7	21

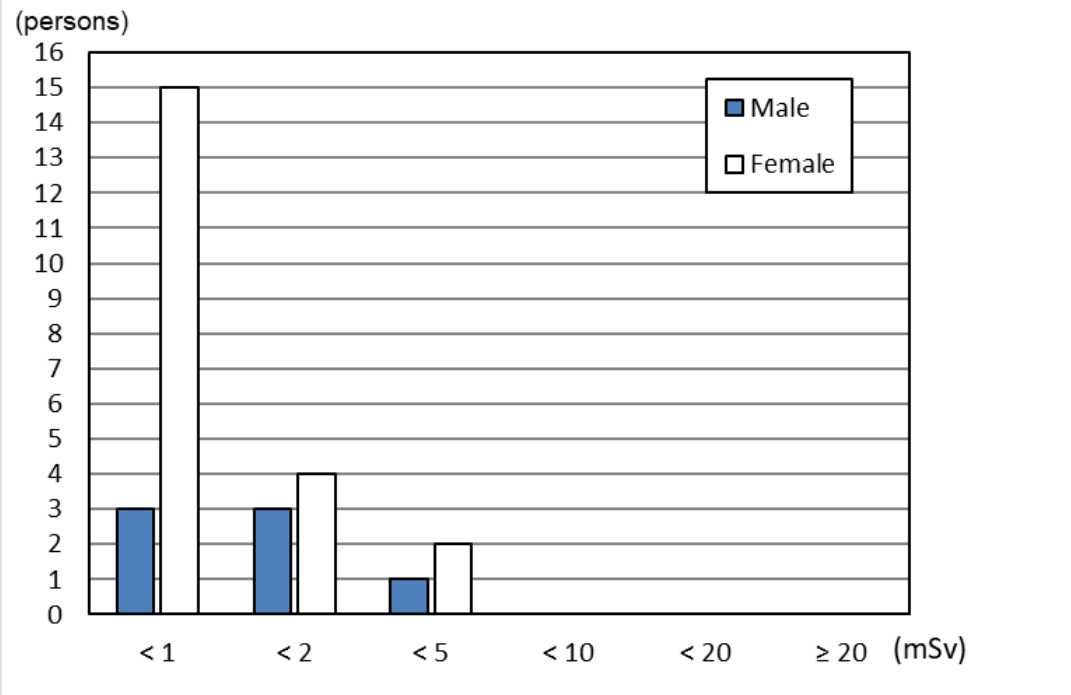


Figure 6 Effective dose distribution of the Basic Survey participants

2.2-5 Blood test and urinary iodine test results

Table 8 Blood test results

	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
Malignant or suspicious : 46	1.2 ± 0.2 (4.3%)	3.5 ± 0.4 (4.3%)	1.2 ± 0.7 (8.7%)	77.7 ± 317.9 (19.6%)	15.2%	13.0%
Other : 939	1.2 ± 0.2 (5.1%)	3.6 ± 0.8 (7.6%)	1.3 ± 1.1 (8.6%)	30.4 ± 80.5 (15.4%)	8.7%	7.3%

Table 9 Urinary iodine test results [8]

(μg/day)

	Minimum	25th percentile	Median	75th percentile	Maximum
Malignant or suspicious : 44	36	128	175	397	2,471
Other : 935	21	113	193	330	12,670

1) FT4: free thyroxine, thyroid hormone binding 4 iodines; higher among patients with thyrotoxicosis (such as Graves' disease) and lower with hypothyroidism (such as Hashimoto's thyroiditis).
2) FT3: free triiodothyronine, thyroid hormone binding 3 iodines; 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 or Graves' disease.
6) TPOAb: anti-thyroid peroxidase antibody; higher among patients with Hashimoto's disease or Graves' disease.
7) Reference intervals vary according to age.
8) Urinary iodine tests have not been carried out since March 8, 2024 (details as follows).

Temporary suspension of urine tests

The reagents have been unavailable since March 2024. This has affected the suspension of the relevant urine tests.

1 Reason:

The manufacturer and distributor of the test reagent were found to be failed to comply with the procedures stipulated in the "Act on Securing Quality, Efficacy, and Safety of Products Including Pharmaceuticals and Medical Devices" (Pharmaceutical and Medical Device Act), and the product could no longer be used due to non-compliance with the law.

2 Date of suspension:

Effective March 8, 2024

2.2-6 Confirmatory examination results by area

The percentages of those with malignant or suspicious findings were 0.04% in the 13 municipalities of the nationally designated evacuation zone and Nakadori, 0.05% in Hamadori, and 0.02% in Aizu.

Table 10 Confirmatory examination results by area

	The fifth-round survey participants (persons)	Those referred to confirmatory exam (persons) and rate (%)		Those who received the confirmatory exam (persons)	Malignant or suspicious (persons) and rate (%)	
	a	b	b/a		c	c/a
13 municipalities[1)]	14,787	156	1.1	129	6	0.04
Nakadori[2)]	65,594	739	1.1	614	27	0.04
Hamadori[3)]	20,787	293	1.4	234	10	0.05
Aizu[4)]	12,791	158	1.2	131	3	0.02
Total	113,959	1,346	1.2	1,108	46	0.04

1) Tamura City, Minamisoma City, Date City, Kawamata Town, Hirono Town, Naraha Town, Tomioka Town, Kawauchi Village, Okuma Town, Futaba Town, Namie Town, Katsurao Village, Iitate Village
2) Fukushima City, Koriyama City, Shirakawa City, Sukagawa City, Nihonmatsu City, Motomiya City, Koori Town, Kunimi Town, Otama Village, Kagamiishi Town, Tenei Village, Nishigo Village, Izumizaki Village, Nakajima Village, Yabuki Town, Tanagura Town, Yamatsuri Town, Hanawa Town, Samegawa Village, Ishikawa Town, Tamakawa Village, Hirata Village, Asakawa Town, Furudono Town, Miharu Town, Ono Town
3) Iwaki City, Soma City, Shinchi Town
4) Aizuwakamatsu City, Kitakata City, Shimogo Town, Hinoemata Village, Tadami Town, Minamiaizu Town, Kitashiobara Village, Nishiaizu Town, Bandai Town, Inawashiro Town, Aizubange Town, Yugawa Village, Yanaizu Town, Mishima Town, Kaneyama Town, Showa Village, Aizumisato Town

3. Mental Health Care

We have been providing the following support for thyroid examination participants.

3.1 Support for Primary Examination Participants

After the examination, medical doctors offer person-to-person explanations of examination results, showing ultrasound images in private consultation booths at examination venues set up in public facilities.

Consultation booths were set up at all venues for examinations conducted in and after April 2020; as of March 31, 2024, all 2,759 participants (100%) have visited these consultation booths.

3.2 Outreach programs (on-location lectures and information sessions)

We have conducted on-location lectures and information sessions to support participants and their parents/guardians to deepen their understanding of the thyroid examination.

From April 2020 to March 31, 2023, 607 people participated in these sessions offered at 11 locations: 3 elementary schools, 4 junior high schools, and 4 high schools.

3.3 Support for Confirmatory Examination Participants

A support team has been established within Fukushima Medical University to offer mental health support to those undergoing the confirmatory (secondary) examination to address their concerns and anxiety, as well as to answer questions and provide guidance via web consultation.

Since the start of the fifth-round survey, 402 participants (127 males and 275 females) have received support as of March 31, 2024. The number of support sessions, including telephone counseling provided was 710 in total. Of these, 397 (55.9%) received support at the participants' first examination and 313 (44.1%) at subsequent examinations.

For those who proceeded to regular insured medical care, the support team continues to provide support in cooperation with teams of medical staff at hospitals.

Appendix 1 Implementation status of the TUE primary examination, by the municipality

As of March 31, 2024

	Number of eligible persons	Participants (persons)		Participation rate(%)	Number of participants and participation rate by age group[2]			Participants living outside Fukushima	%
	a	b	Participated outside Fukushima[1]	b/a	8–11	12–17	18–24	c[3]	c/b
Municipalities surveyed in FY2020									
Kawamata	1,567	739	14	47.2	238 32.2	431 58.3	70 9.5	40	5.4
Namie	2,478	954	235	38.5	210 22.0	547 57.3	197 20.6	232	24.3
Iitate	731	346	20	47.3	88 25.4	202 58.4	56 16.2	25	7.2
Minamisoma	8,849	3,975	571	44.9	1,201 30.2	2,253 56.7	521 13.1	612	15.4
Date	7,412	4,039	166	54.5	1,143 28.3	2,284 56.5	612 15.2	175	4.3
Tamura	4,577	2,281	52	49.8	803 35.2	1,227 53.8	251 11.0	77	3.4
Hirono	647	289	28	44.7	68 23.5	166 57.4	55 19.0	26	9.0
Naraha	916	369	44	40.3	73 19.8	221 59.9	75 20.3	46	12.5
Tomioka	1,980	715	122	36.1	153 21.4	412 57.6	150 21.0	128	17.9
Kawauchi	225	98	7	43.6	20 20.4	59 60.2	19 19.4	8	8.2
Okuma	1,771	670	117	37.8	145 21.6	392 58.5	133 19.9	118	17.6
Futaba	839	247	48	29.4	51 20.6	155 62.8	41 16.6	50	20.2
Katsurao	148	65	3	43.9	14 21.5	39 60.0	12 18.5	4	6.2
Fukushima	37,320	18,604	1,415	49.8	4,862 26.1	11,047 59.4	2,695 14.5	1,395	7.5
Nihonmatsu	6,920	3,713	160	53.7	1,126 30.3	2,156 58.1	431 11.6	158	4.3
Motomiya	4,232	2,211	78	52.2	663 30.0	1,302 58.9	246 11.1	78	3.5
Otama	1,122	681	18	60.7	214 31.4	384 56.4	83 12.2	15	2.2
Koriyama	45,739	20,620	1,966	45.1	4,729 22.9	12,879 62.5	3,012 14.6	1,963	9.5
Koori	1,375	789	25	57.4	224 28.4	467 59.2	98 12.4	29	3.7
Kunimi	1,022	559	20	54.7	126 22.5	349 62.4	84 15.0	25	4.5
Tenei	728	332	19	45.6	95 28.6	180 54.2	57 17.2	11	3.3
Shirakawa	8,566	4,240	257	49.5	1,229 29.0	2,366 55.8	645 15.2	255	6.0
Nishigo	2,856	1,345	77	47.1	399 29.7	740 55.0	206 15.3	74	5.5
Izumizaki	893	394	7	44.1	105 26.6	245 62.2	44 11.2	10	2.5
Miharu	1,989	903	30	45.4	218 24.1	525 58.1	160 17.7	33	3.7
Subtotal	144,902	69,178	5,499	47.7	18,197 26.3	41,028 59.3	9,953 14.4	5,587	8.1

*1) The number of participants who received the examination at facilities outside Fukushima (as of February 29, 2024).

*2) Split cells show the number of participants above the corresponding percentage.

*3) The number of participants who have resident registration outside Fukushima.

・Age groups are based on participants' age at the Full-Scale Survey (fifth-round survey). This applies to other tables hereafter.

	Number of eligible persons	Participants (persons)	Participated outside Fukushima[1)]	Participation rate(%)	Number of participants and participation rate by age group[2)]			Participants living outside Fukushima	%
	a	b		b/a	8–11	12–17	18–24	c[3)]	c/b
Municipalities surveyed in FY2021									
Iwaki	42,530	18,582	1,371	43.7	2,130	12,306	4,146	1,298	7.0
					11.5	66.2	22.3		
Sukagawa	10,705	4,583	181	42.8	773	3,055	755	182	4.0
					16.9	66.7	16.5		
Soma	4,771	1,781	167	37.3	325	1,204	252	191	10.7
					18.2	67.6	14.1		
Kagamiishi	1,835	818	28	44.6	142	552	124	21	2.6
					17.4	67.5	15.2		
Shinchi	983	424	29	43.1	61	279	84	34	8.0
					14.4	65.8	19.8		
Nakajima	706	266	9	37.7	54	169	43	6	2.3
					20.3	63.5	16.2		
Yabuki	2,326	978	22	42.0	217	639	122	25	2.6
					22.2	65.3	12.5		
Ishikawa	1,860	790	25	42.5	161	489	140	26	3.3
					20.4	61.9	17.7		
Yamatsuri	685	306	13	44.7	66	207	33	7	2.3
					21.6	67.6	10.8		
Asakawa	913	409	21	44.8	73	268	68	16	3.9
					17.8	65.5	16.6		
Hirata	838	371	9	44.3	86	220	65	7	1.9
					23.2	59.3	17.5		
Tanagura	2,049	847	32	41.3	178	562	107	35	4.1
					21.0	66.4	12.6		
Hanawa	1,070	419	8	39.2	83	262	74	11	2.6
					19.8	62.5	17.7		
Samegawa	457	191	4	41.8	43	129	19	3	1.6
					22.5	67.5	9.9		
Ono	1,252	502	7	40.1	107	339	56	6	1.2
					21.3	67.5	11.2		
Tamakawa	920	386	9	42.0	68	258	60	6	1.6
					17.6	66.8	15.5		
Furudono	692	337	17	48.7	71	199	67	10	3.0
					21.1	59.1	19.9		
Hinoemata	75	16	2	21.3	3	11	2	0	0.0
					18.8	68.8	12.5		
Minamiaizu	1,788	666	20	37.2	148	445	73	19	2.9
					22.2	66.8	11.0		
Kaneyama	114	38	0	33.3	6	25	7	0	0.0
					15.8	65.8	18.4		
Showa	101	33	5	32.7	9	22	2	5	15.2
					27.3	66.7	6.1		
Mishima	131	45	0	34.4	12	24	9	1	2.2
					26.7	53.3	20.0		
Shimogo	646	216	3	33.4	41	143	32	3	1.4
					19.0	66.2	14.8		
Kitakata	5,939	2,227	66	37.5	393	1,515	319	67	3.0
					17.6	68.0	14.3		
Nishiaizu	618	201	5	32.5	43	133	25	4	2.0
					21.4	66.2	12.4		
Tadami	475	212	5	44.6	38	150	24	7	3.3
					17.9	70.8	11.3		
Inawashiro	1,760	696	23	39.5	137	454	105	20	2.9
					19.7	65.2	15.1		
Bandai	415	159	9	38.3	32	106	21	7	4.4
					20.1	66.7	13.2		
Kitashiobara	385	163	6	42.3	32	111	20	6	3.7
					19.6	68.1	12.3		
Aizumisato	2,371	987	25	41.6	179	633	175	25	2.5
					18.1	64.1	17.7		
Aizubange	2,012	790	27	39.3	140	504	146	30	3.8
					17.7	63.8	18.5		
Yanaizu	393	148	3	37.7	31	98	19	4	2.7
					20.9	66.2	12.8		
Aizuwakamatsu	15,770	5,983	316	37.9	950	4,003	1,030	325	5.4
					15.9	66.9	17.2		
Yugawa	451	211	4	46.8	38	130	43	5	2.4
					18.0	61.6	20.4		
Subtotal	108,036	44,781	2,471	41.5	6,870	29,644	8,267	2,412	5.4
					15.3	66.2	18.5		
Total	252,938	113,959	7,970	45.1	25,067	70,672	18,220	7,999	7.0
					22.0	62.0	16.0		

Appendix 2 Implementation status of the TUE primary examination, by prefecture

As of February 29, 2024

Prefecture	Number of medical facilities	Participants (persons)
Hokkaido	6	**195**
Aomori	3	**94**
Iwate	4	**182**
Miyagi	2	**1,756**
Akita	1	**131**
Yamagata	3	**355**
Ibaraki	4	**477**
Tochigi	9	**542**
Gunma	2	**154**
Saitama	4	**443**
Chiba	5	**353**
Tokyo	22	**1,366**
Kanagawa	7	**538**
Niigata	3	**346**
Toyama	2	**21**
Ishikawa	1	**25**

Prefecture	Number of medical facilities	Participants (persons)
Fukui	1	**12**
Yamanashi	2	**65**
Nagano	4	**104**
Gifu	2	**13**
Shizuoka	3	**75**
Aichi	6	**144**
Mie	1	**17**
shiga	1	**15**
Kyoto	3	**49**
Osaka	10	**109**
Hyogo	3	**99**
Nara	3	**16**
Wakayama	1	**4**
Tottori	1	**2**
Shimane	1	**11**
Okayama	3	**35**

Prefecture	Number of medical facilities	Participants (persons)
Hiroshima	2	**17**
Yamaguchi	1	**14**
Tokushima	1	**4**
Kagawa	1	**13**
Ehime	3	**13**
Kochi	2	**8**
Fukuoka	4	**56**
Saga	1	**6**
Nagasaki	3	**20**
Kumamoto	1	**19**
Oita	1	**12**
Miyazaki	1	**12**
Kagoshima	1	**6**
Okinawa	1	**22**
Total	146	**7,970**

The number of participants examined at medical facilities outside Fukushima Prefecture.

