Report on the Thyroid Ultrasound Examination (TUE)
Full-Scale Survey (the fourth-round survey)

As of June 30, 2022

1. Summary

1.1 Purpose

In order to monitor the long-term health of children, we conducted another Full-Scale Survey (the fourth-round survey), following the Preliminary Baseline Survey for background assessment of thyroid glands, and two Full-Scale Surveys (the second- and third-round surveys) to continuously monitor thyroid gland status.

1.2 Eligible Persons

All residents in Fukushima 18 years old and younger at the time of the Earthquake (all those residents who were born between April 2, 1992 and April 1, 2012)

1.3 Implementation Period

FY2018 and FY2019, starting in April 2018:

1.3-1 For those 18 years old or younger

The examination will be carried out on a municipality-by-municipality basis in FY2018 and FY2019.

1.3-2 For those 19 years old or older

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

In FY2018: those born in FY1996 and FY1998

In FY2019: those born in FY1997 and FY1999

1.3-3 For those 25 years old and older

For those who are older than 20 years, it is recommend to take TUE every 5 years at ages that are multiples of 5 (i.e., 25, 30, …)

In FY2018: those born in FY1993

In FY2019: those born in FY1994

1.4 Responsible Organizations and Implementing Medical Facilities and Institutions (as of June 30, 2022)

The Fukushima Prefectural Government entrusts Fukushima Medical University (FMU) to conduct the Survey. For the convenience of participants, FMU has Agreements of Cooperation with medical institutions and facilities outside of Fukushima prefecture.

1.4-1 Primary examination facilities

Within Fukushima Prefecture	85 medical facilities and institutions
Other Prefectures	130 medical facilities and institutions

1.4-2 Confirmatory examination facilities

Within Fukushima Prefecture	5 medical facilities and institutions including FMU
Other Prefectures	37 medical facilities and institutions

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 and/or cysts ≤ 20.0 mm

- Grade B

  Nodules ≥ 5.1 mm and/or cysts ≥ 20.1 mm

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

- Grade C

  Prompt confirmatory examination warranted, based on the judgement of initial results.

1.5-2 Confirmatory examination

The examination includes ultrasonography of the thyroid gland, blood and urine tests for those with Grade B or C results, and if necessary, additional Fine Needle Aspiration Cytology (FNAC) will be performed.

Priority is given to those in urgent clinical need. A medical follow-up may be recommended based on the confirmatory examination results.

1.5-3 Thyroid Examination Flow chart

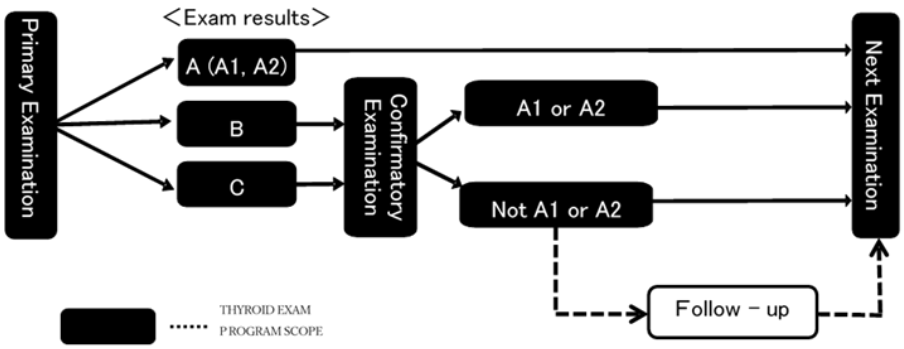
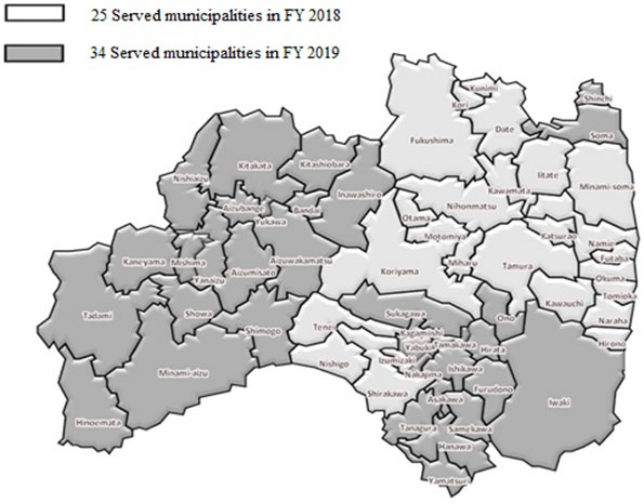


Fig 1. Flow Chart

1.6 Municipalities Surveyed

The municipalities where examinations (for those 18 years old or younger) were carried out in FY2018 and FY2019 are as follows:



Note: Primary examinations that had been scheduled in March 2020 at elementary and junior high schools in Iwaki City were postponed due to the COVID-19 pandemic.
These examinations were rescheduled and carried out in September and October of 2020.

Fig.2 Municipalities surveyed in FY2018 and FY2019

2 Results as of June 30, 2022

2-1 Results of the Primary Examination

2.1-1 Implementation Status

The examination was carried out for 183,410 (62.3%) participants by June 30, 2022. (Implementation status for each municipality and prefectures other than Fukushima are shown in Appendix 1 and Appendix 2.)

Results of 183,410 participants (100.0%) have been finalized and individual result reports were sent out. (The result for each municipality is shown in Appendix 3.)

Of these, 61,712 (33.6%) had Grade A1 results, 120,304 (65.6%) had Grade A2, 1,394 (0.8%) had Grade B, and none had Grade C.

Table 1 Progress and results of the primary examination

	Eligible Persons	Participants(%)		Participants with finalized results(%)				
			Other prefecture		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)
FY2018	168,023	108,002 (64.3)	7,233	108,002 (100.0)	36,895 (34.2)	70,401 (65.2)	706 (0.7)	0 (0.0)
FY2019	126,205	75,408 (59.8)	3,001	75,408 (100.0)	24,817 (32.9)	49,903 (66.2)	688 (0.9)	0 (0.0)
Total	294,228	183,410 (62.3)	10,234	183,410 (100.0)	61,712 (33.6)	120,304 (65.6)	1,394 (0.8)	0 (0.0)

Table 2 Number and percentage of participants with nodules/cysts

	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)
FY2018	108,002	702 (0.6)	369 (3.0)	4 (0.0)	70,758 (65.5)
FY2019	75,408	687 (0.9)	300 (0.4)	1 (0.0)	50,246 (66.6)
Total	183,410	1,389 (0.8)	669 (0.4)	5 (0.0)	121,004 (66.0)

- Percentages are rounded to a lower decimal place. This applies to other tables as well.
- Those born between FY1992 and FY1995 are excluded as they are eligible for the Age 25 Survey. Results for the Age 25 Survey participants will be reported separately.
- Examinations for those born in FY1992 (approx. 23,000), FY1993 (approx. 22,000), FY1994 (approx. 22,000), and FY1995 (approx. 21,000) were carried out in FY2017, FY2018, FY2019, and FY2020, respectively.

2.1-2 Participation rates by age group

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

Table 3 Participation rates by age group

			Total	Age Group		
FY2018	Age Group			6-11	12-17	18-24
	Survey population	a	168,023	56,935	64,826	46,262
	Participants	b	108,002	49,638	52,673	5,691
	Participation Rate(%)	(b/a)	64.3	87.2	81.3	12.3
FY2019	Age Group			7-11	12-17	18-24
	Survey population	a	126,205	34,206	47,274	44,725
	Participants	b	75,408	30,187	39,253	5,968
	Participation Rate(%)	(b/a)	59.8	88.3	83.0	13.3
Total	Survey population	a	294,228	91,141	112,100	90,987
	Participants	b	183,410	79,825	91,926	11,659
	Participation Rate(%)	(b/a)	62.3	87.6	82.0	12.8

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

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

Table 4 is the comparison chart for the results of two Full-Scale Surveys (third- and fourth-round surveys).

Among 163,681 participants with Grade A1 or A2 results in the third-round survey, 163,002 (99.6%) had Grade A1 or A2 results, and 679 (0.4%) had Grade B results in the fourth-round survey.

Among 732 participants with Grade B results in the third-round survey, 148 (20.2%) had Grade A1 or A2 results, and 584 (79.8%) had Grade B results in the fourth-round survey

Table 4 Comparison of the 3rd and 4th round survey results

			Results of the third-round survey*	Results of the fourth-round survey**			
				A1		B	C
				A1	A2		
			a (%)	b (b/a)	c (c/a)	d (d/a)	e (e/a)
Results of the third-round survey	A	A1	56,482 (100.0)	42,756 (75.7)	13,619 (24.1)	107 (0.2)	0 (0.0)
		A2	107,199 (100.0)	11,281 (10.5)	95,346 (88.9)	572 (0.5)	0 (0.0)
	B		732 (100.0)	12 (1.6)	136 (18.6)	584 (79.8)	0 (0.0)
	C		0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
	Not Participated		18,997 (100.0)	7,663 (40.3)	11,203 (59.0)	131 (0.7)	0 (0.0)
Total			183,410 (100.0)	61,712 (33.6)	120,304 (65.6)	1,394 (0.8)	0 (0.0)

* The number for Results of the third-round survey is the number from fourth-round survey participants with finalized results, not the breakdown of all third-round survey participants.

** Results of the fourth-round survey participants who were diagnosed with each grade in the third-round survey.

2.2 Results of the Confirmatory Examination

2.2-1 Implementation status

By June 30, 2022, 1,036 out of 1,394 people (74.3%) have had the examination. Of those, 1,016 (98.1%) completed the entire process of the confirmatory examination. (Table 5 shows the progress and results of the confirmatory examination.)

Of the aforementioned 1,016 participants, 94 (9.3%) were confirmed to meet Grade A diagnostic criteria by the primary examination standards (A1: 6, A2: 88) (including those with other thyroid disease). The remaining 922 (90.7%) were confirmed to be outside of A1/A2 criteria.

	Those referred to confirmatory exams	Participants (%)		Those with finalized results (%)									
						A1		A2		Not A1 or A2			
												FNAC	
	a	b	(b/a)	c	(c/b)	d	(d/c)	e	(e/c)	f	(f/c)	g	(g/f)
FY2018	706	525	(74.4)	516	(98.3)	3	(0.6)	46	(8.9)	467	(90.5)	48	(10.3)
FY2019	688	511	(74.3)	500	(97.8)	3	(0.6)	42	(8.4)	455	(91.0)	43	(9.5)
Total	1,394	1,036	(74.3)	1,016	(98.1)	6	(0.6)	88	(8.7)	922	(90.7)	91	(9.9)

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

Among those who had FNAC, 39 had nodules classified as malignant or suspicious for malignancy: 17 of them were male, and 22 were female.

Participants' age at the time of their confirmatory examination ranged from 9 to 24 years (mean age: 17.0 ± 3.1 years). The minimum and maximum tumor diameters were 6.1 mm and 29.4 mm and mean tumor diameter was 13.1 ± 6.3 mm.

Of those 39 participants, 26 had Grade A results (A1: 6, A2: 20) and 9 had Grade B results in the third-round survey. The remaining 4 participants did not undergo the third-round survey.

Table 6 Results of FNAC

A. Municipalities surveyed in FY 2018
- ·Malignant or suspicious for malignancy: 22*)
- ·Male to female ratio: 11:11
- ·Mean age (SD, min-max): 16.9 (3.5, 11-24), 8.5 (3.1, 2-14) at the time of disaster
- ·Mean tumor size: 11.7 mm (5.1 mm, 6.9-29.4 mm)

B. Municipalities surveyed in FY 2019
- ·Malignant or suspicious for malignancy: 17*)
- ·Male to female ratio: 6:11
- ·Mean age (SD, min-max): 17.1 (2.7, 9-20), 8.1 (2.8, 0-12) at the time of disaster
- ·Mean tumor size: 14.9 mm (7.3 mm, 6.1-29.0 mm)

C. Total
- ·Malignant or suspicious for malignancy:39 *)
- ·Male to female ratio: 17:22
- ·Mean age (SD, min-max): 17.0 (3.1, 9-24), 8.3 (2.9, 0-14) at the time of disaster
- ·Mean tumor size: 13.1 mm (6.3 mm, 6.1-29.4 mm)

*) Appendix 6 shows surgery cases

2.2-3 Age distribution of malignant or suspicious-for-malignancy cases diagnosed by FNAC.

Age distributions of 39 people with malignant or suspicious nodules based on their age as of March 11, 2011 is per Fig. 3, and age distribution based on their actual age at the time of confirmatory examination is per Fig. 4.

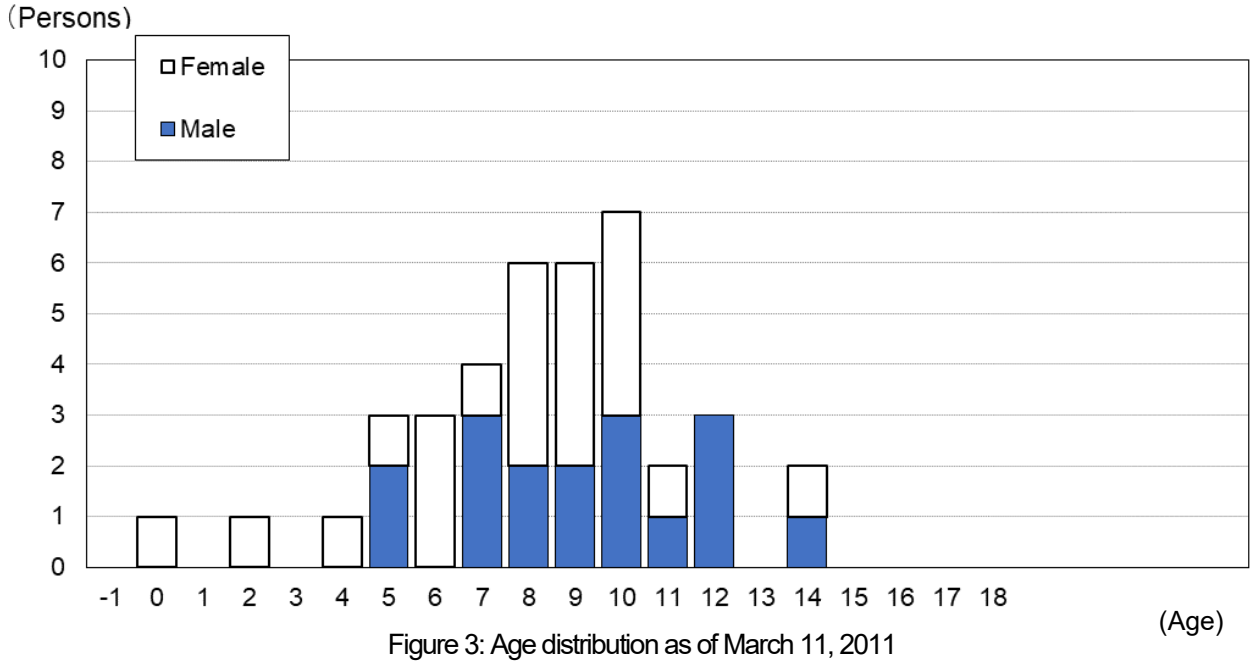


Figure 3: Age distribution as of March 11, 2011

*Participants who are 15 to 18 years of age excluded from the 4th round survey.
*The age -1 refers to the participants who were born between April 2, 2011 and April 1, 2013. The age 0 includes those who were born between March 12, 2011 and April 1, 2011.

