

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

Reported on 25 December 2017

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 examinations). 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 those residing in Fukushima Prefecture – including visitors – who were born between 2 April 1992 and 1 April 2011, included in Preliminary Baseline Screening, the Full-scale Thyroid Screening (second- and third-round examinations) 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 and 30 for example – to make it easier for examinees to remember when they are due for examination. However, we will endeavor to make sure they do not let more than five years pass between the examinations through age 25.

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 September 2017).

1.4-1 Primary examination

Inside Fukushima Prefecture	66 medical institutions
Outside Fukushima Prefecture	108 medical institutions

1.4-2 Confirmatory examination

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

1.5 Method

1.5-1 Primary Examination

We use ultrasonography for examination of the thyroid gland.

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

-Diagnostic Criteria (A)

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

A1: No nodules / cysts

A2: Nodules ≤ 5.0 mm or cysts ≤ 20.0 mm

-Diagnostic Criteria (B)

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

B: Nodules ≥ 5.1 mm or cysts ≥ 20.1 mm

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

-Diagnostic Criteria (C)

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

C: Immediate need for confirmatory examination.

1.5-2 Confirmatory Examination

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

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

1.5-3 Flow chart

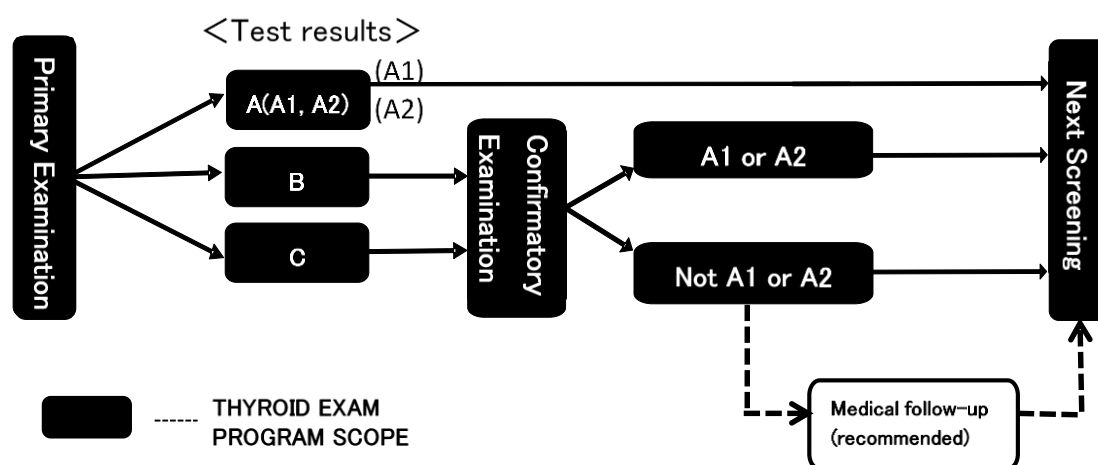


Fig.1 Flow chart

1.6 Target Municipalities

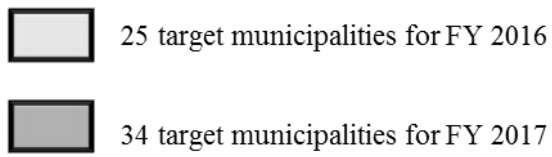


Fig.2 Target Municipalities

2. Results as of 30 September 2017

2.1 Results of Primary Examination

2.1-1 Progress Report

The Primary Examination started 1 May 2016, and the participation rate is 48.1% (161,881 of 336, 640) from 59 municipalities (25 municipalities in FY 2016, and 34 in FY 2017). (See Appendix 1 and 2.)

The results have been returned to 91.4% (147,892) of the participants. (See Appendix 3.)

Those with A1 or A2 test results were 146,969 (99.4%), B were 923 (0.6%), and C was 0.

