

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

Reported on 27 December 2018

1. Summary

1.1 Purpose

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

1.2 Group

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

1.3 Implementation Period

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

1.4 Responsible Organizations

Fukushima Prefecture commissioned Fukushima Medical University (FMU) to conduct the survey in cooperation with institutions inside and outside Fukushima (the number of contracts is as of 30 June 2018).

1.4-1 Primary examination

Inside Fukushima Prefecture	74 medical institutions
Outside Fukushima Prefecture	115 medical institutions

1.4-2 Confirmatory examination

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

1.5 Method

1.5-1 Primary Examination

We use ultrasonography for examination of the thyroid gland.

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

-Diagnostic Criteria (A)

Those with A1 and A2 test results are recommended for watchful waiting until they undergo the primary examination, starting from April 2018.

A1: No nodules / cysts

A2: Nodules ≤ 5.0 mm or cysts ≤ 20.0 mm

-Diagnostic Criteria (B)

Those with B test results are advised to take the confirmatory examination.

B: Nodules ≥ 5.1 mm or cysts ≥ 20.1 mm

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

-Diagnostic Criteria (C)

Those with C test results are advised to take the confirmatory examination.

C: Immediate need for confirmatory examination.

1.5-2 Confirmatory Examination

We conduct ultrasonography, blood test, urine test, and Fine-Needle Aspiration Cytology (FNAC) if needed for those with B or C test results. Priority is given to those in urgent clinical need.

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

1.5-3 Flow chart

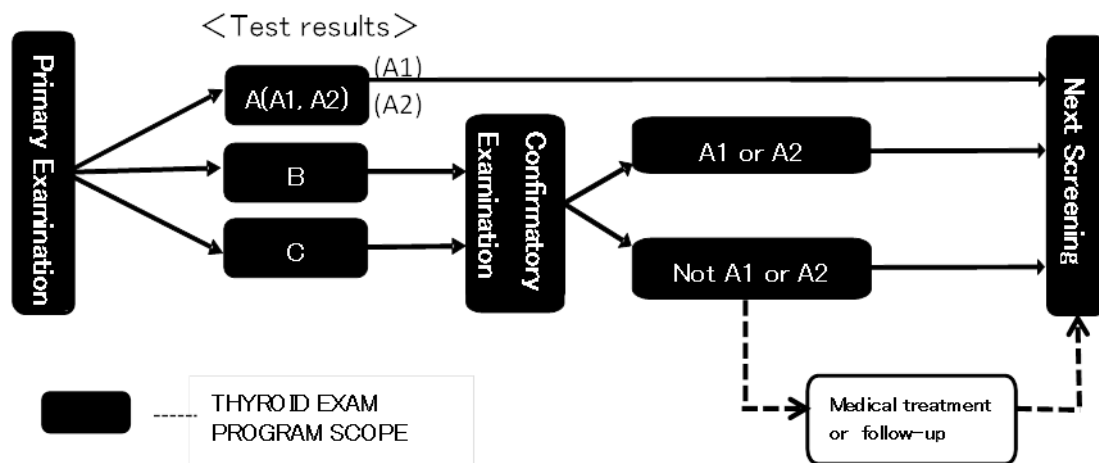


Fig.1 Flow chart

1.6 Served Municipalities



-  25 Served municipalities in FY 2016
-  34 Served municipalities in FY 2017



Fig.2 ServedMunicipalities

2. Results as of 30 September 2018

2.1 Results of Primary Examination

2.1-1 Progress Report

The Primary Examination started on 1 May 2016 for at 336,669 people in 59 municipalities (25 municipalities in FY2016 and 34 municipalities in FY2017) and so far carried out for 217,526 people (64.6%). (Examination status for each municipality and that of prefectures other than Fukushima are as in Appendix 1 and Appendix 2)

Results have been confirmed for 217,513 participants (100.0%) and notifications have been sent accordingly. (The result for each municipality is as Appendix 3)

Thus far, 216,028 (99.3%) were classified as A (A1 or A2), 1,485 (0.7%) were B, and none was C.

Table 1. Screening test coverage

as of 30 September 2018

	Survey population a	Participants		Test results					
		Proportion (%) b (b/a)	Screened outside Fukushima	Proportion (%) c (c/b)	Class (%)				
					A		Requiring confirmatory test		
					A1 d (d/c)	A2 e (e/c)	B f (f/c)	C g (g/c)	
FY 2016	191,876	126,174 (65.8)	8,869	126,170 (100.0)	43,935 (34.8)	81,439 (64.5)	796 (0.6)	0 (0.0)	
FY 2017	144,793	91,352 (63.1)	3,570	91,343 (100.0)	32,303 (35.4)	58,351 (63.9)	689 (0.8)	0 (0.0)	
Total	336,669	217,526 (64.6)	12,439	217,513 (100.0)	76,238 (35.0)	139,790 (64.3)	1,485 (0.7)	0 (0.0)	

Table 2. Number and proportion with nodules/cysts

as of 30 September 2018

	Number of confirmed screening results a	Number and proportion of children with nodules/cysts			
		Nodules		Cysts	
		≥5.1 mm b (b/a)	≤5.0 mm c (c/a)	≥20.1 mm d (d/a)	≤20.0 mm e (e/a)
FY 2016	126,170	796 (0.6)	427 (0.3)	0 (0.0)	81,818 (64.8)
FY 2017	91,343	686 (0.8)	396 (0.4)	3 (0.0)	58,649 (64.2)
Total	217,513	1,482 (0.7)	823 (0.4)	3 (0.0)	140,467 (64.6)

● Ratios are rounded to the 1st decimal place. This also applies to other tables and annexes.

● The examination participants in FY2016 and FY 2017 are those examined during 2-year intervals until they are older than 20 years old, whereas those who receive examination at 5-year intervals (birth year FY1992, 1993) are excluded.

● The results of examinations with 5-year intervals will be shown separately. Those born in 1992 (22,000) will be examined in FY 2017, and those born in 1993 (22,000) in FY2018.

2.1-2 Participation rates by age group

Participation rate of age group 18 or older (age as of 1 April 2016) in municipalities screened during FY 2016 was 16.7%.

Participation rate of age group 18 or older (age as of 1 April 2017) in municipalities screened during FY 2017 was 16.2%.

Table 3. Participation rates in target municipalities by age group

As of 30 September 2018

	Age group (years)	Total	Age group (years)			
			4-7	8-12	13-17	18-23
FY 2016 target municipalities	Survey population (a)	191,876	36,620	51,003	56,840	47,413
	Participants (b)	126,174	26,425	45,553	46,267	7,929
	Proportion (%) (b/a)	65.8	72.2	89.3	81.4	16.7
	Age group (years)		5-7	8-12	13-17	18-24
FY 2017 target municipalities	Survey population (a)	144,793	19,316	37,165	41,995	46,317
	Participants (b)	91,352	14,957	33,947	34,966	7,482
	Proportion (%) (b/a)	63.1	77.4	91.3	83.3	16.2
	Age group (years)		5-7	8-12	13-17	18-24
Total	Survey population (a)	336,669	55,936	88,168	98,835	93,730
	Participants (b)	217,526	41,382	79,500	81,233	15,411
	Proportion (%) (b/a)	64.6	74.0	90.2	82.2	16.4

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

2.1-3 Comparison of Full-scale Thyroid Screenings

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

Among 201,313 participants who were diagnosed as A1 or A2 in the Second-Round Examination, 200,621(99.7%) had A1 or A2 results, and 692 (0.3%) were diagnosed as B in the Third-Round Examination Program.

Among 1,138 participants who were diagnosed as B in the Second-Round Examination, 438 (38.5%) had A1 or A2 results, and 700 (61.5%) were diagnosed as B in the Third-Round Examination Program.

Table 4. Comparison of Full-scale Thyroid Screenings

As of 30 September 2018

			Results of the Second-round Examination*1 (%) a	Results of the Third-Round Examination *2			
				A		B d d/a (%)	C e e/a (%)
				A1 b b/a (%)	A2 c c/a (%)		
Results of the Second-round Examination	A	A1	79,666 (100.0)	57,558 (72.2)	21,973 (27.6)	135 (0.2)	0 (0.0)
		A2	121,647 (100.0)	12,143 (10.0)	108,947 (89.6)	557 (0.5)	0 (0.0)
	B		1,138 (100.0)	62 (5.4)	376 (33.0)	700 (61.5)	0 (0.0)
	C		0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
	No participation		15,062 (100.0)	6,475 (43.0)	8,494 (56.4)	93 (0.6)	0 (0.0)
Total			217,513 (100.0)	76,238 (35.0)	139,790 (64.3)	1,485 (0.7)	0 (0.0)

*1 Upper figures show the results of Second-Round Examination of those who confirmed of Third-Round results.

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

*2 Upper figures are the breakdowns of Third-Round Examination against Second-Round results. Lower figures are the ratios(%).

2.2 Results of Confirmatory Examination

2.2-1 Progress Report

Confirmatory Examinations have been conducted since October 2016 and so far 1,024 of 1,485 people (69.0%) have received the examination. Of those, 933 (91.1%) have completed. (Examination status of each region is as in Appendix 5)

Of the foregoing 933 participants, 100 (7 of A1 and 93 of A2 results, 10.7%) were confirmed to meet A1 or A2 diagnostic criteria by the Primary Examination standards (including those with other thyroid conditions). Remaining 833 (89.3%) people were confirmed to be outside of A1/A2 criteria.

Table 5. Confirmatory testing coverage and results

As of 30 September 2018

	Number of those requiring confirmatory test a	Participants Proportion (%) b (b/a)	Confirmatory test coverage (%) c (c/b)	Confirmed test results			
				A1 d (d/c)	A2 e (e/c)	Follow-up advised	
						f (f/c)	Cytology g (g/f)
FY 2016	796	594 (74.6)	560 (94.3)	5 (0.9)	55 (9.8)	500 (89.3)	34 (6.8)
FY 2017	689	430 (62.4)	373 (86.7)	2 (0.5)	38 (10.2)	333 (89.3)	20 (6.0)
Total	1,485	1,024 (69.0)	933 (91.1)	7 (0.8)	93 (10.0)	833 (89.3)	54 (6.5)

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

Among those who underwent FNAC, 18 had nodules classified as suspicious or malignant.

8 of them were male, and 10 were female. Age at the time of the confirmatory testing ranged from 12 to 23 years (mean age: 16.7±2.9 years). The minimum and maximum tumor diameters were 5.6 and 33.0 mm. Mean tumor diameter was 14.5 ± 7.1 mm.

Results from the full-scale examination (the second-round examination) of the 18 people showed that 10 were A (2 were A1 and 8 were A2), 5 were B and three have not yet had the examination.

Table 6. Results of FNAC

Served municipalities in FY 2016

Suspicious or malignant	12*)
Male to female ratio	6:6

Served municipalities in FY 2017

Suspicious or malignant	6 *)
Male to female ratio	2:4

Total

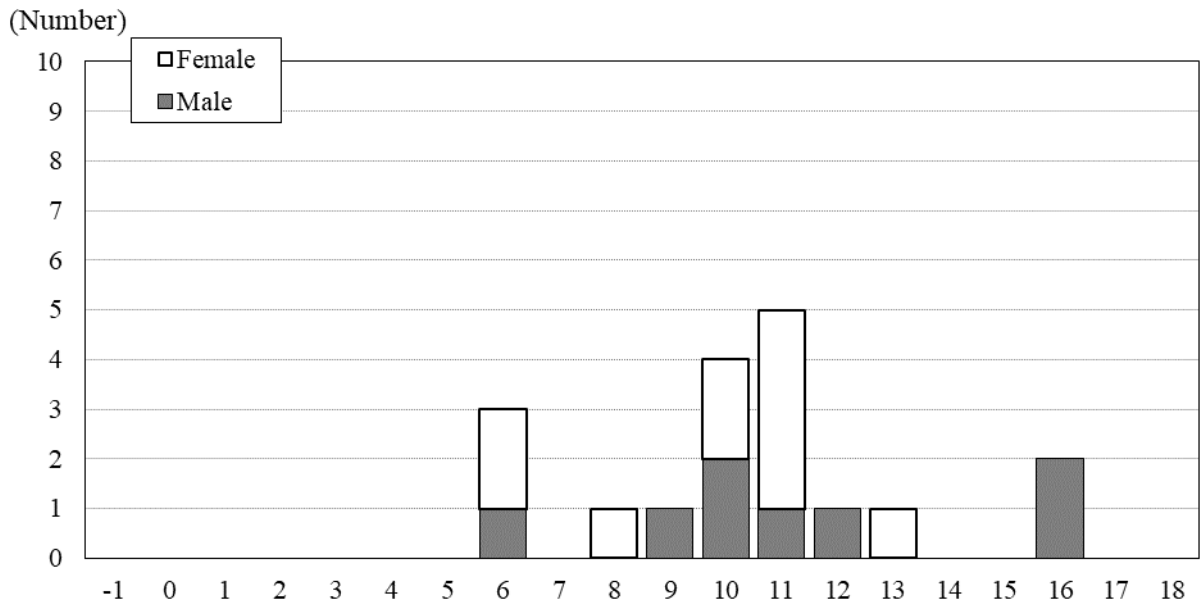
Suspicious or malignant	18 *)
Male to female ratio	8:10
Mean age (SD, min-max)	16.7(2.9, 12-23), 10.4 (2.9, 6-16) at the time of the disaster
Mean tumor size	14.5 mm (7.1 mm, 5.6-33.0 mm)

*) Surgical cases are as shown in Appendix 6.

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

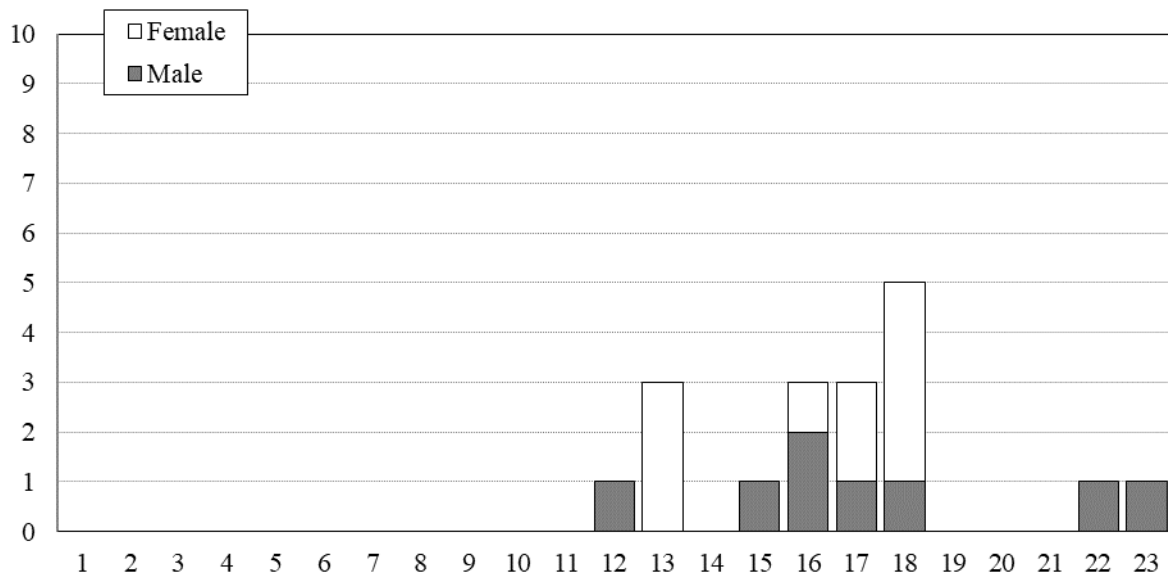
Age distributions of 18 people classified as malignant or suspicious with their age as of 11 March 2011 is as Table 3, with their age as of confirmatory examination is as Table 4.