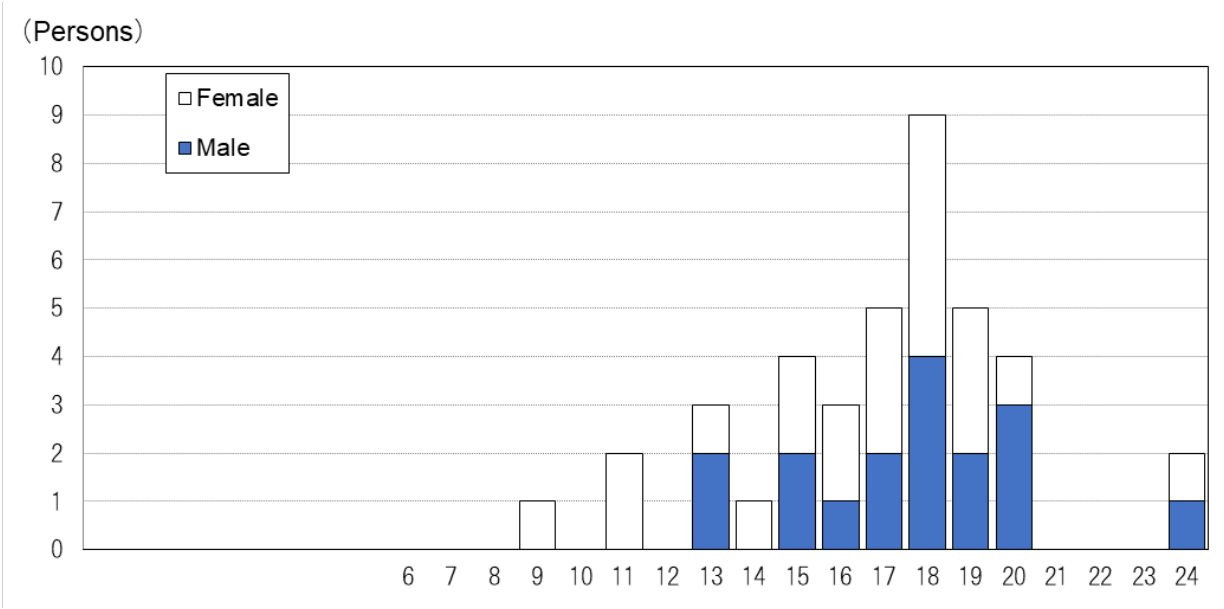


Figure 4: Age distribution as of confirmatory examination

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

Of the 39 people with malignant or suspicious nodules, 19 people (48.7%) had responded in the Basic Survey (for external radiation dose estimation), and all 19 received their own results. The highest effective dose documented was 2.4 mSv.

Table 7: Details of estimated doses of Basic Survey responders with malignant or suspicious-for-malignancy cases.

Effective dose (mSv)	Age at the time of disaster									
	0-5		6-10		11-15		16-18		Total	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
< 1	0	2	3	4	0	0	0	0	3	6
1-1.9	0	0	2	1	2	0	0	0	4	1
2-4.9	2	0	0	2	1	0	0	0	3	2
5-9.9	0	0	0	0	0	0	0	0	0	0
10-19.9	0	0	0	0	0	0	0	0	0	0
≥20	0	0	0	0	0	0	0	0	0	0
Total	2	2	5	7	3	0	0	0	10	9

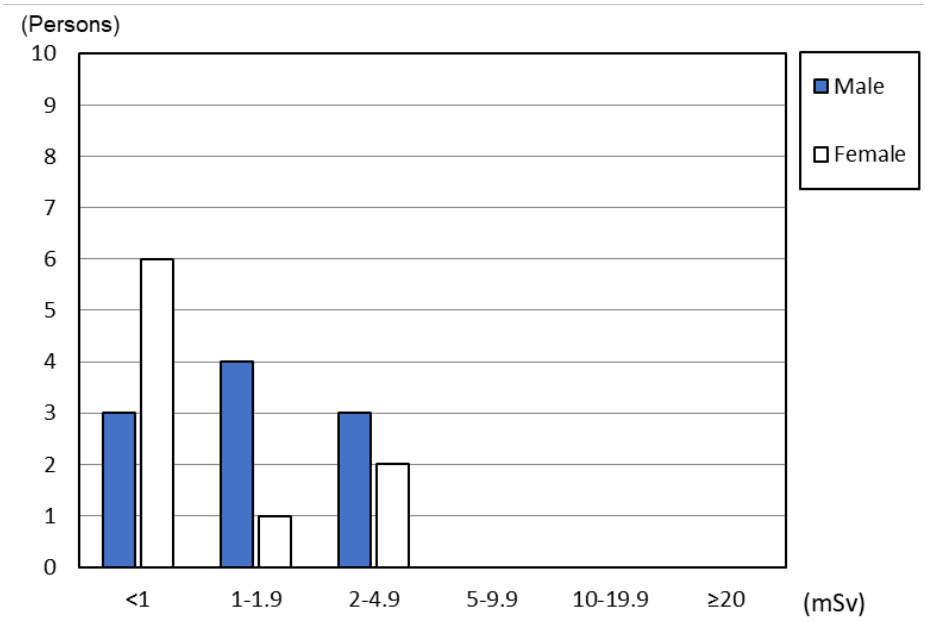


Figure 5: Effective doses of Basic Survey responders

2.2-5 Blood and urinary iodine test results

Table 8: Blood test results — Mean ± SD (percentage outside the reference range)

	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 39 participants	1.3±0.1 (2.6%)	3.5±0.5 (0.0%)	1.3±0.7 (2.6%)	32.7±51.8 (25.6%)	38.5%	25.6%
Other 934 participants	1.2±0.2 (5.0%)	3.5±0.7 (6.9%)	1.2±0.8 (7.7%)	32.9±113.3 (16.8%)	6.9%	6.9%

Table 9: Urinary iodine test results (μg/day)

	Minimum	25th percentile	Median	75th percentile	Maximum
Malignant or suspicious 39 participants	35	93	189	415	1,783
Other 923 participants	32	119	192	345	31,920

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 iodine; higher among patients with thyrotoxicosis (such as Graves' disease) and lower with hypothyroidism (such as Hashimoto's thyroiditis).
3) TSH: thyroid-stimulating hormone; higher among patients with Hashimoto's disease and lower with Graves' disease.
4) Tg: thyroglobulin; higher when thyroid tissue is destroyed or when neoplastic tissue produces thyroglobulin.
5) TgAb: anti-thyroglobulin antibody; higher among patients with Hashimoto's disease and Graves' disease.
6) TPOAb: anti-thyroid peroxidase antibody; higher among patients with Hashimoto's disease or Graves' disease.
7) Reference interval varies by age.

2.2-6 Confirmatory examination results by area

The percentage of those with malignant or suspicious nodules was 0.03% in Hamadori, 0.02% in Nakadori and Aizu, and 0.01% in the 13 municipalities of the designated evacuation zone.

Table 10 Confirmatory examination results by the area

	Numbers of participants a	Those referred to confirmatory exam b	Percentage (%) b/a	Confirmatory exam participants	Malignant or suspicious c	Percentage (%) c/a
13 municipalities [1]	22,565	151	0.7	123	2	0.01
Nakadori [2]	104,145	712	0.7	517	23	0.02
Hamadori [3]	33,765	324	1.0	245	9	0.03
Aizu [4]	22,935	207	0.9	151	5	0.02
Total	183,410	1,394	0.8	1,036	39	0.02

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

3. Mental Health Care Support

We provide the following support for thyroid examination participants.

3.1 Support for Primary Examination Participants

After the examination, medical doctors explain the results, showing ultrasound images in the private consultation booths set up at examination venues.

Those consultation booths have been set up and utilized at all examination venues since April 2018, and as of June 30, 2,654 participants (100%) of 2,655 have visited for consultation.

3.2 On-location Lectures and Information Sessions

To help participants and/or their parents and guardians deepen understanding of the thyroid examination, we have been conducting on-location lectures and information sessions since April 2018. By March 31, 2020, a total of 1,063 people had participated in these sessions, offered at 32 locations.

3.3 Support for Confirmatory Examination Participants

A support team has been launched at Fukushima Medical University to address anxieties and concerns of confirmatory examination participants. The team also answers any questions and offers on-line counseling as well.

Since the start of the fourth-round survey, 483 participants (163 males and 320 females) have received support as of June 30, 2022. The total number of support sessions provided was 959. Of these, 480 (50.1%) received support at the first examination and 479 (49.9%) at subsequent examinations.

For those who proceed to national health insurance medical care after their examinations, the support team continues to provide support in cooperation with medical staff at participating hospitals.

Appendix 1

Implementation status of the TUE primary examination by municipality

As of June 30, 2022

	Number of eligible persons	Participants		Participation %	Number of participants and participation rate by age group [2]			Participants reside outside Fukushima	%
			participation outside Fukushima [1]		6-11	12-17	18-24		
	a	b		b/a				c	c/b
Municipalities surveyed in FY2018									
Kawamata	1,832	1,135	26	62.0	472	576	87	68	6.0
					41.6	50.7	7.7		
Namie	2,858	1,520	311	53.2	587	718	215	383	25.2
					38.6	47.2	14.1		
Iitate	852	544	19	63.8	220	279	45	40	7.4
					40.4	51.3	8.3		
Minamisoma	10,201	6,008	845	58.9	2,495	2,980	533	1,000	16.6
					41.5	49.6	8.9		
Date	8,781	5,929	194	67.5	2,333	3,042	554	244	4.1
					39.3	51.3	9.3		
Tamura	5,435	3,425	71	63.0	1,515	1,640	270	139	4.1
					44.2	47.9	7.9		
Hirono	801	448	35	55.9	183	215	50	45	10.0
					40.8	48.0	11.2		
Naraha	1,094	598	50	54.7	220	296	82	63	10.5
					36.8	49.5	13.7		
Tomioka	2,340	1,194	198	51.0	445	571	178	232	19.4
					37.3	47.8	14.9		
Kawauchi	267	152	10	56.9	55	85	12	14	9.2
					36.2	55.9	7.9		
Okuma	2,020	1,139	211	56.4	442	551	146	238	20.9
					38.8	48.4	12.8		
Futaba	978	364	63	37.2	146	179	39	71	19.5
					40.1	49.2	10.7		
Katsurao	174	109	3	62.6	39	57	13	9	8.3
					35.8	52.3	11.9		
Fukushima	43,240	29,067	1,854	67.2	11,774	14,384	2,909	2,053	7.1
					40.5	49.5	10.0		
Nihonmatsu	8,104	5,475	205	67.6	2,275	2,780	420	213	3.9
					41.6	50.8	7.7		
Motomiya	4,910	3,202	101	65.2	1,401	1,564	237	129	4.0
					43.8	48.8	7.4		
Otama	1,285	918	26	71.4	416	440	62	21	2.3
					45.3	47.9	6.8		
Koriyama	52,558	33,390	2,539	63.5	13,495	16,706	3,189	2,748	8.2
					40.4	50.0	9.6		
Koori	1,609	1,130	32	70.2	465	545	120	45	4.0
					41.2	48.2	10.6		
Kunimi	1,204	810	18	67.3	296	432	82	29	3.6
					36.5	53.3	10.1		
Tenei	839	525	8	62.6	224	262	39	12	2.3
					42.7	49.9	7.4		
Shirakawa	9,970	6,522	276	65.4	2,624	3,294	604	345	5.3
					40.2	50.5	9.3		
Nishigo	3,263	2,214	96	67.9	920	1,083	211	117	5.3
					41.6	48.9	9.5		
Izumizaki	1,025	668	5	65.2	277	336	55	8	1.2
					41.5	50.3	8.2		
Miharu	2,383	1,516	37	63.6	562	780	174	45	3.0
					37.1	51.5	11.5		
Subtotal	168,023	108,002	7,233	64.3	43,881	53,795	10,326	8,311	7.7
					40.6	49.8	9.6		

*1) The number of participants who received the examination at facilities outside Fukushima (as of May 31, 2022)

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

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

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

	Number of eligible persons	Participants	participation outside Fukushima [1]	Participation %	Number of participants and participation rate by age group [2]			Participants reside outside Fukushima	%
	a	b		b/a	6-11	12-17	18-24	c	c/b
Municipalities surveyed in FY2019									
Iwaki	49,643	29,893	1,673	60.2	9,471	16,105	4,317	1,918	6.4
					31.7	53.9	14.4		
Sukagawa	12,377	7,553	221	61.0	2,764	3,935	854	270	3.6
					36.6	52.1	11.3		
Soma	5,507	3,193	215	58.0	1,263	1,647	283	259	8.1
					39.6	51.6	8.9		
Kagamiishi	2,133	1,323	33	62.0	491	702	130	37	2.8
					37.1	53.1	9.8		
Shinchi	1,162	679	33	58.4	233	375	71	34	5.0
					34.3	55.2	10.5		
Nakajima	849	505	8	59.5	192	265	48	9	1.8
					38.0	52.5	9.5		
Yabuki	2,671	1,687	28	63.2	727	837	123	42	2.5
					43.1	49.6	7.3		
Ishikawa	2,182	1,349	26	61.8	543	677	129	45	3.3
					40.3	50.2	9.6		
Yamatsuri	816	480	15	58.8	213	238	29	19	4.0
					44.4	49.6	6.0		
Asakawa	1,064	661	22	62.1	238	360	63	29	4.4
					36.0	54.5	9.5		
Hirata	969	608	8	62.7	245	308	55	8	1.3
					40.3	50.7	9.0		
Tanagura	2,399	1,469	32	61.2	589	782	98	40	2.7
					40.1	53.2	6.7		
Hanawa	1,299	707	16	54.4	289	371	47	25	3.5
					40.9	52.5	6.6		
Samekawa	519	307	7	59.2	137	156	14	7	2.3
					44.6	50.8	4.6		
Ono	1,487	879	9	59.1	354	448	77	13	1.5
					40.3	51.0	8.8		
Tamakawa	1,052	658	4	62.5	253	357	48	7	1.1
					38.4	54.3	7.3		
Furudono	817	522	20	63.9	208	251	63	16	3.1
					39.8	48.1	12.1		
Hinoemata	87	36	1	41.4	16	16	4	1	2.8
					44.4	44.4	11.1		
Minamiaizu	2,128	1,170	19	55.0	482	605	83	38	3.2
					41.2	51.7	7.1		
Kaneyama	147	72	1	49.0	21	41	10	2	2.8
					29.2	56.9	13.9		
Showa	115	68	3	59.1	31	33	4	3	4.4
					45.6	48.5	5.9		
Mishima	148	84	0	56.8	29	50	5	0	0.0
					34.5	59.5	6.0		
Shimogo	747	427	5	57.2	179	222	26	14	3.3
					41.9	52.0	6.1		
Kitakata	6,948	4,100	82	59.0	1,489	2,224	387	127	3.1
					36.3	54.2	9.4		
Nishiaizu	761	408	10	53.6	169	190	49	15	3.7
					41.4	46.6	12.0		
Tadami	555	335	6	60.4	138	170	27	8	2.4
					41.2	50.7	8.1		
Inawashiro	2,069	1,204	28	58.2	507	593	104	38	3.2
					42.1	49.3	8.6		
Bandai	477	289	8	60.6	109	157	23	9	3.1
					37.7	54.3	8.0		
Kitashiobara	445	280	3	62.9	115	145	20	6	2.1
					41.1	51.8	7.1		
Aizumisato	2,823	1,725	33	61.1	634	896	195	52	3.0
					36.8	51.9	11.3		
Aizubange	2,402	1,422	39	59.2	540	724	158	48	3.4
					38.0	50.9	11.1		
Yanaizu	464	284	2	61.2	115	143	26	5	1.8
					40.5	50.4	9.2		
Aizuwakamatsu	18,424	10,680	385	58.0	3,889	5,589	1,202	505	4.7
					36.4	52.3	11.3		
Yugawa	519	351	6	67.6	123	178	50	13	3.7
					35.0	50.7	14.2		
Subtotal	126,205	75,408	3,001	59.8	26,796	39,790	8,822	3,662	4.9
					35.5	52.8	11.7		
Total	294,228	183,410	10,234	62.3	70,677	93,585	19,148	11,973	6.5
					38.5	51.0	10.4		