Appendix 3 TUE primary examination results, by the municipality

As of March 31, 2024

	a. Number of participants (persons)	b. Those with finalized results (persons) (%)	Number of participants by grade (persons)				Number of participants with nodules (persons)		Number of participants with cysts (persons)	
			Percentages by grade (%)							
			A		B	C	Percentage (%)		Percentage (%)	
		b/a (%)	A1	A2			≥5.1mm	≤5.0mm	≥20.1mm	≤20.0m
Municipalities surveyed in FY2020										
Kawamata	739	739	227	506	6	0	6	5	0	508
		100.0	30.7	68.5	0.8	0.0	0.8	0.7	0.0	68.7
Namie	954	953	297	640	16	0	16	5	0	649
		99.9	31.2	67.2	1.7	0.0	1.7	0.5	0.0	68.1
Iitate	346	345	104	231	10	0	10	0	0	240
		99.7	30.1	67.0	2.9	0.0	2.9	0.0	0.0	69.6
Minamisoma	3,975	3,975	1,235	2,697	43	0	43	14	0	2,720
		100.0	31.1	67.8	1.1	0.0	1.1	0.4	0.0	68.4
Date	4,039	4,039	1,159	2,847	33	0	33	23	0	2,859
		100.0	28.7	70.5	0.8	0.0	0.8	0.6	0.0	70.8
Tamura	2,281	2,281	718	1,540	23	0	23	10	0	1,548
		100.0	31.5	67.5	1.0	0.0	1.0	0.4	0.0	67.9
Hirono	289	289	93	191	5	0	5	1	0	192
		100.0	32.2	66.1	1.7	0.0	1.7	0.3	0.0	66.4
Naraha	369	369	114	253	2	0	2	1	0	253
		100.0	30.9	68.6	0.5	0.0	0.5	0.3	0.0	68.6
Tomioka	715	715	212	497	6	0	6	4	0	501
		100.0	29.7	69.5	0.8	0.0	0.8	0.6	0.0	70.1
Kawauchi	98	98	32	65	1	0	1	0	0	66
		100.0	32.7	66.3	1.0	0.0	1.0	0.0	0.0	67.3
Okuma	670	670	196	464	10	0	10	9	0	464
		100.0	29.3	69.3	1.5	0.0	1.5	1.3	0.0	69.3
Futaba	247	247	72	174	1	0	1	0	0	175
		100.0	29.1	70.4	0.4	0.0	0.4	0.0	0.0	70.9
Katsurao	65	65	29	36	0	0	0	0	0	36
		100.0	44.6	55.4	0.0	0.0	0.0	0.0	0.0	55.4
Fukushima	18,604	18,604	5,412	13,007	185	0	185	98	0	13,104
		100.0	29.1	69.9	1.0	0.0	1.0	0.5	0.0	70.4
Nihonmatsu	3,713	3,713	1,158	2,504	51	0	51	27	0	2,535
		100.0	31.2	67.4	1.4	0.0	1.4	0.7	0.0	68.3
Motomiya	2,211	2,211	668	1,522	21	0	21	9	0	1,533
		100.0	30.2	68.8	0.9	0.0	0.9	0.4	0.0	69.3
Otama	681	681	198	472	11	0	11	3	0	479
		100.0	29.1	69.3	1.6	0.0	1.6	0.4	0.0	70.3
Koriyama	20,620	20,620	5,589	14,805	226	0	226	128	0	14,945
		100.0	27.1	71.8	1.1	0.0	1.1	0.6	0.0	72.5
Koori	789	789	245	535	9	0	9	2	0	542
		100.0	31.1	67.8	1.1	0.0	1.1	0.3	0.0	68.7
Kunimi	559	559	181	371	7	0	7	2	0	377
		100.0	32.4	66.4	1.3	0.0	1.3	0.4	0.0	67.4
Tenei	332	332	88	239	5	0	5	0	1	242
		100.0	26.5	72.0	1.5	0.0	1.5	0.0	0.3	72.9
Shirakawa	4,240	4,240	1,201	2,993	46	0	46	25	0	3,019
		100.0	28.3	70.6	1.1	0.0	1.1	0.6	0.0	71.2
Nishigo	1,345	1,345	402	925	18	0	18	6	0	937
		100.0	29.9	68.8	1.3	0.0	1.3	0.4	0.0	69.7
Izumizaki	394	394	119	271	4	0	4	2	0	272
		100.0	30.2	68.8	1.0	0.0	1.0	0.5	0.0	69.0
Miharu	903	903	248	646	9	0	9	6	0	652
		100.0	27.5	71.5	1.0	0.0	1.0	0.7	0.0	72.2
Subtotal	69,178	69,176	19,997	48,431	748	0	748	380	1	48,848
		100.0	28.9	70.0	1.1	0.0	1.1	0.5	0.0	70.6

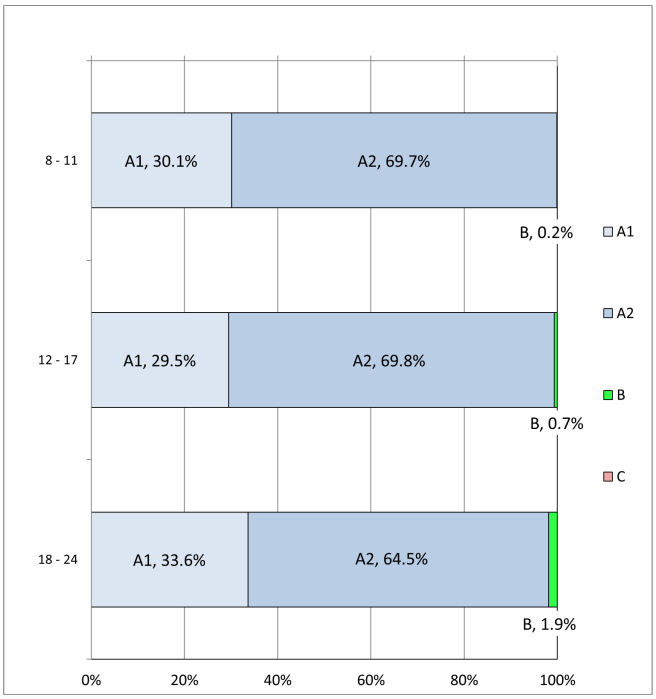
	a. Number of participants (persons)	b. Those with finalized results (persons) (%)	Number of participants by grade (persons)				Number of participants with nodules (persons)		Number of participants with cysts (persons)	
			Percentages by grade (%)							
			A		B	C	Percentage (%)		Percentage (%)	
		b/a (%)	A1	A2			≥5.1mm	≤5.0mm	≥20.1mm	≤20.0m
Municipalities surveyed in FY2021										
Iwaki	18,582	18,579	5,309	13,015	255	0	255	107	0	13,152
		100.0	28.6	70.1	1.4	0.0	1.4	0.6	0.0	70.8
Sukagawa	4,583	4,582	1,255	3,255	72	0	72	41	0	3,301
		100.0	27.4	71.0	1.6	0.0	1.6	0.9	0.0	72.0
Soma	1,781	1,781	523	1,227	31	0	31	12	0	1,245
		100.0	29.4	68.9	1.7	0.0	1.7	0.7	0.0	69.9
Kagamiishi	818	818	214	593	11	0	11	6	0	595
		100.0	26.2	72.5	1.3	0.0	1.3	0.7	0.0	72.7
Shinchi	424	424	127	290	7	0	7	5	0	293
		100.0	30.0	68.4	1.7	0.0	1.7	1.2	0.0	69.1
Nakajima	266	266	78	187	1	0	1	2	0	188
		100.0	29.3	70.3	0.4	0.0	0.4	0.8	0.0	70.7
Yabuki	978	977	279	693	5	0	5	4	0	696
		99.9	28.6	70.9	0.5	0.0	0.5	0.4	0.0	71.2
Ishikawa	790	790	226	557	7	0	7	5	0	561
		100.0	28.6	70.5	0.9	0.0	0.9	0.6	0.0	71.0
Yamatsuri	306	306	70	230	6	0	6	4	0	235
		100.0	22.9	75.2	2.0	0.0	2.0	1.3	0.0	76.8
Asakawa	409	408	102	303	3	0	3	4	0	305
		99.8	25.0	74.3	0.7	0.0	0.7	1.0	0.0	74.8
Hirata	371	371	119	247	5	0	5	1	0	251
		100.0	32.1	66.6	1.3	0.0	1.3	0.3	0.0	67.7
Tanagura	847	847	224	611	12	0	12	2	0	618
		100.0	26.4	72.1	1.4	0.0	1.4	0.2	0.0	73.0
Hanawa	419	419	106	303	10	0	10	0	0	308
		100.0	25.3	72.3	2.4	0.0	2.4	0.0	0.0	73.5
Samegawa	191	191	49	141	1	0	1	1	0	142
		100.0	25.7	73.8	0.5	0.0	0.5	0.5	0.0	74.3
Ono	502	502	143	355	4	0	4	4	0	358
		100.0	28.5	70.7	0.8	0.0	0.8	0.8	0.0	71.3
Tamagawa	386	386	125	256	5	0	5	1	0	260
		100.0	32.4	66.3	1.3	0.0	1.3	0.3	0.0	67.4
Furudono	337	337	91	241	5	0	5	3	0	245
		100.0	27.0	71.5	1.5	0.0	1.5	0.9	0.0	72.7
Hinoemata	16	16	4	12	0	0	0	0	0	12
		100.0	25.0	75.0	0.0	0.0	0.0	0.0	0.0	75.0
Minamiaizu	666	666	205	453	8	0	8	2	0	459
		100.0	30.8	68.0	1.2	0.0	1.2	0.3	0.0	68.9
Kaneyama	38	38	12	26	0	0	0	0	0	26
		100.0	31.6	68.4	0.0	0.0	0.0	0.0	0.0	68.4
Showa	33	33	13	20	0	0	0	0	0	20
		100.0	39.4	60.6	0.0	0.0	0.0	0.0	0.0	60.6
Mishima	45	45	8	36	1	0	1	1	0	37
		100.0	17.8	80.0	2.2	0.0	2.2	2.2	0.0	82.2
Shimogo	216	216	66	146	4	0	4	1	0	148
		100.0	30.6	67.6	1.9	0.0	1.9	0.5	0.0	68.5
Kitakata	2,227	2,227	692	1,509	26	0	26	10	0	1,525
		100.0	31.1	67.8	1.2	0.0	1.2	0.4	0.0	68.5
Nishiaizu	201	201	44	154	3	0	3	3	0	155
		100.0	21.9	76.6	1.5	0.0	1.5	1.5	0.0	77.1
Tadami	212	212	53	158	1	0	1	3	0	158
		100.0	25.0	74.5	0.5	0.0	0.5	1.4	0.0	74.5
Inawashiro	696	696	195	488	13	0	13	6	0	496
		100.0	28.0	70.1	1.9	0.0	1.9	0.9	0.0	71.3
Bandai	159	159	44	114	1	0	1	1	0	114
		100.0	27.7	71.7	0.6	0.0	0.6	0.6	0.0	71.7
Kitashiobara	163	163	47	113	3	0	3	1	0	114
		100.0	28.8	69.3	1.8	0.0	1.8	0.6	0.0	69.9
Aizumisato	987	987	297	681	9	0	9	7	0	686
		100.0	30.1	69.0	0.9	0.0	0.9	0.7	0.0	69.5
Aizubange	790	789	203	571	15	0	15	5	0	581
		99.9	25.7	72.4	1.9	0.0	1.9	0.6	0.0	73.6
Yanaizu	148	148	51	96	1	0	1	1	0	96
		100.0	34.5	64.9	0.7	0.0	0.7	0.7	0.0	64.9
Aizuwakamatu	5,983	5,983	1,799	4,113	71	0	71	39	0	4,155
		100.0	30.1	68.7	1.2	0.0	1.2	0.7	0.0	69.4
Yugawa	211	211	73	136	2	0	2	2	0	138
		100.0	34.6	64.5	0.9	0.0	0.9	0.9	0.0	65.4
Subtotal	44,781	44,774	12,846	31,330	598	0	598	284	0	31,673
		100.0	28.7	70.0	1.3	0.0	1.3	0.6	0.0	70.7
Total	113,959	113,950	32,843	79,761	1,346	0	1,346	664	1	80,521
		100.0	28.8	70.0	1.2	0.0	1.2	0.6	0.0	70.7

Appendix 4 – 1 TUE primary examination results, by age and gender

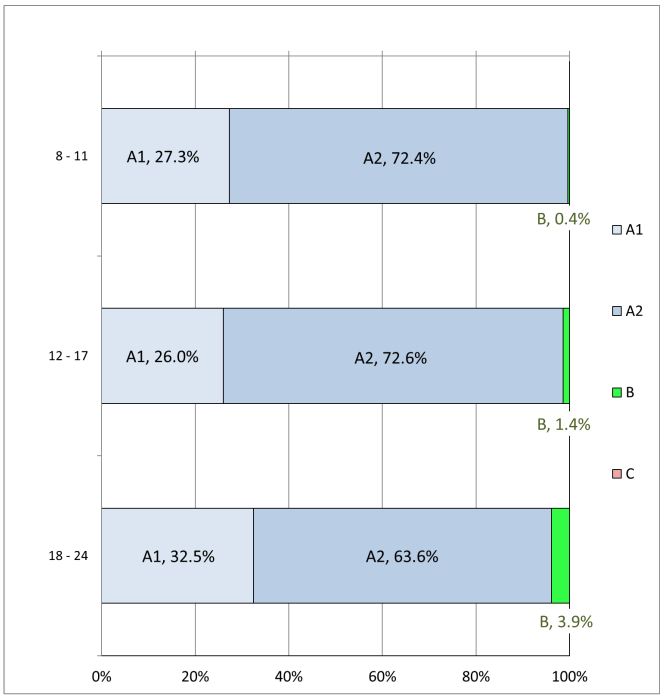
(persons)
As of March 31, 2024

Grade/ Gender / Age group	A						B			C			Total		
	A1			A2											
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
8-11	3,862	3,338	7,200	8,951	8,852	17,803	21	43	64	0	0	0	12,834	12,233	25,067
12-17	10,583	9,052	19,635	25,072	25,227	50,299	251	487	738	0	0	0	35,906	34,766	70,672
18-24	2,805	3,203	6,008	5,378	6,281	11,659	159	385	544	0	0	0	8,342	9,869	18,211
Total	17,250	15,593	32,843	39,401	40,360	79,761	431	915	1,346	0	0	0	57,082	56,868	113,950

Results by age group (Male)



Results by age group (Female)

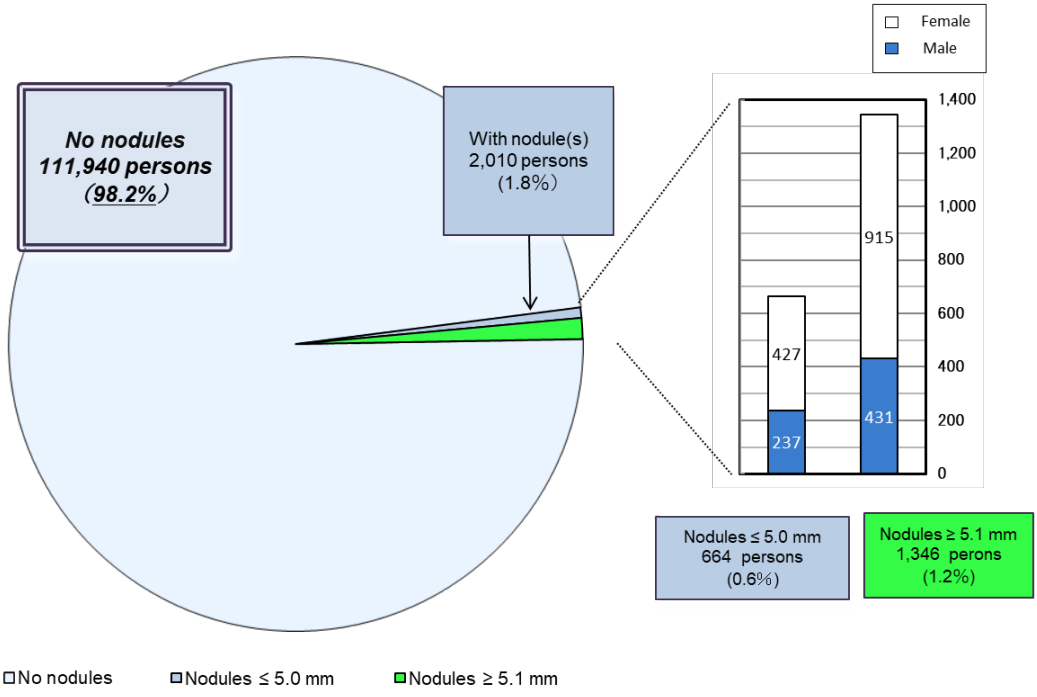


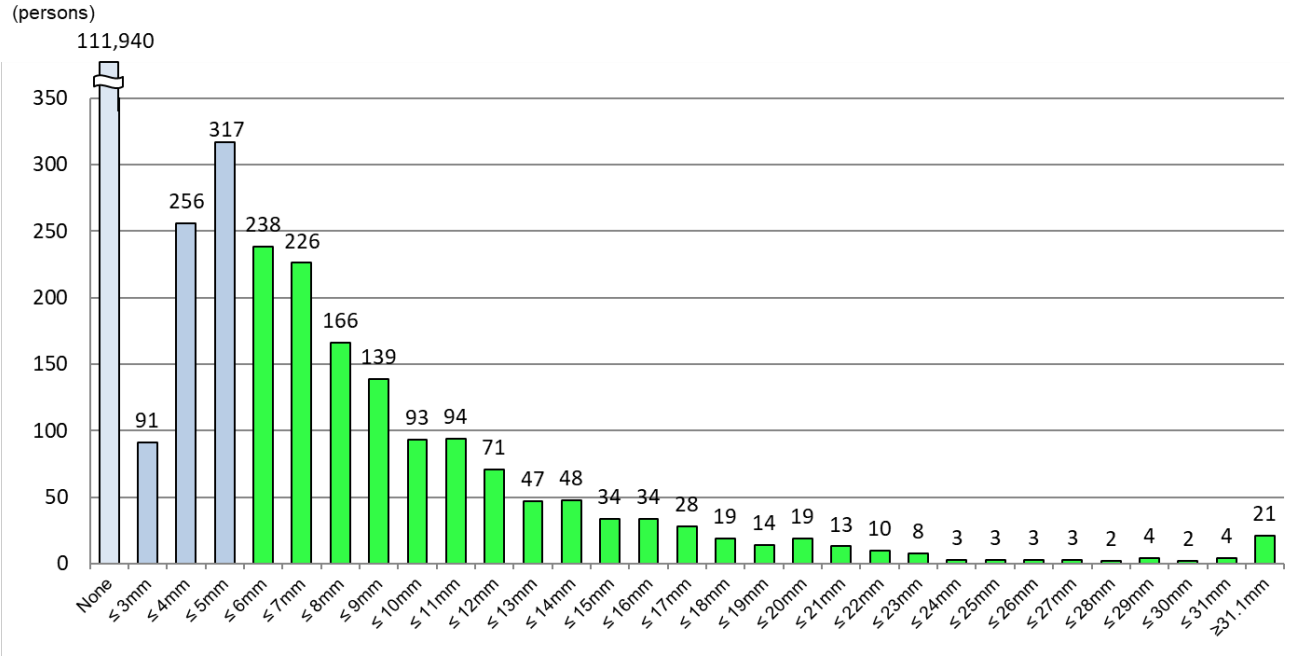
Appendix 4 – 2 Nodule characteristics

As of March 31, 2024

(persons)

Nodule size	Total	Male	Female	Grade	
None	111,940	56,414	55,526	A1	98.2%
≤ 3.0mm	91	27	64	A2	0.6%
3.1–5.0mm	573	210	363		
5.1–10.0mm	862	284	578	B	1.2%
10.1–15.0mm	294	85	209		
15.1–20.0mm	114	42	72		
20.1–25.0mm	37	10	27		
≥ 25.1mm	39	10	29		
Total	113,950	57,082	56,868		