Fig.3 Age as of 11 March 2011



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

Fig. 4 Age as of the date of confirmatory examination



2.2-4 The results of Basic Survey of those who classified as malignant or suspicious cases by FNAC

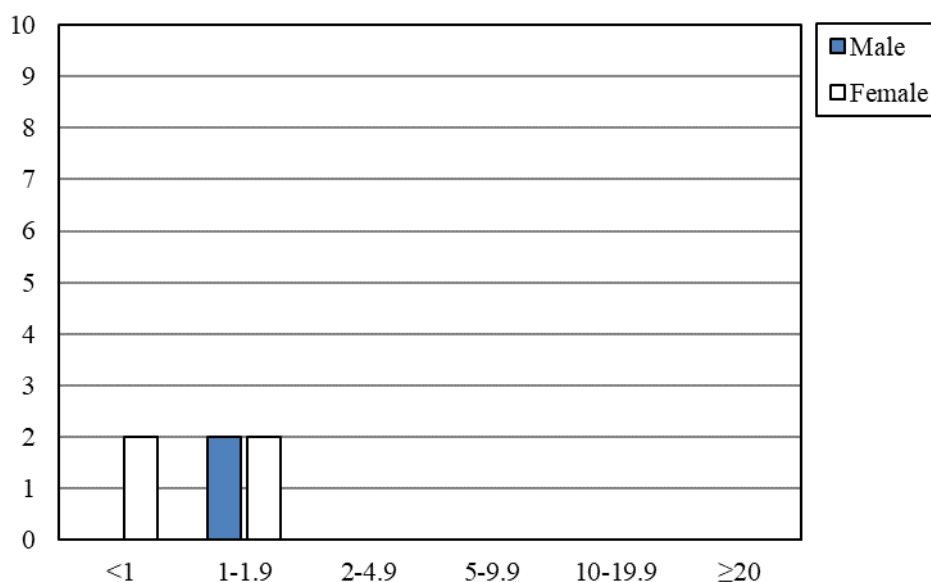
6 (33.3%) of the 18 people participated in the Basic Survey (radiation dose estimates), and 6 received the results. The highest effective dose documented was 1.5 mSv.

Table 7. A breakdown of dose estimates for participants of the Basic Survey As of 30 September 2018

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	2	0	0	0	2
1-1.9	0	0	1	1	1	1	0	0	2	2
2-4.9	0	0	0	0	0	0	0	0	0	0
5-9.9	0	0	0	0	0	0	0	0	0	0
10-19.9	0	0	0	0	0	0	0	0	0	0
≥20	0	0	0	0	0	0	0	0	0	0
Total	0	0	1	1	1	3	0	0	2	4

● Estimates are based on effective external radiation doses.

Fig. 5 Effective dose of the respondents



2.2-5 Blood and urinary iodine test results as of 30 September 2018

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

	FT4 1) (ng/dL)	FT3 2) (pg/mL)	TSH 3) (μIU/mL)	Tg 4) (ng/mL)	TgAb 5) (IU/mL)	TPOAb 6) (IU/mL)
Reference Range	0.95-1.74 7)	2.13-4.07 7)	0.340-3.880 7)	≤33.7	<28.0	<16.0
18 suspicious or malignant	1.2 ± 0.2 (5.6%)	3.5 ± 0.7 (16.7%)	1.6 ± 1.0 (16.7%)	33.5 ± 40.7 (38.9%)	— (16.7%)	— (11.1%)
Other 888	1.2 ± 0.2 (6.0%)	3.5 ± 0.5 (6.3%)	1.4 ± 4.6 (9.3%)	27.8 ± 97.9 (13.9%)	— (8.2%)	— (13.7%)

Table 9. Urinary iodine (μg/day) □

	Minimum	25th percentile	Median	75th percentile	Maximum
18 suspicious or malignant		69	144	229	3510
Other 891		26	109	171	8910

- 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.

2.2-6 Confirmatory test results by area as of 30 September 2018

The proportion of malignancy or suspicious of malignancy was 0.02% in 13 municipalities in the nationally designated evacuation zones, 0.01% in Nakadori, Hamadori and Aizu.

Table 10 Confirmatory test results by area

	Number of those screened	Participants who required confirmatory	Proportion who required confirmatory	Number who underwent confirmatory	Suspicious or malignant cases	Proportion of suspicious or malignant cases
13 municipalities 1)	27,038	211	0.8	157	5	0.02
Nakadori 2)	121,715	751	0.6	549	8	0.01
Hamadori 3)	41,209	321	0.8	191	3	0.01
Aizu 4)	27,564	202	0.7	127	2	0.01
Total	217,526	1,485	0.7	1,024	18	0.01

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

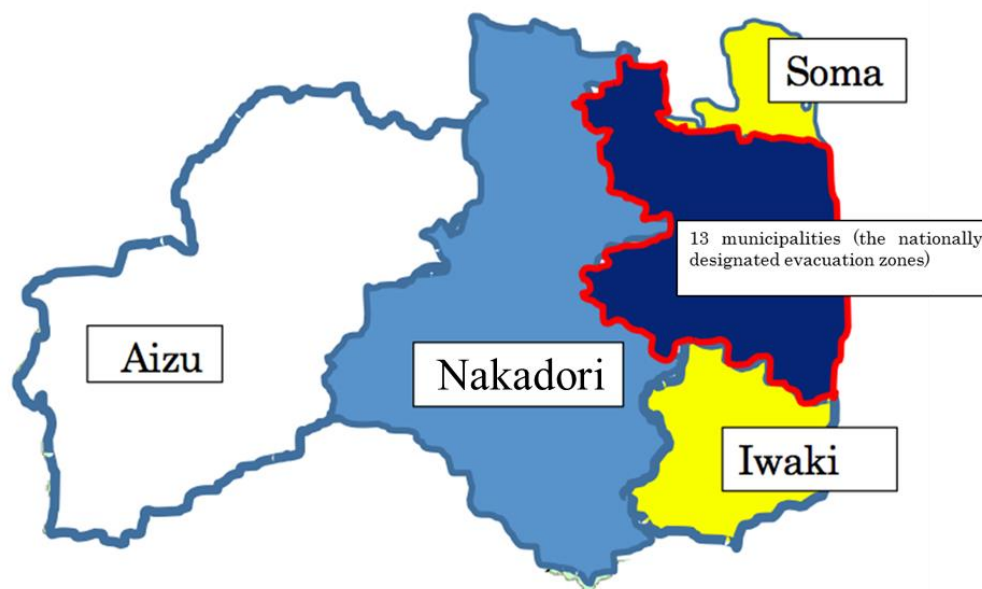


Fig.6 Regional division

2.3 Mental Health Care

2.3-1 Support for participants of primary examination

Since July 2015, we offer person-to-person explanations to participants at public venues where primary examinations take place. After the examination, medical doctors explain the results showing the ultrasound image in private consultation booths at the venue. As of 30 September 2018, 27,585 (84.8%) of 32,538 participants visited the consultation booths. In case the booths cannot be set up at school, alternatives such as briefing sessions at schools and telephonic supports are offered.

※ The number of those who used the consultation booths includes participants receiving the second round.

2.3-2 Support for participants of confirmatory examination

We have set up a support team for participants of the confirmatory examination within Fukushima Medical University to address their anxiety and concerns, as well as online support for Q&A and counseling.

Since the start of full-scale thyroid screening, 1,170 participants (411 males and 759 females) have received support as of 30 September 2018. The number of supports provided was 2,410 in total. Of these, 1,342 (55.7%) received support at their first examination and 1,007 (41.8%) at subsequent examination (includes 136 (5.6%) at FNAC) – and 61 (2.5%) at informed consent.

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

※ The number of those who used the consultation booths at Confirmatory Examination includes participants receiving the examination second time.

Appendix 1

Thyroid ultrasound examination (TUE) coverage by municipality

As of 30 September 2018

	Survey population a	Participants		Proportion (%) b/a	Number and proportion*2 of participants by age group				Participants living outside Fukushima c*3	Proportion (%) c/b
		b	Screened outside Fukushima*1		4-9	10-14	15-19	≥20		
Screening coverage by municipality in FY 2016										
Kawamata	2,142	1,405	34	65.6	408 29.0	544 38.7	409 29.1	44 3.1	56	4.0
Namie	3,315	1,951	506	58.9	581 29.8	664 34.0	576 29.5	130 6.7	588	30.1
Iitate	987	603	23	61.1	174 28.9	261 43.3	151 25.0	17 2.8	32	5.3
Minami-soma	11,540	7,059	1,233	61.2	2,208 31.3	2,726 38.6	1,839 26.1	286 4.1	1,283	18.2
Date	10,210	7,079	242	69.3	2,028 28.6	2,674 37.8	2,095 29.6	282 4.0	263	3.7
Tamura	6,344	4,053	98	63.9	1,269 31.3	1,594 39.3	1,105 27.3	85 2.1	144	3.6
Hirono	975	541	64	55.5	163 30.1	185 34.2	154 28.5	39 7.2	62	11.5
Naraha	1,281	769	99	60.0	214 27.8	270 35.1	222 28.9	63 8.2	96	12.5
Tomioka	2,751	1,474	298	53.6	392 26.6	509 34.5	451 30.6	122 8.3	325	22.0
Kawauchi	297	171	15	57.6	47 27.5	72 42.1	49 28.7	3 1.8	15	8.8
Okuma	2,259	1,341	270	59.4	418 31.2	496 37.0	349 26.0	78 5.8	300	22.4
Futaba	1,133	463	117	40.9	139 30.0	184 39.7	117 25.3	23 5.0	126	27.2
Katsurao	211	129	4	61.1	36 27.9	50 38.8	32 24.8	11 8.5	8	6.2
Fukushima	49,340	34,036	2,090	69.0	10,279 30.2	12,202 35.9	10,178 29.9	1,377 4.0	2,383	7.0
Nihonmatsu	9,308	6,340	229	68.1	1,955 30.8	2,456 38.7	1,747 27.6	182 2.9	251	4.0
Motomiya	5,615	3,897	124	69.4	1,316 33.8	1,445 37.1	1,030 26.4	106 2.7	122	3.1
Otama	1,468	1,051	34	71.6	358 34.1	405 38.5	256 24.4	32 3.0	35	3.3
Koriyama	59,469	38,051	2,840	64.0	11,582 30.4	14,398 37.8	10,611 27.9	1,460 3.8	3,053	8.0
Kori	1,854	1,352	38	72.9	424 31.4	501 37.1	370 27.4	57 4.2	41	3.0
Kunimi	1,405	1,015	29	72.2	275 27.1	385 37.9	304 30.0	51 5.0	28	2.8
Tenei	966	634	24	65.6	191 30.1	258 40.7	164 25.9	21 3.3	24	3.8
Shirakawa	11,352	7,638	290	67.3	2,261 29.6	2,853 37.4	2,251 29.5	273 3.6	350	4.6
Nishigo	3,722	2,558	110	68.7	787 30.8	951 37.2	705 27.6	115 4.5	129	5.0
Izumizaki	1,163	798	12	68.6	239 29.9	310 38.8	222 27.8	27 3.4	21	2.6
Miharu	2,769	1,766	46	63.8	454 25.7	628 35.6	596 33.7	88 5.0	52	2.9
Subtotal	191,876	126,174	8,869	65.8	38,198 30.3	47,021 37.3	35,983 28.5	4,972 3.9	9,787	7.8

*1) The number of participants examined at facilities outside Fukushima or by teams dispatched from FMU (as of 31 August 2018)

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

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

● Age groups were formed based on the age at the full-scale screening (third-round examination). This applies to other tables as well.

As of 30 September 2018

	Survey population a	Participants		Proportion (%) b/a	Number and proportion*2 of participants by age group				Participants living outside Fukushima c*3	Proportion (%) c/b
		b	Screened outside Fukushima*1		4-9	10-14	15-19	≥20		
Screening coverage by municipality in FY 2017										
Iwaki	56,810	36,545	1,997	64.3	8,792 24.1	13,724 37.6	11,601 31.7	2,428 6.6	1,965	5.4
Sukagawa	14,113	9,230	273	65.4	2,570 27.8	3,476 37.7	2,699 29.2	485 5.3	289	3.1
Soma	6,252	3,816	255	61.0	1,137 29.8	1,410 36.9	1,110 29.1	159 4.2	284	7.4
Kagamiishi	2,417	1,587	44	65.7	436 27.5	614 38.7	470 29.6	67 4.2	46	2.9
Shinchi	1,320	848	34	64.2	212 25.0	333 39.3	263 31.0	40 4.7	44	5.2
Nakajima	972	644	6	66.3	177 27.5	240 37.3	202 31.4	25 3.9	7	1.1
Yabuki	3,041	1,959	42	64.4	632 32.3	736 37.6	519 26.5	72 3.7	55	2.8
Ishikawa	2,530	1,606	36	63.5	485 30.2	591 36.8	470 29.3	60 3.7	50	3.1
Yamatsuri	930	578	16	62.2	187 32.4	219 37.9	148 25.6	24 4.2	14	2.4
Asakawa	1,210	819	27	67.7	214 26.1	316 38.6	251 30.6	38 4.6	38	4.6
Hirata	1,101	691	8	62.8	208 30.1	268 38.8	196 28.4	19 2.7	13	1.9
Tanagura	2,749	1,748	40	63.6	536 30.7	677 38.7	479 27.4	56 3.2	47	2.7
Hanawa	1,492	889	27	59.6	260 29.2	348 39.1	242 27.2	39 4.4	26	2.9
Samegawa	617	381	12	61.8	120 31.5	154 40.4	96 25.2	11 2.9	16	4.2
Ono	1,716	1,028	20	59.9	318 30.9	423 41.1	254 24.7	33 3.2	19	1.8
Tamakawa	1,210	797	10	65.9	222 27.9	333 41.8	220 27.6	22 2.8	11	1.4
Furudono	946	622	16	65.8	197 31.7	232 37.3	158 25.4	35 5.6	14	2.3
Hinoemata	94	47	5	50.0	14 29.8	13 27.7	17 36.2	3 6.4	4	8.5
Minami-aizu	2,512	1,471	25	58.6	437 29.7	559 38.0	428 29.1	47 3.2	21	1.4
Kaneyama	177	89	1	50.3	19 21.3	42 47.2	25 28.1	3 3.4	2	2.2
Showa	127	73	2	57.5	26 35.6	26 35.6	20 27.4	1 1.4	3	4.1
Mishima	174	107	1	61.5	24 22.4	44 41.1	37 34.6	2 1.9	1	0.9
Shimogo	873	527	8	60.4	160 30.4	200 38.0	148 28.1	19 3.6	8	1.5
Kitakata	8,079	4,917	101	60.9	1,336 27.2	1,903 38.7	1,518 30.9	160 3.3	105	2.1
Nishiaizu	885	476	9	53.8	135 28.4	175 36.8	145 30.5	21 4.4	15	3.2
Tadami	642	391	7	60.9	119 30.4	147 37.6	112 28.6	13 3.3	6	1.5
Inawashiro	2,383	1,502	39	63.0	456 30.4	560 37.3	420 28.0	66 4.4	46	3.1
Bandai	555	355	9	64.0	105 29.6	143 40.3	98 27.6	9 2.5	12	3.4
Kitashiohara	502	318	7	63.3	98 30.8	129 40.6	79 24.8	12 3.8	8	2.5
Aizumisato	3,311	2,059	41	62.2	568 27.6	832 40.4	563 27.3	96 4.7	43	2.1
Aizubange	2,790	1,733	48	62.1	489 28.2	679 39.2	490 28.3	75 4.3	37	2.1
Yanaizu	538	342	4	63.6	103 30.1	129 37.7	96 28.1	14 4.1	4	1.2
Aizuwakamatsu	21,119	12,745	395	60.3	3,585 28.1	4,811 37.7	3,915 30.7	434 3.4	420	3.3
Yugawa	606	412	5	68.0	121 29.4	159 38.6	115 27.9	17 4.1	5	1.2
Subtotal	144,793	91,352	3,570	63.1	24,498 26.8	34,645 37.9	27,604 30.2	4,605 5.0	3,678	4.0
Total	336,669	217,526	12,439	64.6	62,696 28.8	81,666 37.5	63,587 29.2	9,577 4.4	13,465	6.2