Appendix 2

Implementation status of the TUE examination conducted outside Fukushima, by prefecture

As of May 31, 2022

Prefecture	Number of medical facilities	Participants
Hokkaido	7	**279**
Aomori	2	**124**
Iwate	3	**250**
Miyagi	2	**2,256**
Akita	1	**156**
Yamagata	3	**472**
Ibaraki	4	**571**
Tochigi	8	**632**
Gunma	2	**174**
Saitama	4	**530**
Chiba	5	**471**
Tokyo	19	**1,727**
Kanagawa	7	**753**
Niigata	3	**448**
Toyama	2	**27**
Ishikawa	1	**35**

Prefecture	Number of medical facilities	Participants
Fukui	1	**18**
Yamanashi	2	**87**
Nagano	3	**123**
Gifu	1	**29**
Shizuoka	3	**83**
Aichi	5	**179**
Mie	1	**17**
shiga	1	**14**
Kyoto	3	**80**
Osaka	8	**174**
Hyogo	2	**124**
Nara	2	**24**
Wakayama	1	**9**
Tottori	1	**7**
Shimane	1	**11**
Okayama	3	**47**

Prefecture	Number of medical facilities	Participants
Hiroshima	2	**27**
Yamaguchi	1	**21**
Tokushima	1	**5**
Kagawa	1	**25**
Ehime	1	**15**
Kochi	1	**11**
Fukuoka	3	**73**
Saga	1	**1**
Nagasaki	3	**25**
Kumamoto	1	**28**
Oita	1	**13**
Miyazaki	1	**20**
Kagoshima	1	**5**
Okinawa	1	**34**
Total	130	**10,234**

The number of participants who received examinations at medical facilities outside Fukushima.

Appendix 3

TUE primary examination results by municipality

As of June 30, 2022

	Number of participants	Those with finalized results b	Number of participants by grade				Number of participants with nodules		Number of participants with cysts	
		%	%				%		%	
		%	A1		B	C				
	a	b/a	A1	A2			≥5.1mm	≤ 5.0mm	≥20.1mm	≤ 20.0mm
Municipalities surveyed in FY2018										
Kawamata	1,135	1,135	408	722	5	0	4	3	1	726
		100.0	35.9	63.6	0.4	0.0	0.4	0.3	0.1	64.0
Namie	1,520	1,520	499	1,007	14	0	14	6	0	1,012
		100.0	32.8	66.3	0.9	0.0	0.9	0.4	0.0	66.6
Iitate	544	544	203	337	4	0	4	2	0	340
		100.0	37.3	61.9	0.7	0.0	0.7	0.4	0.0	62.5
Minamisoma	6,008	6,008	2,117	3,847	44	0	44	29	0	3,863
		100.0	35.2	64.0	0.7	0.0	0.7	0.5	0.0	64.3
Date	5,929	5,929	2,043	3,851	35	0	35	19	0	3,872
		100.0	34.5	65.0	0.6	0.0	0.6	0.3	0.0	65.3
Tamura	3,425	3,425	1,271	2,132	22	0	22	10	0	2,142
		100.0	37.1	62.2	0.6	0.0	0.6	0.3	0.0	62.5
Hirono	448	448	169	273	6	0	6	3	0	273
		100.0	37.7	60.9	1.3	0.0	1.3	0.7	0.0	60.9
Naraha	598	598	208	388	2	0	2	1	0	388
		100.0	34.8	64.9	0.3	0.0	0.3	0.2	0.0	64.9
Tomioka	1,194	1,194	423	764	7	0	7	4	0	766
		100.0	35.4	64.0	0.6	0.0	0.6	0.3	0.0	64.2
Kawauchi	152	152	45	105	2	0	2	0	0	107
		100.0	29.6	69.1	1.3	0.0	1.3	0.0	0.0	70.4
Okuma	1,139	1,139	392	739	8	0	8	5	0	746
		100.0	34.4	64.9	0.7	0.0	0.7	0.4	0.0	65.5
Futaba	364	364	110	253	1	0	1	0	0	254
		100.0	30.2	69.5	0.3	0.0	0.3	0.0	0.0	69.8
Katsurao	109	109	34	74	1	0	1	0	0	74
		100.0	31.2	67.9	0.9	0.0	0.9	0.0	0.0	67.9
Fukushima	29,067	29,067	10,021	18,871	175	0	174	94	1	18,958
		100.0	34.5	64.9	0.6	0.0	0.6	0.3	0.0	65.2
Nihonmatsu	5,475	5,475	1,912	3,510	53	0	52	20	1	3,540
		100.0	34.9	64.1	1.0	0.0	0.9	0.4	0.0	64.7
Motomiya	3,202	3,202	1,124	2,064	14	0	14	8	0	2,066
		100.0	35.1	64.5	0.4	0.0	0.4	0.2	0.0	64.5
Otama	918	918	305	606	7	0	7	2	0	609
		100.0	33.2	66.0	0.8	0.0	0.8	0.2	0.0	66.3
Koriyama	33,390	33,390	10,985	22,189	216	0	215	116	1	22,303
		100.0	32.9	66.5	0.6	0.0	0.6	0.3	0.0	66.8
Koori	1,130	1,130	400	723	7	0	7	2	0	726
		100.0	35.4	64.0	0.6	0.0	0.6	0.2	0.0	64.2
Kunimi	810	810	261	540	9	0	9	1	0	547
		100.0	32.2	66.7	1.1	0.0	1.1	0.1	0.0	67.5
Tenei	525	525	192	329	4	0	4	2	0	333
		100.0	36.6	62.7	0.8	0.0	0.8	0.4	0.0	63.4
Shirakawa	6,522	6,522	2,277	4,203	42	0	42	26	0	4,223
		100.0	34.9	64.4	0.6	0.0	0.6	0.4	0.0	64.8
Nishigo	2,214	2,214	740	1,460	14	0	14	9	0	1,467
		100.0	33.4	65.9	0.6	0.0	0.6	0.4	0.0	66.3
Izumizaki	668	668	243	423	2	0	2	2	0	425
		100.0	36.4	63.3	0.3	0.0	0.3	0.3	0.0	63.6
Miharu	1,516	1,516	513	991	12	0	12	5	0	998
		100.0	33.8	65.4	0.8	0.0	0.8	0.3	0.0	65.8
Subtotal	108,002	108,002	36,895	70,401	706	0	702	369	4	70,758
		100.0	34.2	65.2	0.7	0.0	0.6	0.3	0.0	65.5

	Number of participants	Those with finalized results b	Number of participants by grade				Number of participants with nodules		Number of participants with cysts	
			%							
		%	A1		B	C	%		%	
	a	b/a	A1	A2			≥5.1mm	≤ 5.0mm	≥20.1mm	≤ 20.0mm
Municipalities surveyed in FY2019										
Iwaki	29,893	29,893	9,435	20,179	279	0	278	118	1	20,309
		100.0	31.6	67.5	0.9	0.0	0.9	0.4	0.0	67.9
Sukagawa	7,553	7,553	2,376	5,107	70	0	70	45	0	5,140
		100.0	31.5	67.6	0.9	0.0	0.9	0.6	0.0	68.1
Soma	3,193	3,193	1,058	2,095	40	0	40	11	0	2,122
		100.0	33.1	65.6	1.3	0.0	1.3	0.3	0.0	66.5
Kagamiishi	1,323	1,323	410	900	13	0	13	6	0	905
		100.0	31.0	68.0	1.0	0.0	1.0	0.5	0.0	68.4
Shinchi	679	679	229	445	5	0	5	3	0	448
		100.0	33.7	65.5	0.7	0.0	0.7	0.4	0.0	66.0
Nakajima	505	505	175	327	3	0	3	1	0	330
		100.0	34.7	64.8	0.6	0.0	0.6	0.2	0.0	65.3
Yabuki	1,687	1,687	613	1,066	8	0	8	7	0	1,070
		100.0	36.3	63.2	0.5	0.0	0.5	0.4	0.0	63.4
Ishikawa	1,349	1,349	460	875	14	0	14	4	0	883
		100.0	34.1	64.9	1.0	0.0	1.0	0.3	0.0	65.5
Yamatsuri	480	480	151	329	0	0	0	2	0	329
		100.0	31.5	68.5	0.0	0.0	0.0	0.4	0.0	68.5
Asakawa	661	661	211	443	7	0	7	3	0	444
		100.0	31.9	67.0	1.1	0.0	1.1	0.5	0.0	67.2
Hirata	608	608	235	371	2	0	2	2	0	372
		100.0	38.7	61.0	0.3	0.0	0.3	0.3	0.0	61.2
Tanagura	1,469	1,469	541	918	10	0	10	7	0	926
		100.0	36.8	62.5	0.7	0.0	0.7	0.5	0.0	63.0
Hanawa	707	707	267	435	5	0	5	2	0	436
		100.0	37.8	61.5	0.7	0.0	0.7	0.3	0.0	61.7
Samegawa	307	307	130	174	3	0	3	0	0	175
		100.0	42.3	56.7	1.0	0.0	1.0	0.0	0.0	57.0
Ono	879	879	273	597	9	0	9	1	0	604
		100.0	31.1	67.9	1.0	0.0	1.0	0.1	0.0	68.7
Tamagawa	658	658	243	404	11	0	11	2	0	410
		100.0	36.9	61.4	1.7	0.0	1.7	0.3	0.0	62.3
Furudono	522	522	202	318	2	0	2	2	0	317
		100.0	38.7	60.9	0.4	0.0	0.4	0.4	0.0	60.7
Hinoemata	36	36	12	24	0	0	0	0	0	24
		100.0	33.3	66.7	0.0	0.0	0.0	0.0	0.0	66.7
Minamiaizu	1,170	1,170	436	722	12	0	12	3	0	728
		100.0	37.3	61.7	1.0	0.0	1.0	0.3	0.0	62.2
Kaneyama	72	72	22	49	1	0	1	0	0	50
		100.0	30.6	68.1	1.4	0.0	1.4	0.0	0.0	69.4
Showa	68	68	23	45	0	0	0	0	0	45
		100.0	33.8	66.2	0.0	0.0	0.0	0.0	0.0	66.2
Mishima	84	84	21	62	1	0	1	0	0	63
		100.0	25.0	73.8	1.2	0.0	1.2	0.0	0.0	75.0
Shimogo	427	427	162	261	4	0	4	0	0	263
		100.0	37.9	61.1	0.9	0.0	0.9	0.0	0.0	61.6
Kitakata	4,100	4,100	1,409	2,659	32	0	32	22	0	2,667
		100.0	34.4	64.9	0.8	0.0	0.8	0.5	0.0	65.0
Nishiaizu	408	408	149	256	3	0	3	1	0	258
		100.0	36.5	62.7	0.7	0.0	0.7	0.2	0.0	63.2
Tadami	335	335	117	217	1	0	1	0	0	218
		100.0	34.9	64.8	0.3	0.0	0.3	0.0	0.0	65.1
Inawashiro	1,204	1,204	418	770	16	0	16	4	0	783
		100.0	34.7	64.0	1.3	0.0	1.3	0.3	0.0	65.0
Bandai	289	289	83	202	4	0	4	1	0	204
		100.0	28.7	69.9	1.4	0.0	1.4	0.3	0.0	70.6
Kitashiobara	280	280	96	182	2	0	2	0	0	184
		100.0	34.3	65.0	0.7	0.0	0.7	0.0	0.0	65.7
Aizumisato	1,725	1,725	553	1,156	16	0	16	8	0	1,160
		100.0	32.1	67.0	0.9	0.0	0.9	0.5	0.0	67.2
Aizubange	1,422	1,422	446	965	11	0	11	6	0	973
		100.0	31.4	67.9	0.8	0.0	0.8	0.4	0.0	68.4
Yanaizu	284	284	103	181	0	0	0	0	0	181
		100.0	36.3	63.7	0.0	0.0	0.0	0.0	0.0	63.7
Aizuwakamatu	10,680	10,680	3,616	6,964	100	0	100	36	0	7,017
		100.0	33.9	65.2	0.9	0.0	0.9	0.3	0.0	65.7
Yugawa	351	351	142	205	4	0	4	3	0	208
		100.0	40.5	58.4	1.1	0.0	1.1	0.9	0.0	59.3
Subtotal	75,408	75,408	24,817	49,903	688	0	687	300	1	50,246
		100.0	32.9	66.2	0.9	0.0	0.9	0.4	0.0	66.6
Total	183,410	183,410	61,712	120,304	1,394	0	1,389	669	5	121,004
		100.0	33.6	65.6	0.8	0.0	0.8	0.4	0.0	66.0