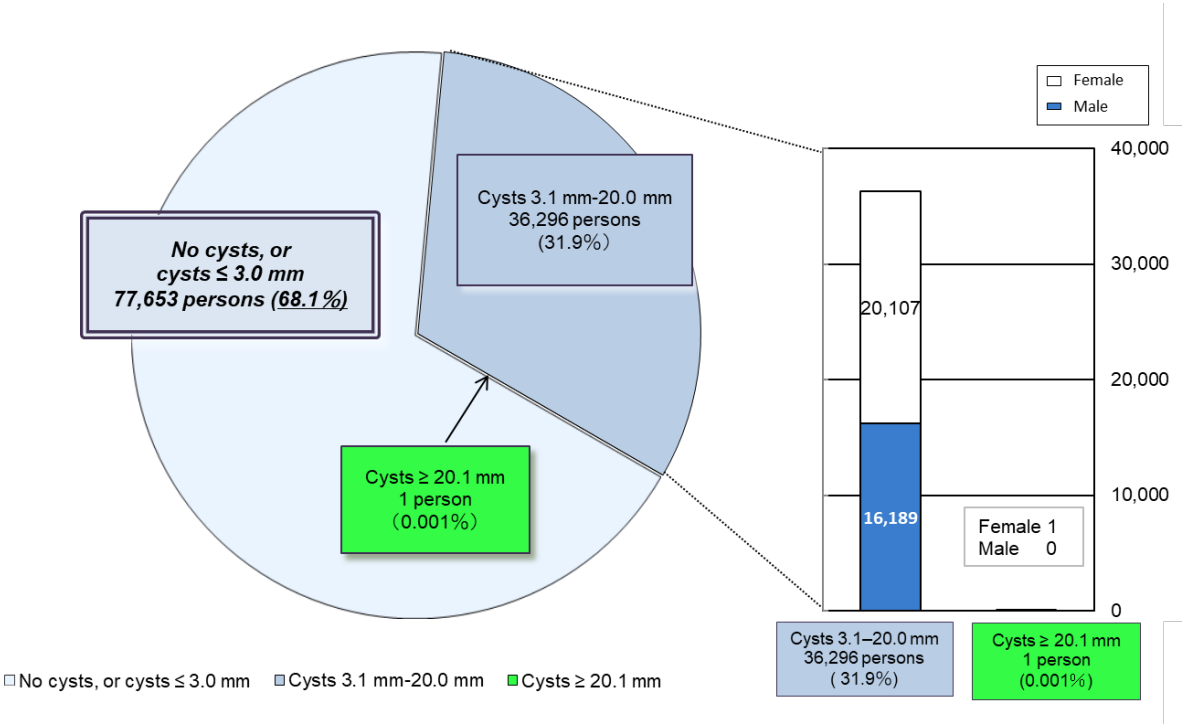


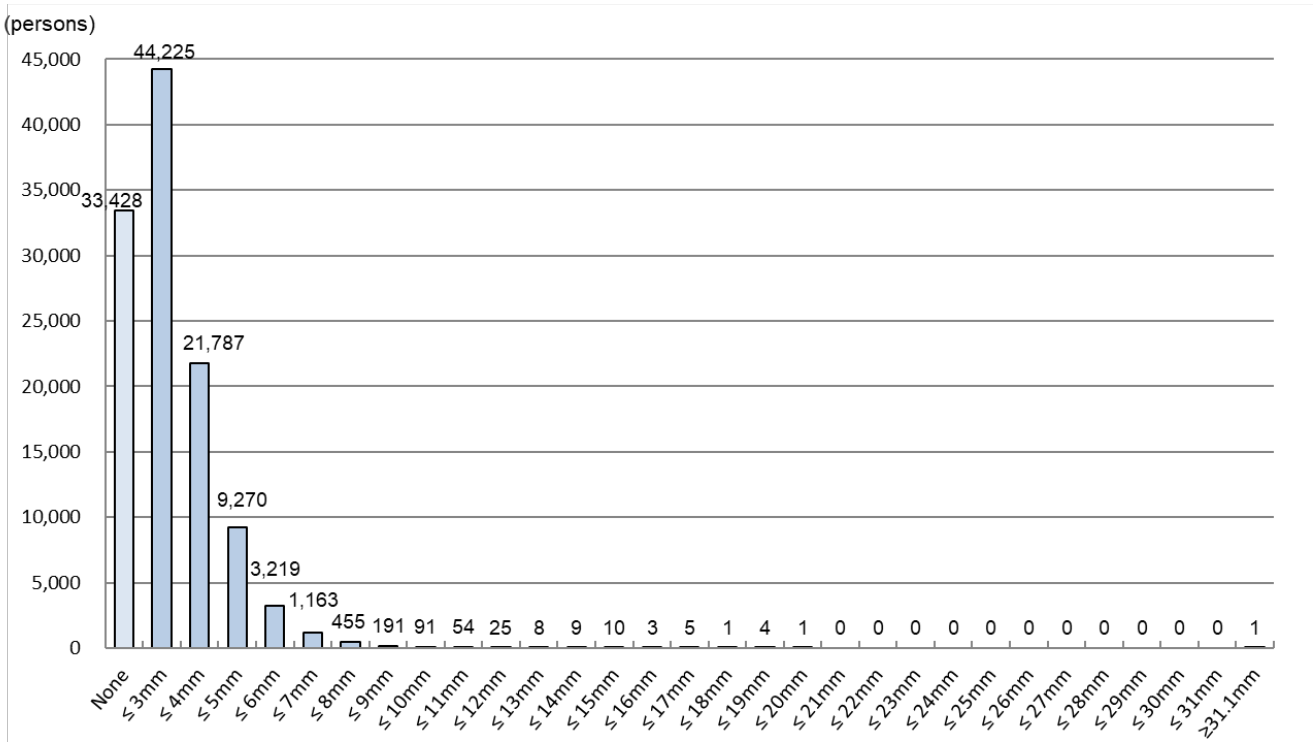
Appendix 4 – 3 Cyst characteristics

As of March 31, 2024

(persons)

Cyst size	Total	Male	Female	Grade	
None	33,428	17,460	15,968	A1	68.1%
≤ 3.0mm	44,225	23,433	20,792	A2	31.9%
3.1–5.0mm	31,057	14,332	16,725		
5.1–10.0mm	5,119	1,829	3,290		
10.1–15.0mm	106	25	81		
15.1–20.0mm	14	3	11		
20.1–25.0mm	0	0	0	B	0.001%
≥ 25.1mm	1	0	1		
Total	113,950	57,082	56,868		





Appendix 5 Implementation status of the TUE confirmatory examination, by area

As of March 31, 2024

	Those who participated in primary examination (persons) a	Those refered to confirmatory examination (persons) b b/a (%)	Those who participated in confirmatory examination				Those with finalized results (persons)				
			Total c Participation rate c/b (%)	8-11 years old d d/c (%)	12-17 years old e e/c (%)	18 and older f f/c (%)	Total g g/c (%)	A1 h h/g (%)	A2 i i/g (%)	Other than A1 or A2	
										j j/g (%)	FNAC k k/j (%)
13 municipalities 1)	14,787	156	129	8	62	59	126	0	12	114	8
		1.1	82.7	6.2	48.1	45.7	97.7	0.0	9.5	90.5	7.0
Nakadori 2)	65,594	739	614	27	308	279	603	4	61	538	64
		1.1	83.1	4.4	50.2	45.4	98.2	0.7	10.1	89.2	11.9
Hamadori 3)	20,787	293	234	3	102	129	224	2	17	205	14
		1.4	79.9	1.3	43.6	55.1	95.7	0.9	7.6	91.5	6.8
Aizu 4)	12,791	158	131	4	65	62	126	1	5	120	7
		1.2	82.9	3.1	49.6	47.3	96.2	0.8	4.0	95.2	5.8
Total	113,959	1,346	1,108	42	537	529	1,079	7	95	977	93
		1.2	82.3	3.8	48.5	47.7	97.4	0.6	8.8	90.5	9.5

1) Tamura City, Minamisoma City, Date City, Kawamata Town, Hirono Town, Naraha Town, Tomioka Town, Kawauchi Village, Okuma Town, Futaba Town, Namie Town, Katsurao Village, Iitate Village
2) Fukushima City, Koriyama City, Shirakawa City, Sukagawa City, Nihonmatsu City, Motomiya City, Koori Town, Kunimi Town, Otama Village, Kagamiishi Town, Tenei Village, Nishigo Village, Izumizaki Village, Nakajima Village, Yabuki Town, Tanagura Town, Yamatsuri Town, Hanawa Town, Samegawa Village, Ishikawa Town, Tamakawa Village, Hirata Village, Asakawa Town, Furudono Town, Miharu Town, Ono Town
3) Iwaki City, Soma City, Shinchi Town
4) Aizuwakamatsu City, Kitakata City, Shimogo Town, Hinoemata Village, Tadami Town, Minamiaizu Town, Kitashiobara Village, Nishiaizu Town, Bandai Town, Inawashiro Town, Aizubange Town, Yugawa Village, Yanaizu Town, Mishima Town, Kaneyama Town, Showa Village, Aizumisato Town

Appendix 6 Surgery cases for malignancy or suspicion of malignancy

1. Municipalities surveyed in FY2020	
Malignant or suspicious for malignancy:	29 (surgical cases: 26, papillary thyroid carcinomas: 26)
2. Municipalities surveyed in FY2021	
Malignant or suspicious for malignancy:	17 (surgical cases: 16, papillary thyroid carcinomas: 15, others: 1)
3. Total	
Malignant or suspicious for malignancy:	46 (surgical cases: 42, papillary thyroid carcinomas: 41, others: 1)

Report on the TUE Full-Scale Survey (sixth-round survey)

As of March 31, 2024

1. Summary

1.1 Purpose

To monitor the long-term health of children, we are continuing the Full-Scale Survey (sixth-round survey), following the Preliminary Baseline Survey for background assessment of thyroid glands, and prior Full-Scale Surveys (second-, third-, fourth, and fifth-round surveys) to continuously assess the status of thyroid glands.

1.2 Eligible persons

All Fukushima residents approximately 18 years old or younger at the time of the earthquake (those born between April 2, 1992, and April 1, 2012).

1.3 Implementation Period

FY2023 and FY2024, starting in April 2023:

1.3-1 For those 18 years old or younger

The examination will be carried out for 2 years: FY2023 and FY2024.

1.3-2 For those 19 years old or older

The examination will be conducted on an age-group basis (i.e., school grade).

FY2023: those born between FY2000 and FY2003

FY2024: those born in FY2004

1.3-3 For those 25 years old or older

Those who are older than 20 are recommended to receive the examination every 5 years at the ages of 25, 30, and so on (Age 25 and Age 30 Survey)

FY2023: those born in FY1993 and FY1998

FY2024: those born in FY1994 and FY1999

Results of the survey for those 25 years old will be reported separately.

1.4 Implementing Organizations (number of medical facilities with agreements for the implementation of thyroid examinations as of March 31, 2024)

Fukushima Prefecture commissioned Fukushima Medical University (FMU) to survey in cooperation with organizations inside and outside Fukushima for the convenience of participants.

1.4-1 Primary examination facilities

In Fukushima Prefecture	83 medical facilities
Outside Fukushima Prefecture	147 medical facilities

1.4-2 Confirmatory examination facilities

In Fukushima Prefecture	6 medical facilities, including FMU
Outside Fukushima Prefecture	40 medical facilities

1.5 Methods

1.5-1 Primary examination

Ultrasonography of the thyroid gland.

Assessments are made by specialists based on the following criteria:

- Grade A

A1: No nodules/cysts

A2: Nodules ≤ 5.0 mm or cysts ≤ 20.0 mm

- Grade B

B: Nodules ≥ 5.1 mm or cysts ≥ 20.1 mm

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

-Grade C

C: Urgent need for confirmatory examination, judging from the condition of the thyroid gland.

1.5-2 Confirmatory examination

Ultrasonography of the thyroid gland, blood and urine tests, 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. A medical follow-up may be recommended based on confirmatory exam results.

1.5-3 Flow chart

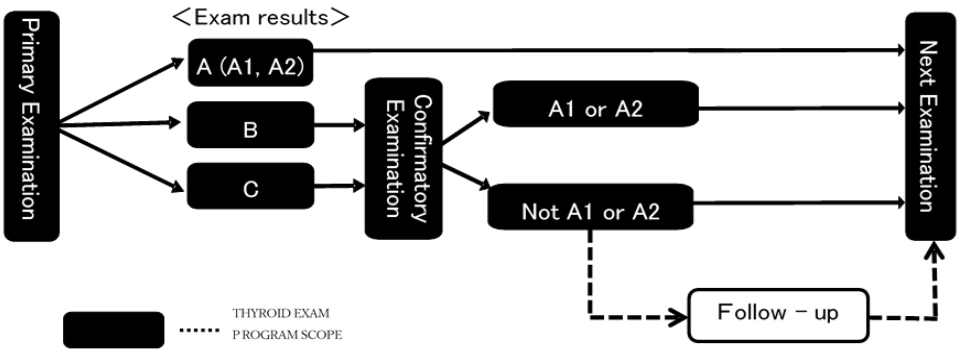


Figure 1 Flow chart

1.6 Municipalities Surveyed

The municipalities where examinations (for those 18 years old or younger) were carried out in FY2023 and FY2024 are as follows:

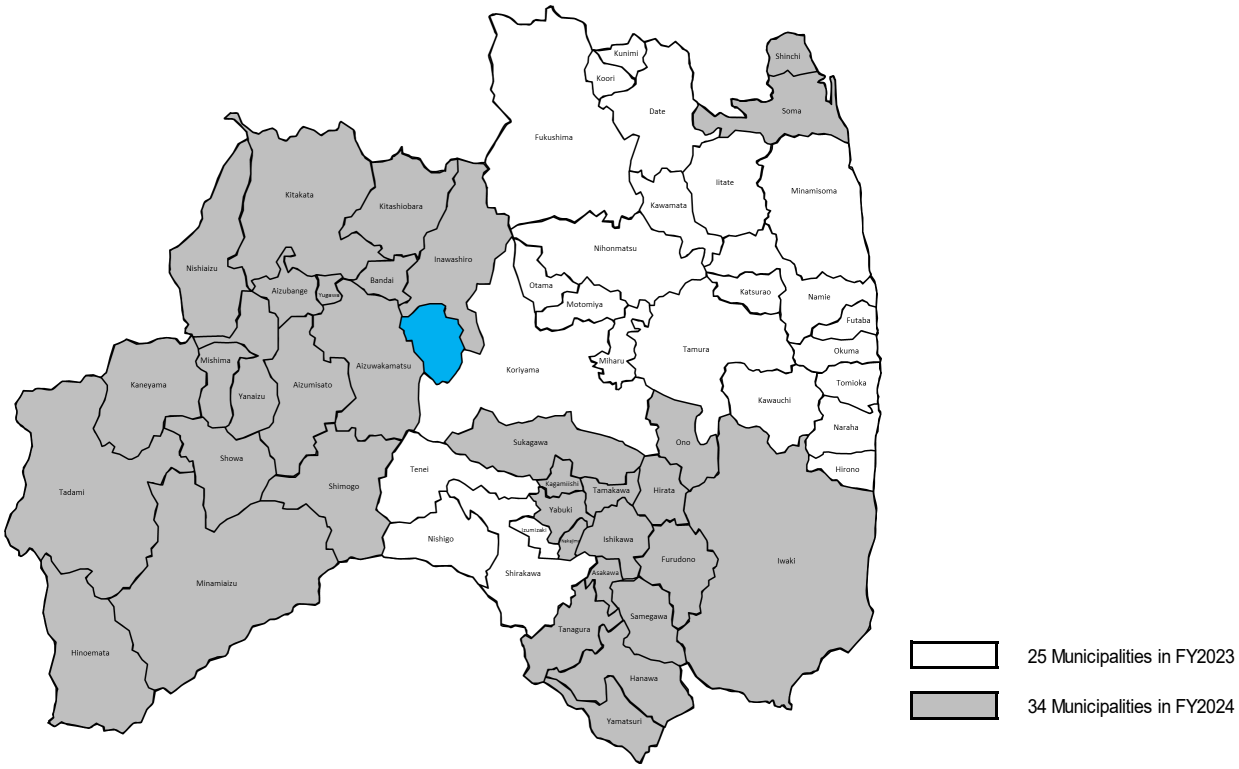


Figure 2 Municipalities covered for primary examinations in FY2023 and FY2024

2. Results as of March 31, 2024

2.1 Results of the Primary Examination

2.1-1 Implementation status

The primary examination was completed for 42,416 participants (20.0%) by March 31, 2024.

The results of 40,791 participants (96.2%) have been finalized and individual reports have been sent to them.

Of these, 11,087 (27.2%) had Grade A1 results, 29,122 (71.4%) had Grade A2, 582 (1.4%) had Grade B, and none had Grade C.

Table 1 Progress and results of the primary examination

	Eligible persons	Participants (persons)		Those who participated outside Fukushima	Participants with finalized results (persons)									
							Details by grade (%)							
							A				Those referred to confirmatory exam			
							A1		A2		B		C	
	a	b	(b/a)		c	(c/b)	d	(d/c)	e	(e/c)	f	(f/c)	g	(g/c)
			Participation rate (%)			Judgment rate (%)								
FY2023	121,811	38,076	(31.3)	2,623	36,750	(96.5)	9,896	(26.9)	26,378	(71.8)	476	(1.3)	0	(0.0)
FY2024	90,081	4,340	(4.8)	486	4,041	(93.1)	1,191	(29.5)	2,744	(67.9)	106	(2.6)	0	(0.0)
Total	211,892	42,416	(20.0)	3,109	40,791	(96.2)	11,087	(27.2)	29,122	(71.4)	582	(1.4)	0	(0.0)

Table 2 Number and proportion of participants with nodules/cysts. (See details for Appendix 1)

	Participants with finalized results	Participants with nodules / cysts (%)							
		Nodules				Cysts			
		≥ 5.1mm		≤ 5.0mm		≥ 20.1mm		≤ 20.0mm	
	a	b	(b/a)	c	(c/a)	d	(d/a)	e	(e/a)
FY2023	36,750	472	(1.3)	220	(0.6)	4	(0.0)	26,662	(72.5)
FY2024	4,041	106	(2.6)	40	(1.0)	0	(0.0)	2,807	(69.5)
Total	40,791	578	(1.4)	260	(0.6)	4	(0.0)	29,469	(72.2)

- Proportions are rounded to a lower decimal place. This applies to other tables as well.
- Those who receive the examination at 5-year intervals (born between FY1992 and FY1999) are excluded. The results of examinations at 5-year intervals (Age 25 and Age 30 examinations) will be reported separately.
- Examinations for those born in FY1993 (approx. 22,000) and FY1998 (approx. 21,000) take place in FY2023. Examinations for those born in FY1994 (approx. 22,000) and FY1999 (approx. 20,000) will be carried out in FY2024.

2.1-2 Participation rate by age group

Table 3 shows the participation rate for each age group as of April 1 of each fiscal year.

Table 3 Participation rates by age group

			Total	Age group		
FY2023	Age group*			11 years old	12 to 17 years old	18 to 24 years old
	Eligible persons	(a)	121,811	8,419	58,637	54,755
	Participants	(b)	38,076	4,826	30,789	2,461
	Participation rate (%)	(b/a)	31.3	57.3	52.5	4.5
FY2024	Age group*				12 to 17 years old	18 to 24 years old
	Eligible persons	(a)	90,081		41,641	48,440
	Participants	(b)	4,340		2,037	2,303
	Participation rate (%)	(b/a)	4.8		4.9	4.8
Total	Eligible persons	(a)	211,892	8,419	100,278	103,195
	Participants	(b)	42,416	4,826	32,826	4,764
	Participation rate (%)	(b/a)	20.0	57.3	32.7	4.6

* Age groups are based on ages as of April 1 of each fiscal year

2.1-3 Comparison of the fifth- and sixth-round survey results

Table 4 shows the comparison of results of two Full-Scale Surveys (fifth- and sixth-round surveys).