Appendix 2

Thyroid ultrasound examination (TUE) coverage by prefecture

As of 31 August 2018

Prefecture	Number of test venues	Participants *	Prefecture	Number of test venues	Participants *	Prefecture	Number of test venues	Participants *
Hokkaido	7	354	Fukui	1	23	Hiroshima	2	33
Aomori	2	143	Yamanashi	2	105	Yamaguchi	1	22
Iwate	3	306	Nagano	2	139	Tokushima	1	9
Miyagi	2	2,541	Gifu	1	42	Kagawa	1	17
Akita	1	183	Shizuoka	2	112	Ehime	1	12
Yamagata	3	594	Aichi	4	223	Kochi	1	14
Ibaraki	4	765	Mie	1	25	Fukuoka	3	83
Tochigi	7	750	Shiga	1	22	Saga	1	5
Gunma	2	233	Kyoto	3	99	Nagasaki	2	27
Saitama	3	582	Osaka	7	232	Kumamoto	1	31
Chiba	4	544	Hyogo	2	138	Oita	1	14
Tokyo	15	2,114	Nara	2	30	Miyazaki	1	29
Kanagawa	5	1,027	Wakayama	1	6	Kagoshima	1	19
Niigata	2	587	Tottori	1	10	Okinawa	1	54
Toyama	2	23	Shimane	1	15			
Ishikawa	1	43	Okayama	3	60			
						Total	115	12,439

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

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

Appendix 3

Results of primary examination by municipality

As of 30 September 2018

	Participants a	Confirmed results b Proportion (%) b/a (%)	Number by test results				Nodules		Cysts	
			Proportion (%)				Proportion (%)		Proportion (%)	
			A		B	C	≥5.1 mm	≤5.0 mm	≥20.1 mm	≤20.0 mm
			A1	A2						

Screening coverage by municipality in FY 2016

Kawamata	1,405	1,405	488	908	9	0	9	7	0	913
		100.0	34.7	64.6	0.6	0.0	0.6	0.5	0.0	65.0
Namie	1,951	1,950	651	1,283	16	0	16	9	0	1,286
		99.9	33.4	65.8	0.8	0.0	0.8	0.5	0.0	65.9
Iitate	603	603	202	397	4	0	4	2	0	397
		100.0	33.5	65.8	0.7	0.0	0.7	0.3	0.0	65.8
Minami-soma	7,059	7,059	2,564	4,443	52	0	52	31	0	4,466
		100.0	36.3	62.9	0.7	0.0	0.7	0.4	0.0	63.3
Date	7,079	7,079	2,455	4,574	50	0	50	23	0	4,598
		100.0	34.7	64.6	0.7	0.0	0.7	0.3	0.0	65.0
Tamura	4,053	4,053	1,490	2,517	46	0	46	22	0	2,542
		100.0	36.8	62.1	1.1	0.0	1.1	0.5	0.0	62.7
Hirono	541	541	193	344	4	0	4	3	0	343
		100.0	35.7	63.6	0.7	0.0	0.7	0.6	0.0	63.4
Naraha	769	769	293	473	3	0	3	2	0	474
		100.0	38.1	61.5	0.4	0.0	0.4	0.3	0.0	61.6
Tomioka	1,474	1,474	509	952	13	0	13	3	0	959
		100.0	34.5	64.6	0.9	0.0	0.9	0.2	0.0	65.1
Kawauchi	171	171	41	129	1	0	1	0	0	130
		100.0	24.0	75.4	0.6	0.0	0.6	0.0	0.0	76.0
Okuma	1,341	1,341	460	870	11	0	11	6	0	872
		100.0	34.3	64.9	0.8	0.0	0.8	0.4	0.0	65.0
Futaba	463	463	172	289	2	0	2	0	0	290
		100.0	37.1	62.4	0.4	0.0	0.4	0.0	0.0	62.6
Katsurao	129	129	50	79	0	0	0	1	0	79
		100.0	38.8	61.2	0.0	0.0	0.0	0.8	0.0	61.2
Fukushima	34,036	34,035	11,956	21,888	191	0	191	104	0	21,984
		100.0	35.1	64.3	0.6	0.0	0.6	0.3	0.0	64.6
Nihonmatsu	6,340	6,340	2,263	4,032	45	0	45	22	0	4,056
		100.0	35.7	63.6	0.7	0.0	0.7	0.3	0.0	64.0
Motomiya	3,897	3,897	1,356	2,524	17	0	17	8	0	2,535
		100.0	34.8	64.8	0.4	0.0	0.4	0.2	0.0	65.1
Otama	1,051	1,051	374	671	6	0	6	3	0	675
		100.0	35.6	63.8	0.6	0.0	0.6	0.3	0.0	64.2
Koriyama	38,051	38,050	13,054	24,761	235	0	235	130	0	24,868
		100.0	34.3	65.1	0.6	0.0	0.6	0.3	0.0	65.4
Kori	1,352	1,351	491	850	10	0	10	4	0	857
		99.9	36.3	62.9	0.7	0.0	0.7	0.3	0.0	63.4
Kunimi	1,015	1,015	336	671	8	0	8	2	0	676
		100.0	33.1	66.1	0.8	0.0	0.8	0.2	0.0	66.6
Tenei	634	634	213	414	7	0	7	1	0	419
		100.0	33.6	65.3	1.1	0.0	1.1	0.2	0.0	66.1
Shirakawa	7,638	7,638	2,661	4,937	40	0	40	23	0	4,960
		100.0	34.8	64.6	0.5	0.0	0.5	0.3	0.0	64.9
Nishigo	2,558	2,558	828	1,717	13	0	13	8	0	1,722
		100.0	32.4	67.1	0.5	0.0	0.5	0.3	0.0	67.3
Izumizaki	798	798	271	525	2	0	2	5	0	525
		100.0	34.0	65.8	0.3	0.0	0.3	0.6	0.0	65.8
Miharu	1,766	1,766	564	1,191	11	0	11	8	0	1,192
		100.0	31.9	67.4	0.6	0.0	0.6	0.5	0.0	67.5
Subtotal	126,174	126,170	43,935	81,439	796	0	796	427	0	81,818
		100.0	34.8	64.5	0.6	0.0	0.6	0.3	0.0	64.8

	Participants a	Confirmed results b Proportion (%) b/a (%)	Number by test results				Nodules		Cysts	
			Proportion (%)				Proportion (%)		Proportion (%)	
			A		B	C	≥5.1 mm	≤5.0 mm	≥20.1 mm	≤20.0 mm
			A1	A2						

Screening coverage by municipality in FY 2017

Iwaki	36,545	36,539 100.0	12,623 34.5	23,635 64.7	281 0.8	0 0.0	279 0.8	144 0.4	2 0.0	23,751 65.0
Sukagawa	9,230	9,230 100.0	3,227 35.0	5,921 64.1	82 0.9	0 0.0	82 0.9	45 0.5	0 0.0	5,962 64.6
Soma	3,816	3,816 100.0	1,533 40.2	2,250 59.0	33 0.9	0 0.0	33 0.9	20 0.5	0 0.0	2,268 59.4
Kagamiishi	1,587	1,585 99.9	524 33.1	1,049 66.2	12 0.8	0 0.0	12 0.8	7 0.4	0 0.0	1,055 66.6
Shinchi	848	848 100.0	306 36.1	535 63.1	7 0.8	0 0.0	7 0.8	4 0.5	0 0.0	537 63.3
Nakajima	644	644 100.0	226 35.1	415 64.4	3 0.5	0 0.0	3 0.5	4 0.6	0 0.0	414 64.3
Yabuki	1,959	1,959 100.0	681 34.8	1,270 64.8	8 0.4	0 0.0	8 0.4	4 0.2	0 0.0	1,273 65.0
Ishikawa	1,606	1,606 100.0	636 39.6	962 59.9	8 0.5	0 0.0	8 0.5	4 0.2	0 0.0	965 60.1
Yamatsuri	578	578 100.0	196 33.9	379 65.6	3 0.5	0 0.0	3 0.5	1 0.2	0 0.0	381 65.9
Asakawa	819	819 100.0	292 35.7	518 63.2	9 1.1	0 0.0	9 1.1	3 0.4	0 0.0	524 64.0
Hirata	691	691 100.0	271 39.2	415 60.1	5 0.7	0 0.0	5 0.7	2 0.3	0 0.0	416 60.2
Tanagura	1,748	1,748 100.0	631 36.1	1,107 63.3	10 0.6	0 0.0	10 0.6	8 0.5	0 0.0	1,114 63.7
Hanawa	889	889 100.0	322 36.2	558 62.8	9 1.0	0 0.0	9 1.0	5 0.6	0 0.0	561 63.1
Samegawa	381	381 100.0	139 36.5	239 62.7	3 0.8	0 0.0	3 0.8	3 0.8	0 0.0	241 63.3
Ono	1,028	1,028 100.0	309 30.1	711 69.2	8 0.8	0 0.0	8 0.8	3 0.3	0 0.0	715 69.6
Tamakawa	797	797 100.0	282 35.4	512 64.2	3 0.4	0 0.0	3 0.4	6 0.8	0 0.0	513 64.4
Furudono	622	622 100.0	238 38.3	381 61.3	3 0.5	0 0.0	3 0.5	2 0.3	0 0.0	382 61.4
Hinoemata	47	47 100.0	21 44.7	26 55.3	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	26 55.3
Minami-aizu	1,471	1,471 100.0	551 37.5	909 61.8	11 0.7	0 0.0	11 0.7	3 0.2	0 0.0	913 62.1
Kaneyama	89	89 100.0	31 34.8	57 64.0	1 1.1	0 0.0	1 1.1	1 1.1	0 0.0	57 64.0
Showa	73	73 100.0	34 46.6	38 52.1	1 1.4	0 0.0	1 1.4	0 0.0	0 0.0	38 52.1
Mishima	107	107 100.0	28 26.2	78 72.9	1 0.9	0 0.0	1 0.9	1 0.9	0 0.0	79 73.8
Shimogo	527	527 100.0	220 41.7	302 57.3	5 0.9	0 0.0	5 0.9	1 0.2	0 0.0	306 58.1
Kitakata	4,917	4,917 100.0	1,756 35.7	3,125 63.6	36 0.7	0 0.0	36 0.7	27 0.5	0 0.0	3,136 63.8
Nishiaizu	476	476 100.0	178 37.4	294 61.8	4 0.8	0 0.0	4 0.8	2 0.4	0 0.0	293 61.6
Tadami	391	391 100.0	144 36.8	245 62.7	2 0.5	0 0.0	2 0.5	1 0.3	0 0.0	247 63.2
Inawashiro	1,502	1,502 100.0	524 34.9	963 64.1	15 1.0	0 0.0	15 1.0	7 0.5	0 0.0	974 64.8
Bandai	355	355 100.0	131 36.9	222 62.5	2 0.6	0 0.0	2 0.6	2 0.6	0 0.0	223 62.8
Kitashiobara	318	318 100.0	107 33.6	209 65.7	2 0.6	0 0.0	2 0.6	1 0.3	0 0.0	209 65.7
Aizumisato	2,059	2,059 100.0	767 37.3	1,277 62.0	15 0.7	0 0.0	15 0.7	12 0.6	0 0.0	1,283 62.3
Aizubange	1,733	1,733 100.0	584 33.7	1,135 65.5	14 0.8	0 0.0	14 0.8	17 1.0	0 0.0	1,138 65.7
Yanaizu	342	342 100.0	123 36.0	219 64.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	219 64.0
Aizuwakamatsu	12,745	12,745 100.0	4,517 35.4	8,137 63.8	91 0.7	0 0.0	90 0.7	54 0.4	1 0.0	8,177 64.2
Yugawa	412	411 99.8	151 36.7	258 62.8	2 0.5	0 0.0	2 0.5	2 0.5	0 0.0	259 63.0
Subtotal	91,352	91,343 100.0	32,303 35.4	58,351 63.9	689 0.8	0 0.0	686 0.8	396 0.4	3 0.0	58,649 64.2
Total	217,526	217,513 100.0	76,238 35.0	139,790 64.3	1,485 0.7	0 0.0	1,482 0.7	823 0.4	3 0.0	140,467 64.6