Appendix 4

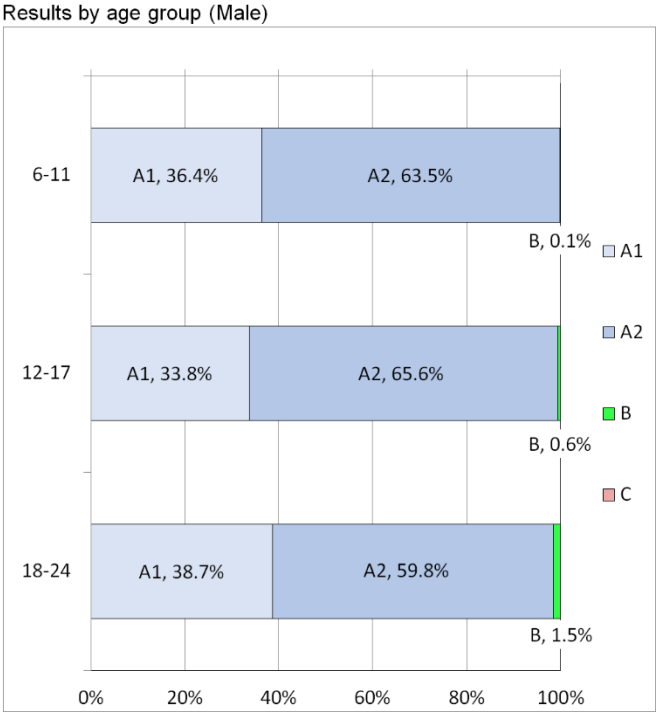
1 TUE primary examination results by age and gender

As of June 30, 2022

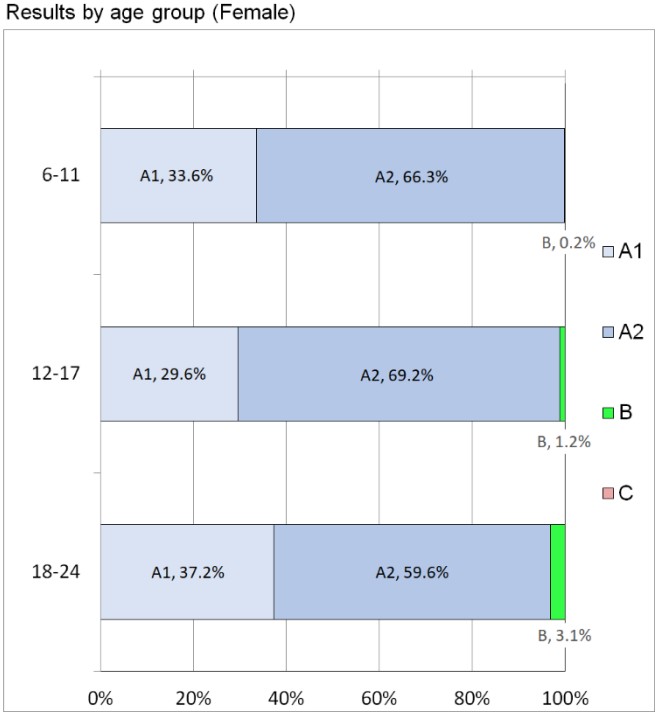
(Person)

Grade / Age group	A						B			C			合計		
	A1			A2											
	Male	Femal	Total	Male	Femal	Total	Male	Femal	Total	Male	Femal	Total	Male	Femal	Total
6-11	13,179	11,563	24,742	23,008	22,831	45,839	39	57	96	0	0	0	36,226	34,451	70,677
12-17	16,059	13,652	29,711	31,182	31,853	63,035	284	555	839	0	0	0	47,525	46,060	93,585
18-24	3,430	3,829	7,259	5,294	6,136	11,430	136	323	459	0	0	0	8,860	10,288	19,148
Total	32,668	29,044	61,712	59,484	60,820	120,304	459	935	1,394	0	0	0	92,611	90,799	183,410

Results by age group (Male)



Results by age group (Female)

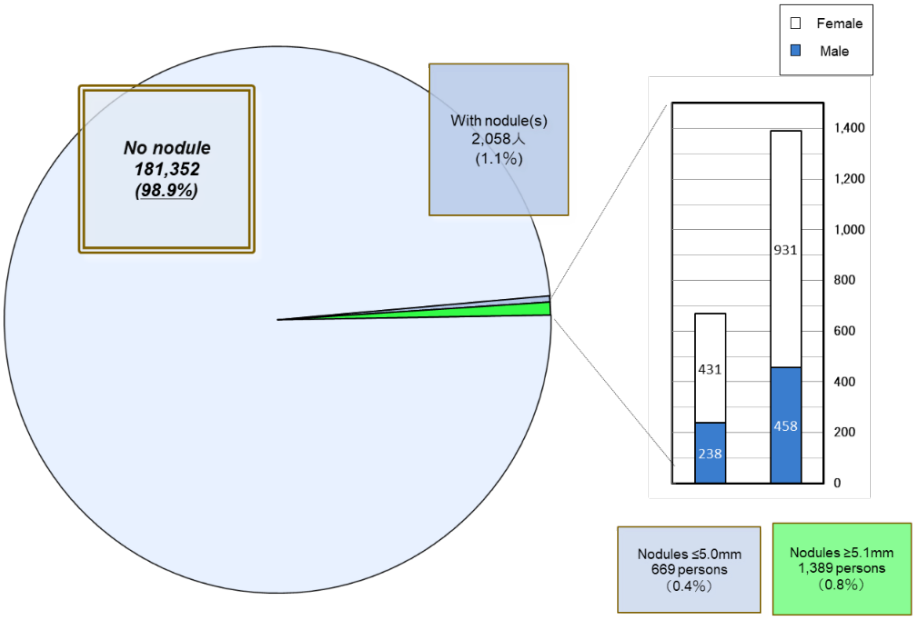


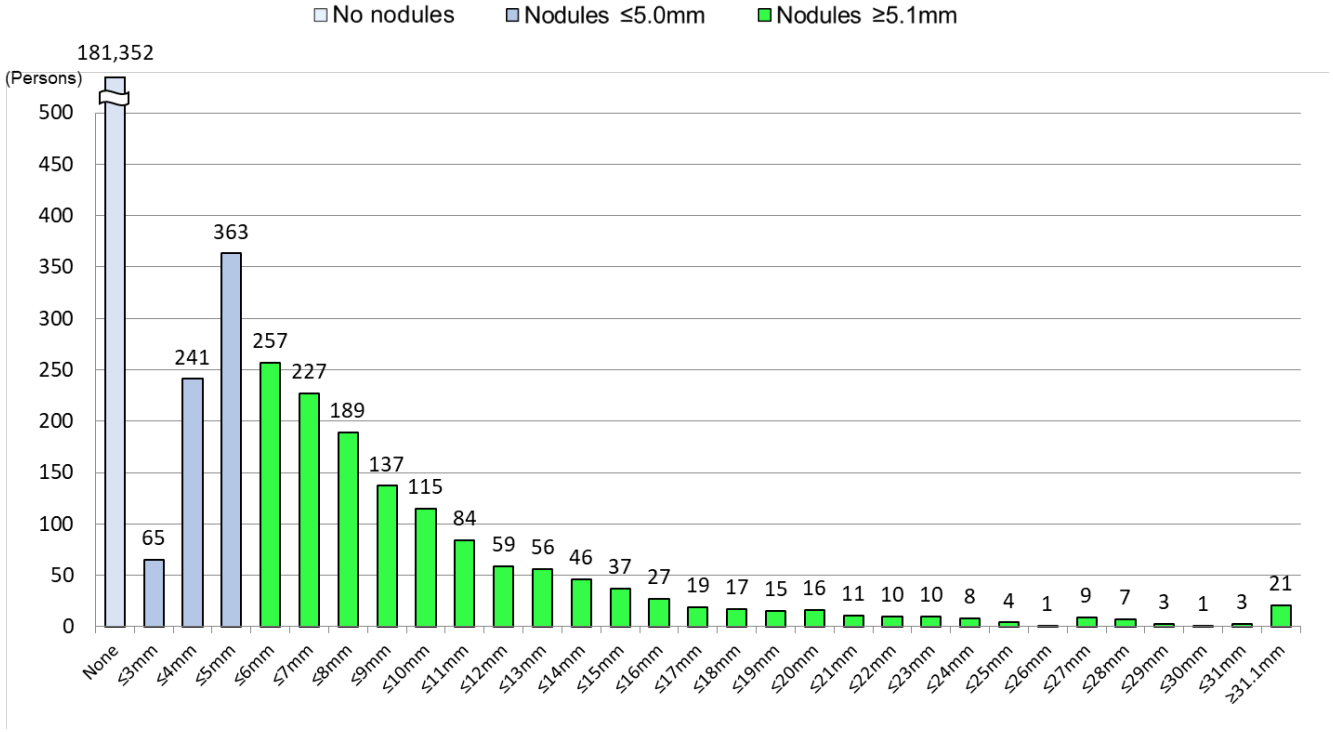
2 Nodule characteristics

As of June 30, 2022

(Persons)

Nodule size	Total	Male	Female	Grade	
None	181,352	91,915	89,437	A1	98.9%
≤3.00mm	65	31	34	A2	0.4%
3.1 - 5.0mm	604	207	397		
5.1 - 10.0mm	925	313	612	B	0.8%
10.1 - 15.0mm	282	94	188		
15.1 - 20.0mm	94	27	67		
20.1 - 25.0mm	43	13	30		
≥25.1mm	45	11	34		
Total	183,410	92,611	90,799		



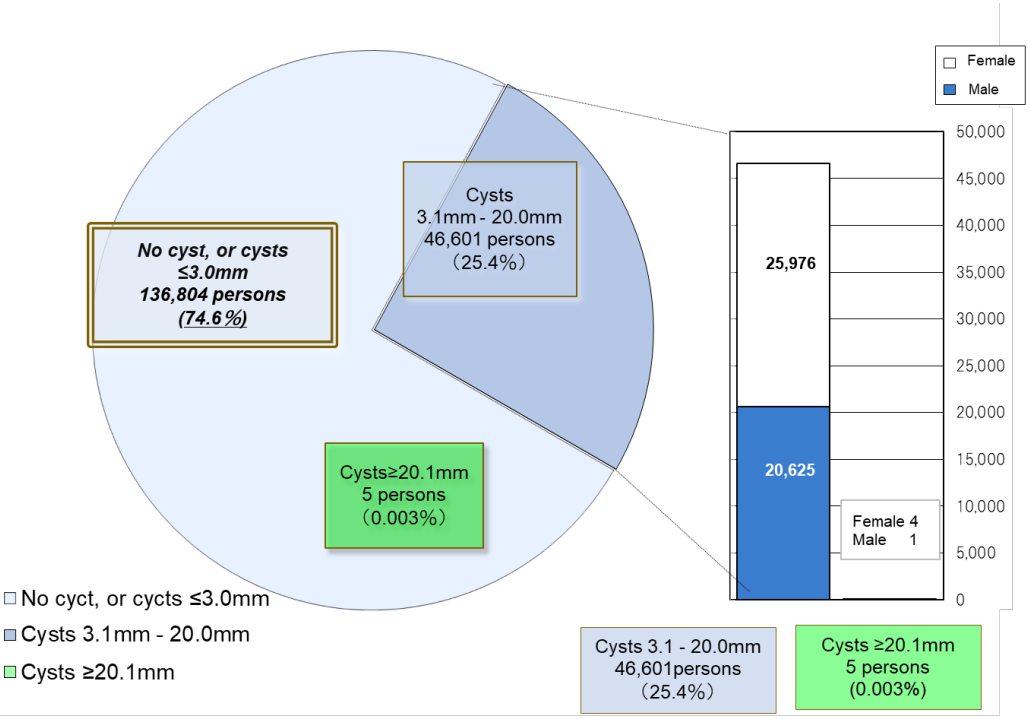


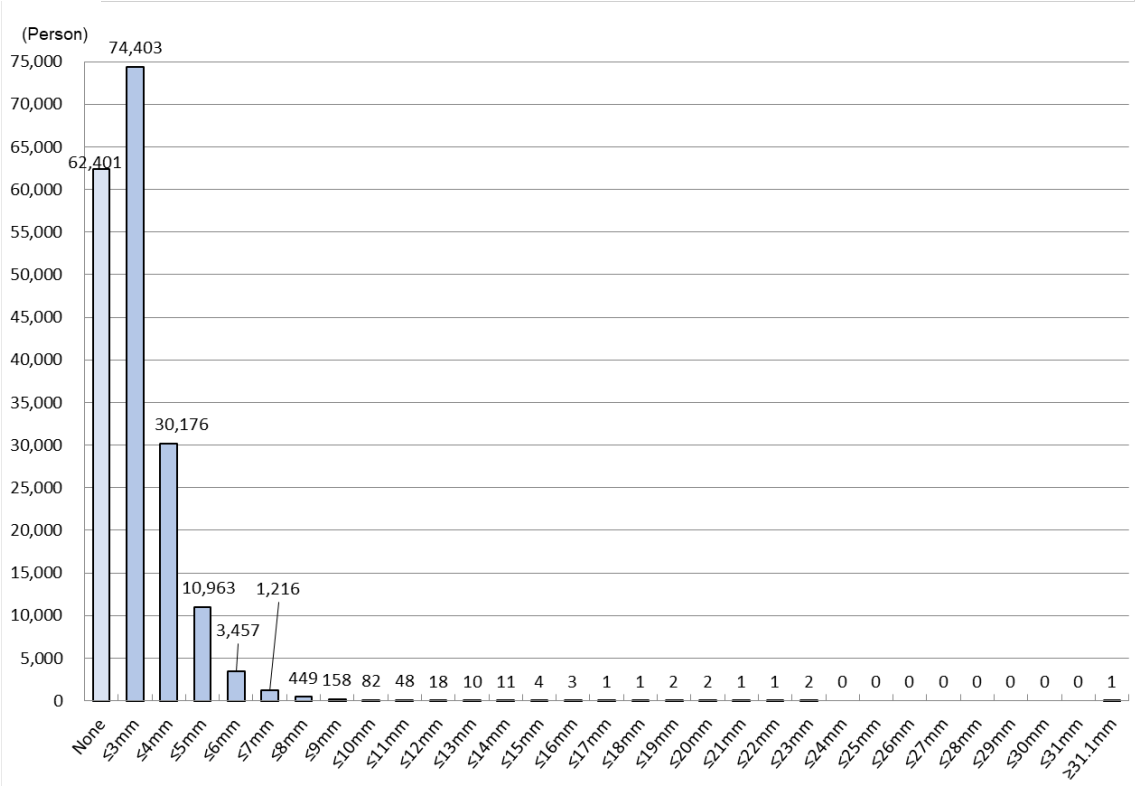
3 Cyst characteristics

As of June 30, 2022

(Persons)

Cyst size	Total	Male	Female	Grade	
None	62,401	32,920	29,481	A1	74.6%
≤3.0mm	74,403	39,065	35,338	A2	25.4%
3.1 - 5.0mm	41,139	18,684	22,455		
5.1 - 10.0mm	5,362	1,907	3,455		
10.1 - 15.0mm	91	33	58		
15.1 - 20.0mm	9	1	8		
20.1 - 25.0mm	4	0	4	B	0.003%
≥25.1mm	1	1	0		
計	183,410	92,611	90,799		