Table 1. Screening test coverage as of 30 September 2017

	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 2016	191,867	121,453 (63.3)	8,452	120,040 (98.8)	41,766 (34.8)	77,533 (64.6)	741 (0.6)	0 (0.0)
FY 2017	144,773	40,428 (27.9)	2,384	27,852 (68.9)	10,506 (37.7)	17,164 (61.6)	182 (0.7)	0 (0.0)
Total	336,640	161,881 (48.1)	10,836	147,892 (91.4)	52,272 (35.3)	94,697 (64.0)	923 (0.6)	0 (0.0)

Table 2. Number and proportion of children with nodules/cysts as of 30 September 2017

	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	120,040	741 (0.6)	402 (0.3)	0 (0.0)	77,890 (64.9)
FY 2017	27,852	182 (0.7)	123 (0.4)	0 (0.0)	17,238 (61.9)
Total	147,892	923 (0.6)	525 (0.4)	0 (0.0)	95,128 (64.3)

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

Excluding examinees born in FY 1992 and FY 1993, now scheduled to undergo testing every five years. Hereafter, these examinees will be accounted for separately.

2.1-2 Participation rates by age group

Participation rate of age group 18-23 (age as of 1 April 2016) in target municipalities for FY 2016 was 15.4%.

Participation rate of age group 18-24 (age as of 1 April 2017) in target municipalities for FY 2017 was 8.2%.

Table 3. Participation rates in target municipalities by age group

As of 30 September 2017

		Total	Age group (years)			
	Age group (years)		4-7	8-12	13-17	18-23
FY 2016 target municipalities	Survey population (a)	191,867	36,613	51,001	56,840	47,413
	Participants (b)	121,453	25,175	44,012	44,944	7,322
	Proportion (%) (b/a)	63.3	68.8	86.3	79.1	15.4
FY 2017 target municipalities	Age group (years)		5-7	8-12	13-17	18-24
	Survey population (a)	144,773	19,296	37,163	41,994	46,320
	Participants (b)	40,428	7,323	13,180	16,122	3,803
	Proportion (%) (b/a)	27.9	38.0	35.5	38.4	8.2
Total	Survey population (a)	336,640	55,909	88,164	98,834	93,733
	Participants (b)	161,881	32,498	57,192	61,066	11,125
	Proportion (%) (b/a)	48.1	58.1	64.9	61.8	11.9

2.1-3 Comparison with the First Full-scale Thyroid Screening (Second-Round Examination)

Among 138,126 participants who were diagnosed as A1 or A2 in the First Full-scale Thyroid Screening, 137,706 (99.7%) had A1 or A2 results, and 420 (0.3%) were diagnosed as B from the Second Full-scale Thyroid Screening Program.

Among 769 participants who were diagnosed as B in the First Full-scale Thyroid Screening, 323 (42.0%) had A1 or A2 results, and 446 (58.0%) were diagnosed as B from the Second Full-scale Thyroid Screening Program.

Table 4. Comparison with the First Full-scale Thyroid Screening

As of 30 September 2017

			Number of test results of the First Full-scale Thyroid Screening* (%) a	Results of the Second Full-scale Thyroid Screening			
				A		B d d/a (%)	C e e/a (%)
				A1 b b/a (%)	A2 c c/a (%)		
Results of the First Full-scale Thyroid Screening	A	A1	56,855 (100.0)	40,627 (71.5)	16,144 (28.4)	84 (0.1)	0 (0.0)
		A2	81,271 (100.0)	7,679 (9.4)	73,256 (90.1)	336 (0.4)	0 (0.0)
	B		769 (100.0)	51 (6.6)	272 (35.4)	446 (58.0)	0 (0.0)
	C		0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
	Non-participants		8,997 (100.0)	3,915 (43.5)	5,025 (55.9)	57 (0.6)	0 (0.0)
Total			147,892 (100.0)	52,272 (35.3)	94,697 (64.0)	923 (0.6)	0 (0.0)

* Results of the participants with confirmed test results of the Second Full-scale Thyroid Screening.

This is not the breakdown of the total (270,515) of confirmed screening results from the First Full-scale Thyroid Screening.

2.2 Results of Confirmatory Examination

2.2-1 Progress Report

Thus far, 923 of 557 people (60.3%) recommended to have further testing (started in October 2016) have acted on that recommendation. Of those, 474 (85.1%) have received results, as follows (see also Appendix 5 for results according to area):

Of 474 participants, 48 (A1 and A2 results from Table 5) were confirmed to meet A1 or A2 diagnostic criteria (including those with other thyroid conditions), and so were advised to take their next regularly scheduled examination 10.1%).

Those with neither A1 nor A2 results (from Table 5) were 426 (89.9%), and they were recommended to have medical follow-up after 6 to 12-months, or were advised to take their next regularly scheduled examination, though beyond the threshold level of A2.