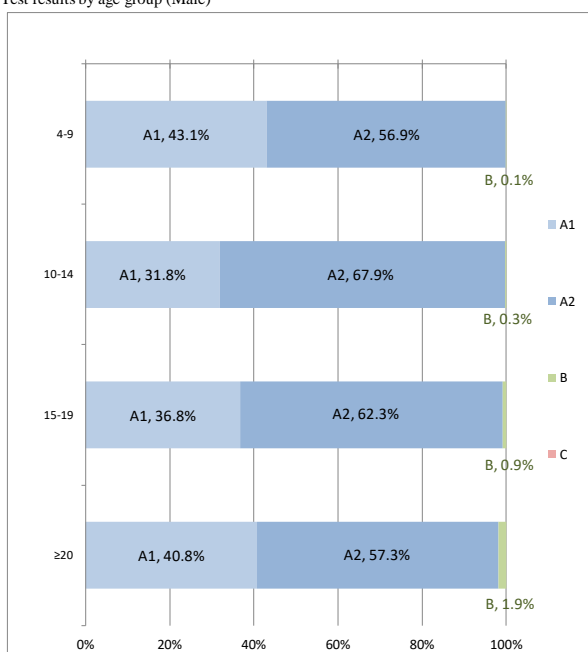
Appendix 4

1. Thyroid ultrasound examination results by age and sex

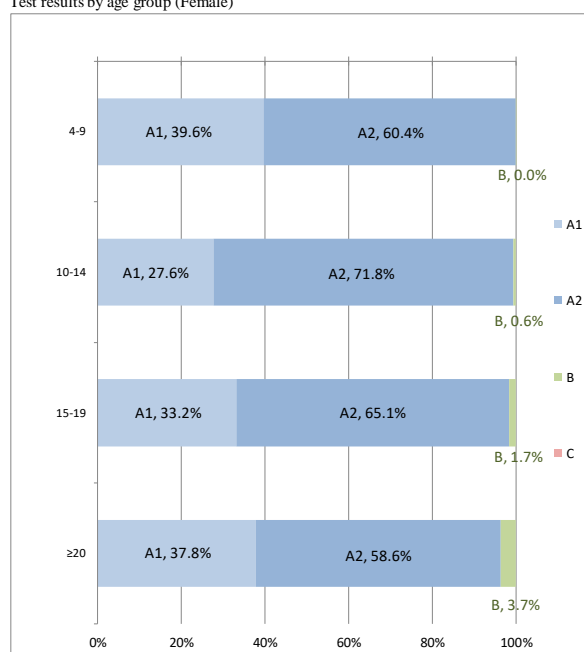
As of 30 September 2018

Ages	A						B			C			Total		
	A1			A2			Male	Female	Total	Male	Female	Total	Male	Female	Total
	Male	Female	Total	Male	Female	Total									
4-9	13,887	12,061	25,948	18,335	18,381	36,716	17	12	29	0	0	0	32,239	30,454	62,693
10-14	13,268	11,055	24,323	28,284	28,707	56,991	110	242	352	0	0	0	41,662	40,004	81,666
15-19	11,697	10,532	22,229	19,842	20,689	40,531	286	541	827	0	0	0	31,825	31,762	63,587
≥20	1,703	2,035	3,738	2,396	3,156	5,552	79	198	277	0	0	0	4,178	5,389	9,567
Total	40,555	35,683	76,238	68,857	70,933	139,790	492	993	1,485	0	0	0	109,904	107,609	217,513

Test results by age group (Male)



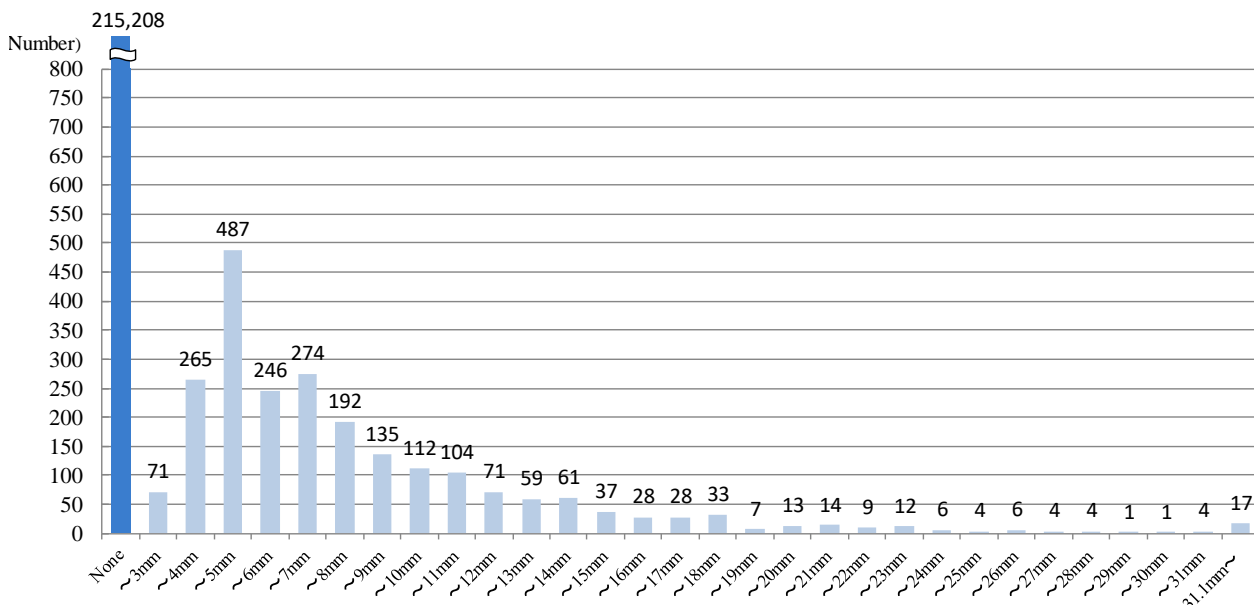
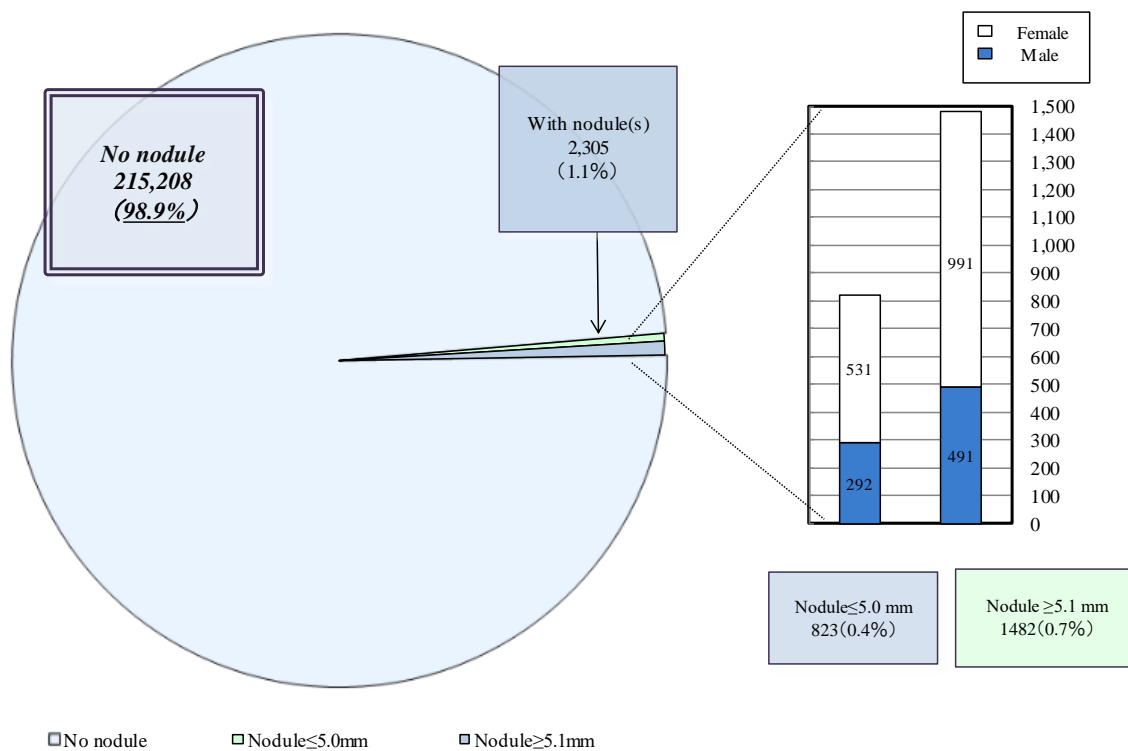
Test results by age group (Female)



2. Nodule characteristics

As of 30 September 2018

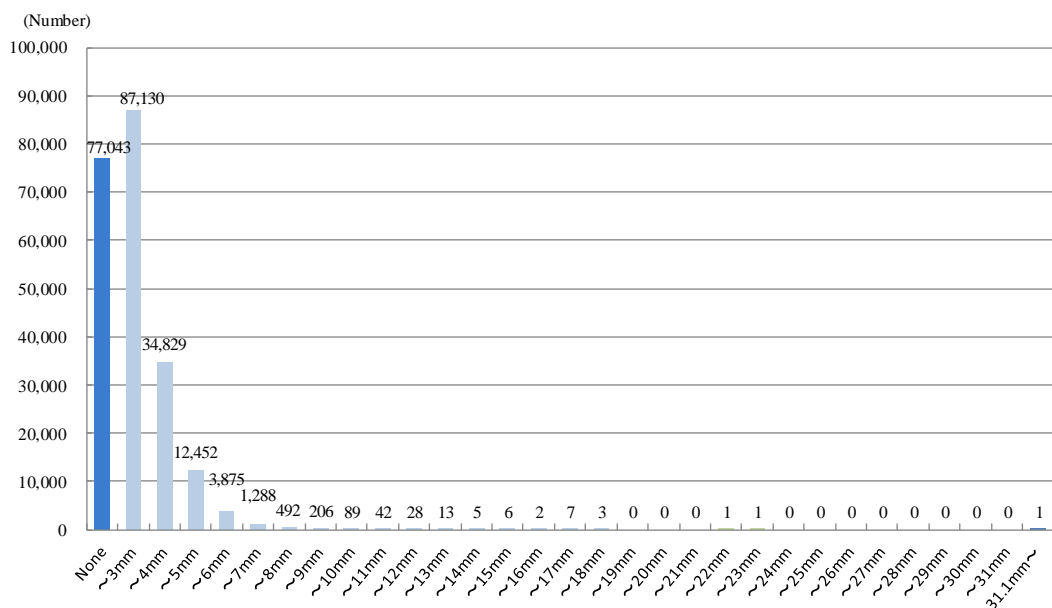
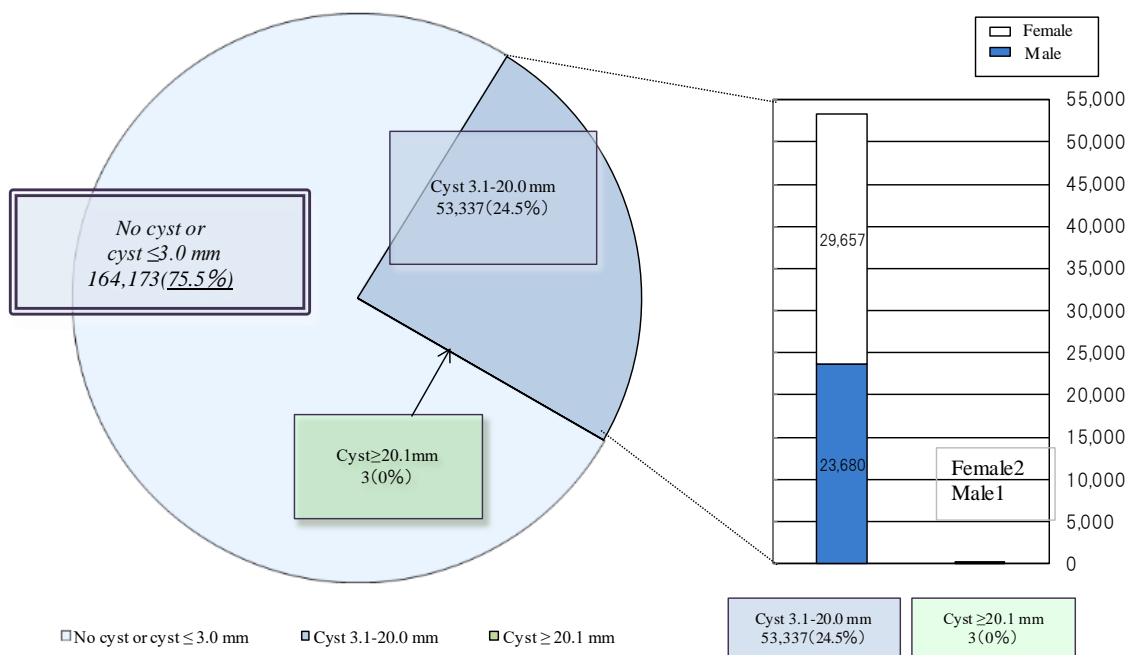
Nodule size	Total			Class	Proportion
	Male	Female			
None	109,121	106,087	215,208	A1	98.9%
≤ 3.0 mm	34	37	71	A2	0.4%
3.1-5.0 mm	258	494	752		
5.1-10.0 mm	326	633	959	B	0.7%
10.1-15.0 mm	110	222	332		
15.1-20.0 mm	27	82	109		
20.1-25.0 mm	17	28	45		
≥ 25.1 mm	11	26	37		
Total	109,904	107,609	217,513		



3. Cyst characteristics

As of 30 September 2018

Cyst size	Total	Gender		Class	Proportion
		Male	Female		
None	77,043	40,840	36,203	A1	75.5%
≤ 3.0 mm	87,130	45,383	41,747	A2	
3.1-5.0 mm	47,281	21,565	25,716		
5.1-10.0 mm	5,950	2,085	3,865		
10.1-15.0 mm	94	25	69		
15.1-20.0 mm	12	5	7	B	0.001%
20.1-25.0 mm	2	0	2		
≥ 25.1 mm	1	1	0		
Total	217,513	109,904	107,609		



Appendix 5

As of 30 September 2018

District	Number of those screened a	Participants who required confirmatory test b Proportion (%) b/a	Number of those who underwent confirmatory test					Number of confirmed results				
			Total c Proportion (%) c/b	Ages 4-9 d Proportion (%) d/c	Ages 10-14 e Proportion (%) e/c	Ages 15-19 f Proportion (%) f/c	≥ 20 g Proportion (%) g/c	Total h Proportion (%) h/c	A1 i Proportion (%) i/h	A2 j Proportion (%) j/h	Not A1 or A2	
											k Proportion (%) k/h	Aspiration biopsy cytology l Proportion (%) l/k
13 municipalities 1)	27,038	211 0.8	157 74.4	1 0.6	36 22.9	94 59.9	26 16.6	148 94.3	0 0.0	19 12.8	129 87.2	13 10.1
Nakadori 2)	121,715	751 0.6	549 73.1	14 2.6	110 20.0	315 57.4	110 20.0	518 94.4	5 1.0	42 8.1	471 90.9	28 5.9
Hamadori 3)	41,209	321 0.8	191 59.5	2 1.0	47 24.6	100 52.4	42 22.0	161 84.3	1 0.6	21 13.0	139 86.3	10 7.2
Aizu 4)	27,564	202 0.7	127 62.9	4 3.1	25 19.7	66 52.0	32 25.2	106 83.5	1 0.9	11 10.4	94 88.7	3 3.2
Total	217,526	1,485 0.7	1,024 69.0	21 2.1	218 21.3	575 56.2	210 20.5	933 91.1	7 0.8	93 10.0	833 89.3	54 6.5

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

Appendix 6

Surgical cases for malignancy or suspicion of malignancy

1. Served municipalities in FY 2016

Suspicious or malignant: 12 (10 surgical cases: 10 papillary thyroid carcinomas)

2. Served municipalities in FY 2017

Suspicious or malignant: 6 (3 surgical case: 3 papillary thyroid carcinomas)

3. Total for cases FY 2016 - 2017

Suspicious or malignant: 18 (13 surgical cases: 13 papillary thyroid carcinomas)

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

Reported on 27 December 2018

1. Summary

1.1 Purpose

In order to monitor the long-term health of children, following the Preliminary Baseline Screening for background assessment of thyroid glands, and Full-scale Thyroid Screening (the Second and Third round examination) to continuously confirm the status of thyroid glands, now we conduct the Full-scale Thyroid Screening Program (Fourth-round examination).