Appendix 5

Implementation status of the TUE confirmatory examination by area As of June 30, 2022

	Primary examination participants	Those referred to confirmatory examination	Confirmatory exam participants				Those with finalised results				
			Total	Age 6-11	Age 12-17	Age ≥18	Total	A1	A2	Not A1 or A2	FNAC
	a	b	c	d	e	f	g	h	i	j	k
		b/a	c/b	d/c	e/c	f/c	g/c	h/g	i/g	j/g	k/i
13 municipalities [1]	22,565	151	123	7	71	45	119	1	8	110	7
		0.7	81.5	5.7	57.7	36.6	96.7	0.8	6.7	92.4	6.4
Nakadori [2]	104,145	712	517	45	279	193	508	3	52	453	49
		0.7	72.6	8.7	54.0	37.3	98.3	0.6	10.2	89.2	10.8
Hamadori [3]	33,765	324	245	10	143	92	243	1	17	225	23
		1.0	75.6	4.1	58.4	37.6	99.2	0.4	7.0	92.6	10.2
Aizu [4]	22,935	207	151	7	82	62	146	1	11	134	12
		0.9	72.9	4.6	54.3	41.1	96.7	0.7	7.5	91.8	9.0
合計	183,410	1,394	1,036	69	575	392	1,016	6	88	922	91
		0.8	74.3	6.7	55.5	37.8	98.1	0.6	8.7	90.7	9.9

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

Appendix 6

Surgical cases for malignancy or suspicion of malignancy

1. Municipalities surveyed in FY2018
   Malignant or suspicious for malignancy: 22 (18 surgical cases: 18 papillary thyroid carcinomas)

2. Municipalities surveyed in FY2019
   Malignant or suspicious for malignancy: 17 (16 surgical case: 16 papillary thyroid carcinomas)

3. Total
   Malignant or suspicious for malignancy: 39 (34 surgical cases: 34 papillary thyroid carcinomas)

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

As of June 30, 2022

1. Summary

1.1 Purpose

In order to monitor the long-term health of children, we continued the Full-Scale Survey (now fifth-round survey), following the Preliminary Baseline Survey for initial assessment of thyroid glands, and three Full-Scale Surveys (second-, third-, and fourth-round surveys) to continuously monitor the status of thyroid glands.

1.2 Eligible Persons

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

1.3 Implementation Period

From FY2020 to FY2022, starting in April 2020.

1.3-1 For those 18 years old or younger

The examination implementation period covers 3 years, from FY2020 through FY2022.

1.3-2 For those 19 years old or older

The examination is carried out on an age group basis (i.e., school grade).

FY2020: those born in FY1998 and FY2000
FY2021: those born in FY1999 and FY2001
FY2022: N/A

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.

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

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

1.4 Implementing Organizations (Number of medical facilities and institutions with agreements for conducting thyroid examinations)

Fukushima Prefecture commissioned Fukushima Medical University (FMU) to conduct the survey in cooperation with organizations inside and outside Fukushima for the convenience of participants (the number of medical facilities shown below is as of June 30, 2022).

1.4-1 Primary examination facilities

Inside Fukushima Prefecture	85
Outside Fukushima Prefecture	130

1.4-2 Confirmatory examination facilities

Inside Fukushima Prefecture	5 including FMU
Outside Fukushima Prefecture	37

1.5 Methods

1.5-1 Primary examination

Ultrasonography of the thyroid gland.

Multiple specialists assess examination results 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
  Includes A2 results that need to be re-classified as Grade B for confirmatory examination.

-Grade C
  C: Prompt confirmatory examination warranted, based on clinical judgment of initial results.

1.5-2 Confirmatory examination

For those with B or C test results, this secondary examination includes ultrasonography of the thyroid gland, blood and urine tests, and Fine Needle Aspiration Cytology (FNAC, if necessary)
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

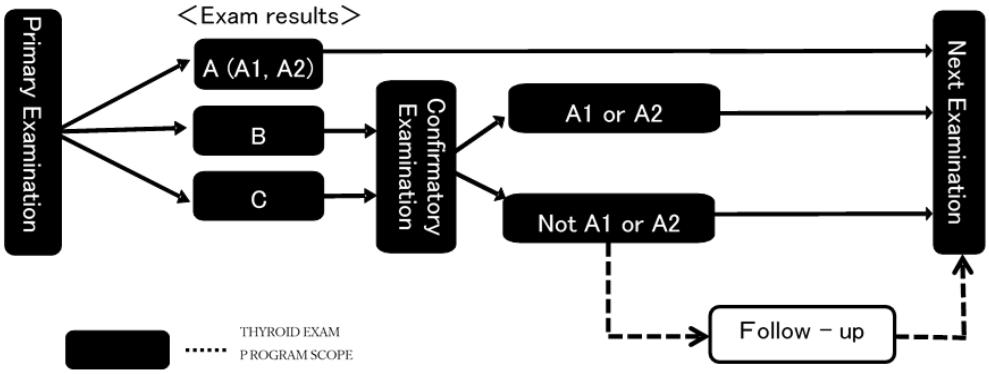


Figure 1 Flow chart

1.6 Municipalities by examination fiscal year

The municipalities by examination (for those 18 years old or younger) were carried out in FY2020 to FY2022 are as follows:

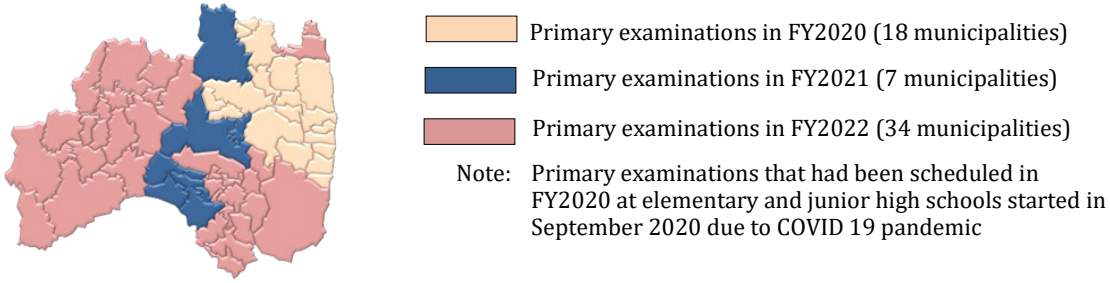


Figure. 2 Municipalities covered for primary examinations at elementary and junior high schools

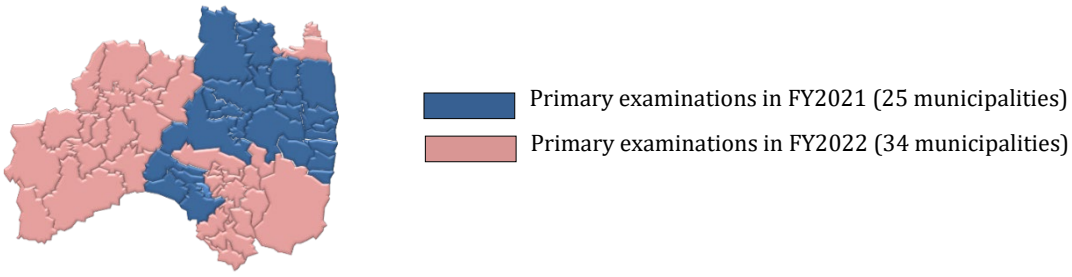


Figure. 3 Municipalities covered for primary examinations at high schools and other facilities

2. Overview of the Survey (as of June 30, 2022)

2.1 Results of the Primary Examination

2.1-1 Implementation status

The primary examination was carried out for 80,205 participants (31.7%) by June 30, 2022. (Please refer to Appendix 1 and 2 for the primary survey implementation status by municipalities and venues outside Fukushima.)

Results for 75,868 participants (94.6%) have been finalized and individual result reports were sent out. (Refer to Appendix 3 for Result by municipalities)

Of these, 22,151 (29.2%) had Grade A1 results, 52,778 (69.6%) had Grade A2, 939 (1.2%) had Grade B, and none had Grade C.

Table 1 Progress and results of the primary examination

	Eligible	Participants(%)			Participants with finalized results(%)									
				Other prefecture			A				Those referred to Confirmatory			
							A1		A2		B		C	
	a	b	(b/a)		c	(c/b)	d	(d/c)	e	(e/c)	f	(f/c)	g	(g/c)
FY2020	144,905	65,617	(45.3)	5,272	65,335	(99.6)	18,890	(28.9)	45,752	(70.0)	693	1.1	0	(0.0)
FY2021	108,003	14,588	(13.5)	2,325	10,533	(72.2)	3,261	(31.0)	7,026	(66.7)	246	2.3	0	(0.0)
Total	252,908	80,205	(31.7)	7,597	75,868	(94.6)	22,151	(29.2)	52,778	(69.6)	939	1.2	0	(0.0)

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

Respective fiscal year	Participants with finalized results	Nodules				Cysts			
		≧5.1mm		≦5.0mm		≥20.1mm		≤20.0mm	
	a	b	(b/a)	c	(c/a)	d	(d/a)	e	(e/a)
FY2020	65,335	693	(1.1)	357	(0.5)	1	(0.0)	46,142	(70.6)
FY2021	10,533	246	(2.3)	104	(1.0)	0	(0.0)	7,159	(68.0)
Total	75,868	939	(1.2)	461	(0.6)	1	(0.0)	53,301	(70.3)

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) are excluded; their results will be reported separately (i.e., Examination for Age 25)
- Examination schedule – respective year of birth and examination fiscal year is as follows:
  FY1992 birth year (approx. 23,000) – Examination in FY2017
  FY1993 birth year (approx. 22,000) – Examination in FY2018
  FY1994 birth year (approx. 22,000) – Examination in FY2019
  FY1995 birth year (approx. 21,000) – Examination in FY2020
  FY1996 birth year (approx. 21,000) – Examination in FY2021
  FY1997 birth year (approx. 20,000) – Examination in FY2022

2.1-2 Participation rate by age group

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

Table 3 Participation rate by age groups

			Total	8 - 11	12-17	18-24
FY2020	Eligible participants	a	144,905	37,105	61,913	45,887
	Examinees	b	65,617	26,398	34,312	4,907
	Examination rate	b/a	45.3	71.1	55.4	10.7
FY2021				9 - 11	12-17	18-24
	Eligible participants	a	108,003	19,739	45,059	43,205
	Examinees	b	14,588	3,561	6,480	4,547
	Examination rate	b/a	13.5	18.0	14.4	10.5
Total	Eligible participants	a	252,908	56,844	106,972	89,092
	Examinees	b	80,205	29,959	40,792	9,454
	Examination rate	b/a	31.7	52.7	38.1	10.6

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

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

Among 70,425 participants with Grade A1 or A2 results in the fourth-round survey, 69,918 (99.3%) had Grade A1 or A2 results and 507 (0.7%) had Grade B results in the fifth-round survey.

Among 389 participants with Grade B results in the fourth-round survey, 70 (18.0%) had Grade A1 or A2 results and 319 (82.0%) had Grade B results in the fifth-round survey.

Table 4 Comparison of the fourth- and fifth-round surveys (abbreviated 4th and 5th)

			Results of the 4th round survey*	Results of the 5th round survey**			
				A		B	C
				A1	A2		
			a %	b b/a	c c/a	d d/a	e e/a
Results of the 4th round survey	A	A1	23,278 (100.0)	16,257 (69.8)	6,931 (29.8)	90 (0.4)	0 (0.0)
		A2	47,147 (100.0)	4,148 (8.8)	42,582 (90.3)	417 (0.9)	0 (0.0)
	B		389 (100.0)	6 (1.5)	64 (16.5)	319 (82.0)	0 (0.0)
	C		0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
	No medical examination		5,054 (100.0)	1,740 (34.4)	3,201 (63.3)	113 (2.2)	0 (0.0)
Total			75,868 (100.0)	22,151 (29.2)	52,778 (69.6)	939 (1.2)	0 (0.0)

*Results of the fourth-round survey are from fifth-round survey participants with finalized results, rather than a breakdown of all fourth-round survey participants.

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

2.2 Results of the Confirmatory Examination

2.2-1 Implementation status

By June 30, 2022, 583 (62.1%) of 939 eligible persons had participated in the confirmatory examination, and 531 (91.1%) of them had completed the entire examination procedure.

Of the aforementioned 531 participants, 53 (A1: 4, A2: 49) (10.0%) were confirmed to meet A1 or A2 diagnostic criteria by the primary examination standards (including those with other thyroid conditions) after detailed examination; 478 (90.0%) were confirmed to be outside of A1/A2 criteria

Table 5 Progress and results of the confirmatory examination

	Those referred to confirmatory exams (Persons)	Participants (Persons) (%)		Total		Those with finalized results (Person)							
						A1		A2		Not A1 nor A2			
												FNAC	
	a	b	b/a	c	c/b	d	d/c	e	e/c	f	f/c	g	g/f
FY2020	693	444	(64.1)	405	(91.2)	4	(1.0)	42	(10.4)	359	(88.6)	40	(11.1)
FY2021	246	139	(56.5)	126	(90.6)	0	(0.0)	7	(5.6)	119	(94.4)	8	(6.7)
Total	939	583	(62.1)	531	(91.1)	4	(0.8)	49	(9.2)	478	(90.0)	48	(10.0)

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

Among those who underwent FNAC, 23 participants had nodules classified as malignant or suspicious for malignancy, of whom 5 were male and 18 were female. The mean age for those participants was 17.2±2.8 years old, and age distribution was from13 to 23 years old. The mean tumor size was 12.8±8.0 mm (range 7.0 - 46.7 mm)

Fourth-round survey results for the aforementioned 23 participants were: Grade A, 18 persons (A1:7, A2:11); Grade B, 3 persons; not examined, 2 persons.

Table 6 Results of FNAC

A. Municipalities surveyed in FY2020	
・Malignant or suspicious for malignancy:	18*
・Male to female ratio:	3:15
・Mean age (min-max):	16.8±3.0 years old (13-23)
	6.1±3.1 (2-12) at the time of the Earthquake
・Mean size of the tumor:	10.7±2.7 mm (7.0-16.2 mm)
B. Municipalities surveyed in FY2021	
・Malignant or suspicious for malignancy:	5*
・Male to female ratio:	2:3
・Mean age (min-max):	18.6±1.1 years old (17-20)
	8.2±1.8 (6-10) at the time of the Earthquake
・Mean size of the tumor:	20.4±15.1mm (8.9-46.7mm)
C. Total	
・Malignant or suspicious for malignancy:	23*
・Male to female ratio:	5:18
・Mean age (min-max):	17.2±2.8 years old (13-23)
	6.6± 3.0 (2-12) at the time of the Earthquake
・Mean size of the tumor:	12.8±8.0mm (7.0-46.7mm)

* Appendix 5 shows surgery cases.