Among 36,556 (sum of *1) participants with Grade A1 and A2 results in the fifth-round survey, 36,285 (sum of *2, 99.3%) had Grade A results and 271 (sum of *3, 0.7%) had Grade B results in the sixth-round survey.

Among 297 participants with Grade B results in the fifth-round survey, 61 (sum of *4, 20.5%) had Grade A results and 236 (79.5%) had Grade B results in the sixth-round survey.

Table 4 Comparison of the fifth- and sixth-round surveys

			Results of the fifth-round survey*	Results of the sixth-round survey**			
				A		B	C
			a (%)	A1 b (b/a)	A2 c (c/a)	d (d/a)	e (e/a)
Results of the fifth-round survey	A	A1	10,090 *1 (100.0)	7,281 *2 (72.2)	2,760 *2 (27.4)	49 *3 (0.5)	0 (0.0)
		A2	26,466 (100.0)	2,622 *2 (9.9)	23,622 *2 (89.3)	222 *3 (0.8)	0 (0.0)
	B		297 (100.0)	6 *4 (2.0)	55 *4 (18.5)	236 (79.5)	0 (0.0)
	C		0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
	Did not participate		3,938 (100.0)	1,178 (29.9)	2,685 (68.2)	75 (1.9)	0 (0.0)
Total			40,791 (100.0)	11,087 (27.2)	29,122 (71.4)	582 (1.4)	0 (0.0)

* Results of the fifth-round survey are from sixth-round survey participants with finalized results, not the breakdown of all fifth-round survey participants.

** Results of the sixth-round survey participants who were diagnosed for each grade in the fifth-round survey.

2.2 Results of the Confirmatory Examination

2.2-1 Implementation status

By March 31, 2024, of 582 eligible persons, 243 (41.8%) had participated in the confirmatory examination, and 171 (70.4%) had completed the entire procedure.

Of those 171 participants, 14 (A1: 0, A2: 14) (8.2%) were confirmed to meet A1 or A2 diagnostic criteria by primary examination standards (including those with other thyroid conditions). After the detailed examination, 157 (91.8%) were confirmed to be outside the A1 or A2 criteria.

Table 5 Progress and results of the confirmatory examination

	Those referred to confirmatory exams	Participants (persons)		Those with finalized results (%)									
			Participation Rate (%)		Determination rate (%)	A1		A2		Other than A1 or A2			
												FNAC	
	a	b	(b/a)	c	(c/b)	d	(d/c)	e	(e/c)	f	(f/c)	g	(g/f)
FY2023	476	203	(42.6)	144	(70.9)	0	(0.0)	14	(9.7)	130	(90.3)	6	(4.6)
FY2024	106	40	(37.7)	27	(67.5)	0	(0.0)	0	(0.0)	27	(100.0)	1	(3.7)
Total	582	243	(41.8)	171	(70.4)	0	(0.0)	14	(8.2)	157	(91.8)	7	(4.5)

2.2-2 Results of fine needle aspiration cytology (FNAC)

Among those who underwent FNAC, 6 participants were diagnosed with lesions malignant or suspicious for malignancy: 2 were male and 4 were female.

Table 6 Results of FNAC (The mean age and mean tumor size in parentheses indicate the range)

Those refered to confirmatoy examination at the sixth-round survey

- Malignant or suspicious for malignancy: 6*
- Male to female ratio: 2:4
- Mean age ± SD (min-max) 17.2 ± 3.7 (12–21)
  4.5 ± 3.6 (0–9) at the time of the earthquake
- Mean tumor size ± SD (min-max) 14.8 ± 2.6 mm (11.3–18.6 mm)

3. Mental Health Care

We provide the following support for thyroid examination participants.

3.1 Support for Primary Examination Participants

After the examination, medical doctors offer person-to-person explanations of examination results, showing ultrasound images in private consultation booths at examination venues set up in public facilities

Consultation booths were set up at all venues for examinations conducted in and after April 2023; as of March 31, 2024, all 917 participants (100%) have visited these consultation booths.

3.2 Outreach programs (on-location lectures and information sessions)

To help participants and their parents/guardians improve their understanding of the thyroid examination, we have conducted on-location lectures and information sessions.

Between April 2023 (the start of FY2023) and March 31, 2024, we delivered 7 on-location sessions (5 at elementary schools, 1 at a junior high school, and 1 at a high school) for 231 students. In total, 15,924 people have participated since the start of these sessions.

3.3 Support for Confirmatory Examination Participants

A support team has been established within Fukushima Medical University to offer mental health support to those undergoing the confirmatory (secondary) examination to address their concerns and anxiety, as well as to answer questions and provide guidance via web consultation.

Since the start of the sixth-round survey, 126 participants (48 males and 78 females) have received support as of March 31, 2024. The number of support sessions, including telephone counseling, was 178 in total. Of these, 126 (70.8%) received support at the participants' first examination and 52 (29.2%) at subsequent examinations.

For those who proceeded to regular insured medical care, the support team continues to provide support in cooperation with teams of medical staff at hospitals.

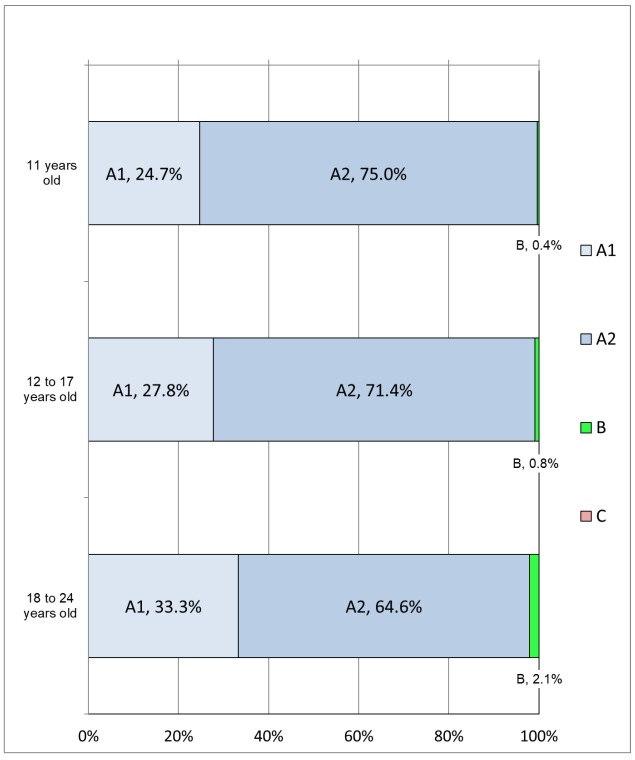
Appendix 1-1 TUE primary examination results, by age and gender

(persons)

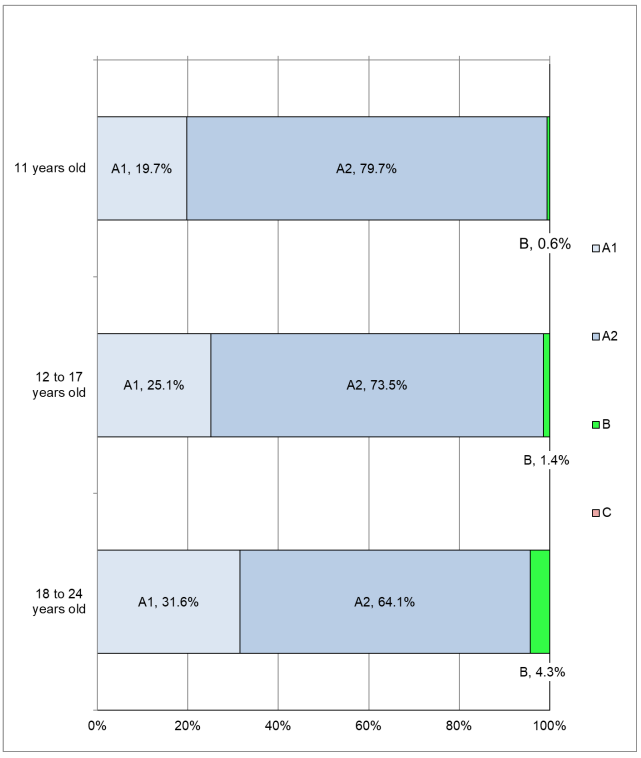
As of March 31, 2024

Result / Gender / Age group	A						B			C			Total		
	A1			A2											
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
11 years old	274	201	475	832	812	1,644	4	6	10	0	0	0	1,110	1,019	2,129
12 to 17 years old	4,584	3,953	8,537	11,783	11,561	23,344	138	219	357	0	0	0	16,505	15,733	32,238
18 to 24 years old	936	1,139	2,075	1,819	2,315	4,134	59	156	215	0	0	0	2,814	3,610	6,424
Total	5,794	5,293	11,087	14,434	14,688	29,122	201	381	582	0	0	0	20,429	20,362	40,791

Results by age group (Male)



Results by age group (Female)

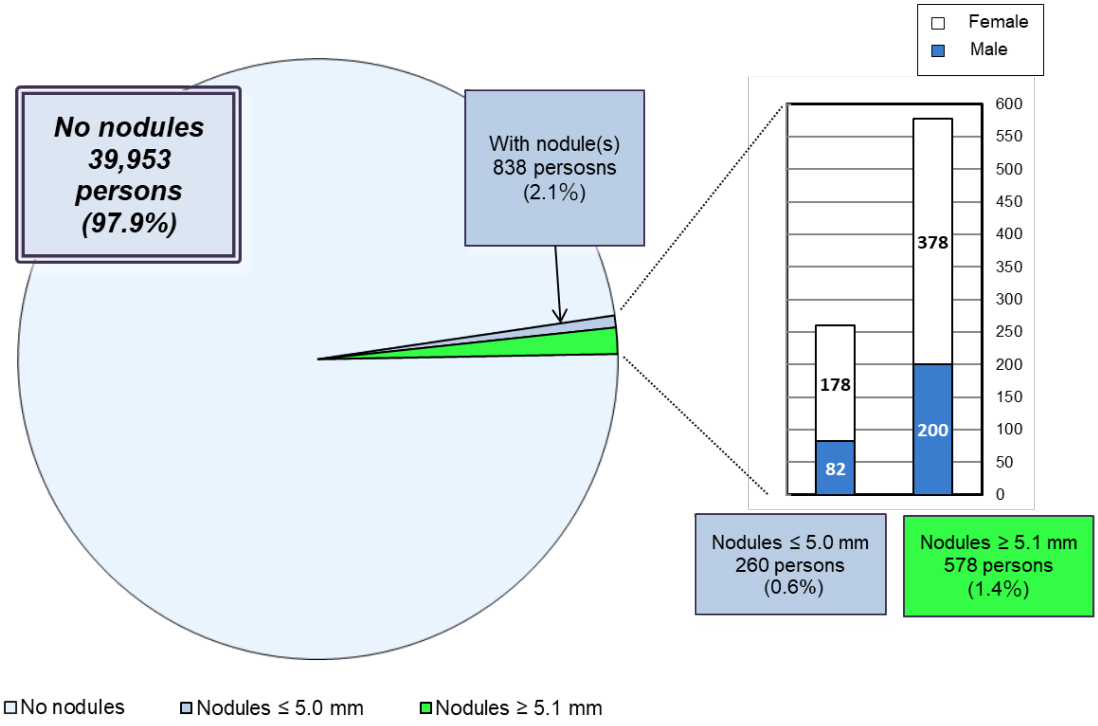


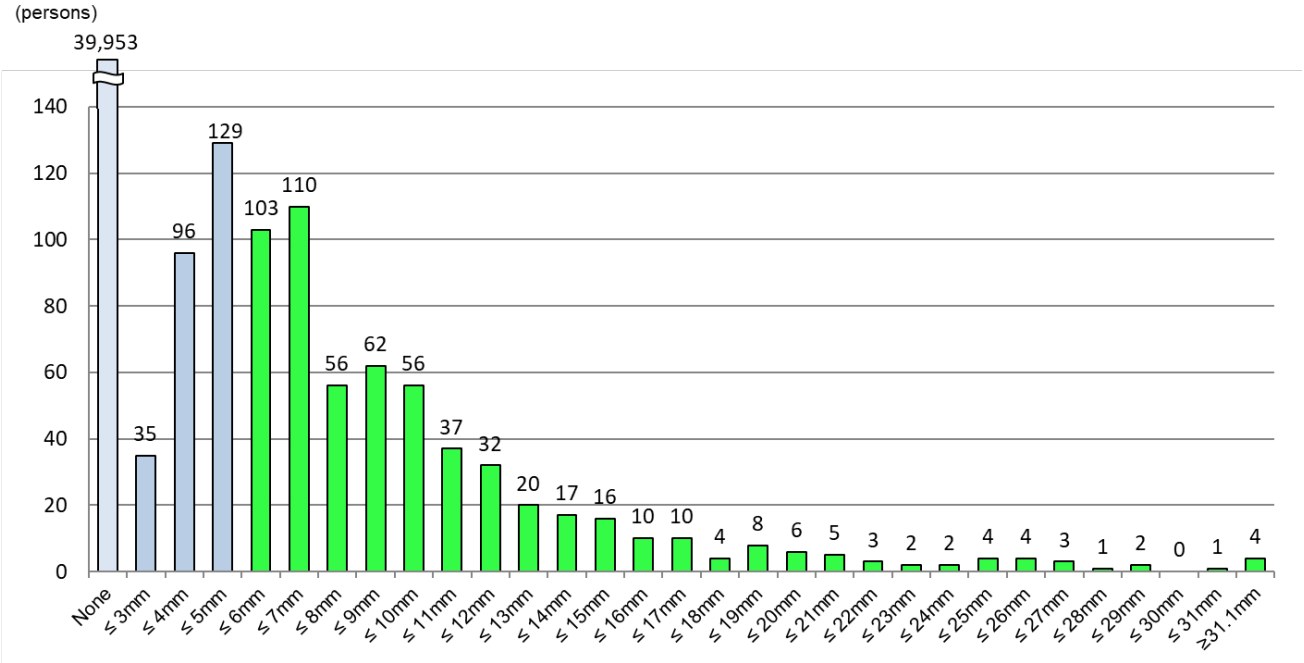
Appendix 1-2　Nodule characteristics

As of March 31, 2024

(persons)

Nodule size	Total	Male	Female	Grade	
None	39,953	20,147	19,806	A1	97.9%
≤ 3.0mm	35	12	23	A2	0.6%
3.1–5.0mm	225	70	155		
5.1–10.0mm	387	146	241	B	1.4%
10.1–15.0mm	122	33	89		
15.1–20.0mm	38	12	26		
20.1–25.0mm	16	5	11		
≥ 25.1mm	15	4	11		
Total	40,791	20,429	20,362		



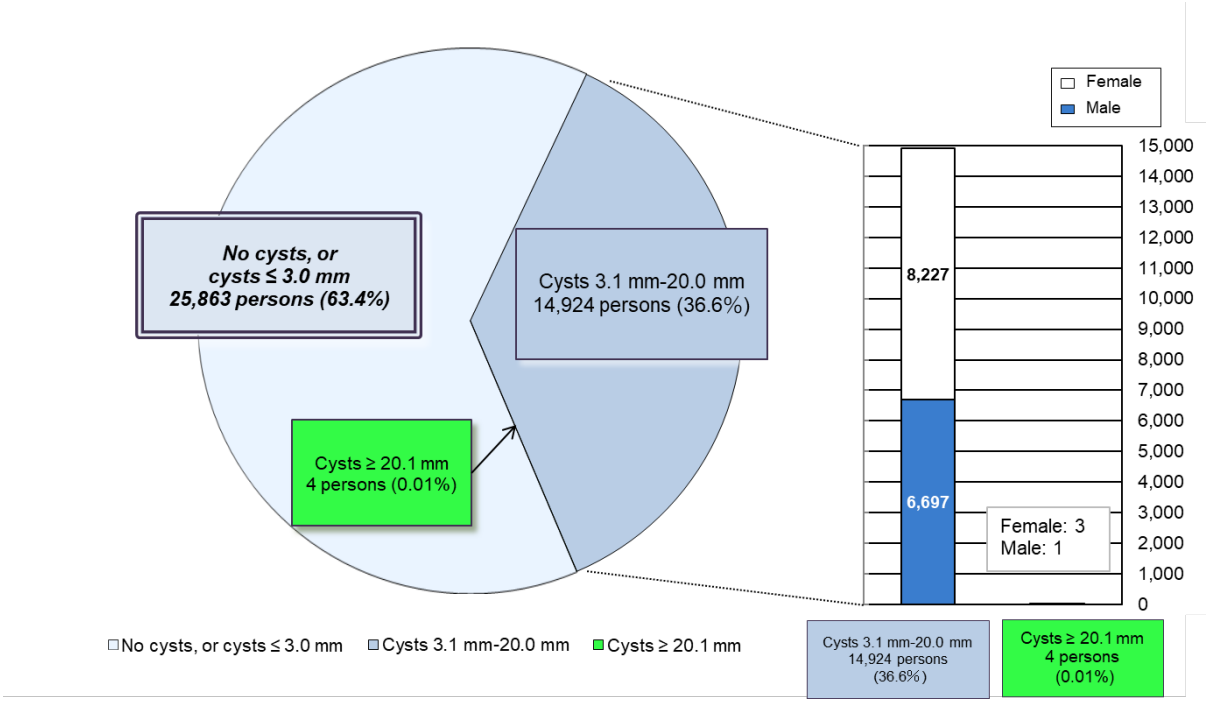


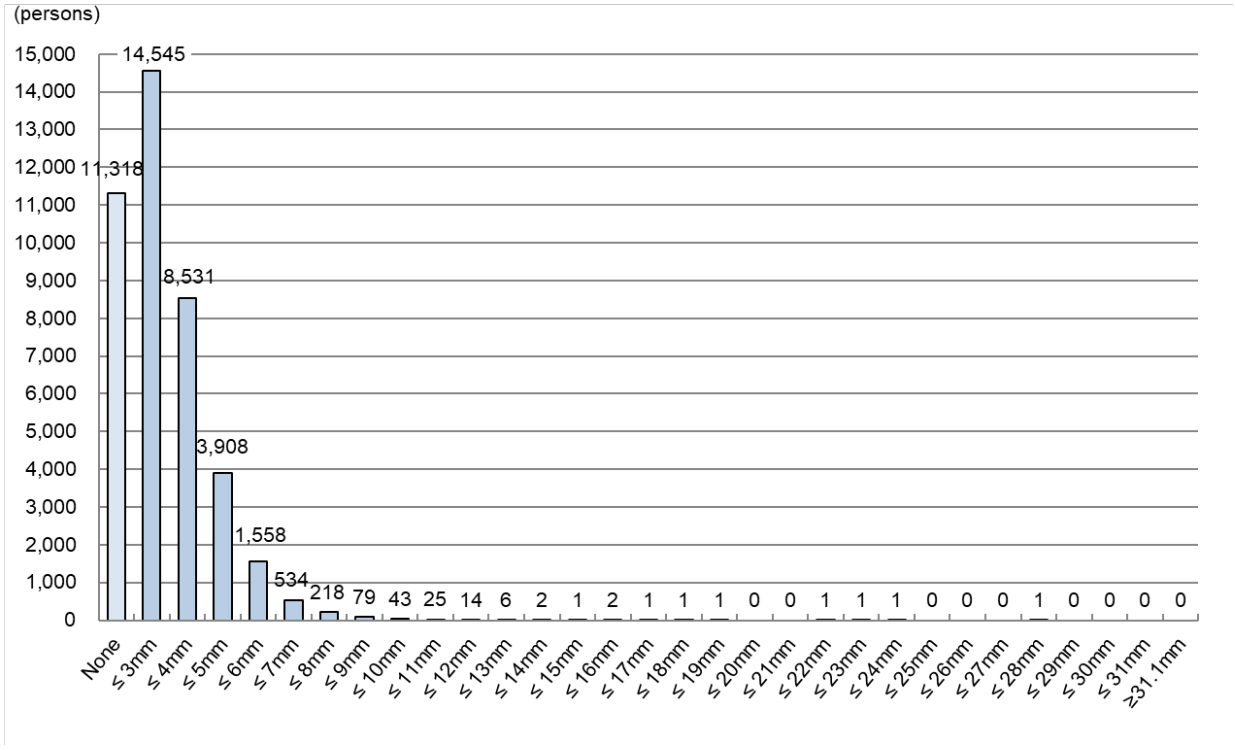
Appendix 1 – 3 Cyst characteristics

As of March 31, 2024

(persons)

Cyst size	Total	Male	Female	Grade	
None	11,318	5,885	5,433	A1	63.4%
≤ 3.0mm	14,545	7,846	6,699	A2	36.6%
3.1–5.0mm	12,439	5,810	6,629		
5.1–10.0mm	2,432	874	1,558		
10.1–15.0mm	48	12	36		
15.1–20.0mm	5	1	4		
20.1–25.0mm	3	1	2	B	0.01%
≥ 25.1mm	1	0	1		
Total	40,791	20,429	20,362		





Report on the TUE Full-Scale Survey (Survey for Age 25)

As of March 31, 2024

1. Summary

1.1 Eligible Persons

Among Fukushima, residents 18 years old or younger at the time of the disaster (those born between April 2, 1992, and April 1, 2012), those who turn 25 years old during each fiscal year, including those who moved out of Fukushima Prefecture, are invited to receive a thyroid ultrasound examination (TUE).