1.2 Group

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

1.3 Implementation Period

From April 2018 (schedule of FY 2018 and FY 2019):

1.3-1 18 years old or younger

The examination will be carried out for each municipality in FY 2018 and FY 2019.

1.3-2 19 years old or older

The examination will be carried out for each age (school grade).

FY 2018: those who were born in FY 1996 and FY 1998

FY 2019: those who were born in FY 1997 and FY 1999

1.3-3 Examination for 25 year-olds

For those who are older than 20, examination will be carried out with 5-year interval.

FY 2018: those who were born in FY 1993

FY 2019: those who were born in FY 1994

The results of these examinations will be reported separately.

1.4 Responsible Organizations

Fukushima Prefecture commissioned Fukushima Medical University (FMU) to conduct the survey in cooperation with medical institutions inside and outside Fukushima (the number of contracts is as of 30 September 2018).

1.4-1 Primary examination

Inside Fukushima Prefecture	74 medical institutions
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Outside Fukushima Prefecture	115 medical institutions
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1.4-2 Confirmatory examination

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

1.5-1 Primary Examination

We use ultrasonography for examination of the thyroid gland.

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

-Diagnostic Criteria (A)

A1: No nodules / cysts

A2: Nodules ≤ 5.0 mm or cysts ≤ 20.0 mm

-Diagnostic Criteria (B)

B: Nodules ≥ 5.1 mm or cysts ≥ 20.1 mm

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

-Diagnostic Criteria (C)

C: Immediate need for confirmatory examination.

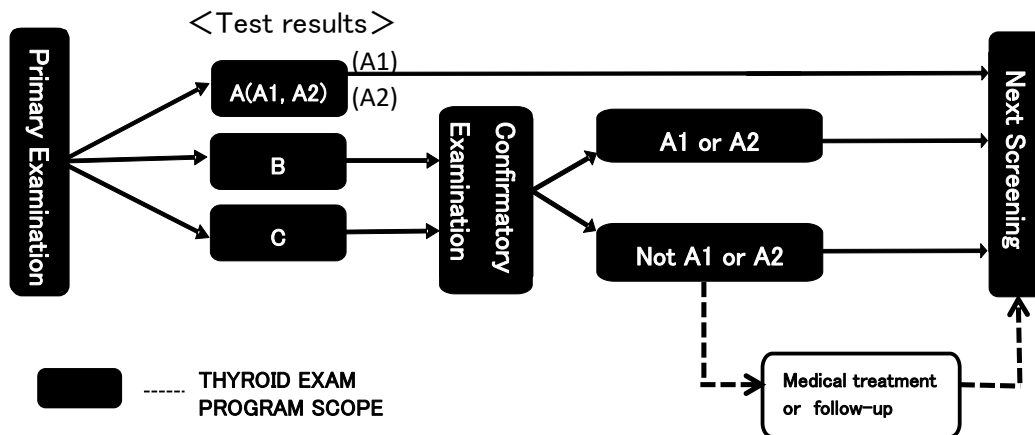
1.5-2 Confirmatory Examination

We conduct ultrasonography, blood test, urine test, and Fine-Needle Aspiration Cytology (FNAC) if needed for those with B or C test results. Priority is given to those in urgent clinical need.

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

1.5-3 Flow chart

Fig.1 Flow chart



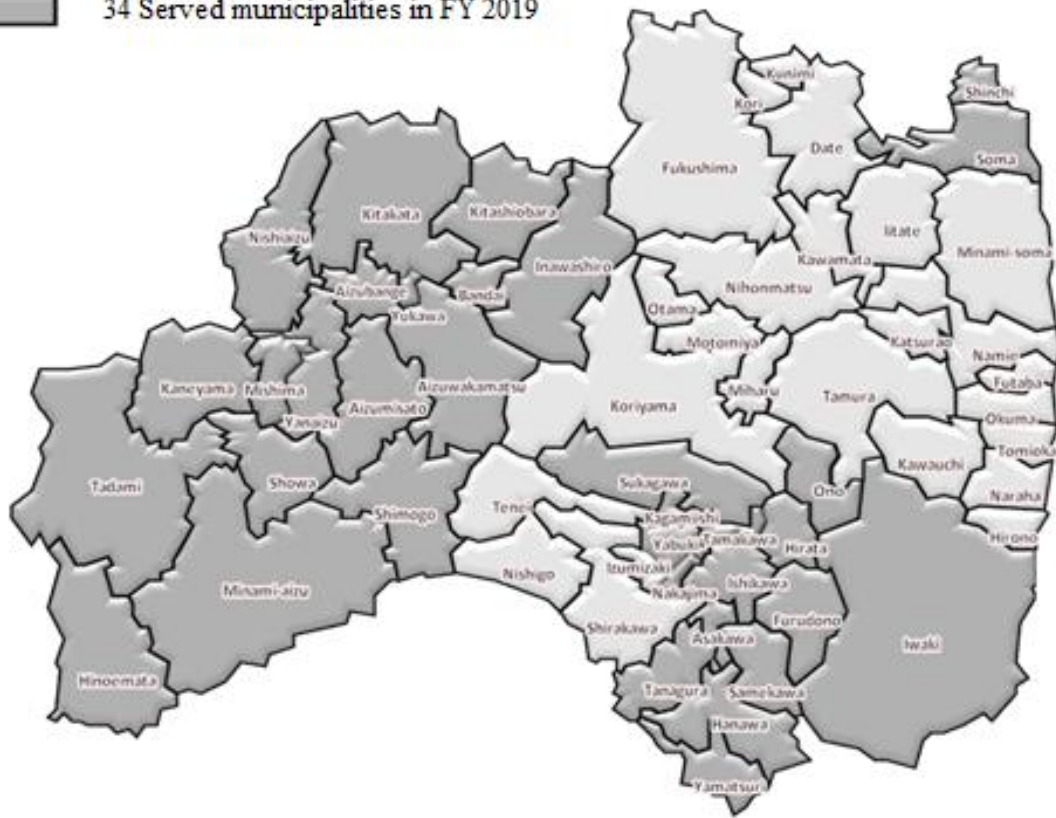
1.6 Municipalities

The municipalities where residents are examined in FY 2018 and FY 2019 are as follows (18 years old or younger):

Fig.2 Municipalities

25 Served municipalities in FY 2018

34 Served municipalities in FY 2019



2. Results as of 30 September 2018

2.1 Results of Primary Examination

2.1-1 Progress Report

The examination was carried out for 41,537 (14.1%) participants by 30 September 2018 (examination status for each municipality and prefectures other than Fukushima are shown in Appendix 1 and Appendix 2).

Results have been confirmed for 25,982 participants (62.6%) and notifications have been sent accordingly (the result for each municipality is shown as Appendix 3).

Thus far, 25,831 (99.4%) were classified as A (A1 or A2), 151 (0.6%) were B, and none was C.

Table 1. Screening test coverage

as of 30 September 2018

	Survey population a	Participants		Proportion (%) c (c/b)	Test results			
		Proportion (%) b (b/a)	Screened outside Fukushima		Class (%)			
					A		Requiring confirmatory test	
					A1 d (d/c)	A2 e (e/c)	B f (f/c)	C g (g/c)
FY 2018	167,766	39,946 (23.8)	2,780	25,146 (62.9)	8,778 (34.9)	16,226 (64.5)	142 (0.6)	0 (0.0)
FY 2019	126,099	1,591 (1.3)	148	836 (52.5)	294 (35.2)	533 (63.8)	9 (1.1)	0 (0.0)
Total	293,865	41,537 (14.1)	2,928	25,982 (62.6)	9,072 (34.9)	16,759 (64.5)	151 (0.6)	0 (0.0)

Table 2. Number and proportion with nodules/cysts

as of 30 September 2018

	Number of confirmed screening results a	Number and proportion of children with nodules/cysts			
		Nodules		Cysts	
		≥5.1 mm b (b/a)	≤5.0 mm c (c/a)	≥20.1 mm d (d/a)	≤20.0 mm e (e/a)
FY 2018	25,146	142 (0.6)	76 (0.3)	0 (0.0)	16,290 (64.8)
FY 2019	836	9 (1.1)	2 (0.2)	0 (0.0)	538 (64.4)
Total	25,982	151 (0.6)	78 (0.3)	0 (0.0)	16,828 (64.8)

●Decimal figures are rounded at lower decimal place and this applies to other tables as well.

●Those who receive examination at 5-year intervals (birth year FY1992 to 1995) are excluded. The results of examinations with 5-year intervals will be shown separately.

●The examinations for those born in FY 1992 (approx. 22,000) took place in FY 2017, for those born in FY 1993 (approx. 22,000) in FY 2018, for those born in FY 1994 (approx. 22,000) will be in FY 2019 and for those born in FY 1995 (approx. 21,000) will be in FY 2020.

2.1-2 Participation rates by age group

The participation rate for each age group as of 1 April of each year is as Table 3.

Table 3. Participation rates in target municipalities by age group

As of 30 September 2018

	Age group (years)	Total	Age group (years)		
			6-11	12-17	18-24
FY 2018 target municipalities	Age group (years)		6-11	12-17	18-24
	Survey population (a)	167,766	56,670	64,830	46,266
	Participants (b)	39,946	17,041	21,364	1,541
	Proportion (%) (b/a)	23.8	30.1	33.0	3.3
FY 2019 target municipalities	Age group (years)		7-11	12-17	18-24
	Survey population (a)	126,099	34,096	47,276	44,727
	Participants (b)	1,591	297	547	747
	Proportion (%) (b/a)	1.3	0.9	1.2	1.7
Total	Survey population (a)	293,865	90,766	112,106	90,993
	Participants (b)	41,537	17,338	21,911	2,288
	Proportion (%) (b/a)	14.1	19.1	19.5	2.5

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

2.1-3 Comparison of Full-scale Thyroid Screenings

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

Among 23,071 participants who were classified as A1 or A2 in the Third-Round Examination, 23,002 (99.7%) had A1 or A2 results, and 69 (0.3%) were classified as B in the Fourth-Round Examination Program.

Among 87 participants who were classified as B in the Third-Round Examination, 20 (23.0%) had A1 or A2 results, and 67 (77.0%) were classified as B in the Fourth-Round Examination Program.

Table 4. Comparison of Full-scale Thyroid Screenings

As of 30 September 2018

			Results of the Third-round Examination*1 (%) a	Results of the Fourth-Round Examination *2			
				A		B d d/a (%)	C e e/a (%)
				A1 b b/a (%)	A2 c c/a (%)		
Results of the Third-round Examination	A	A1	8,279 (100.0)	6,266 (75.7)	2,004 (24.2)	9 (0.1)	0 (0.0)
		A2	14,792 (100.0)	1,609 (10.9)	13,123 (88.7)	60 (0.4)	0 (0.0)
	B		87 (100.0)	0 (0.0)	20 (23.0)	67 (77.0)	0 (0.0)
	C		0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
	No participation		2,824 (100.0)	1,197 (42.4)	1,612 (57.1)	15 (0.5)	0 (0.0)
Total			25,982 (100.0)	9,072 (34.9)	16,759 (64.5)	151 (0.6)	0 (0.0)

*1 Upper figure shows the results of Third-Round Examination of those who confirmed of Fourth-Round results. It is not the breakdown of total of Third-Round results (217,513).

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

2.2 Results of Confirmatory Examination

2.2-1 Progress Report

By 30 September 2018, 39 of 151 people (25.8%) have received the examination. Of those, 7 (17.9%) have completed.

Of the foregoing 7 participants, 1 (1 of A2 results, 14.3%) was confirmed to meet A1 or A2 diagnostic criteria by the Primary Examination standards (including those with other thyroid conditions). Remaining 6 (85.7%) people were confirmed to be outside of A1/A2 criteria.

Table 5. Confirmatory testing coverage and results

As of 30 September 2018

	Number of those requiring confirmatory test a	Participants Proportion (%) b (b/a)	Confirmatory test coverage (%) c (c/b)	Confirmed test results			
				A1 d (d/c)	A2 e (e/c)	Follow-up advised	
						f (f/c)	Cytology g (g/f)
FY 2018	142	37 (26.1)	7 (18.9)	0 (0.0)	1 (14.3)	6 (85.7)	0 (0.0)
FY 2019	9	2 (22.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
合計	151	39 (25.8)	7 (17.9)	0 (0.0)	1 (14.3)	6 (85.7)	0 (0.0)

2.2-2 Blood and urinary iodine test results as of 30 September 2018

Table 6. Blood test results Mean±SD (Abnormal value)

	FT4 注3 (ng/dL)	FT3 注4 (pg/mL)	TSH 注5 (μIU/mL)	Tg 注6 (ng/mL)	TgAb 注7 (IU/mL)	TPOAb 注8 (IU/mL)
Reference Range	0.95~1.74 注9	2.13~4.07 注9	0.340~3.880 注9	33.7 以下	28.0 未満	16.0 未満
0 suspicious or malignant	-	-	-	-	-	-
Other 6	1.3 ± 0.2 (0.0%)	3.3 ± 0.4 (16.7%)	1.1 ± 0.4 (0.0%)	21.0 ± 4.3 (0.0%)	- (0.0%)	- (0.0%)

Table 7. Urinary iodine (μg/day)

(μg/day)

	Minimum	25th percentile	Median	75th percentile	Maximum
0 suspicious or malignant	-	-	-	-	-
Other 5	32	65.5	326	1593	2580

- 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.

3.1-1 Support for participants of primary examination

After the examination, medical doctors explain the results showing the ultrasound image in private consultation booths at the venue. As of 30 September 2018, 701 (100%) of 701 participants visited the consultation booths.

3.1-2 Briefing Sessions

To help participants or their parents improve their understanding of the thyroid examination, briefing sessions were carried out. Since April 2018, 343 people in 17 venues participated in the briefing sessions as of 30 September 2018.

3.1-3 Support for participants of confirmatory examination

We have set up a support team for participants of the confirmatory examination within Fukushima Medical University to address their anxiety and concerns, as well as online support for Q&A and counseling.

Since the start of full-scale thyroid screening (Fourth-Round Thyroid Ultrasound Examinations), 32 participants (14 males and 18 females) have received support as of 30 September 2018. The number of supports provided was 37 in total. Of these, 32 (86.5%) received support at their first examination and 5 (13.5%) at subsequent examination.