2.2-3 Age distribution of malignant or suspicious-for-malignancy cases diagnosed by FNAC

Figure 4 shows the age distributions of 23 people with malignant or suspicious nodules based on their age as of March 11, 2011, and Figure 5 shows the age distribution based on their age at the time of confirmatory examination.

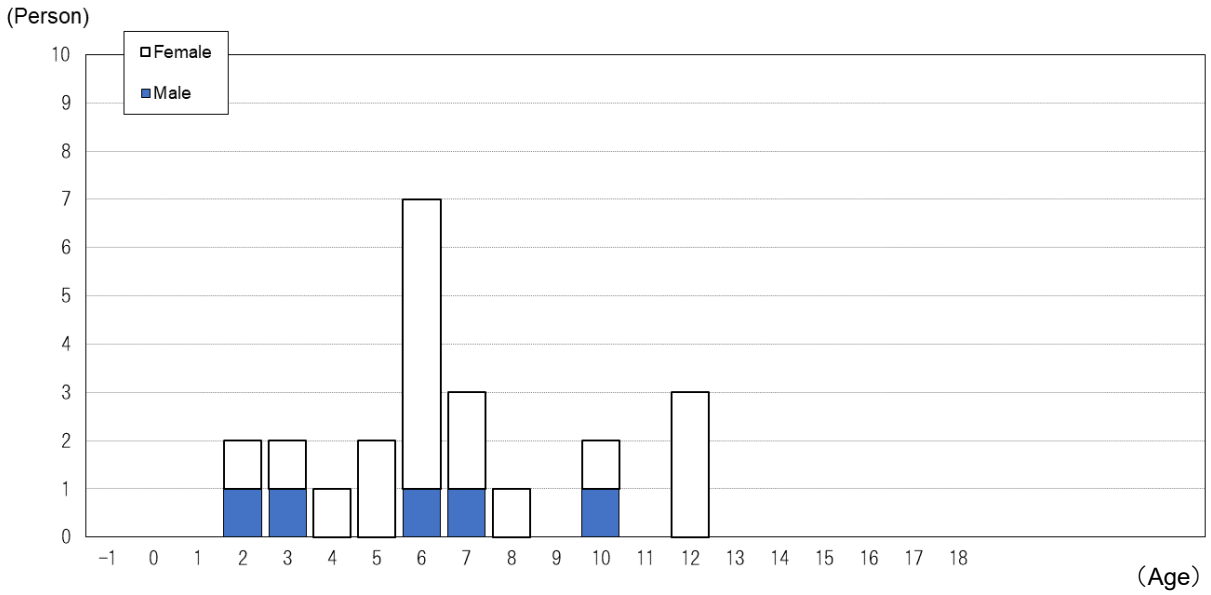


Figure 4 The age as of March 11, 2011

Note: Those between 13 to 18 years old at the time of disaster are not included in the fifth-round survey.
The horizontal axis begins at -1 to include Fukushima Prefecture residents born between April 2, 2011 and April 1, 2012.
Those born between March 12 and April 1, 2011 are included in age 0.

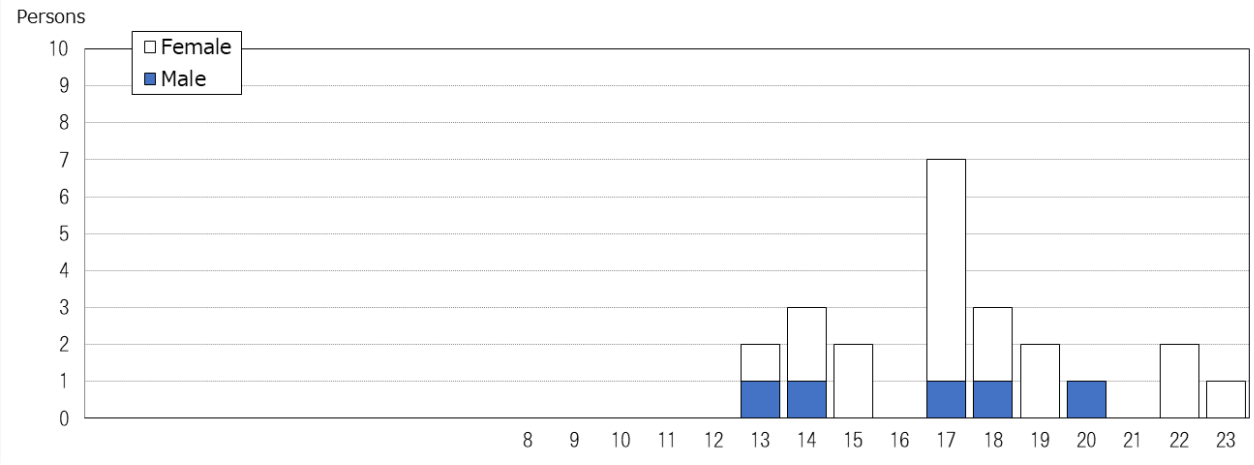


Figure 5 Age as of the date of confirmatory examination

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

Of those 23 people with malignant or suspicious nodules, 13 people (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 2.1 mSv.

Table 7 The details dose estimates for Basic Survey participants (persons)

Effective dose (mSv)	Age at the time of the disaster (as of March 11, 2011)									
	0-5		6-10		11-15		16-18		Total	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
<1.0	0	2	2	3	0	2	0	0	2	7
1.0-1.9	1	1	0	1	0	0	0	0	1	2
2.0-4.9	0	1	0	0	0	0	0	0	0	1
5.0-9.9	0	0	0	0	0	0	0	0	0	0
10.0-19.9	0	0	0	0	0	0	0	0	0	0
≥20.0	0	0	0	0	0	0	0	0	0	0
Total	1	4	2	4	0	2	0	0	3	10

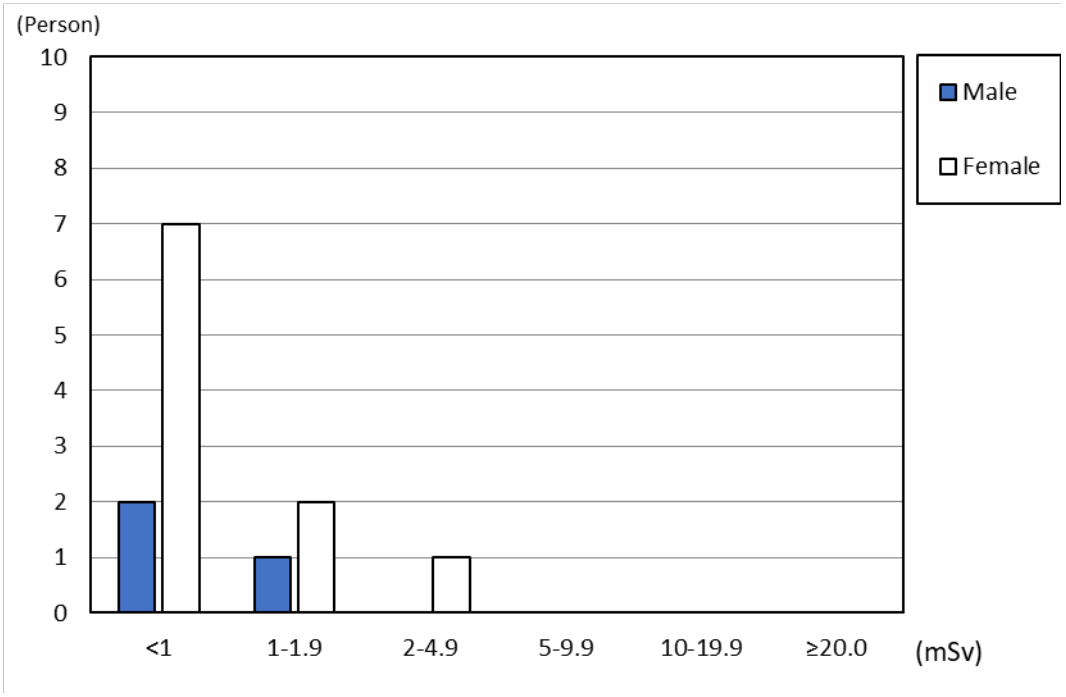


Figure 6 Effective doses of Basic Survey participants

2.2-5 Blood and urinary iodine test results

Table 8 Blood test results Mean ± SD (percentage of values outside reference range)

	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]	0.34-3.88 [7]	≤33.7	< 28.0	< 16.0
Malignant or suspicious: 23 persons	1.2±0.2 (8.7%)	3.4±0.4 (4.3%)	1.2±0.6 (8.7%)	112.8±440.3 (21.7%)	8.7%	17.4%
Other 470 persons	1.2±0.2 (5.1%)	3.5±0.5 (5.5%)	1.3±1.4 (8.7%)	33.2±97.6 (16.4%)	8.3%	7.4%

Table 9 Urinary iodine test results (μg/day)

	Minimum	25th percentile	Median	75th percentile	Maximum
Malignant or suspicious: 23 persons	36	116	219	571	1,311
Other 471 persons	24	111	289	326	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 and Graves' disease.
6) TPOAb: anti-thyroid peroxidase antibody; higher among patients with Hashimoto's disease or Graves' disease.
7) Reference interval varies according to age.

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 explanation on 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, and as of June 30, 2022, all 2,195 participants (100%) have visited these consultation booths.

3.2 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 since April 2020.

By June 30, 2022, a total of 481 people participated in these sessions offered at 9 locations.
Since the start of these sessions, 15,567 people have participated.

3.3 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 examination. The team also answers questions and offers counseling via our website.

Since the start of the fifth-round survey, 297 participants (97 males and 200 females) have received support as of June 30, 2022. The number of support sessions provided was 518 in total. Of these, 295 (56.9%) received support at the participants' first examination and 223 (43.1%) at subsequent examinations.

For those who proceed 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 municipality

As of June 30, 2022

	Number of eligible persons	Participants		Participation %	Number of participants and participation rate by age group [2]			Participants reside outside Fukushima	%
			Participation outside Fukushima [1]		8-11	12-17	18-24		
	a	b		b/a				c [3]	c/b
Municipalities surveyed in FY2020									
Kawamata	1,567	735	12	46.9%	236	429	70	19	2.6
					32.1	58.4	9.5		
Namie	2,478	728	225	29.4%	179	389	160	226	31.0
					24.6	53.4	22.0		
Iitate	731	323	16	44.2%	84	188	51	19	5.9
					26.0	58.2	15.8		
Minamisoma	8,851	3,557	550	40.2%	1,123	1,971	463	554	15.6
					31.6	55.4	13.0		
Date	7,412	4,010	158	54.1%	1,140	2,266	604	141	3.5
					28.4	56.5	15.1		
Tamura	4,577	2,226	51	48.6%	794	1,199	233	59	2.7
					35.7	53.9	10.5		
Hirono	647	195	28	30.1%	55	104	36	25	12.8
					28.2	53.3	18.5		
Naraha	916	177	39	19.3%	45	79	53	36	20.3
					25.4	44.6	29.9		
Tomioka	1,980	420	115	21.2%	105	201	114	116	27.6
					25.0	47.9	27.1		
Kawauchi	225	84	7	37.3%	18	52	14	5	6.0
					21.4	61.9	16.7		
Okuma	1,771	391	114	22.1%	105	178	108	109	27.9
					26.9	45.5	27.6		
Futaba	839	160	45	19.1%	41	89	30	46	28.8
					25.6	55.6	18.8		
Katsurao	148	57	3	38.5%	13	32	12	3	5.3
					22.8	56.1	21.1		
Fukushima	37,320	18,260	1,358	48.9%	4,817	10,838	2,605	1,269	6.9
					26.4	59.4	14.3		
Nihonmatsu	6,920	3,672	155	53.1%	1,117	2,138	417	136	3.7
					30.4	58.2	11.4		
Motomiya	4,232	2,181	77	51.5%	657	1,286	238	70	3.2
					30.1	59.0	10.9		
Otama	1,122	676	18	60.2%	213	381	82	12	1.8
					31.5	56.4	12.1		
Koriyama	45,739	19,684	1,882	43.0%	4,565	12,275	2,844	1,785	9.1
					23.2	62.4	14.4		
Koori	1,375	787	25	57.2%	224	467	96	24	3.0
					28.5	59.3	12.2		
Kunimi	1,022	553	20	54.1%	126	343	84	22	4.0
					22.8	62.0	15.2		
Tenei	728	266	17	36.5%	88	137	41	10	3.8
					33.1	51.5	15.4		
Shirakawa	8,567	3,976	248	46.4%	1,203	2,189	584	217	5.5
					30.3	55.1	14.7		
Nishigo	2,856	1,260	74	44.1%	392	674	194	58	4.6
					31.1	53.5	15.4		
Izumizaki	893	358	6	40.1%	102	221	35	5	1.4
					28.5	61.7	9.8		
Miharu	1,989	881	29	44.3%	215	513	153	26	3.0
					24.4	58.2	17.4		
Subtotal	144,905	65,617	5,272	45.3%	17,657	38,639	9,321	4,992	7.6
					26.9	58.9	14.2		

1) Those who took TUE at medical facilities outside of Fukushima Prefecture (as of May 31, 2022).
2) Upper row indicates the numbers of participants, and lower row indicates participation rate by age group.
3) Number of participants whose resident registration is not in Fukushima.
"Age" refers to the actual age at the time of the examination.