This report includes the Survey status of those born from FY1992 to FY1998 (those born between April 2, 1992 and April 1, 1999)

*Note: For those born in FY1998, only the results of the primary examination will be reported, as there are not many examination results for now.

1.2 Implementation Period

The Survey for Age 25 (hereinafter “Age 25 Survey”) started in FY2017 for those who turned 25 years old during each fiscal year. Suppose residents are unable to receive the examination in the year they turn 25. In that case, they are entitled to one any time through the fiscal year before the year they turn 30 (see Figure 1 for the implementation schedule of the Age 25 Survey).

Year of exam / Birth year of examinees	FY2017 Age	FY2018 Age	FY2019 Age	FY2020 Age	FY2021 Age	FY2022 Age	FY2023 Age	FY2024 Age
FY1992	25★	26	27	28	29	30★	31	32
FY1993	24	25★	26	27	28	29	30★	31
FY1994	23	24	25★	26	27	28	29	30★
FY1995	22	23	24	25★	26	27	28	29
FY1996	21	22	23	24	25★	26	27	28
FY1997	20	21	22	23	24	25★	26	27
FY1998	19	20	21	22	23	24	25★	26
FY1999	18	19	20	21	22	23	24	25★

・Beginning in FY2017, examinations are offered to those who turn age 25 in each fiscal year.
・Invitations for the examination will be sent to those who turn age 25 in the fiscal year marked with ★.

Figure 1 Implementation schedule for Age 25 Survey

2. Overview of Age 25 Survey as of March 31, 2024

2.1 Results of the Primary Examination

2.1-1 Implementation status

Primary examinations for the Age 25 Survey started in May 2017 for those who turned 25 years old (those born between FY1992 and FY1998) and 12,603 (8.4%) people participated. (See Appendix 1 and Appendix 2 for implementation status by area and implementation status outside Fukushima Prefecture, respectively.)

Results for 12,286 (97.5%) participants have been finalized and individual reports have been sent to them. (See Appendix 3 for details by area.)

Of these, 5,202 (42.3%) had Grade A1 results, 6,407 (52.1%) had Grade A2, 677 (5.5%) had Grade B, and none had Grade C.

Table 1 Progress and results of the primary examination

	Eligible persons	Participants (persons)			Participants with finalized results (persons)									
							Details by grade (%)							
							A				Those referred to confirmatory exam			
							A1		A2		B		C	
	a	b	(b/a)	Those who participated outside Fukushima	c	(c/b)	d	(d/c)	e	(e/c)	f	(f/c)	g	(g/c)
Born in FY1992	22,650	2,343	(10.3)	770	2,343	(100.0)	980	(41.8)	1,258	(53.7)	105	(4.5)	0	(0.0)
Born in FY1993	21,888	2,348	(10.7)	858	2,348	(100.0)	1,069	(45.5)	1,160	(49.4)	119	(5.1)	0	(0.0)
Born in FY1994	22,093	1,972	(8.9)	755	1,949	(98.8)	823	(42.2)	1,019	(52.3)	107	(5.5)	0	(0.0)
Born in FY1995	21,056	2,058	(9.8)	762	2,047	(99.5)	850	(41.5)	1,071	(52.3)	126	(6.2)	0	(0.0)
Born in FY1996	21,019	1,848	(8.8)	673	1,839	(99.5)	766	(41.7)	956	(52.0)	117	(6.4)	0	(0.0)
Born in FY1997	20,299	1,385	(6.8)	514	1,379	(99.6)	571	(41.4)	731	(53.0)	77	(5.6)	0	(0.0)
Born in FY1998	20,838	649	(3.1)	121	381	(58.7)	143	(37.5)	212	(55.6)	26	(6.8)	0	(0.0)
Total	149,843	12,603	(8.4)	4,453	12,286	(97.5)	5,202	(42.3)	6,407	(52.1)	677	(5.5)	0	(0.0)

Table 2 Numbers and percentages of participants with nodules/cysts (see Appendix 4 for details)

	Participants with finalized results (persons)	Participants with nodules / cysts (%)							
		Nodules				Cysts			
		≥ 5.1mm		≤ 5.0mm		≥ 20.1mm		≤ 20.0mm	
	a	b	(b/a)	c	(c/a)	d	(d/a)	e	(e/a)
Born in FY1992	2,343	104	(4.4)	53	(2.3)	1	(0.0)	1,305	(55.7)
Born in FY1993	2,348	119	(5.1)	42	(1.8)	0	(0.0)	1,209	(51.5)
Born in FY1994	1,949	107	(5.5)	39	(2.0)	0	(0.0)	1,078	(55.3)
Born in FY1995	2,047	124	(6.1)	37	(1.8)	2	(0.1)	1,127	(55.1)
Born in FY1996	1,839	116	(6.3)	36	(2.0)	1	(0.1)	1,006	(54.7)
Born in FY1997	1,379	76	(5.5)	20	(1.5)	1	(0.1)	769	(55.8)
Born in FY1998	381	26	(6.8)	8	(2.1)	0	(0.0)	225	(59.1)
Total	12,286	672	(5.5)	235	(1.9)	5	(0.0)	6,719	(54.7)

・Percentages are rounded to a lower decimal place. This applies to other tables as well.
・The numbers and results of the Age 25 Survey participants are and will be, presented by birth year (fiscal year), not by survey year.

2.1-2 Comparison with previous examination results

Table 3 compares the results of the Age 25 Survey and the previous survey.

Among 7,032 participants (sum of *1) with Grade A1 or A2 results in the previous survey, 6,847 (sum of *2, 97.4%) had Grade A1 or A2 results, and 185 (sum of *3, 2.6%) had Grade B results in the Age 25 Survey.

Among 250 participants with Grade B results in the previous survey, 57 (sum of *4, 22.8%) had Grade A (A1 or A2) results, and 193 (77.2%) had Grade B results in the Age 25 Survey.

Table 3 Comparison with the previous Survey results

			Results of the previous survey*	Results of the Age 25 survey**			
				A		B	C
				A1	A2		
			a (%)	b (b/a)	c (c/a)	d (d/a)	e (e/a)
Results of the previous survey	A	A1	2,831 *1 (100.0)	2,290 *2 (80.9)	513 *2 (18.1)	28 *3 (1.0)	0 (0.0)
		A2	4,201 *1 (100.0)	691 *2 (16.4)	3,353 *2 (79.8)	157 *3 (3.7)	0 (0.0)
	B		250 (100.0)	5 *4 (2.0)	52 *4 (20.8)	193 (77.2)	0 (0.0)
	C		0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
	Did not participate		5,004 (100.0)	2,216 (44.3)	2,489 (49.7)	299 (6.0)	0 (0.0)
Total			12,286 (100.0)	5,202 (42.3)	6,407 (52.1)	677 (5.5)	0 (0.0)

* Results of the previous survey, just from Age 25 Survey participants with finalized results
** Results of the Age 25 Survey participants diagnosed for each grade in the previous survey. The lower figures are proportions (%).

2.2 Results of the Confirmatory Examination

2.2-1 Implementation status

Of those 651 eligible persons, 554 (85.1%) participated, of whom 546 (98.6%) completed the entire process of the confirmatory examination.

Of the 546 participants, 43 (7.9%) were confirmed to meet Grade A diagnostic criteria by primary examination standards (A1: 5, A2: 38) (including those with other thyroid conditions). The remaining 503 (92.1%) were confirmed to be out of A1/A2 criteria.

Table 4 Progress of the Confirmatory Examination

	Those referred to confirmatory exams (persons)	Participants (persons)		Those with finalized results (%)									
			Participation Rate (%)	Judgment rate (%)		A1		A2		Other than A1 or A2		FANC	
	a	b	(b/a)	c	(c/b)	d	(d/c)	e	(e/c)	f	(f/c)	g	(g/f)
Those born in FY1992	105	88	(83.8)	85	(96.6)	0	(0.0)	4	(4.7)	81	(95.3)	8	(9.9)
Those born in FY1993	119	104	(87.4)	103	(99.0)	1	(1.0)	9	(8.7)	93	(90.3)	9	(9.7)
Those born in FY1994	107	84	(78.5)	82	(97.6)	2	(2.4)	7	(8.5)	73	(89.0)	6	(8.2)
Those born in FY1995	126	112	(88.9)	110	(98.2)	0	(0.0)	4	(3.6)	106	(96.4)	11	(10.4)
Those born in FY1996	117	102	(87.2)	102	(100.0)	2	(2.0)	7	(6.9)	93	(91.2)	11	(11.8)
Those born in FY1997	77	64	(83.1)	64	(100.0)	0	(0.0)	7	(10.9)	57	(89.1)	4	(7.0)
Total	651	554	(85.1)	546	(98.6)	5	(0.9)	38	(7.0)	503	(92.1)	49	(9.7)

2.2-2 Results of fine needle aspiration cytology (FNAC)

Among those who underwent FNAC, 23 were classified as malignant or suspicious of malignancy: 4 were male and 19 were female. Participants' age at the time of the confirmatory examination ranged from 24 to 27 years (mean age: 25.3 ± 0.7 years). The minimum and maximum tumor diameters were 5.3 mm and 49.9 mm (mean tumor diameter: 14.2 ± 10.5 mm).

Of these 23 participants, 5 had Grade A results (A1: 1, A2: 4), and 4 had Grade B results in the previous survey. The remaining 14 people did not participate in the previous survey. Of those 4 participants with Grade A2 results, 1 was with nodules and 3 were with cysts

Table 5. Results of FNAC

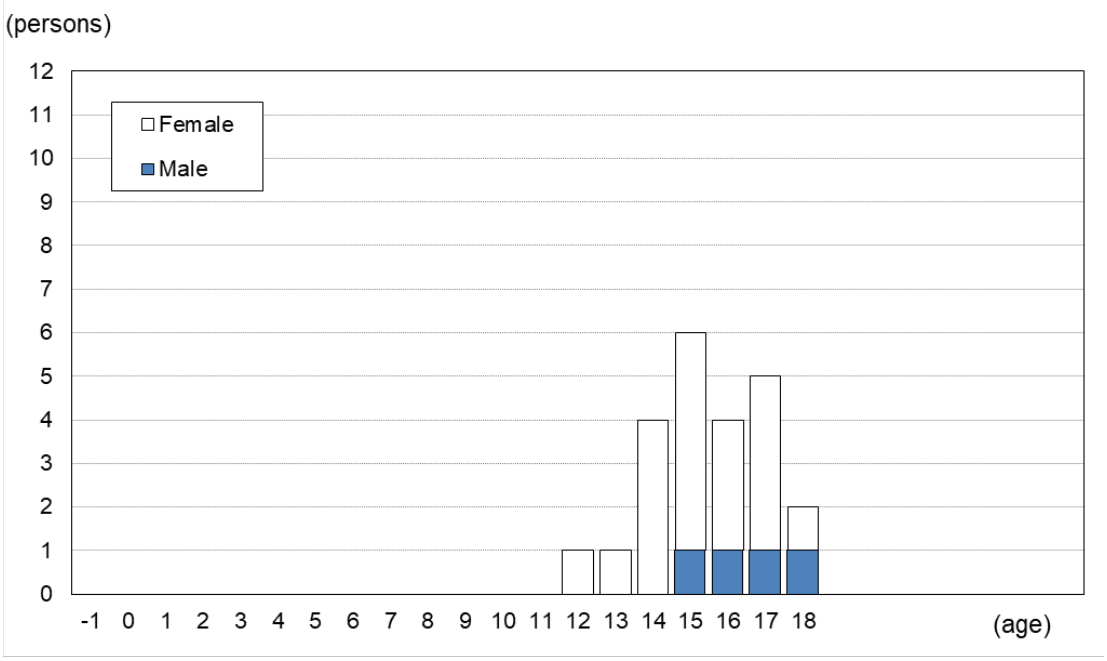
(The numbers in the parentheses indicate the ranges of mean age and mean tumor size)

Among those who underwent the Age 25 Survey:
- Malignant or suspicious for malignancy: 23*
- Male to female ratio: 4:19
- Mean age ± SD (min-max): 25.3 ± 0.7 (24–27),
  15.5 ± 1.6 (12–18) at the time of the earthquake
- Mean tumor size ± SD (min-max): 14.2 ± 10.5 mm (5.3–49.9 mm)

*Appendix 5 shows surgery cases.

2.2-3 Age distribution of malignant or suspected malignant cases diagnosed by FNAC

Age distribution of those 23 people with malignant or suspicious nodules based on their age as of March 11, 2011, is per Figure 2, and age distribution based on their age at the time of confirmatory examination is per Figure 3.



*-1 – 11 are not included in the Age 25 Survey for those born between FY1992 and FY1997.
Age -1 covers those born between April 2, 2011, and April 1, 2012.
Those who were born between March 12, 2011, and April 1, 2011, are included as age 0.

Figure 2 Age as of March 11, 2011

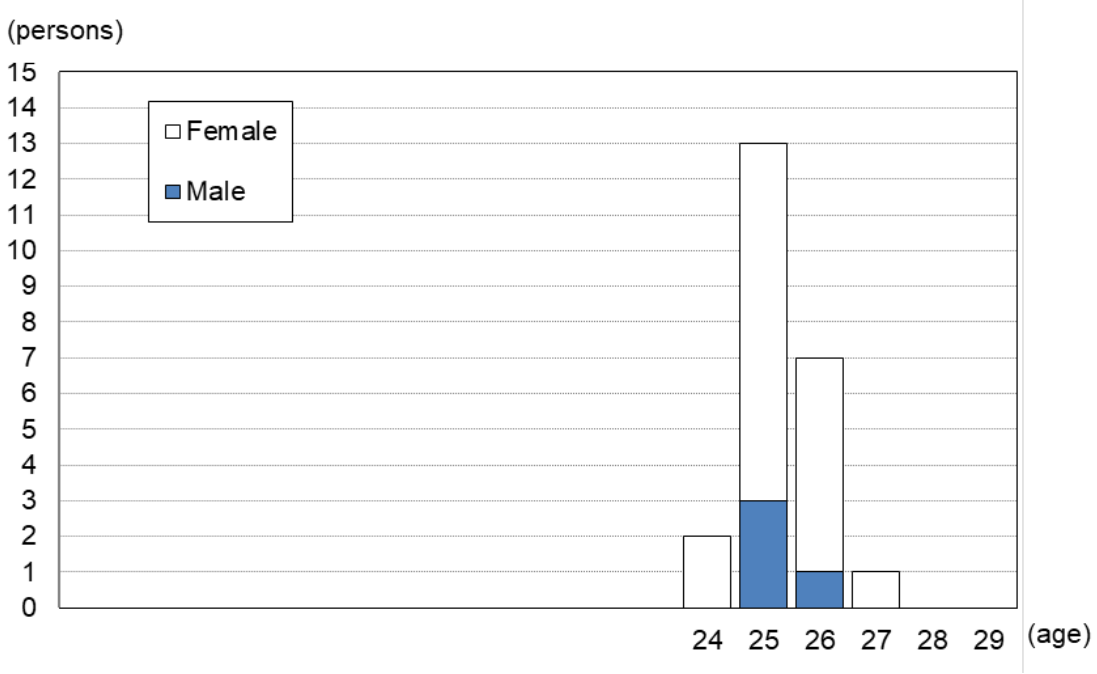


Figure 3 Age at the time of confirmatory examination

2.2-4 Basic Survey results of those with malignant or suspicious nodules by FNAC

Of the 23 people with malignant or suspicious nodules, 13 (56.5%) had participated in the Basic Survey (for external radiation dose estimation), and all 13 received their results. The highest effective dose documented was 1.9 mSv.