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

Appendix 1

Thyroid ultrasound examination (TUE) coverage by municipality

As of 30 September 2018

	Survey population a	Participants b		Proportion (%) b/a	Number and proportion*2 of participants by age group			Participants living outside Fukushima c*3	Proportion (%) c/b
		Screened outside Fukushima*1				6-11	12-17		
Kawamata	1,831			979		21	53.5	426 43.5	504 51.5
Namie	2,856	639	208	22.4	255 39.9	325 50.9	59 9.2	204	31.9
Iitate	852	312	13	36.6	117 37.5	182 58.3	13 4.2	13	4.2
Minami-soma	10,197	4,587	537	45.0	2,029 44.2	2,350 51.2	208 4.5	519	11.3
Date	8,780	5,180	100	59.0	2,189 42.3	2,722 52.5	269 5.2	92	1.8
Tamura	5,432	2,505	38	46.1	1,377 55.0	1,072 42.8	56 2.2	37	1.5
Hirono	800	250	24	31.3	131 52.4	113 45.2	6 2.4	22	8.8
Naraha	1,094	175	40	16.0	90 51.4	80 45.7	5 2.9	40	22.9
Tomioka	2,339	268	126	11.5	113 42.2	131 48.9	24 9.0	126	47.0
Kawauchi	267	79	9	29.6	36 45.6	43 54.4	0 0.0	9	11.4
Okuma	2,019	287	128	14.2	139 48.4	121 42.2	27 9.4	126	43.9
Futaba	977	106	44	10.8	54 50.9	45 42.5	7 6.6	42	39.6
Katsurao	174	36	2	20.7	16 44.4	18 50.0	2 5.6	2	5.6
Fukushima	43,227	12,976	1,134	30.0	4,221 32.5	7,598 58.6	1,157 8.9	1,070	8.2
Nihonmatsu	8,102	4,733	110	58.4	2,121 44.8	2,433 51.4	179 3.8	100	2.1
Motomiya	4,909	2,557	61	52.1	1,282 50.1	1,211 47.4	64 2.5	60	2.3
Otama	1,287	774	15	60.1	394 50.9	362 46.8	18 2.3	14	1.8
Koriyama	52,343	1,065	118	2.0	335 31.5	341 32.0	389 36.5	70	6.6
Kori	1,609	965	19	60.0	447 46.3	470 48.7	48 5.0	16	1.7
Kunimi	1,204	689	11	57.2	280 40.6	379 55.0	30 4.4	10	1.5
Tenei	839	12	0	1.4	3 25.0	4 33.3	5 41.7	0	0.0
Shirakawa	9,962	455	15	4.6	16 3.5	269 59.1	170 37.4	7	1.5
Nishigo	3,262	169	5	5.2	2 1.2	90 53.3	77 45.6	3	1.8
Izumizaki	1,024	37	0	3.6	2 5.4	17 45.9	18 48.6	0	0.0
Miharu	2,380	111	2	4.7	46 41.4	40 36.0	25 22.5	0	0.0
Subtotal	167,766	39,946	2,780	23.8	16,121 40.4	20,920 52.4	2,905 7.3	2,602	6.5

*1) The number of participants examined at facilities outside Fukushima or by teams dispatched from FMU (as of 31 August 2018)

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

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

● Age groups were formed based on the age at the full-scale screening (fourth-round examination). This applies to other tables hereafter.

	Survey population a	Participants		Proportion (%) b/a	Number and proportion*2 of participants by age group			Participants living outside Fukushima c*3	Proportion (%) c/b
		b	Screened outside Fukushima*1		6-11	12-17	≥18		
Screening coverage by municipality in FY 2019									
Iwaki	49,580	482	62	1.0	116 24.1	169 35.1	197 40.9	41	8.5
Sukagawa	12,371	162	21	1.3	31 19.1	25 15.4	106 65.4	7	4.3
Soma	5,506	239	11	4.3	57 23.8	141 59.0	41 17.2	8	3.3
Kagamiishi	2,132	24	4	1.1	3 12.5	4 16.7	17 70.8	2	8.3
Shinchi	1,159	49	2	4.2	8 16.3	32 65.3	9 18.4	0	0.0
Nakajima	846	23	1	2.7	2 8.7	12 52.2	9 39.1	1	4.3
Yabuki	2,671	65	3	2.4	6 9.2	30 46.2	29 44.6	3	4.6
Ishikawa	2,181	38	2	1.7	3 7.9	13 34.2	22 57.9	0	0.0
Yamatsuri	816	12	1	1.5	2 16.7	7 58.3	3 25.0	1	8.3
Asakawa	1,064	16	1	1.5	0 0.0	8 50.0	8 50.0	1	6.3
Hirata	968	21	2	2.2	5 23.8	4 19.0	12 57.1	1	4.8
Tanagura	2,398	54	4	2.3	4 7.4	41 75.9	9 16.7	4	7.4
Hanawa	1,297	22	0	1.7	1 4.5	20 90.9	1 4.5	0	0.0
Samegawa	519	4	0	0.8	0 0.0	4 100.0	0 0.0	0	0.0
Ono	1,488	36	1	2.4	12 33.3	15 41.7	9 25.0	1	2.8
Tamakawa	1,049	8	0	0.8	3 37.5	1 12.5	4 50.0	0	0.0
Furudono	817	17	4	2.1	3 17.6	2 11.8	12 70.6	3	17.6
Hinoemata	87	1	0	1.1	0 0.0	1 100.0	0 0.0	0	0.0
Minami-aizu	2,128	13	3	0.6	5 38.5	4 30.8	4 30.8	2	15.4
Kaneyama	147	0	0	0.0	0 0.0	0 0.0	0 0.0	0	0.0
Showa	115	2	0	1.7	0 0.0	0 0.0	2 100.0	0	0.0
Mishima	148	0	0	0.0	0 0.0	0 0.0	0 0.0	0	0.0
Shimogo	747	2	1	0.3	0 0.0	1 50.0	1 50.0	1	50.0
Kitakata	6,946	28	2	0.4	10 35.7	15 53.6	3 10.7	1	3.6
Nishiaizu	761	5	0	0.7	2 40.0	2 40.0	1 20.0	0	0.0
Tadami	555	7	1	1.3	2 28.6	1 14.3	4 57.1	0	0.0
Inawashiro	2,068	21	0	1.0	11 52.4	6 28.6	4 19.0	0	0.0
Bandai	477	0	0	0.0	0 0.0	0 0.0	0 0.0	0	0.0
Kitashiobara	444	0	0	0.0	0 0.0	0 0.0	0 0.0	0	0.0
Aizumisato	2,822	26	4	0.9	5 19.2	5 19.2	16 61.5	4	15.4
Aizubange	2,399	41	4	1.7	8 19.5	8 19.5	25 61.0	1	2.4
Yanaizu	463	4	0	0.9	0 0.0	0 0.0	4 100.0	0	0.0
Aizuwakamatsu	18,411	166	14	0.9	28 16.9	31 18.7	107 64.5	11	6.6
Yugawa	519	3	0	0.6	0 0.0	1 33.3	2 66.7	0	0.0
Subtotal	126,099	1,591	148	1.3	327 20.6	603 37.9	661 41.5	93	5.8
Total	293,865	41,537	2,928	14.1	16,448 39.6	21,523 51.8	3,566 8.6	2,695	6.5

Appendix 2

Thyroid ultrasound examination (TUE) coverage outside Fukushima by prefecture

As of 31 August 2018

Prefecture	Number of test venues	Participants *	Prefecture	Number of test venues	Participants *	Prefecture	Number of test venues	Participants *
Hokkaido	7	73	Fukui	1	6	Hiroshima	2	0
Aomori	2	44	Yamanashi	2	35	Yamaguchi	1	6
Iwate	3	79	Nagano	2	45	Tokushima	1	0
Miyagi	2	657	Gifu	1	6	Kagawa	1	9
Akita	1	45	Shizuoka	2	25	Ehime	1	0
Yamagata	3	171	Aichi	4	45	Kochi	1	6
Ibaraki	4	202	Mie	1	7	Fukuoka	3	29
Tochigi	7	207	Shiga	1	4	Saga	1	0
Gunma	2	54	Kyoto	3	31	Nagasaki	2	13
Saitama	3	162	Osaka	7	39	Kumamoto	1	3
Chiba	4	135	Hyogo	2	21	Oita	1	3
Tokyo	15	404	Nara	2	1	Miyazaki	1	5
Kanagawa	5	176	Wakayama	1	3	Kagoshima	1	1
Niigata	2	132	Tottori	1	5	Okinawa	1	4
Toyama	2	1	Shimane	1	7			
Ishikawa	1	12	Okayama	3	15			
						Total	115	2,928

●The number of participants represents those who received examination at facilities outside Fukushima

Appendix 3

Results of primary examination by municipality

As of 30 September 2018

	Participants a	Confirmed results b Proportion (%) b/a (%)	Number by test results				Nodules		Cysts	
			Proportion (%)				Proportion (%)		Proportion (%)	
			A		B	C	≥5.1 mm	≤5.0 mm	≥20.1 mm	≤20.0 mm
			A1	A2						

Screening coverage by municipality in FY 2018

Kawamata	979	810	277	530	3	0	3	1	0	533
		82.7	34.2	65.4	0.4	0.0	0.4	0.1	0.0	65.8
Namie	639	462	173	286	3	0	3	1	0	286
		72.3	37.4	61.9	0.6	0.0	0.6	0.2	0.0	61.9
Iitate	312	156	55	100	1	0	1	2	0	101
		50.0	35.3	64.1	0.6	0.0	0.6	1.3	0.0	64.7
Minami-soma	4,587	3,987	1,410	2,553	24	0	24	13	0	2,559
		86.9	35.4	64.0	0.6	0.0	0.6	0.3	0.0	64.2
Date	5,180	4,490	1,520	2,950	20	0	20	12	0	2,961
		86.7	33.9	65.7	0.4	0.0	0.4	0.3	0.0	65.9
Tamura	2,505	2,293	845	1,443	5	0	5	6	0	1,444
		91.5	36.9	62.9	0.2	0.0	0.2	0.3	0.0	63.0
Hirono	250	234	70	161	3	0	3	1	0	162
		93.6	29.9	68.8	1.3	0.0	1.3	0.4	0.0	69.2
Naraha	175	149	62	87	0	0	0	0	0	87
		85.1	41.6	58.4	0.0	0.0	0.0	0.0	0.0	58.4
Tomioka	268	193	71	122	0	0	0	0	0	122
		72.0	36.8	63.2	0.0	0.0	0.0	0.0	0.0	63.2
Kawauchi	79	74	28	46	0	0	0	0	0	46
		93.7	37.8	62.2	0.0	0.0	0.0	0.0	0.0	62.2
Okuma	287	212	78	133	1	0	1	0	0	134
		73.9	36.8	62.7	0.5	0.0	0.5	0.0	0.0	63.2
Futaba	106	88	32	56	0	0	0	0	0	56
		83.0	36.4	63.6	0.0	0.0	0.0	0.0	0.0	63.6
Katsurao	36	33	9	23	1	0	1	0	0	23
		91.7	27.3	69.7	3.0	0.0	3.0	0.0	0.0	69.7
Fukushima	12,976	3,053	1,058	1,971	24	0	24	17	0	1,980
		23.5	34.7	64.6	0.8	0.0	0.8	0.6	0.0	64.9
Nihonmatsu	4,733	4,016	1,352	2,632	32	0	32	13	0	2,650
		84.9	33.7	65.5	0.8	0.0	0.8	0.3	0.0	66.0
Motomiya	2,557	2,011	734	1,272	5	0	5	3	0	1,272
		78.6	36.5	63.3	0.2	0.0	0.2	0.1	0.0	63.3
Otama	774	533	175	357	1	0	1	0	0	358
		68.9	32.8	67.0	0.2	0.0	0.2	0.0	0.0	67.2
Koriyama	1,065	750	271	470	9	0	9	3	0	476
		70.4	36.1	62.7	1.2	0.0	1.2	0.4	0.0	63.5
Kori	965	836	305	529	2	0	2	1	0	529
		86.6	36.5	63.3	0.2	0.0	0.2	0.1	0.0	63.3
Kunimi	689	581	186	391	4	0	4	0	0	395
		84.3	32.0	67.3	0.7	0.0	0.7	0.0	0.0	68.0
Tenei	12	7	3	4	0	0	0	0	0	4
		58.3	42.9	57.1	0.0	0.0	0.0	0.0	0.0	57.1
Shirakawa	455	88	31	54	3	0	3	2	0	56
		19.3	35.2	61.4	3.4	0.0	3.4	2.3	0.0	63.6
Nishigo	169	13	1	12	0	0	0	1	0	11
		7.7	7.7	92.3	0.0	0.0	0.0	7.7	0.0	84.6
Izumizaki	37	6	4	2	0	0	0	0	0	2
		16.2	66.7	33.3	0.0	0.0	0.0	0.0	0.0	33.3
Miharu	111	71	28	42	1	0	1	0	0	43
		64.0	39.4	59.2	1.4	0.0	1.4	0.0	0.0	60.6
Subtotal	39,946	25,146	8,778	16,226	142	0	142	76	0	16,290
		62.9	34.9	64.5	0.6	0.0	0.6	0.3	0.0	64.8

	Participants a	Confirmed results b Proportion (%) b/a (%)	Number by test results				Nodules		Cysts	
			Proportion (%)				Proportion (%)		Proportion (%)	
			A		B	C	≥5.1 mm	≤5.0 mm	≥20.1 mm	≤20.0 mm
			A1	A2						
Iwaki	482	343 71.2	123 35.9	218 63.6	2 0.6	0 0.0	2 0.6	0 0.0	0 0.0	220 64.1
Sukagawa	162	86 53.1	28 32.6	58 67.4	0 0.0	0 0.0	0 0.0	1 1.2	0 0.0	58 67.4
Soma	239	116 48.5	37 31.9	76 65.5	3 2.6	0 0.0	3 2.6	0 0.0	0 0.0	79 68.1
Kagamiishi	24	10 41.7	0 0.0	8 80.0	2 20.0	0 0.0	2 20.0	0 0.0	0 0.0	8 80.0
Shinchi	49	24 49.0	7 29.2	17 70.8	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	17 70.8
Nakajima	23	4 17.4	4 100.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0
Yabuki	65	8 12.3	4 50.0	4 50.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	4 50.0
Ishikawa	38	15 39.5	6 40.0	9 60.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	9 60.0
Yamatsuri	12	3 25.0	1 33.3	2 66.7	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	2 66.7
Asakawa	16	4 25.0	2 50.0	2 50.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	2 50.0
Hirata	21	15 71.4	5 33.3	10 66.7	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	10 66.7
Tanagura	54	10 18.5	4 40.0	6 60.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	6 60.0
Hanawa	22	6 27.3	4 66.7	2 33.3	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	2 33.3
Samegawa	4	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0
Ono	36	30 83.3	13 43.3	16 53.3	1 3.3	0 0.0	1 3.3	0 0.0	0 0.0	17 56.7
Tamakawa	8	5 62.5	0 0.0	5 100.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	5 100.0
Furudono	17	10 58.8	4 40.0	6 60.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	6 60.0
Hinoemata	1	1 100.0	0 0.0	1 100.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	1 100.0
Minami-aizu	13	7 53.8	4 57.1	3 42.9	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	3 42.9
Kaneyama	0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0
Showa	2	1 50.0	0 0.0	1 100.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	1 100.0
Mishima	0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0
Shimogo	2	2 100.0	1 50.0	1 50.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	1 50.0
Kitakata	28	14 50.0	5 35.7	9 64.3	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	9 64.3
Nishiaizu	5	4 80.0	1 25.0	3 75.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	3 75.0
Tadami	7	4 57.1	1 25.0	3 75.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	3 75.0
Inawashiro	21	11 52.4	5 45.5	6 54.5	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	6 54.5
Bandai	0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0
Kitashiobara	0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0
Aizumisato	26	15 57.7	4 26.7	10 66.7	1 6.7	0 0.0	1 6.7	0 0.0	0 0.0	10 66.7
Aizubange	41	25 61.0	13 52.0	12 48.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	12 48.0
Yanaizu	4	3 75.0	0 0.0	3 100.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	3 100.0
Aizuwakamatsu	166	59 35.5	18 30.5	41 69.5	0 0.0	0 0.0	0 0.0	1 1.7	0 0.0	40 67.8
Yugawa	3	1 33.3	0 0.0	1 100.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	1 100.0
Subtotal	1,591	836 52.5	294 35.2	533 63.8	9 1.1	0 0.0	9 1.1	2 0.2	0 0.0	538 64.4
Total	41,537	25,982 62.6	9,072 34.9	16,759 64.5	151 0.6	0 0.0	151 0.6	78 0.3	0 0.0	16,828 64.8