	Number of eligible persons	Participants	Participation outside Fukushima [1]	Participation %	Number of participants and participation rate by age group [2]			Participants reside outside Fukushima	%
	a	b		b/a	8-11	12-17	18-24	c *3	c/b
Municipalities surveyed in FY2021									
Iwaki	42,505	4,172	1,301	9.8%	359	1,260	2,553	1,109	26.6
					8.6	30.2	61.2		
Sukagawa	10,704	1,429	174	13.4%	152	659	618	149	10.4
					10.6	46.1	43.2		
Soma	4,769	525	155	11.0%	98	233	194	164	31.2
					18.7	44.4	37.0		
Kagamiishi	1,834	226	27	12.3%	16	106	104	18	8.0
					7.1	46.9	46.0		
Shinchi	983	133	29	13.5%	11	58	64	26	19.5
					8.3	43.6	48.1		
Nakajima	706	165	9	23.4%	7	122	36	6	3.6
					4.2	73.9	21.8		
Yabuki	2,326	650	22	27.9%	78	479	93	18	2.8
					12.0	73.7	14.3		
Ishikawa	1,860	454	22	24.4%	29	329	96	21	4.6
					6.4	72.5	21.1		
Yamatsuri	685	176	12	25.7%	9	139	28	6	3.4
					5.1	79.0	15.9		
Asakawa	913	197	20	21.6%	71	74	52	14	7.1
					36.0	37.6	26.4		
Hirata	838	216	9	25.8%	21	146	49	6	2.8
					9.7	67.6	22.7		
Tanagura	2,049	350	30	17.1%	112	152	86	26	7.4
					32.0	43.4	24.6		
Hanawa	1,070	286	5	26.7%	59	179	48	6	2.1
					20.6	62.6	16.8		
Samegawa	457	147	4	32.2%	38	93	16	3	2.0
					25.9	63.3	10.9		
Ono	1,252	438	6	35.0%	104	287	47	5	1.1
					23.7	65.5	10.7		
Tamakawa	919	266	9	28.9%	60	168	38	5	1.9
					22.6	63.2	14.3		
Furudono	692	259	17	37.4%	66	140	53	7	2.7
					25.5	54.1	20.5		
Hinoemata	75	11	1	14.7%	3	6	2	0	0.0
					27.3	54.5	18.2		
Minamiaizu	1,788	377	17	21.1%	142	187	48	15	4.0
					37.7	49.6	12.7		
Kaneyama	114	23	0	20.2%	5	16	2	0	0.0
					21.7	69.6	8.7		
Showa	101	8	3	7.9%	2	4	2	3	37.5
					25.0	50.0	25.0		
Mishima	131	27	0	20.6%	10	14	3	0	0.0
					37.0	51.9	11.1		
Shimogo	646	153	2	23.7%	41	94	18	2	1.3
					26.8	61.4	11.8		
Kitakata	5,939	359	63	6.0%	50	127	182	52	14.5
					13.9	35.4	50.7		
Nishiaizu	618	124	4	20.1%	38	73	13	3	2.4
					30.6	58.9	10.5		
Tadami	475	135	5	28.4%	37	83	15	6	4.4
					27.4	61.5	11.1		
Inawashiro	1,761	501	17	28.4%	126	312	63	13	2.6
					25.1	62.3	12.6		
Bandai	413	95	9	23.0%	31	53	11	8	8.4
					32.6	55.8	11.6		
Kitashiobara	385	87	5	22.6%	24	55	8	4	4.6
					27.6	63.2	9.2		
Aizumisato	2,370	616	25	26.0%	164	337	115	23	3.7
					26.6	54.7	18.7		
Aizubange	2,012	503	24	25.0%	125	293	85	20	4.0
					24.9	58.3	16.9		
Yanaizu	393	100	3	25.4%	30	60	10	0	0.0
					30.0	60.0	10.0		
Aizuwakamatsu	15,769	1,257	293	8.0%	196	438	623	265	21.1
					15.6	34.8	49.6		
Yugawa	451	123	3	27.3%	37	65	21	3	2.4
					30.1	52.8	17.1		
Subtotal	108,003	14,588	2,325	13.5%	2,351	6,841	5,396	2,006	13.8
					16.1	46.9	37.0		
Total	252,908	80,205	7,597	31.7%	20,008	45,480	14,717	6,998	8.7
					24.9	56.7	18.3		

Appendix 2

Implementation status of the TUE examination conducted outside Fukushima, by prefecture

As of May 31, 2022

Prefecture	Number of medical facilities	Participants
Hokkaido	7	**185**
Aomori	2	**91**
Iwate	3	**172**
Miyagi	2	**1,690**
Akita	1	**122**
Yamagata	3	**339**
Ibaraki	4	**456**
Tochigi	8	**521**
Gunma	2	**146**
Saitama	4	**426**
Chiba	5	**335**
Tokyo	19	**1,287**
Kanagawa	7	**502**
Niigata	3	**332**
Toyama	2	**20**
Ishikawa	1	**21**

Prefecture	Number of medical facilities	Participants
Fukui	1	**11**
Yamanashi	2	**64**
Nagano	3	**100**
Gifu	1	**13**
Shizuoka	3	**72**
Aichi	5	**140**
Mie	1	**17**
shiga	1	**15**
Kyoto	3	**47**
Osaka	8	**103**
Hyogo	2	**96**
Nara	2	**16**
Wakayama	1	**2**
Tottori	1	**2**
Shimane	1	**11**
Okayama	3	**32**

Prefecture	Number of medical facilities	Participants
Hiroshima	2	**15**
Yamaguchi	1	**13**
Tokushima	1	**4**
Kagawa	1	**13**
Ehime	1	**13**
Kochi	1	**8**
Fukuoka	3	**51**
Saga	1	**6**
Nagasaki	3	**18**
Kumamoto	1	**19**
Oita	1	**12**
Miyazaki	1	**12**
Kagoshima	1	**5**
Okinawa	1	**22**
Total	130	**7,597**

*The number of participants who received examination at medical facilities outside Fukushima

Appendix 3

TUE primary examination results by municipality, and grade

As of June 30, 2022

	Number of participants	Those with finalized results b	Number of participants by grade				Number of participants with nodules		Number of participants with cysts	
			%							
		%	A1		B	C	%		%	
	a	b/a	A1	A2			≥5.1mm	≤ 5.0mm	≥20.1mm	≤ 20.0mm
Municipalities surveyed in FY2020										
Kawamata	735	734	226	502	6	0	6	5	0	504
		99.9	30.8	68.4	0.8	0.0	0.8	0.7	0.0	68.7
Namie	728	722	237	470	15	0	15	5	0	479
		99.2	32.8	65.1	2.1	0.0	2.1	0.7	0.0	66.3
Iitate	323	323	99	214	10	0	10	0	0	223
		100.0	30.7	66.3	3.1	0.0	3.1	0.0	0.0	69.0
Minamisoma	3,557	3,540	1,106	2,399	35	0	35	10	0	2,420
		99.5	31.2	67.8	1.0	0.0	1.0	0.3	0.0	68.4
Date	4,010	4,000	1,152	2,815	33	0	33	23	0	2,827
		99.8	28.8	70.4	0.8	0.0	0.8	0.6	0.0	70.7
Tamura	2,226	2,215	700	1,494	21	0	21	10	0	1,501
		99.5	31.6	67.4	0.9	0.0	0.9	0.5	0.0	67.8
Hirono	195	194	66	124	4	0	4	1	0	124
		99.5	34.0	63.9	2.1	0.0	2.1	0.5	0.0	63.9
Naraha	177	176	64	110	2	0	2	0	0	111
		99.4	36.4	62.5	1.1	0.0	1.1	0.0	0.0	63.1
Tomioka	420	417	121	291	5	0	5	1	0	294
		99.3	29.0	69.8	1.2	0.0	1.2	0.2	0.0	70.5
Kawauchi	84	82	27	55	0	0	0	0	0	55
		97.6	32.9	67.1	0.0	0.0	0.0	0.0	0.0	67.1
Okuma	391	389	112	271	6	0	6	6	0	271
		99.5	28.8	69.7	1.5	0.0	1.5	1.5	0.0	69.7
Futaba	160	155	47	107	1	0	1	0	0	108
		96.9	30.3	69.0	0.6	0.0	0.6	0.0	0.0	69.7
Katsurao	57	57	28	29	0	0	0	0	0	29
		100.0	49.1	50.9	0.0	0.0	0.0	0.0	0.0	50.9
Fukushima	18,260	18,221	5,303	12,738	180	0	180	95	0	12,832
		99.8	29.1	69.9	1.0	0.0	1.0	0.5	0.0	70.4
Nihonmatsu	3,672	3,669	1,147	2,474	48	0	48	26	0	2,503
		99.9	31.3	67.4	1.3	0.0	1.3	0.7	0.0	68.2
Motomiya	2,181	2,173	661	1,491	21	0	21	9	0	1,502
		99.6	30.4	68.6	1.0	0.0	1.0	0.4	0.0	69.1
Otama	676	675	196	468	11	0	11	3	0	475
		99.9	29.0	69.3	1.6	0.0	1.6	0.4	0.0	70.4
Koriyama	19,684	19,565	5,283	14,075	207	0	207	123	0	14,205
		99.4	27.0	71.9	1.1	0.0	1.1	0.6	0.0	72.6
Koori	787	786	244	533	9	0	9	2	0	540
		99.9	31.0	67.8	1.1	0.0	1.1	0.3	0.0	68.7
Kunimi	553	552	179	366	7	0	7	2	0	372
		99.8	32.4	66.3	1.3	0.0	1.3	0.4	0.0	67.4
Tenei	266	263	75	183	5	0	5	0	1	186
		98.9	28.5	69.6	1.9	0.0	1.9	0.0	0.4	70.7
Shirakawa	3,976	3,940	1,101	2,802	37	0	37	23	0	2,822
		99.1	27.9	71.1	0.9	0.0	0.9	0.6	0.0	71.6
Nishigo	1,260	1,252	371	864	17	0	17	5	0	875
		99.4	29.6	69.0	1.4	0.0	1.4	0.4	0.0	69.9
Izumizaki	358	356	106	246	4	0	4	2	0	247
		99.4	29.8	69.1	1.1	0.0	1.1	0.6	0.0	69.4
Miharu	881	879	239	631	9	0	9	6	0	637
		99.8	27.2	71.8	1.0	0.0	1.0	0.7	0.0	72.5
Subtotal	65,617	65,335	18,890	45,752	693	0	693	357	1	46,142
		99.6	28.9	70.0	1.1	0.0	1.1	0.5	0.0	70.6

	Number of participants	Those with finalized results b	Number of participants by grade				Number of participants with nodules		Number of participants with cysts	
			%				%		%	
		%	A1		B	C				
	a	b/a	A1	A2			≥5.1mm	≤ 5.0mm	≥20.1mm	≤ 20.0mm
Municipalities surveyed in FY2021										
Iwaki	4,172	4,134	1,293	2,745	96	0	96	36	0	2,786
		99.1	31.3	66.4	2.3	0.0	2.3	0.9	0.0	67.4
Sukagawa	1,429	1,386	416	943	27	0	27	19	0	956
		97.0	30.0	68.0	1.9	0.0	1.9	1.4	0.0	69.0
Soma	525	524	176	334	14	0	14	1	0	346
		99.8	33.6	63.7	2.7	0.0	2.7	0.2	0.0	66.0
Kagamiishi	226	220	57	157	6	0	6	1	0	160
		97.3	25.9	71.4	2.7	0.0	2.7	0.5	0.0	72.7
Shinchi	133	133	35	94	4	0	4	2	0	96
		100.0	26.3	70.7	3.0	0.0	3.0	1.5	0.0	72.2
Nakajima	165	87	29	57	1	0	1	2	0	58
		52.7	33.3	65.5	1.1	0.0	1.1	2.3	0.0	66.7
Yabuki	650	286	95	188	3	0	3	0	0	189
		44.0	33.2	65.7	1.0	0.0	1.0	0.0	0.0	66.1
Ishikawa	454	189	57	128	4	0	4	2	0	131
		41.6	30.2	67.7	2.1	0.0	2.1	1.1	0.0	69.3
Yamatsuri	176	78	15	60	3	0	3	1	0	63
		44.3	19.2	76.9	3.8	0.0	3.8	1.3	0.0	80.8
Asakawa	197	120	41	77	2	0	2	3	0	78
		60.9	34.2	64.2	1.7	0.0	1.7	2.5	0.0	65.0
Hirata	216	107	38	65	4	0	4	1	0	68
		49.5	35.5	60.7	3.7	0.0	3.7	0.9	0.0	63.6
Tanagura	350	250	71	173	6	0	6	0	0	176
		71.4	28.4	69.2	2.4	0.0	2.4	0.0	0.0	70.4
Hanawa	286	92	21	67	4	0	4	0	0	69
		32.2	22.8	72.8	4.3	0.0	4.3	0.0	0.0	75.0
Samegawa	147	53	17	35	1	0	1	1	0	36
		36.1	32.1	66.0	1.9	0.0	1.9	1.9	0.0	67.9
Ono	438	175	54	119	2	0	2	2	0	121
		40.0	30.9	68.0	1.1	0.0	1.1	1.1	0.0	69.1
Tamagawa	266	79	22	53	4	0	4	1	0	56
		29.7	27.8	67.1	5.1	0.0	5.1	1.3	0.0	70.9
Furudono	259	87	22	64	1	0	1	2	0	65
		33.6	25.3	73.6	1.1	0.0	1.1	2.3	0.0	74.7
Hinoemata	11	2	1	1	0	0	0	0	0	1
		18.2	50.0	50.0	0.0	0.0	0.0	0.0	0.0	50.0
Minamiaizu	377	89	25	62	2	0	2	1	0	63
		23.6	28.1	69.7	2.2	0.0	2.2	1.1	0.0	70.8
Kaneyama	23	7	3	4	0	0	0	0	0	4
		30.4	42.9	57.1	0.0	0.0	0.0	0.0	0.0	57.1
Showa	8	5	3	2	0	0	0	0	0	2
		62.5	60.0	40.0	0.0	0.0	0.0	0.0	0.0	40.0
Mishima	27	5	1	3	1	0	1	0	0	4
		18.5	20.0	60.0	20.0	0.0	20.0	0.0	0.0	80.0
Shimogo	153	25	11	13	1	0	1	1	0	13
		16.3	44.0	52.0	4.0	0.0	4.0	4.0	0.0	52.0
Kitakata	359	316	96	207	13	0	13	5	0	216
		88.0	30.4	65.5	4.1	0.0	4.1	1.6	0.0	68.4
Nishiaizu	124	30	9	20	1	0	1	0	0	21
		24.2	30.0	66.7	3.3	0.0	3.3	0.0	0.0	70.0
Tadami	135	33	10	23	0	0	0	1	0	23
		24.4	30.3	69.7	0.0	0.0	0.0	3.0	0.0	69.7
Inawashiro	501	417	126	285	6	0	6	2	0	288
		83.2	30.2	68.3	1.4	0.0	1.4	0.5	0.0	69.1
Bandai	95	49	15	33	1	0	1	0	0	33
		51.6	30.6	67.3	2.0	0.0	2.0	0.0	0.0	67.3
Kitashiobara	87	18	9	9	0	0	0	0	0	9
		20.7	50.0	50.0	0.0	0.0	0.0	0.0	0.0	50.0
Aizumisato	616	271	87	179	5	0	5	2	0	181
		44.0	32.1	66.1	1.8	0.0	1.8	0.7	0.0	66.8
Aizubange	503	123	31	89	3	0	3	3	0	90
		24.5	25.2	72.4	2.4	0.0	2.4	2.4	0.0	73.2
Yanaizu	100	13	5	8	0	0	0	0	0	8
		13.0	38.5	61.5	0.0	0.0	0.0	0.0	0.0	61.5
Aizuwakamatu	1,257	1,104	362	712	30	0	30	14	0	731
		87.8	32.8	64.5	2.7	0.0	2.7	1.3	0.0	66.2
Yugawa	123	26	8	17	1	0	1	1	0	18
		21.1	30.8	65.4	3.8	0.0	3.8	3.8	0.0	69.2
Subtotal	14,588	10,533	3,261	7,026	246	0	246	104	0	7,159
		72.2	31.0	66.7	2.3	0.0	2.3	1.0	0.0	68.0
Total	80,205	75,868	22,151	52,778	939	0	939	461	1	53,301
		94.6	29.2	69.6	1.2	0.0	1.2	0.6	0.0	70.3