Table 6 A breakdown of dose estimates for Basic Survey participants

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	5	1	2	1	7
< 2	0	0	0	0	1	2	1	1	2	3
< 5	0	0	0	0	0	0	0	0	0	0
< 10	0	0	0	0	0	0	0	0	0	0
< 20	0	0	0	0	0	0	0	0	0	0
≥ 20	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	1	7	2	3	3	10

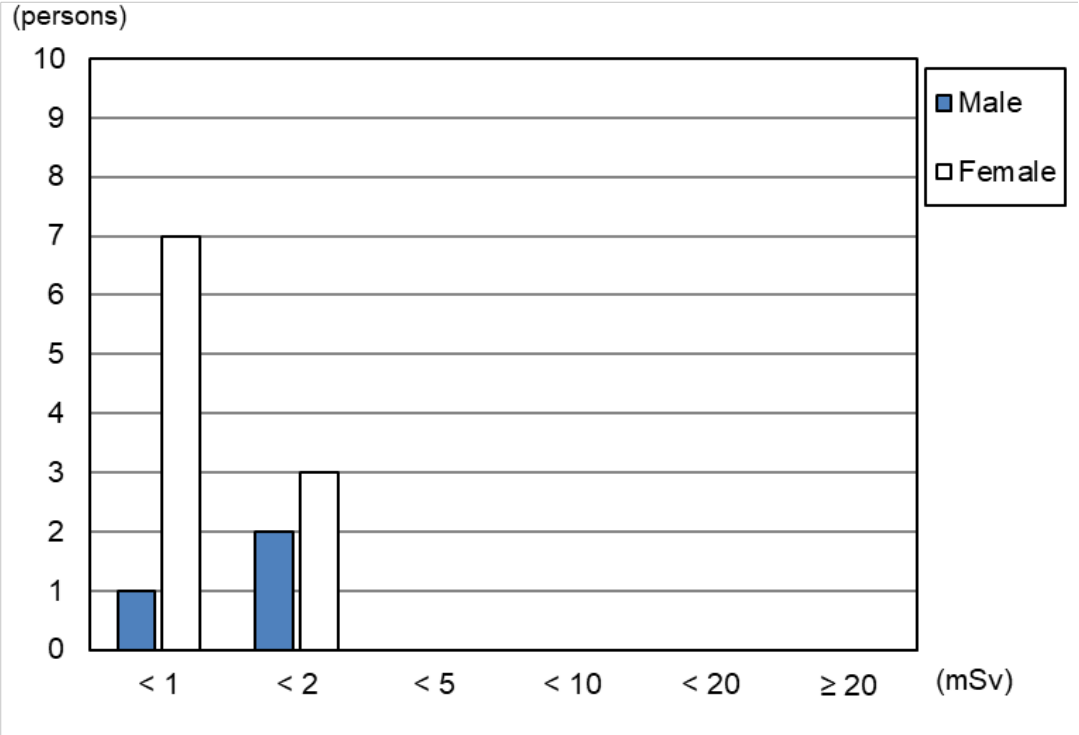


Figure 4 Effective doses of the Basic Survey participants

2.2-5 Blood and urinary iodine test results

Table 7 Blood test results

	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
Malignant or suspicious : 23	1.2 ± 0.1 (4.3%)	3.3 ± 0.4 (8.7%)	1.6 ± 1.6 (21.7%)	34.0 ± 35.7 (39.1%)	17.4%	17.4%
Other : 500	1.2 ± 0.2 (6.2%)	3.3 ± 0.4 (8.0%)	1.2 ± 0.7 (7.0%)	76.8 ± 579.1 (20.8%)	11.4%	10.0%

Table 8 Urinary iodine test results [8]

(μg/day)

	Minimum	25th percentile	Median	75th percentile	Maximum
Malignant or suspicious : 23	66	102	185	284	953
Other : 497	29	120	184	340	11,060

1) FT4: free thyroxine, thyroid hormone binding 4 iodines; higher among patients with thyrotoxicosis (such as Graves' disease) and lower with hypothyroidism (such as Hashimoto's thyroiditis).
2) FT3: free triiodothyronine, thyroid hormone binding 3 iodines; 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 or 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.
8) Urinary iodine tests have not been carried out since March 8, 2024. (details as follows)

Temporary suspension of urine tests

The reagents have been unavailable since March 2024. This has affected the suspension of the relevant urine tests.

1 Reason:

The manufacturer and distributor of the test reagent were found to be failed to comply with the procedures stipulated in the "Act on Securing Quality, Efficacy, and Safety of Products Including Pharmaceuticals and Medical Devices" (Pharmaceutical and Medical Device Act), and the product could no longer be used due to non-compliance with the law.

2 Date of suspension:

Effective March 8, 2024

3 Mental Health Care

3.1 Support for Primary Examination Participants

Since April 2017, medical doctors have offered person-to-person explanations of examination results, showing ultrasound images in private consultation booths at examination venues in public facilities. As of March 31, 2024, of those 1,168 participants, 1,167 (99.9%) visited these consultation booths.

3.2 Support for Confirmatory Examination Participants

A support team has been set up within Fukushima Medical University to offer psychological support to address the anxieties and concerns of confirmatory examination participants during the examination. The team also answers questions and offers counseling via our website.

Since the start of the Age 25 survey, 140 participants (31 males and 109 females) have received support as of March 31, 2024. The number of support sessions provided was 270 in total. Of these, 140 sessions (51.9%) were offered at the participants' first examination and 130 (48.1%) at subsequent examinations.

For those who proceed to regular health insurance medical care, the support team continues to provide support in cooperation with teams of medical staff at hospitals.

,

Appendix 1　Implementation status of the Primary Survey by area

As of March 31, 2024

	Eligible persons	Participants (persons)		Participation rate (%)	Participants living outside the prefecture (persons)	Proportion of participants living outside the prefecture (%)
			Those who participated outside Fukushima [1]			
	a	b		b/a	c[2]	c/b
Number of eligible persons (Those born in from FY1992 to FY1998)						
13 municipalities[3]	19,936	1,739	645	8.7	630	36.2
Nakadori[4]	79,762	6,863	2,384	8.6	2,118	30.9
Hamadori[5]	28,895	2,787	1,006	9.6	917	32.9
Aizu[6]	21,250	1,214	418	5.7	393	32.4
Total	149,843	12,603	4,453	8.4	4,058	32.2

1) The number of those who received examinations at medical facilities outside the prefecture (as of February 29, 2024)
2) The number of those whose place of residence is outside the prefecture
3) Tamura City, Minamisoma City, Date City, Kawamata Town, Hirono Town, Naraha Town, Tomioka Town, Kawauchi Village, Okuma Town, Futaba Town, Namie Town, Katsurao Village, Iitate Village
4) Fukushima City, Koriyama City, Shirakawa City, Sukagawa City, Nihonmatsu City, Motomiya City, Koori Town, Kunimi Town, Otama Village, Kagamiishi Town, Tenei Village, Nishigo Village, Izumizaki Village, Nakajima Village, Yabuki Town, Tanagura Town, Yamatsuri Town, Hanawa Town, Samegawa Village, Ishikawa Town, Tamakawa Village, Hirata Village, Asakawa Town, Furudono Town, Miharu Town, Ono Town
5) Iwaki City, Soma City, Shinchi Town
6) Aizuwakamatsu City, Kitakata City, Shimogo Town, Hinoemata Village, Tadami Town, Minamiaizu Town, Kitashiobara Village, Nishiaizu Town, Bandai Town, Inawashiro Town, Aizubange Town, Yugawa Village, Yanaizu Town, Mishima Town, Kaneyama Town, Showa Village, Aizumisato Town

Appendix 2 Implementation status by prefecture

As of February 29, 2024

Prefecture	No. of medical facilities	Participants (persons)
Hokkaido	6	72
Aomori	3	20
Iwate	4	57
Miyagi	2	450
Akita	1	18
Yamagata	3	59
Ibaraki	4	217
Tochigi	9	216
Gunma	2	50
Saitama	4	267
Chiba	5	217
Tokyo	22	1,884
Kanagawa	7	426
Niigata	3	80
Toyama	2	8
Ishikawa	1	5

Prefecture	No. of medical facilities	Participants (persons)
Fukui	1	4
Yamanashi	2	13
Nagano	4	25
Gifu	2	6
Shizuoka	3	43
Aichi	6	76
Mie	1	3
Shiga	1	7
Kyoto	3	33
Osaka	10	67
Hyogo	3	34
Nara	3	3
Wakayama	1	6
Tottori	1	2
Shimane	1	1
Okayama	3	9

Prefecture	No. of medical facilities	Participants (persons)
Hiroshima	2	17
Yamaguchi	1	2
Tokushima	1	3
Kagawa	1	2
Ehime	3	3
Kochi	2	2
Fukuoka	4	22
Saga	1	1
Nagasaki	3	2
Kumamoto	1	6
Oita	1	3
Miyazaki	1	3
Kagoshima	1	2
Okinawa	1	7
Total	146	4,453

The number of those who received examinations at medical facilities outside Fukushima prefecture

Appendix 3 Primary Survey results by area

As of March 31, 2024

	Number of participants (persons)	Those with finalized results (persons)	Number of participants by final result (persons) Details by grade (%)				Those with nodules (persons) (%)		Those with cysts (persons) (%)	
	a	b	A		B	C	≥ 5.1mm	≤ 5.0mm	≥ 20.1mm	≤ 20.0mm
		b/a (%)	A1	A2						
Number of eligible persons (Those born in from FY1992 to FY1998)										
13 municipalities 1)	1,739	1,709	742	874	93	0	92	27	1	916
		98.3	43.4	51.1	5.4	0.0	5.4	1.6	0.1	53.6
Nakadori 2)	6,863	6,703	2,825	3,525	353	0	351	126	2	3,697
		97.7	42.1	52.6	5.3	0.0	5.2	1.9	0.0	55.2
Hamadorl 3)	2,787	2,699	1,161	1,390	148	0	147	52	1	1,445
		96.8	43.0	51.5	5.5	0.0	5.4	1.9	0.0	53.5
Aizu 4)	1,214	1,175	474	618	83	0	82	30	1	661
		96.8	40.3	52.6	7.1	0.0	7.0	2.6	0.1	56.3
Total	12,603	12,286	5,202	6,407	677	0	672	235	5	6,719
		97.5	42.3	52.1	5.5	0.0	5.5	1.9	0.0	54.7

1) Tamura City, Minamisoma City, Date City, Kawamata Town, Hirono Town, Naraha Town, Tomioka Town, Kawauchi Village, Okuma Town, Futaba Town, Namie Town, Katsurao Village, Iitate Village
2) Fukushima City, Koriyama City, Shirakawa City, Sukagawa City, Nihonmatsu City, Motomiya City, Koori Town, Kunimi Town, Otama Village, Kagamiishi Town, Tenei Village, Nishigo Village, Izumizaki Village, Nakajima Village, Yabuki Town, Tanagura Town, Yamatsuri Town, Hanawa Town, Samegawa Village, Ishikawa Town, Tamakawa Village, Hirata Village, Asakawa Town, Furudono Town, Miharu Town, Ono Town
3) Iwaki City, Soma City, Shinchi Town
4) Aizuwakamatsu City, Kitakata City, Shimogo Town, Hinoemata Village, Tadami Town, Minamiaizu Town, Kitashiobara Village, Nishiaizu Town, Bandai Town, Inawashiro Town, Aizubange Town, Yugawa Village, Yanaizu Town, Mishima Town, Kaneyama Town, Showa Village, Aizumisato Town

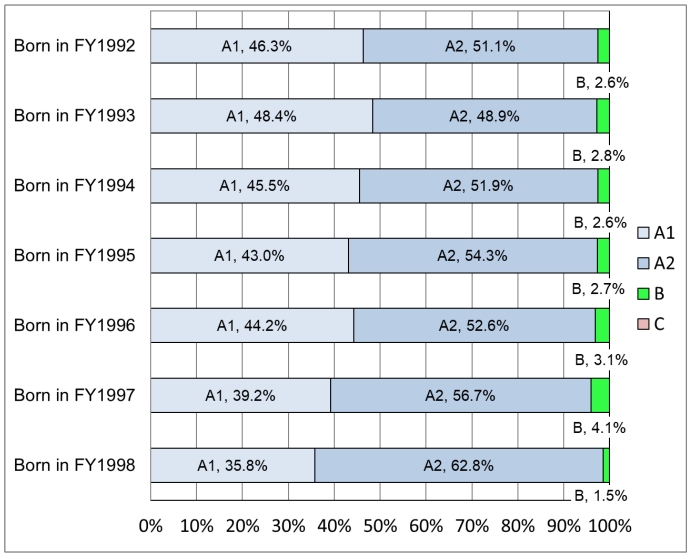
Appendix 4.1 Summary for participants with finalized results, by gender

As of March 31. 2024

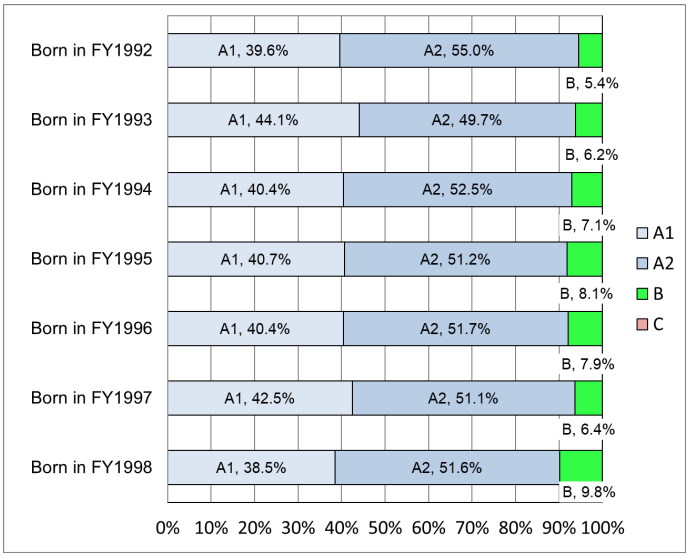
(persons)

Grade / Gender / Participants	A						B			C			Total		
	A1			A2											
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Those born in FY1992	360	620	980	397	861	1,258	20	85	105	0	0	0	777	1,566	2,343
Those born in FY1993	383	686	1,069	387	773	1,160	22	97	119	0	0	0	792	1,556	2,348
Those born in FY1994	315	508	823	360	659	1,019	18	89	107	0	0	0	693	1,256	1,949
Those born in FY1995	319	531	850	402	669	1,071	20	106	126	0	0	0	741	1,306	2,047
Those born in FY1996	267	499	766	318	638	956	19	98	117	0	0	0	604	1,235	1,839
Those born in FY1997	183	388	571	265	466	731	19	58	77	0	0	0	467	912	1,379
Those born in FY1998	49	94	143	86	126	212	2	24	26	0	0	0	137	244	381
Total	1,876	3,326	5,202	2,215	4,192	6,407	120	557	677	0	0	0	4,211	8,075	12,286

Examination results by age group (Male)



Examination results by age group (Female)

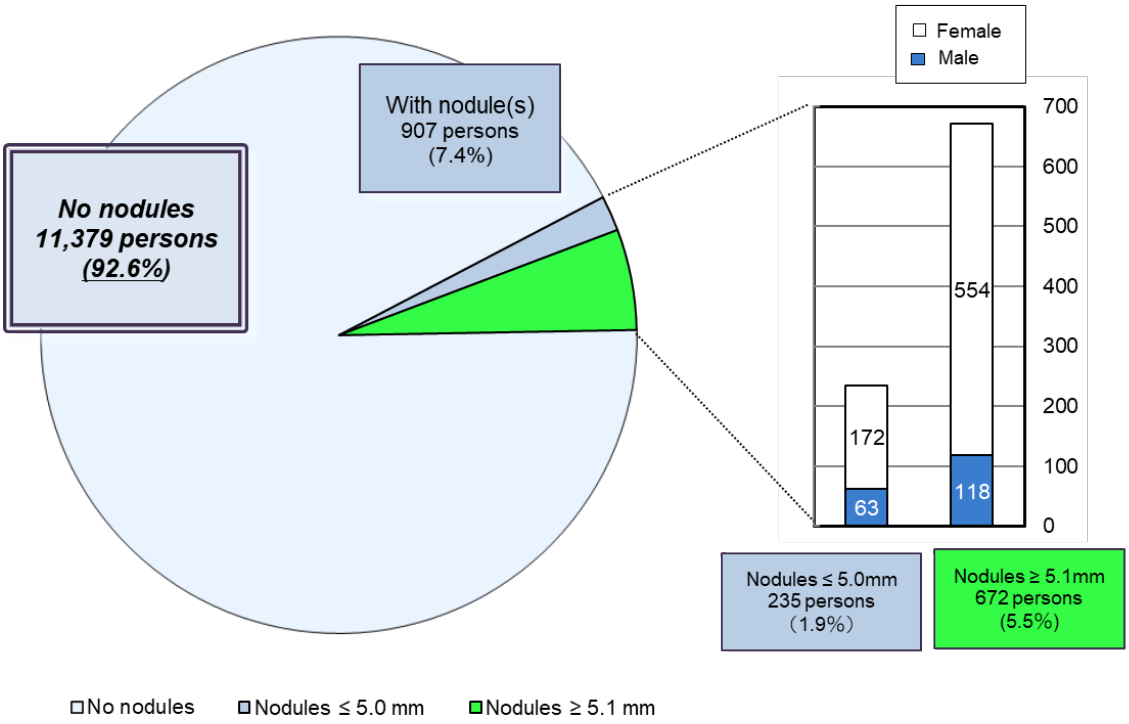


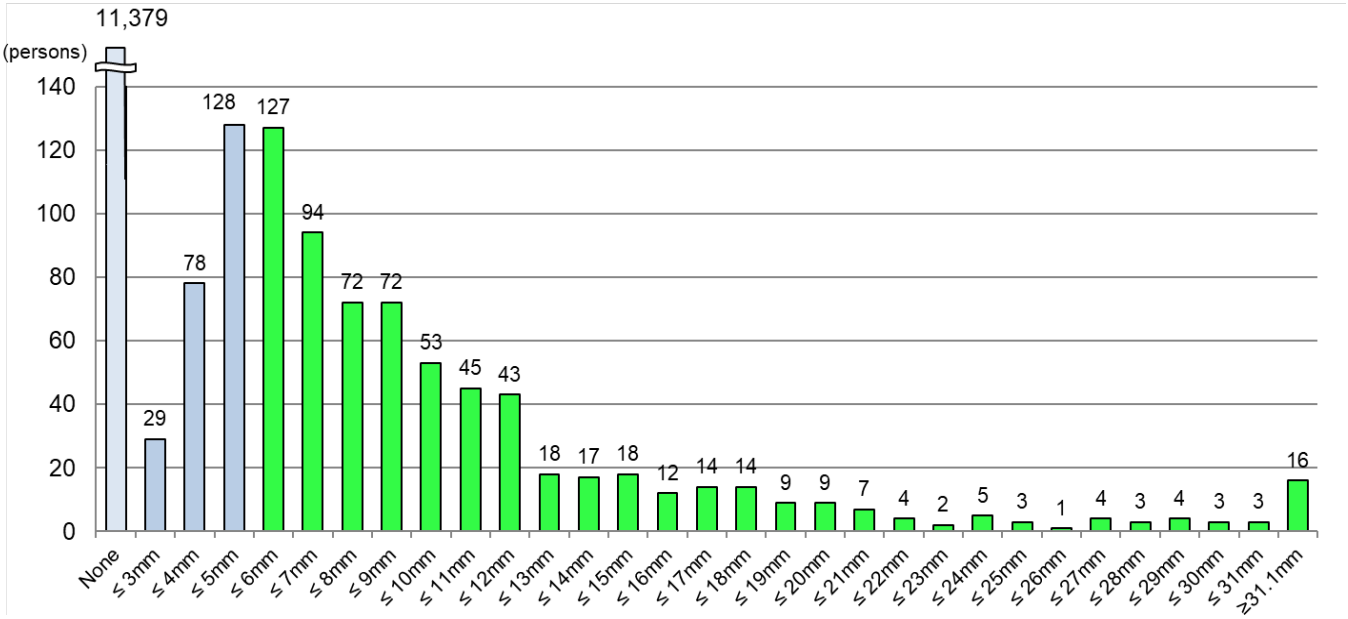
Appendix 4.2 Nodule characteristics

As of March 31, 2024

(persons)