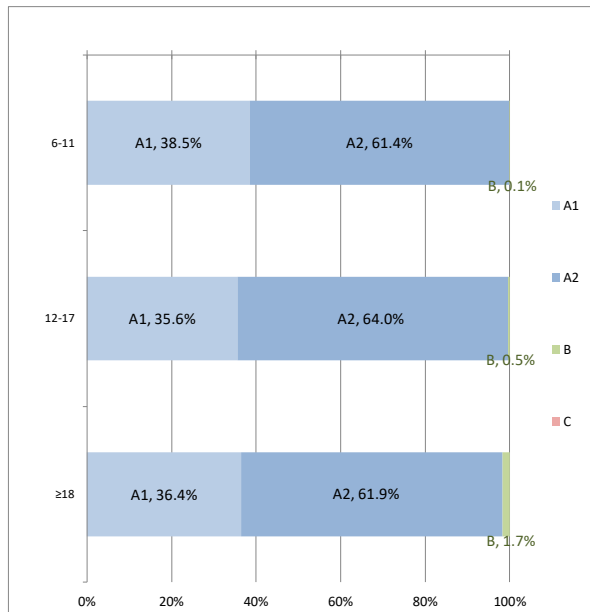
Appendix 4

1. Thyroid ultrasound examination results by age and sex

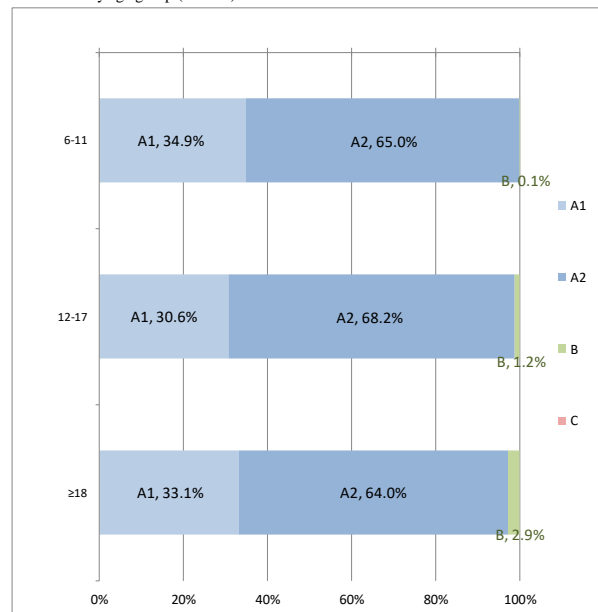
As of 30 September 2018

Ages	A						B			C			合計		
	A1			A2			Male	Female	Total	Male	Female	Total	男性	女性	計
	Male	Female	Total	Male	Female	Total									
6-11	2,362	2,144	4,506	3,774	3,999	7,773	7	6	13	0	0	0	6,143	6,149	12,292
12-17	2,189	1,775	3,964	3,939	3,948	7,887	28	69	97	0	0	0	6,156	5,792	11,948
≥18	278	324	602	473	626	1,099	13	28	41	0	0	0	764	978	1,742
Total	4,829	4,243	9,072	8,186	8,573	16,759	48	103	151	0	0	0	13,063	12,919	25,982

Test results by age group (Male)



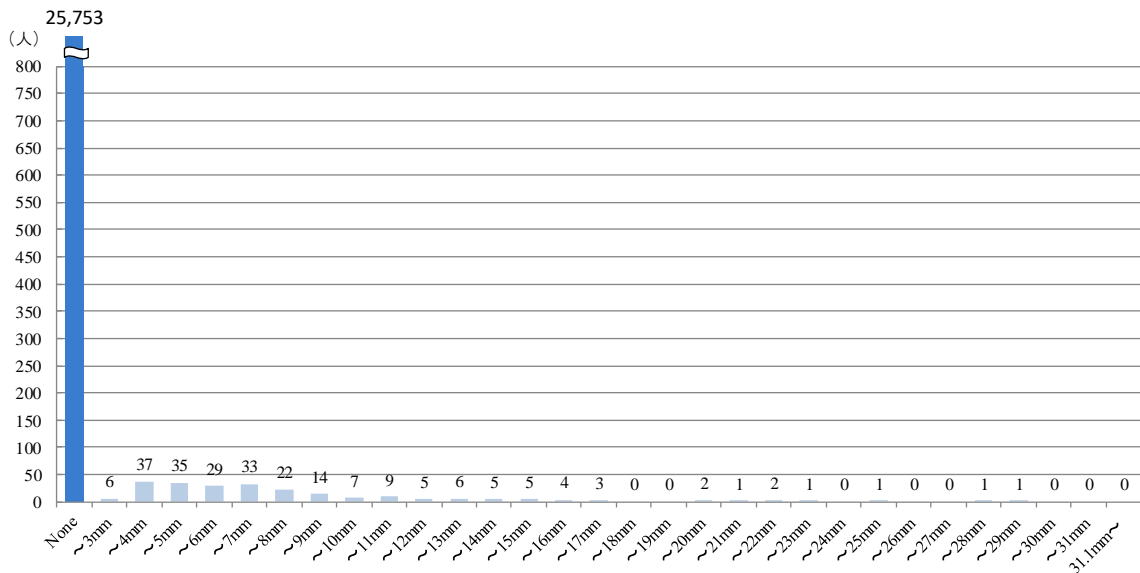
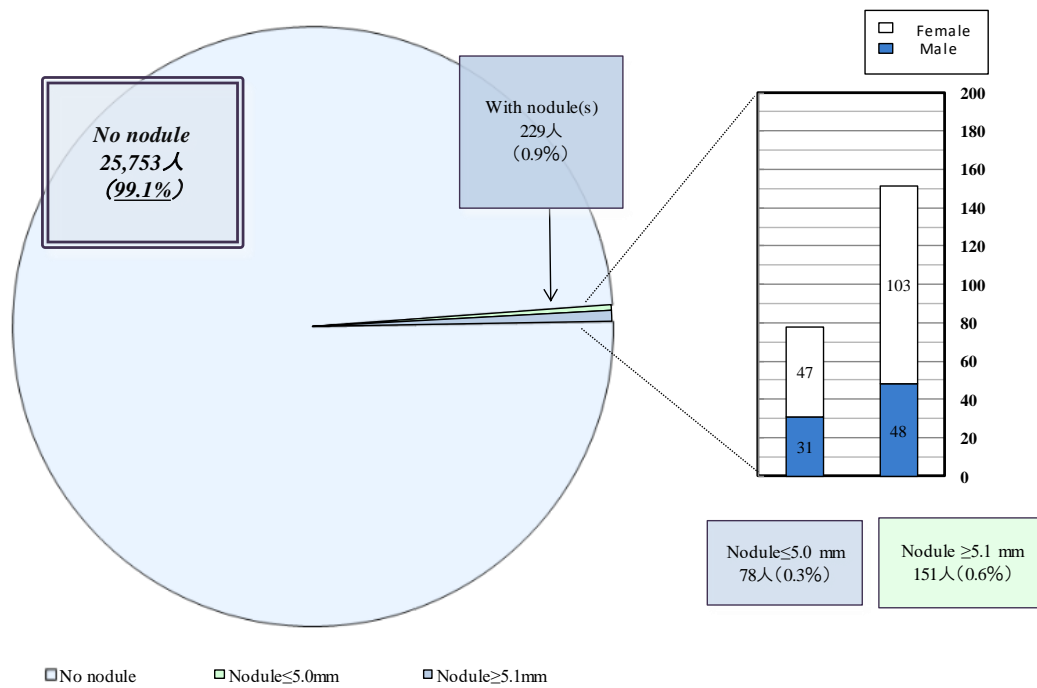
Test results by age group (Female)



2. Nodule characteristics

As of 30 September 2018

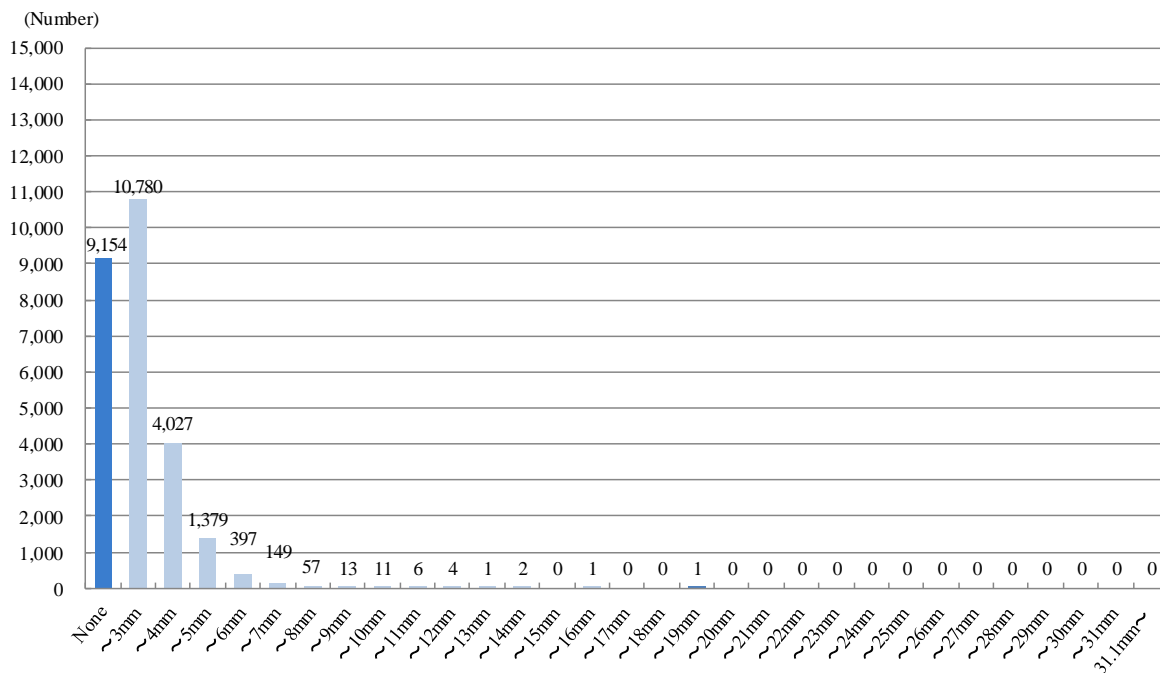
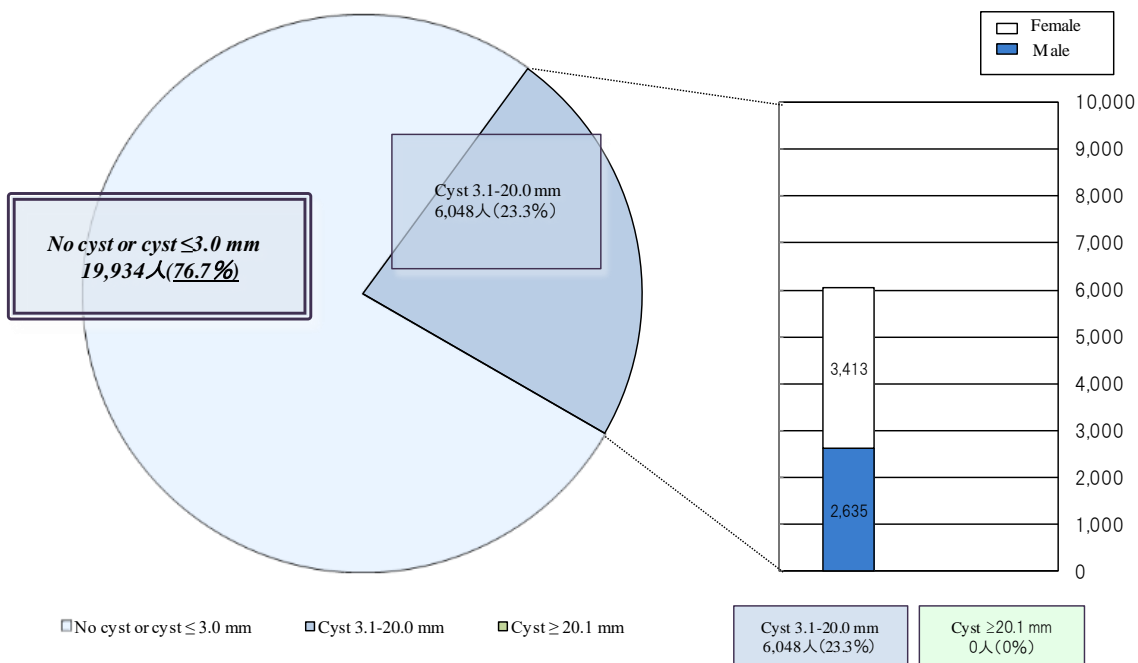
Nodule size	Total	Gender		Class	Proportion
		Male	Female		
None	25,753	12,984	12,769	A1	99.1%
≤ 3.0 mm	6	4	2	A2	0.3%
3.1-5.0 mm	72	27	45		
5.1-10.0 mm	105	35	70		
10.1-15.0 mm	30	10	20	B	0.6%
15.1-20.0 mm	9	2	7		
20.1-25.0 mm	5	1	4		
≥ 25.1 mm	2	0	2		
Total	25,982	13,063	12,919		



3. Cyst characteristics

As of 30 September 2018

Cyst size	Total	Gender		Class	Proportion
		Male	Female		
None	9,154	4,862	4,292	A1	76.7%
≤ 3.0 mm	10,780	5,566	5,214	A2	
3.1-5.0 mm	5,406	2,387	3,019		
5.1-10.0 mm	627	244	383		
10.1-15.0 mm	13	4	9		
15.1-20.0 mm	2	0	2	B	0.000%
20.1-25.0 mm	0	0	0		
≥ 25.1 mm	0	0	0		
Toal	25,982	13,063	12,919		



Report of Thyroid Ultrasound Examinations for Age 25

Reported on 27 December 2018

1. Summary

1.1 Group

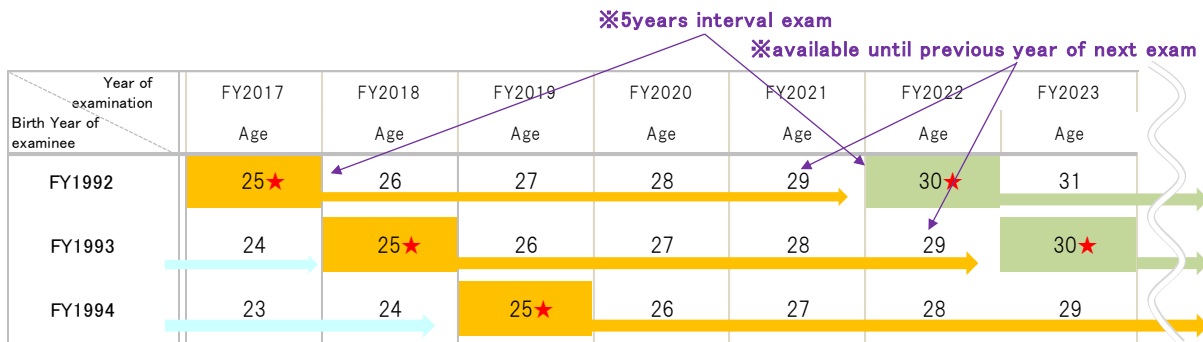
Among Fukushima residents 18 years old or younger at the time of disaster (born between 2 April 1992 and 1 April 2012), those who turn 25 years old in each fiscal year are invited to the examination.