Appendix 4

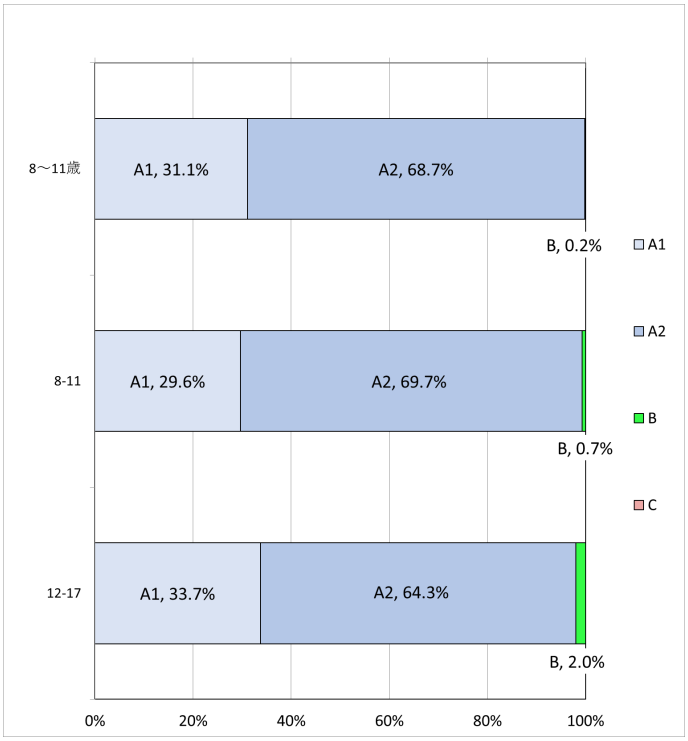
1 TUE primary examination results by age and sex

As of June 30, 2022

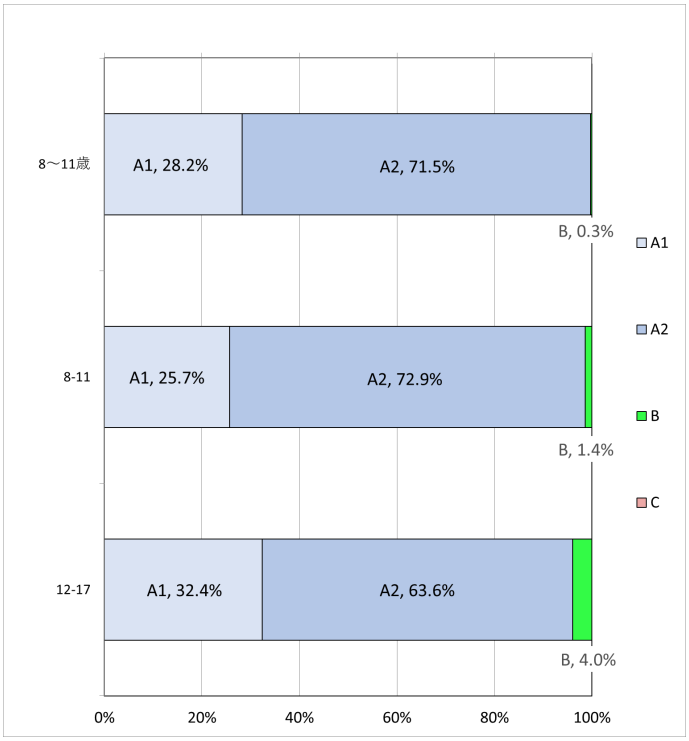
(Person)

Grade / Sex / Age group	A						B			C			合計		
	A1			A2											
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
8-11	2,990	2,562	5,552	6,613	6,494	13,107	16	29	45	0	0	0	9,619	9,085	18,704
12-17	6,375	5,410	11,785	14,984	15,355	30,339	143	300	443	0	0	0	21,502	21,065	42,567
18-24	2,216	2,598	4,814	4,229	5,103	9,332	130	321	451	0	0	0	6,575	8,022	14,597
Total	11,581	10,570	22,151	25,826	26,952	52,778	289	650	939	0	0	0	37,696	38,172	75,868

Results by age group (Male)



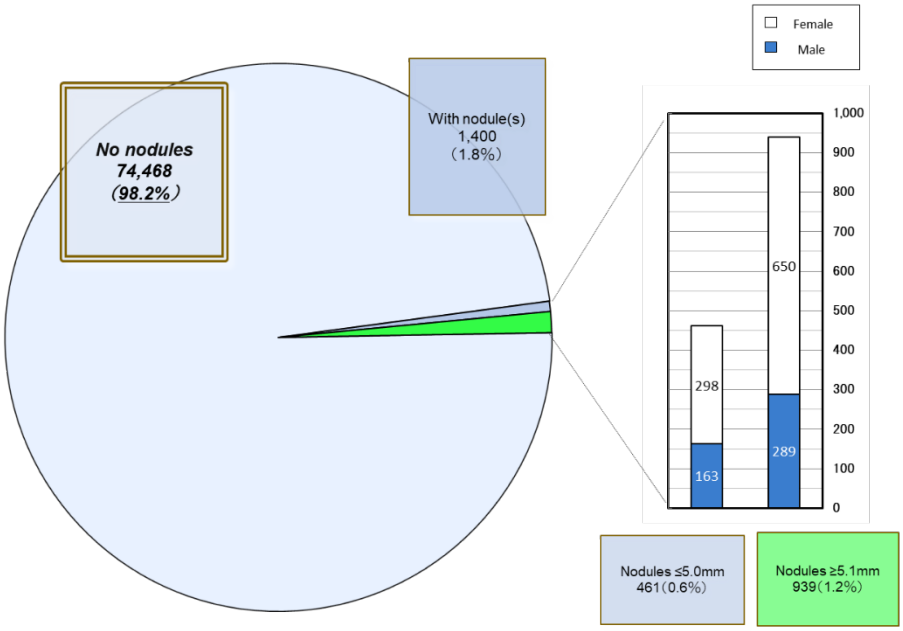
Results by age group (Female)

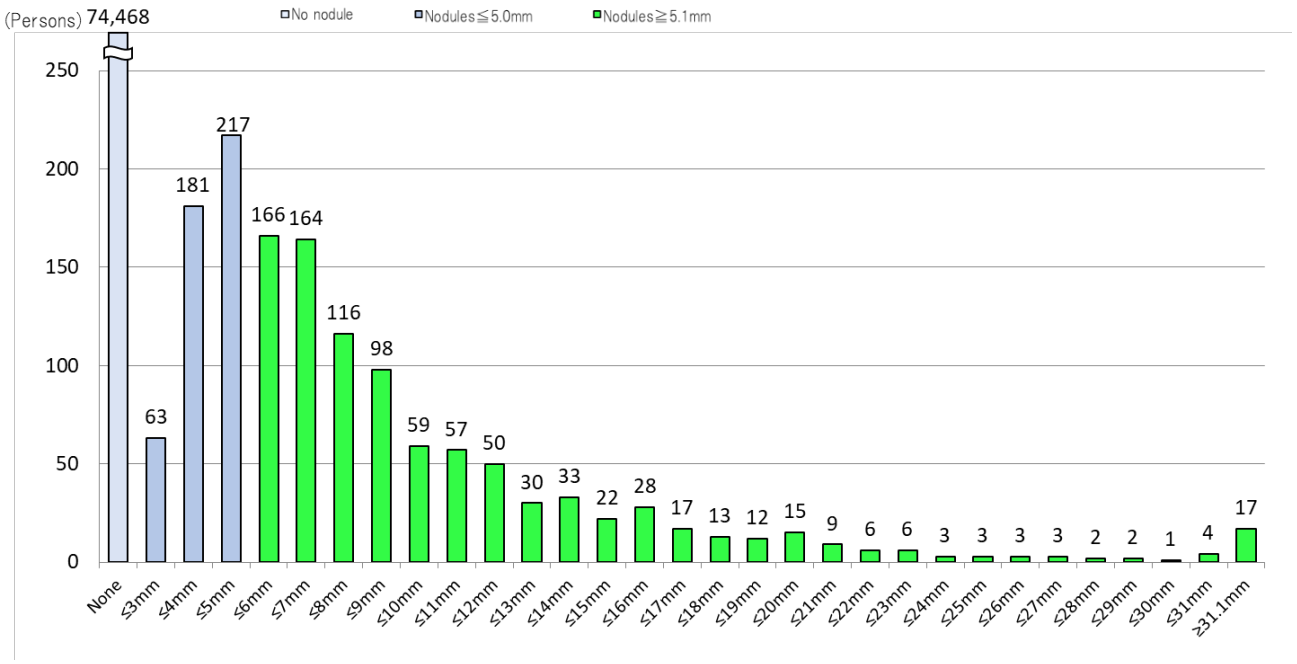


2. Nodule characteristics

As of June 30, 2022
(Persons)

Nodule size	Total	Male	Female	Grade	
None	74,468	37,244	37,224	A1	98.2%
≦3.0mm	63	18	45	A2	0.6%
3.1-5.0mm	398	145	253		
5.1-10.0mm	603	191	412	B	1.2%
10.1-15.0mm	192	52	140		
15.1-20.0mm	85	30	55		
20.1-25.0mm	27	7	20		
≧25.1mm	32	9	23		
Total	75,868	37,696	38,172		

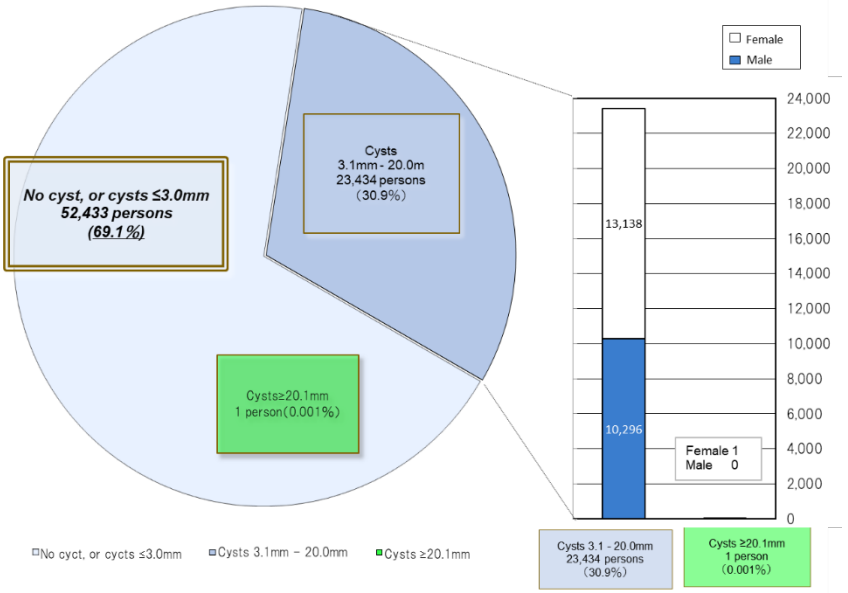


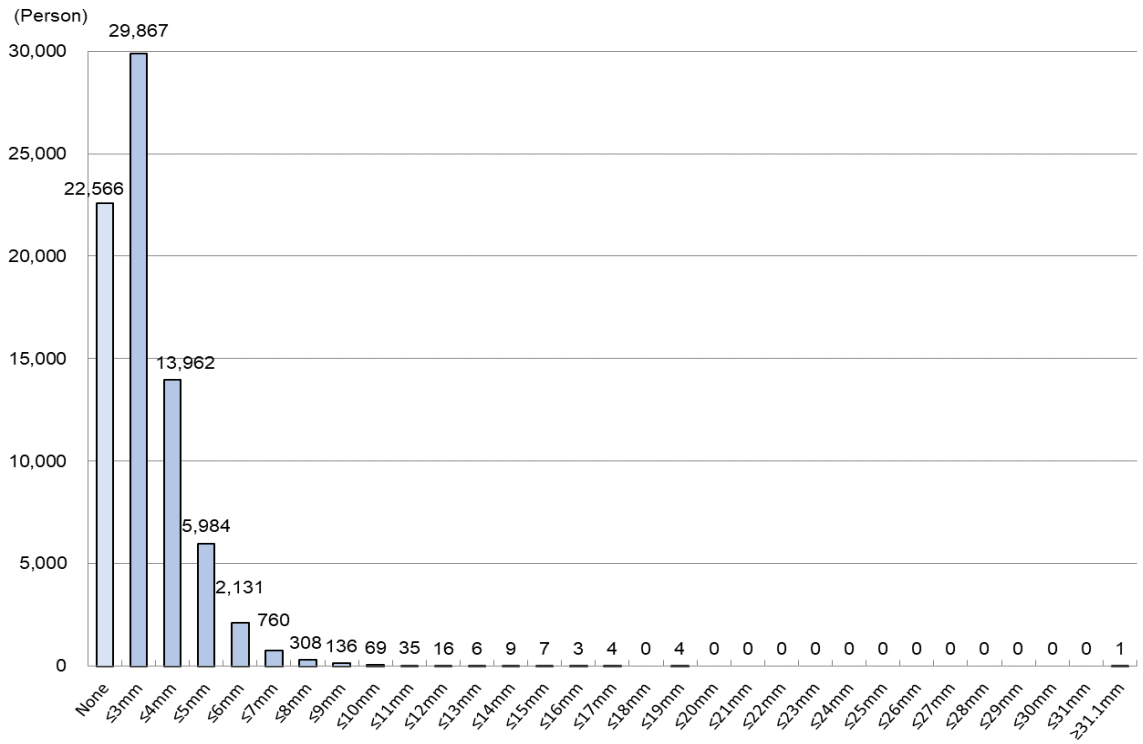


3 Cyst characteristics

As of June 30, 2022
(Persons)

Cyst size	Total	Male	Female	Grade	
None	22,566	11,726	10,840	A1	69.1%
≤3.0mm	29,867	15,674	14,193	A2	30.9%
3.1 - 5.0mm	19,946	9,075	10,871		
5.1 - 10.0mm	3,404	1,204	2,200		
10.1 - 15.0mm	73	16	57		
15.1 - 20.0mm	11	1	10		
20.1 - 25.0mm	0	0	0	B	0.001%
≥25.1mm	1	0	1		
Total	75,868	37,696	38,172		





Appendix 5

Surgery cases for malignancy or suspicion of malignancy

1. Municipalities surveyed in FY2020		
Malignant or suspicious for malignancy:	18	(Surgery cases: 5, Papillary thyroid carcinoma: 5)
2. Municipalities surveyed in FY2021		
Malignant or suspicious for malignancy:	5	(Surgery cases: 2, Papillary thyroid carcinoma: 2)
3. Total		
Malignant or suspicious for malignancy:	23	(Surgery cases: 7, Papillary thyroid carcinoma: 7)