Nodule size	Total	Male	Female	Grade	
None	11,379	4,030	7,349	A1	92.6%
≤ 3.0mm	29	8	21	A2	1.9%
3.1–5.0mm	206	55	151		
5.1–10.0mm	418	75	343	B	5.5%
10.1–15.0mm	141	30	111		
15.1–20.0mm	58	7	51		
20.1–25.0mm	21	3	18		
≥ 25.1mm	34	3	31		
Total	12,286	4,211	8,075		



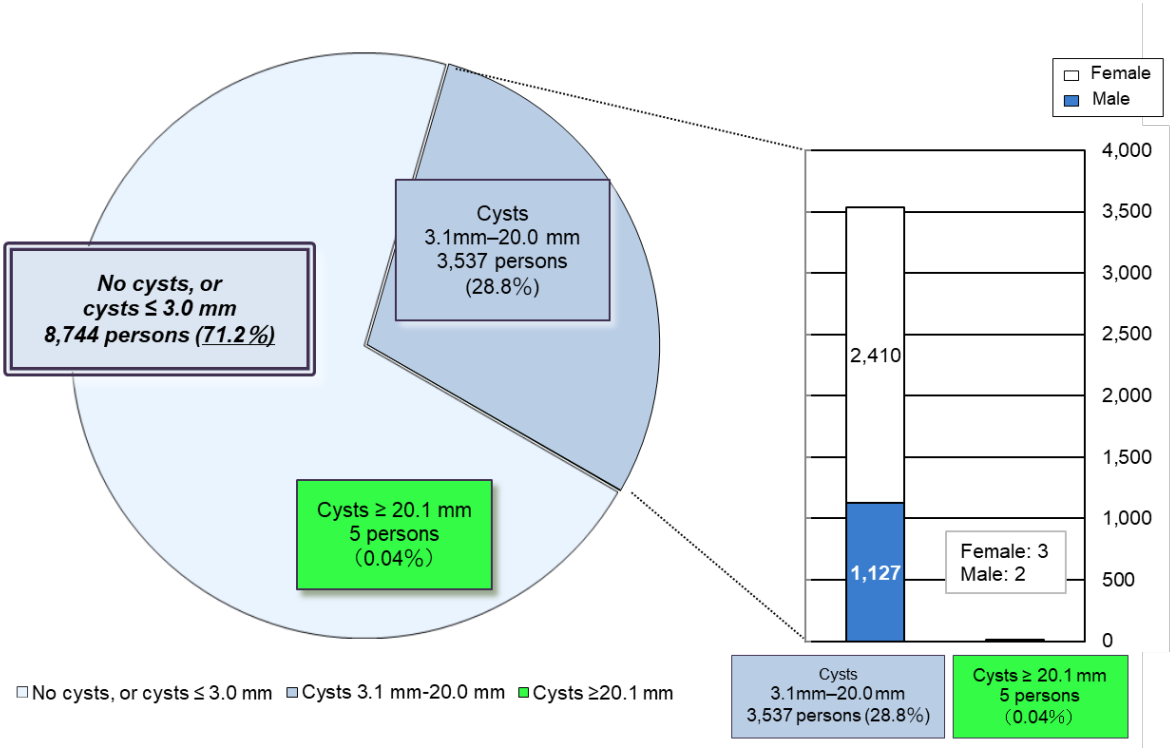


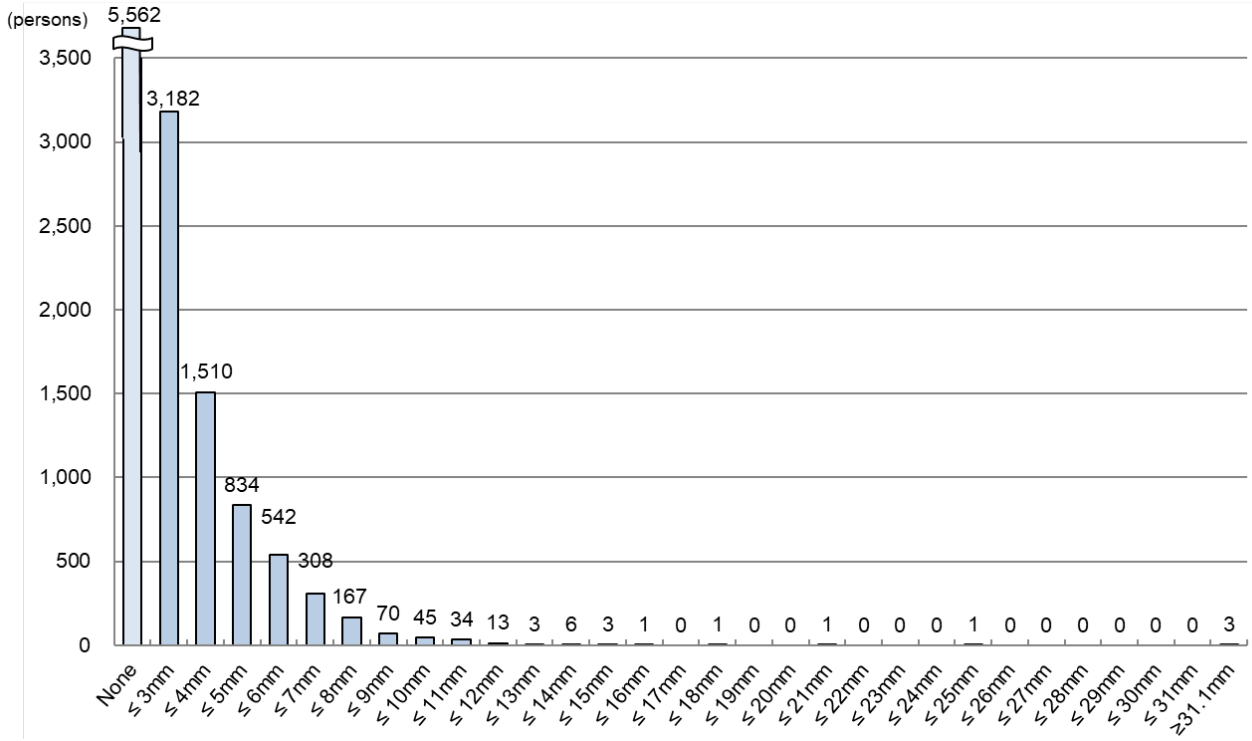
Appendix 4.3 Cyst characteristics

As of March 31, 2024

(persons)

Cyst size	Total	Male	Female	Grade	
None	5,562	1,954	3,608	A1	71.2%
≤ 3.0mm	3,182	1,128	2,054	A2	28.8%
3.1–5.0mm	2,344	796	1,548		
5.1–10.0mm	1,132	320	812		
10.1–15.0mm	59	10	49		
15.1–20.0mm	2	1	1		
20.1–25.0mm	2	0	2	B	0.04%
≥ 25.1mm	3	2	1		
Total	12,286	4,211	8,075		





Appendix 5 Surgery cases for malignancy or suspicion of malignancy

Among those who underwent the Age 25 Survey:

- Malignant or suspicious for malignancy 23
  - Surgical cases 18
    - Papillary thyroid carcinomas 17
    - Follicular thyroid carcinomas 1

Report on the TUE Full-Scale Survey (Survey for Age 30)

As of March 31, 2024

1. Summary

1.1 Eligible Persons

Among Fukushima residents 18 years old or younger at the time of the disaster (those born between April 2, 1992, and April 1, 2012), those who turn 30 years old during each fiscal year are invited to receive a thyroid ultrasound examination (TUE).

This report summarizes the results for those born in FY1992 and FY1993 (born between April 2, 1992 and April 1, 1994)
*Note: For those born in FY1993, only the results of the primary examination will be reported, as there are not many examination results for now.

1.2 Implementation Period

The Survey for Age 30 (hereinafter “Age 30 Survey”) started in FY2022 for those who turn 30 years old during each fiscal year. Suppose residents are unable to receive the examination in the year when they turn 30. In that case, they are entitled to one any time through the fiscal year before the year they turn 35 (see Figure 1 for the implementation schedule of the Age 30 Survey).

Year of exam / Birth year of examinees	FY2022 Age	FY2023 Age	FY2024 Age	FY2025 Age	FY2026 Age	FY2027 Age	FY2028 Age
FY1992	30★	31	32	33	34	35★	36
FY1993	29	30★	31	32	33	34	35★
FY1994	28	29	30★	31	32	33	34

・The examinations are offered to those who turn age 30 in each fiscal year.
・Invitations for the examination will be sent to those who turn age 30 in the fiscal year marked with ★.

Figure 1 Implementation Schedule for Age 30 Survey

2. Overview of Age 30 Survey as of March 31, 2024

2.1 Results of the Primary Examination

2.1-1 Implementation status

Primary examinations for the Age 30 Survey started in April 2022 for those who turned 30 years old (those born in FY1992 and FY1993), of whom 2,221 (5.0%) people participated. (See Appendix 1 and Appendix 2 for implementation status by area and implementation status outside Fukushima Prefecture, respectively.)

Results for 1,624 (73.1%) participants have been finalized and individual reports have been sent to them. (See Appendix 3 for The Survey results by area.)

Of these, 720 (44.3%) had Grade A1 results, 761 (46.9%) had Grade A2, 143 (8.8%) had Grade B, and none had Grade C.

Table 1 Progress and results of the primary examination

	Eligible persons	Participants (persons)			Participants with finalized results (persons)									
							Details by grade (%)							
			Participation rate (%)	Those who participated outside Fukushima		Judgment rate (%)	A				Those referred to confirmatory exam			
							A1		A2		B		C	
	a	b	(b/a)		c	(c/b)	d	(d/c)	e	(e/c)	f	(f/c)	g	(g/c)
Born in FY1992	22,625	1,604	(7.1)	598	1,594	(99.4)	708	(44.4)	747	(46.9)	139	(8.7)	0	(0.0)
Born in FY1993	21,864	617	(2.8)	11	30	(4.9)	12	(40.0)	14	(46.7)	4	(13.3)	0	(0.0)
Total	44,489	2,221	(5.0)	609	1,624	(73.1)	720	(44.3)	761	(46.9)	143	(8.8)	0	(0.0)

Table 2 Number and percentage of participants with nodules/cysts (see Appendix 4 for details)

	Participants with finalized results (persons)	Participants with nodules / cysts (%)							
		Nodules				Cysts			
		≥ 5.1mm		≤ 5.0mm		≥ 20.1mm		≤ 20.0mm	
	a	b	(b/a)	c	(c/a)	d	(d/a)	e	(e/a)
Born in FY1992	1,594	138	(8.7)	62	(3.9)	1	(0.1)	811	(50.9)
Born in FY1993	30	4	(13.3)	0	(0.0)	0	(0.0)	16	(53.3)
Total	1,624	142	(8.7)	62	(3.8)	1	(0.1)	827	(50.9)

・Percentages are rounded to a lower decimal place. This applies to other tables as well.
・The number and results of the Age 30 Survey participants are, and will be, presented by birth year (fiscal year), not by survey year.

2.1-2 Comparison with previous examination results

Table 3 compares the results of the Age 30 Survey and the Age 25 Survey.

Among 847 participants (sum of *1) with Grade A1 or A2 results in the Age 25 Survey, 807 (sum of *2, 95.3%) had Grade A1 or A2 results, and 40 (sum of *3, 4.7%) had Grade B results in the Age 30 Survey.

Among 40 participants with Grade B results in the Age 25 survey, 4 (sum of *4, 10.0%) had Grade A (A1 or A2) results and 36 (90.0%) had Grade B results in the Age 30 Survey.

Table 3 Comparison with the Age 25 Survey results

			Results of the Age 25 survey*	Results of the Age 30 survey**			
				A		B	C
				A1	A2		
			a (%)	b (b/a)	c (c/a)	d (d/a)	e (e/a)
Results of the Age 25 survey	A	A1	324 *1 (100.0)	272 *2 (84.0)	45 *2 (13.9)	7 *3 (2.2)	0 (0.0)
		A2	523 *1 (100.0)	105 *2 (20.1)	385 *2 (73.6)	33 *3 (6.3)	0 (0.0)
	B		40 (100.0)	1 *4 (2.5)	3 *4 (7.5)	36 (90.0)	0 (0.0)
	C		0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
	Did not participate		737 (100.0)	342 (46.4)	328 (44.5)	67 (9.1)	0 (0.0)
Total			1,624 (100.0)	720 (44.3)	761 (46.9)	143 (8.8)	0 (0.0)

* Results of the Age 25 Survey participants with finalized results

** Results of the Age 30 Survey participants diagnosed for each grade in the Age 25 Survey. The lower figures are their proportion (%).

2.2 Results of the Confirmatory Examination

2.2-1 Implementation status

Of 139 eligible persons, 118 (84.9%) participated, of whom 111 (94.1%) completed the entire process of the confirmatory examination.

Of the aforementioned 111 participants, 8 (7.2%) were confirmed to meet Grade A diagnostic criteria by primary examination standards (A1:1, A2:7) (including those with other thyroid conditions). The remaining 103 (92.8%) were confirmed to be out of A1/A2 criteria.

Table 4 Progress of the Confirmatory Examination

	Those referred to confirmatory exams (persons)	Participants (persons)		Those with finalized results (%)									
			Participation Rate (%)		Judgment rate (%)	A1		A2		Other than A1 or A2			
												FANC	
	a	b	(b/a)	c	(c/b)	d	(d/c)	e	(e/c)	f	(f/c)	g	(g/f)
Those born in FY1992	139	118	(84.9)	111	(94.1)	1	(0.9)	7	(6.3)	103	(92.8)	16	(15.5)
Total	139	118	(84.9)	111	(94.1)	1	(0.9)	7	(6.3)	103	(92.8)	16	(15.5)

2.2-2 Results of fine needle aspiration cytology (FNAC)

Among those who underwent FNAC, 6 participants were classified as malignant or suspicious of malignancy, all 6 were female. Participants' age at the time of the confirmatory examination ranged from 29 to 30 years (mean age: 29.8 ± 0.4 years), and the minimum and maximum tumor diameters were 9.8 mm and 18.6 mm (mean tumor diameter: 12.1 ± 3.4 mm).

Of these 6 participants, 2 had a Grade A2 result, 1 had a Grade B result in the Age 25 Survey, and 3 of them did not participate in the Age 25 Survey. The 2 participants who had A2 results in this survey were those with Grade A2 cysts in the Age 25 Survey,

Table 5. Results of FNAC

(The numbers in the parentheses indicate the ranges of mean age and mean tumor size)

Among those who underwent the Age 30 Survey:

- Malignant or suspicious for malignancy: 6*
- Male to female ratio: 0:6
- Mean age ± SD (min-max): 29.8 ± 0.4 (29–30),
  18.0 ± 0.0 (18–18) at the time of the earthquake
- Mean tumor size ± SD (min-max): 12.1 ± 3.4 mm (9.8–18.6 mm)

*Appendix 5 shows surgery cases.

3 Mental Health Care

3.1 Support for Primary Examination Participants

At examination venues, we set up consultation booths where our medical doctors offer consultation and explain examination results using ultrasonographic images. As of March 31, 2024, all 344 (100%) examinees have visited the booths.

3.2 Support for Confirmatory Examination Participants

A support team has been set up within Fukushima Medical University to offer psychological support to address the anxieties and concerns of confirmatory examination participants during the examination. The team also answers questions and offers counseling via our website.

Since the start of the Age 30 Survey, 34 participants (6 males and 28 females) have received support as of March 31, 2024. The number of support sessions provided was 69 in total. Of these, 34 sessions (49.3%) were offered at the participants' first examination and 35 (50.7%) at subsequent examinations.

For those who proceed to regular health insurance medical care, the support team continues to provide support in cooperation with teams of medical staff at hospitals.