This report includes the status of one group: those who were born between 2 April 1992 and 1 April 1993.

1.2 Implementation Period

We have started the examination for age 25 since FY2017, for those who turn 25 years old in each fiscal year. For those who failed to receive the examination in the year they turned 25, they are entitled to receive it until the fiscal year prior to their age 30 examination (see Figure 1 for the implementation schedule of age 25 examinations).

Figure 1. Implementation schedule for examination at age 25



-Henceforth, examinations are offered to those who turn age 25 in each fiscal year.

-Notifications for examination will be sent in each fiscal year to those who are in ages marked ★.

2. Summarized Results of Age 25 Examination (as of 30 September 2018)

2.1 Results of Primary Examination

2.1-1 Progress Report

The Primary Examination was started in May 2017 for those who turned 25 years old in FY2017 (born in 1992) and 2,005 (8.9%) people were examined.

Of those, results were confirmed for 1,989 (99.2%) participants and notifications were sent.

Thus far, 1,901(95.6%) were classified as A (A1 or A2), 88 (4.4%) were B, and none was C.

Table 1. Screening test coverage

as of 30 September 2018

	Survey population a	Participants		Proportion (%) c (c/b)	Test results			
		Proportion (%) b (b/a)	Screened outside Fukushima		Class (%)			
					A		Requiring confirmatory test	
					A1 d (d/c)	A2 e (e/c)	B f (f/c)	C g (g/c)
Born in FY1992	22,653	2,005 (8.9)	659	1,989 (99.2)	816 (41.0)	1,085 (54.6)	88 (4.4)	0 (0.0)
Total	22,653	2,005 (8.9)	659	1,989 (99.2)	816 (41.0)	1,085 (54.6)	88 (4.4)	0 (0.0)

Table 2. Number and proportion with nodules/cysts

as of 30 September 2018

	Number of confirmed screening results a	Number and proportion of children with nodules/cysts			
		Nodules		Cysts	
		≥5.1 mm b (b/a)	≤5.0 mm c (c/a)	≥20.1 mm d (d/a)	≤20.0 mm e (e/a)
Born in FY1992	1,989	87 (4.4)	44 (2.2)	1 (0.1)	1,125 (56.6)
合計	1,989	87 (4.4)	44 (2.2)	1 (0.1)	1,125 (56.6)

●Decimal figures displayed are rounded to the tenths digit. This will apply to other tables.

●The participants of examinations for age 25 will be shown by adding the numbers of each fiscal year.

2.1-2 Comparison with the previous examination results

The comparison of the results of age 25 examination and their previous examination is as table 3.

Among 1,317 participants who were diagnosed as A (A1 or A2) in the previous examination, 1,291 (98.0%), were A (A1 or A2), and 26 (2.0%) were B.

Among 47 participants who were diagnosed as B in the previous examination, 16 (34.0%) were diagnosed as A (A1 or A2), and 31 (66.0%) were B in the age 25 examination.

Table 3 Comparison with the previous Examination results

As of 30 September 2018

			Results of the previous Examination *1 a	Results of the Age 25 examination *2			
				A		B d d/a (%)	C e e/a (%)
				A1 b b/a (%)	A2 c c/a (%)		
Results of the previous Examination	A	A1	560 (100.0)	448 (80.0)	108 (19.3)	4 (0.7)	0 (0.0)
		A2	757 (100.0)	101 (13.3)	634 (83.8)	22 (2.9)	0 (0.0)
	B		47 (100.0)	1 (2.1)	15 (31.9)	31 (66.0)	0 (0.0)
	C		0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
	No participation		625 (100.0)	266 (42.6)	328 (52.5)	31 (5.0)	0 (0.0)
Total			1,989 (100.0)	816 (41.0)	1,085 (54.6)	88 (4.4)	0 (0.0)

*1 Upper figures show the results of previous examination of those who have confirmed results of age 25 examination.

*2 Upper figures are the breakdowns of age 25 examination results against previous results. Lower figures are the proportions (%).

2.2 Results of Confirmatory Examination

2.2-1 Progress Report

Out of 88 eligible people, 67 (76.1%) participated, of whom 58 (86.6%) completed the examination.

Of the foregoing 58 participants, 3 (A2 equivalent) (5.2%) were confirmed to meet A1 or A2 diagnostic criteria by the Primary Examination standards (including those with thyroid diseases). The remaining 55 (94.8%) participants were confirmed to be other than A1/A2 criteria.

Table 4. Confirmatory testing coverage and results

As of 30 September 2018

	Number of those requiring confirmatory test a	Participants Proportion (%) b (b/a)	Confirmatory test coverage (%) c (c/b)	Confirmed test results			
				A1 d (d/c)	A2 e (e/c)	Follow-up advised	
						f (f/c)	Cytology g (g/f)
Born in FY1992	88	67 (76.1)	58 (86.6)	0 (0.0)	3 (5.2)	55 (94.8)	3 (5.5)
Total	88	67 (76.1)	58 (86.6)	0 (0.0)	3 (5.2)	55 (94.8)	3 (5.5)

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

Among those who underwent FNAC, 2 were classified as suspicious or malignant.

By gender, one was male and the other was female.

3 Mental Health Care

3.1 Support for participants of primary examination

Since July 2015, we offer person-to-person explanations to participants at public venues where primary examinations take place. After the examination, medical doctors explain the results showing the ultrasound image in private consultation booths at the venue. As of 30 September 2018, 91 (98.9%) of 92 participants visited the consultation booths.

3.2 Support for participants of confirmatory examination

We have set up a support team for participants of the confirmatory examination within Fukushima Medical University to address their anxiety and concerns, and in addition, online support for Q&A and counseling is provided.

Since the start of examinations for 25-year-olds, 24 participants have received support as of 30 September 2018, including 7 males and 17 females. Support was provided to 48 in total. Of these, 24 (50.0%) received support at their first examination and 24 (50.0%) at subsequent examinations.

We keep on offering similar services to those who transferred to health insurance medical care by cooperating with hospital teams.

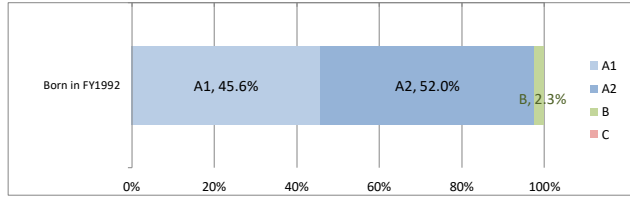
Appendix 1

Gender distribution of participants with confirmed results

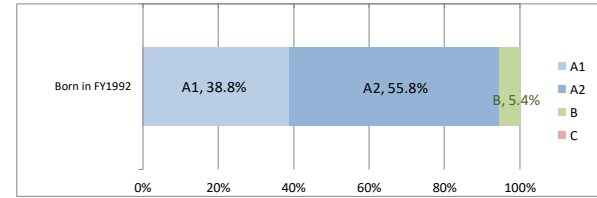
As of 30 September 2018

Class/gender	A						B			C			Total		
	A1			A2			Male	Female	Total	Male	Female	Total	Male	Female	Total
	Male	Female	Total	Male	Female	Total									
Born in FY1992	293	523	816	334	751	1,085	15	73	88	0	0	0	642	1,347	1,989
Total	293	523	816	334	751	1,085	15	73	88	0	0	0	642	1,347	1,989

Test results by age group (Male)



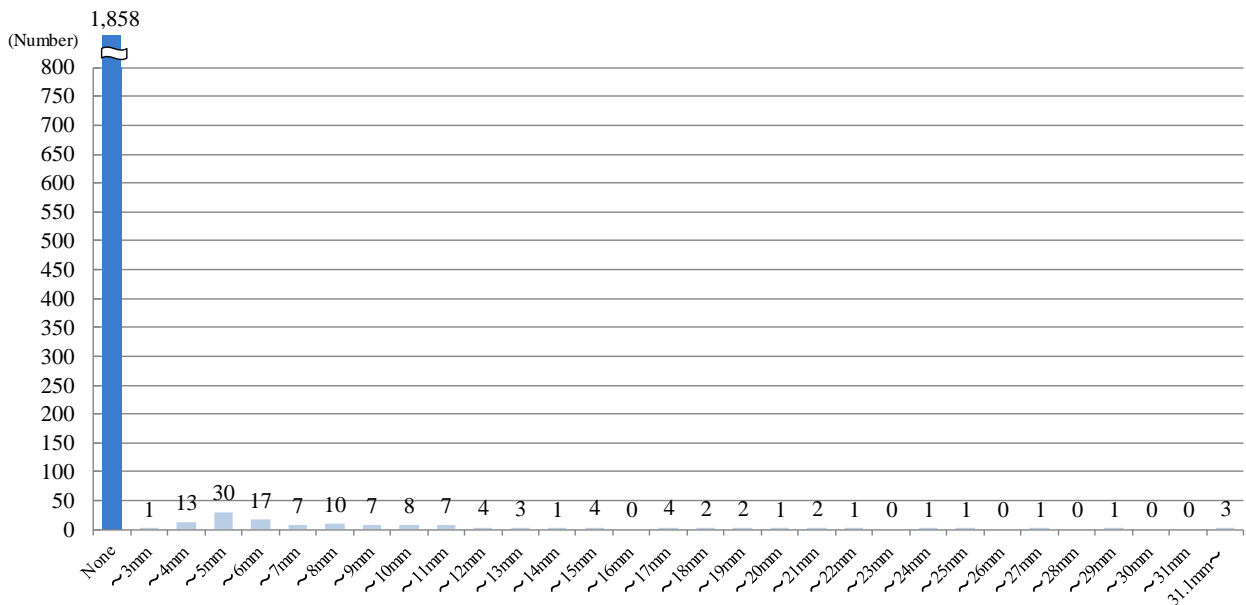
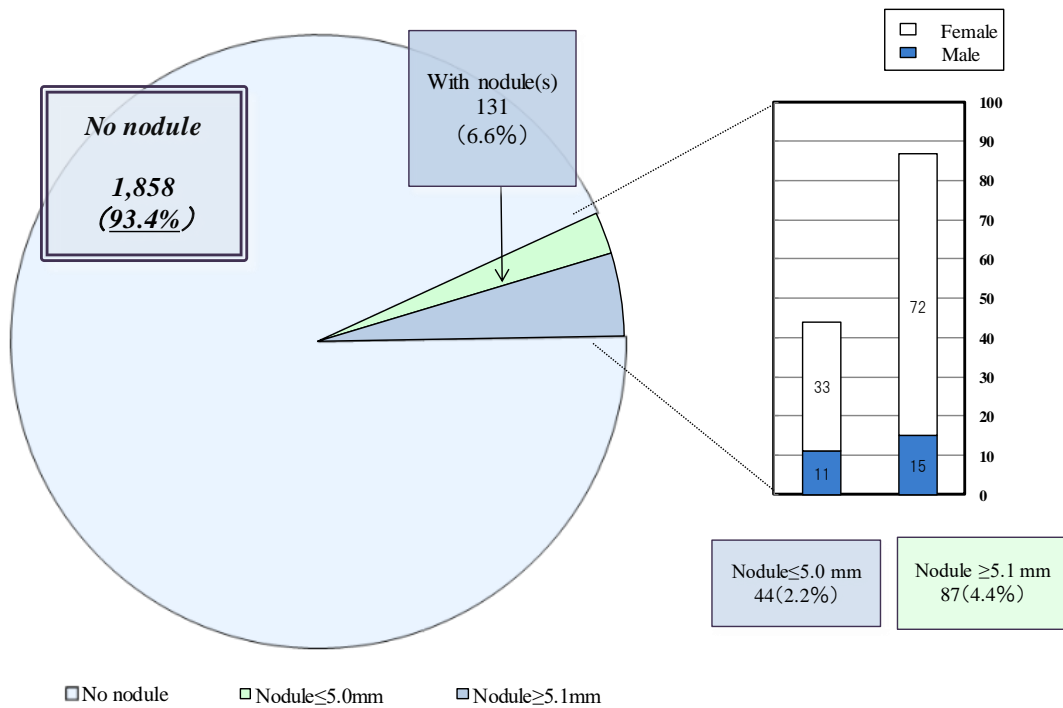
Test results by age group (Female)



2. Nodule characteristics

As of 30 September 2018

Nodule size	Total		Class	Proportion
	Male	Female		
None	1,858	616	A1	93.4%
≤ 3.0 mm	1	0	A2	2.2%
3.1-5.0 mm	43	11		
5.1-10.0 mm	49	9	B	4.4%
10.1-15.0 mm	19	3		
15.1-20.0 mm	9	1		
20.1-25.0 mm	5	2		
≥ 25.1 mm	5	0		
Total	1,989	642		



3. Cyst characteristics

As of 30 September 2018

Cyst size	Total	Gender		Class	Proportion
		Male	Female		
None	863	307	556	A1	70.4%
≤ 3.0 mm	537	168	369	A2	
3.1-5.0 mm	412	121	291		
5.1-10.0 mm	168	45	123		
10.1-15.0 mm	8	1	7		
15.1-20.0 mm	0	0	0		
20.1-25.0 mm	1	0	1	B	0.05%
≥ 25.1 mm	0	0	0		
Total	1,989	642	1,347		