Appendix 1 Implementation status of the Primary Survey, by area

As of March 31, 2024

	Eligible persons	Participants (persons)		Participation rate (%)	Participants living outside the prefecture (persons)	Proportion of participants living outside the prefecture (%)
	a	b	Those who participated outside Fukushima [1)]	b/a	c[2)]	c/b
Number of eligible persons (Those born in FY1992 and FY1993)						
13 municipalities[3)]	5,986	324	88	5.4	88	27.2
Nakadori[4)]	23,629	1,243	345	5.3	352	28.3
Hamadori[5)]	8,481	425	113	5.0	126	29.6
Aizu[6)]	6,393	229	63	3.6	65	28.4
Total	44,489	2,221	609	5.0	631	28.4

1) The number of those who received examinations at medical facilities outside the prefecture (as of February 29, 2024)
2) The number of those whose place of residence is outside the prefecture
3) Tamura City, Minamisoma City, Date City, Kawamata Town, Hirono Town, Naraha Town, Tomioka Town, Kawauchi Village, Okuma Town, Futaba Town, Namie Town, Katsurao Village, Iitate Village
4) Fukushima City, Koriyama City, Shirakawa City, Sukagawa City, Nihonmatsu City, Motomiya City, Koori Town, Kunimi Town, Otama Village, Kagamiishi Town, Tenei Village, Nishigo Village, Izumizaki Village, Nakajima Village, Yabuki Town, Tanagura Town, Yamatsuri Town, Hanawa Town, Samegawa Village, Ishikawa Town, Tamakawa Village, Hirata Village, Asakawa Town, Furudono Town, Miharu Town, Ono Town
5) Iwaki City, Soma City, Shinchi Town
6) Aizuwakamatsu City, Kitakata City, Shimogo Town, Hinoemata Village, Tadami Town, Minamiaizu Town, Kitashiobara Village, Nishiaizu Town, Bandai Town, Inawashiro Town, Aizubange Town, Yugawa Village, Yanaizu Town, Mishima Town, Kaneyama Town, Showa Village, Aizumisato Town

Appendix 2 Implementation status of the Survey, by prefecture

As of February 29, 2024

Prefecture	No. of medical facilities	Participants (persons)
Hokkaido	6	8
Aomori	3	3
Iwate	4	7
Miyagi	2	59
Akita	1	2
Yamagata	3	11
Ibaraki	4	40
Tochigi	9	31
Gunma	2	8
Saitama	4	44
Chiba	5	20
Tokyo	22	256
Kanagawa	7	50
Niigata	3	7
Toyama	2	0
Ishikawa	1	1

Prefecture	No. of medical facilities	Participants (persons)
Fukui	1	0
Yamanashi	2	1
Nagano	4	8
Gifu	2	0
Shizuoka	3	2
Aichi	6	11
Mie	1	1
Shiga	1	1
Kyoto	3	7
Osaka	10	14
Hyogo	3	1
Nara	3	0
Wakayama	1	0
Tottori	1	0
Shimane	1	0
Okayama	3	4

Prefecture	No. of medical facilities	Participants (persons)
Hiroshima	2	2
Yamaguchi	1	1
Tokushima	1	0
Kagawa	1	1
Ehime	3	1
Kochi	2	0
Fukuoka	4	3
Saga	1	2
Nagasaki	3	1
Kumamoto	1	0
Oita	1	0
Miyazaki	1	0
Kagoshima	1	0
Okinawa	1	1
Total	146	609

・The number of those who received examinations at medical facilities outside Fukushima prefecture

Appendix 3 Primary Survey results, by area

As of March 31, 2024

	Number of participants (persons)	Those with finalized results (persons)	Number of participants by final result (persons) Details by grade (%)				Those with nodules (persons) (%)		Those with cysts (persons) (%)	
	a	b	A		B	C	≥ 5.1mm	≤ 5.0mm	≥ 20.1mm	≤ 20.0mm
		b/a (%)	A1	A2						
Number of eligible persons (Those born in FY1992 and FY1993)										
13 municipalities 1)	324	228	106	100	22	0	22	9	0	114
		70.4	46.5	43.9	9.6	0.0	9.6	3.9	0.0	50.0
Nakadori 2)	1,243	923	390	449	84	0	83	39	1	488
		74.3	42.3	48.6	9.1	0.0	9.0	4.2	0.1	52.9
Hamadorl 3)	425	306	144	134	28	0	28	10	0	141
		72.0	47.1	43.8	9.2	0.0	9.2	3.3	0.0	46.1
Aizu 4)	229	167	80	78	9	0	9	4	0	84
		72.9	47.9	46.7	5.4	0.0	5.4	2.4	0.0	50.3
Total	2,221	1,624	720	761	143	0	142	62	1	827
		73.1	44.3	46.9	8.8	0.0	8.7	3.8	0.1	50.9

1) Tamura City, Minamisoma City, Date City, Kawamata Town, Hirono Town, Naraha Town, Tomioka Town, Kawauchi Village, Okuma Town, Futaba Town, Namie Town, Katsurao Village, Iitate Village

2) Fukushima City, Koriyama City, Shirakawa City, Sukagawa City, Nihonmatsu City, Motomiya City, Koori Town, Kunimi Town, Otama Village, Kagamiishi Town, Tenei Village, Nishigo Village, Izumizaki Village, Nakajima Village, Yabuki Town, Tanagura Town, Yamatsuri Town, Hanawa Town, Samegawa Village, Ishikawa Town, Tamakawa Village, Hirata Village, Asakawa Town, Furudono Town, Miharu Town, Ono Town

3) Iwaki City, Soma City, Shinchi Town

4) Aizuwakamatsu City, Kitakata City, Shimogo Town, Hinoemata Village, Tadami Town, Minamiaizu Town, Kitashiobara Village, Nishiaizu Town, Bandai Town, Inawashiro Town, Aizubange Town, Yugawa Village, Yanaizu Town, Mishima Town, Kaneyama Town, Showa Village, Aizumisato Town

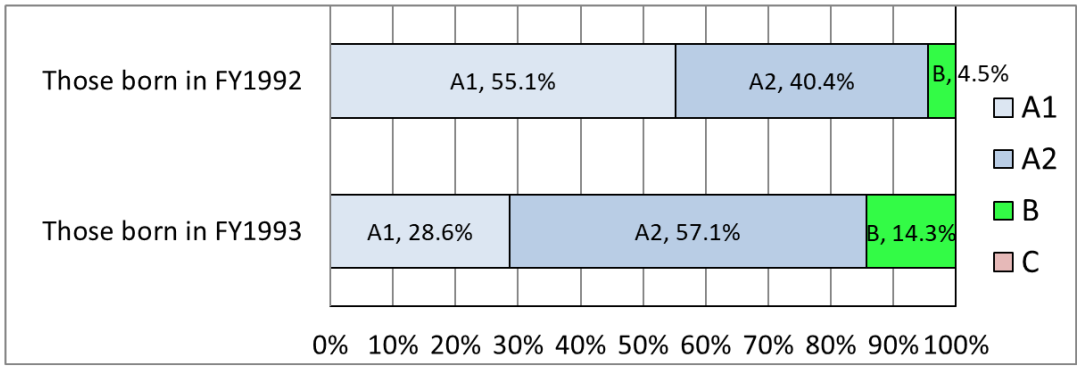
Appendix 4 Summary for participants with finalized results, by gender

As of March 31, 2024

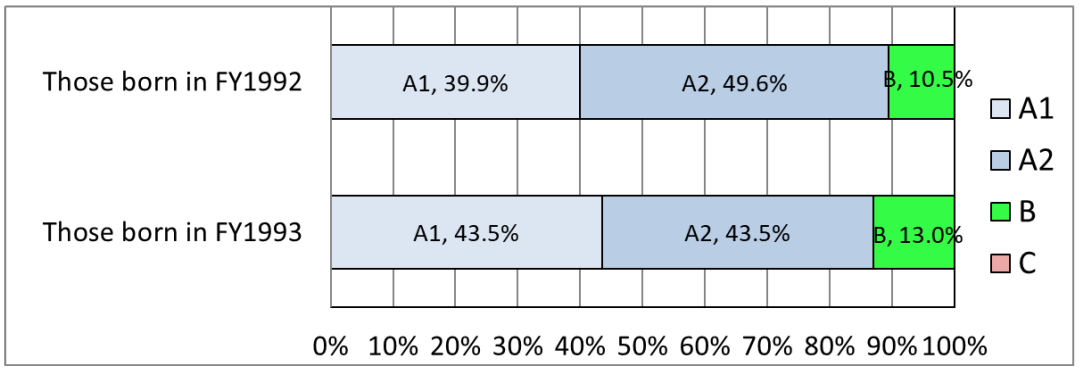
(persons)

Grade / Gender / Participants	A						B			C			Total		
	A1			A2											
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Those born in FY1992	259	449	708	190	557	747	21	118	139	0	0	0	470	1,124	1,594
Those born in FY1993	2	10	12	4	10	14	1	3	4	0	0	0	7	23	30
Total	261	459	720	194	567	761	22	121	143	0	0	0	477	1,147	1,624

Examination results by age group (Male)



Examination results by age group (Female)

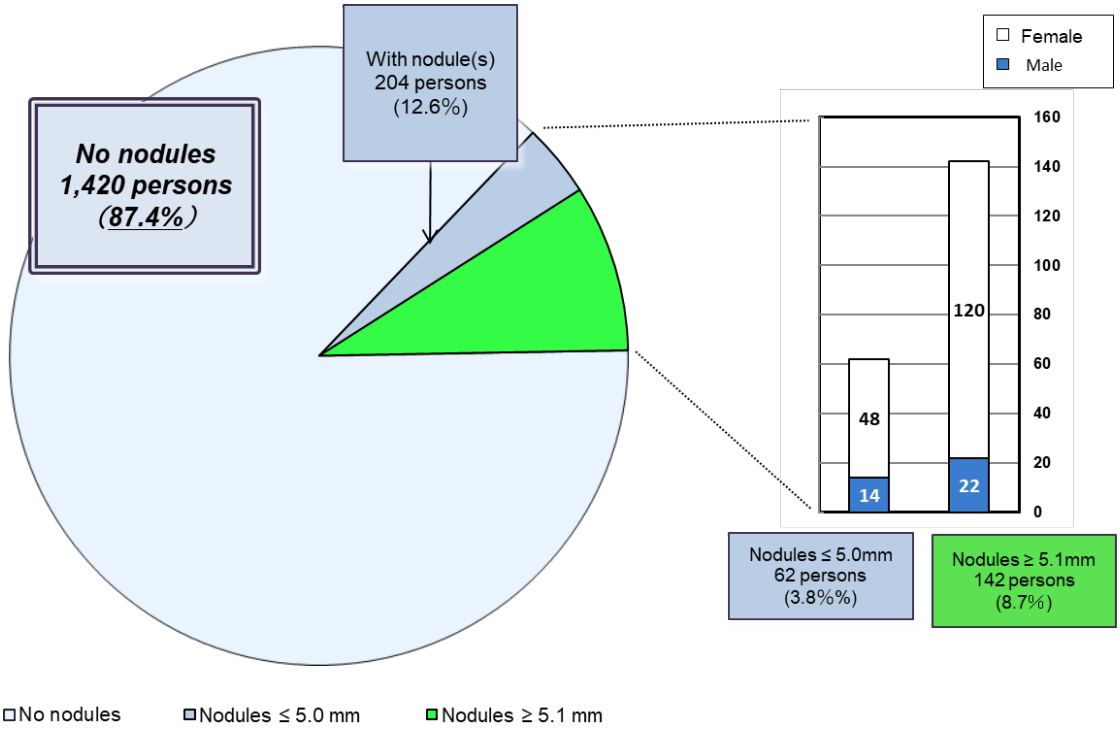


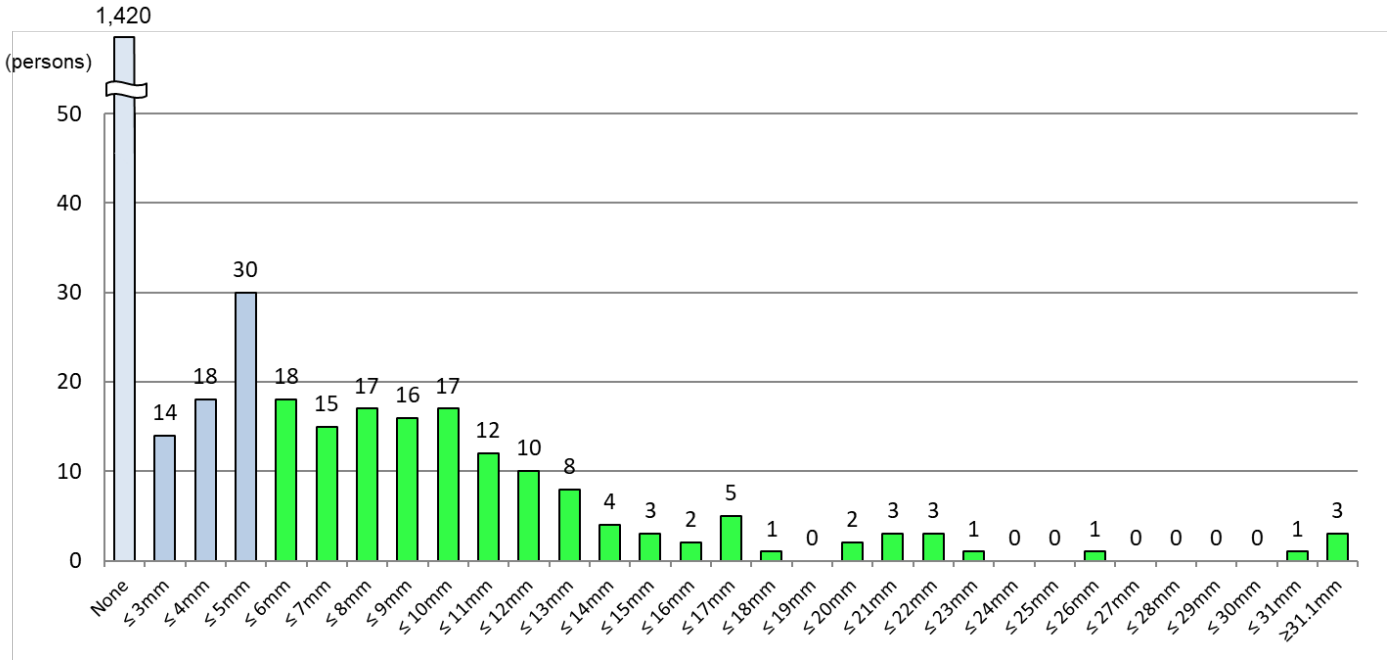
Appendix 4.2 Nodule characteristics

As of March 31, 2024

(persons)

Nodule size	Total	Male	Female	Grade	
None	1,420	441	979	A1	87.4%
≤ 3.0mm	14	3	11	A2	3.8%
3.1–5.0mm	48	11	37		
5.1–10.0mm	83	14	69	B	8.7%
10.1–15.0mm	37	4	33		
15.1–20.0mm	10	2	8		
20.1–25.0mm	7	1	6		
≥ 25.1mm	5	1	4		
Total	1,624	477	1,147		



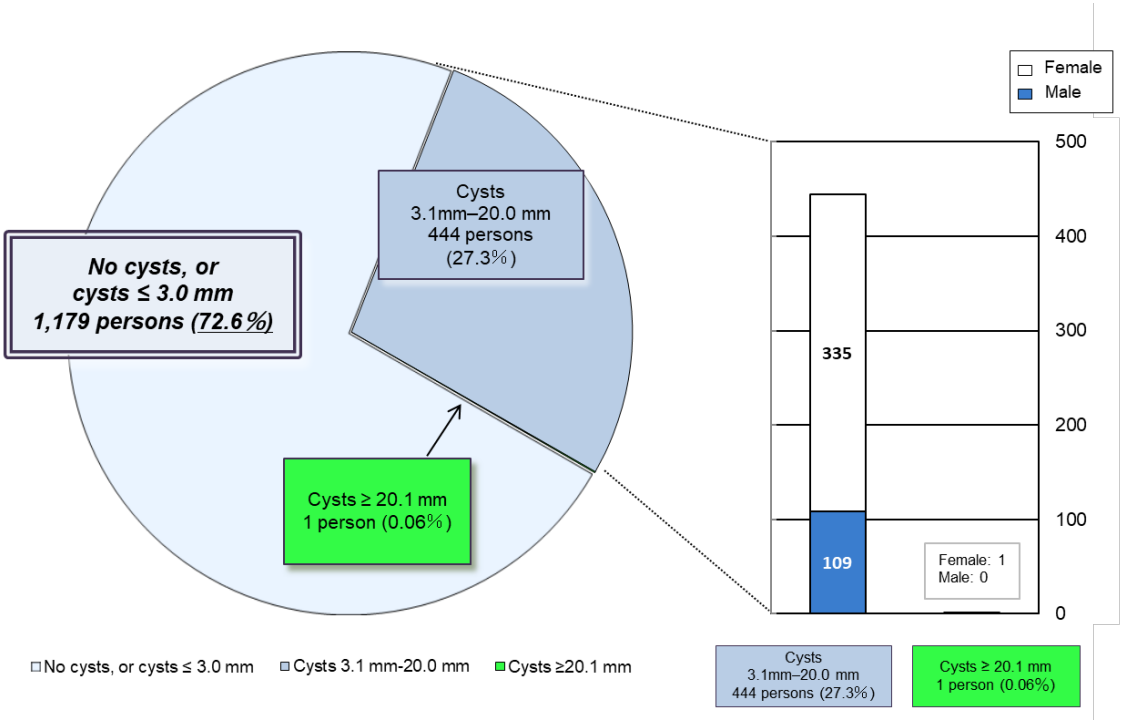


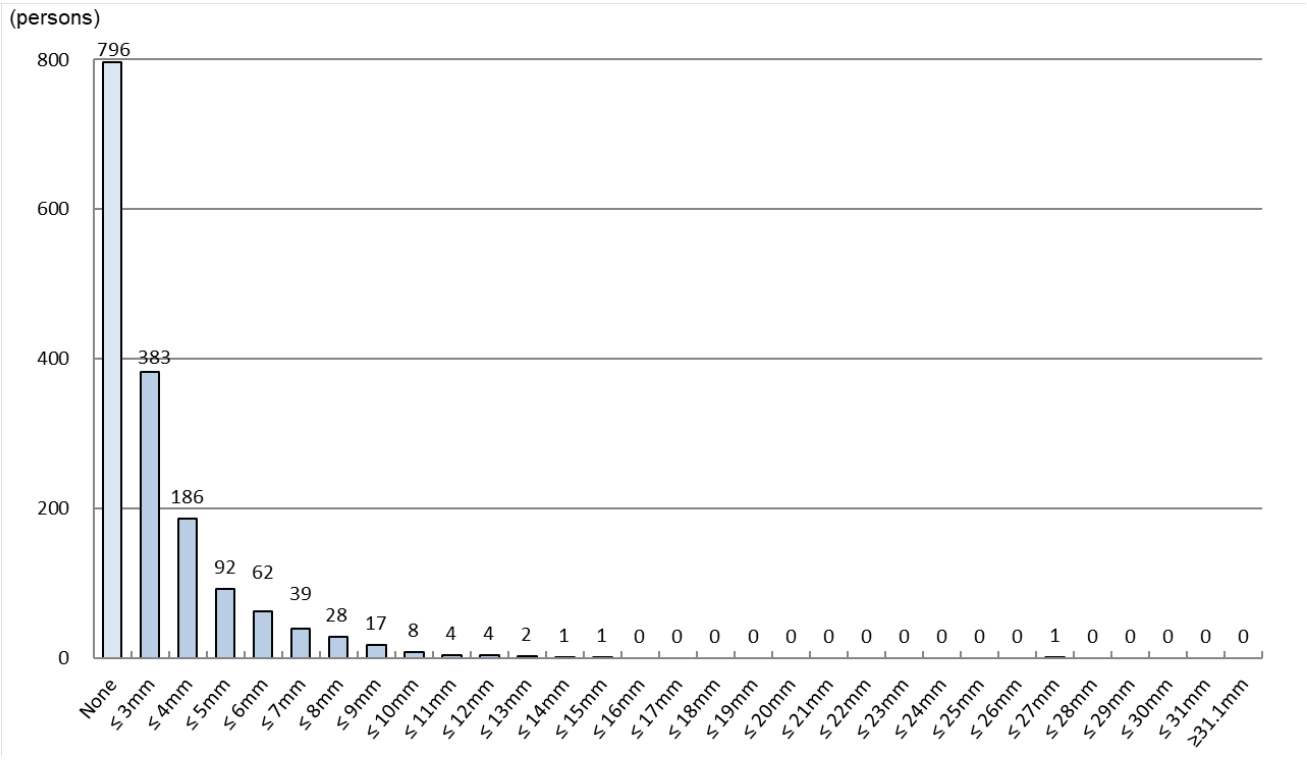
Appendix 4.3 Cyst characteristics

As of March 31, 2024

(persons)

Cyst size	Total	Male	Female	Grade	
None	796	273	523	A1	72.6%
≤ 3.0mm	383	95	288	A2	27.3%
3.1–5.0mm	278	74	204		
5.1–10.0mm	154	35	119		
10.1–15.0mm	12	0	12		
15.1–20.0mm	0	0	0		
20.1–25.0mm	0	0	0	B	0.06%
≥ 25.1mm	1	0	1		
Total	1,624	477	1,147		





Appendix 5 Surgical cases for malignancy or suspicion of malignancy

Among those who underwent the Age 30 Survey:

- Malignant or suspicious for malignancy 6
  - Surgical cases 4
  - Papillary thyroid carcinomas 4