Table 5. Confirmatory testing coverage and results as of 30 September 2017

	Number of those requiring confirmatory test a	Participants Proportion (%) b (b/a)	Confirmatory test coverage (%) c (c/b)	Confirmed test results			
				Next screening advised		Follow-up advised	
				A1 d (d/c)	A2 e (e/c)	f (f/c)	Cytology g (g/f)
FY 2016	741	517 (69.8)	454 (87.8)	3 (0.7)	44 (9.7)	407 (89.6)	21 (5.2)
FY 2017	182	40 (22.0)	20 (50.0)	0 (0.0)	1 (5.0)	19 (95.0)	1 (5.3)
Total	923	557 (60.3)	474 (85.1)	3 (0.6)	45 (9.5)	426 (89.9)	22 (5.2)

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

Among those who underwent FNAC, 7 had nodules classified as suspicious or malignant.

Four of them were male, and 3 were female. Age at the time of the confirmatory testing ranged from 13 to 18 years (mean age: 16.1±1.8 years). The minimum and maximum tumor diameters were 8.7 and 17.5 mm. Mean tumor diameter was 12.1 ±3.1 mm.

The full-scale examination (the second-round examination) of the seven people showed that 6 were A (1 was A1 and 5 were A2), and 1 was B .

Table 6. Results of FNAC

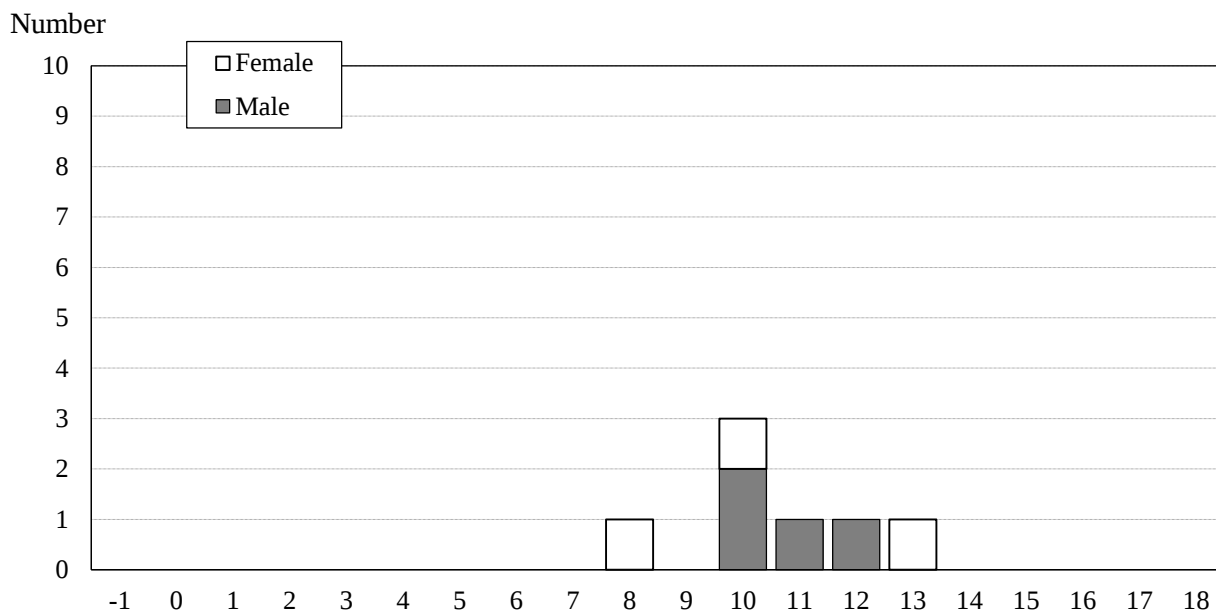
Target municipalities in FY 2016

Suspicious or malignant	7 *
Male to female ratio	4: 3
Mean age (SD, min-max)	16.1 (1.8, 13-18) 10.6 (1.6, 8-13) at the time of the disaster
Mean tumor size	12.1 mm (3.1 mm, 8.7-17.5 mm)

Target municipalities in FY 2017

Suspicious or malignant	0 *
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2.2-3 Suspicious or malignant cases per FNAC by age and sex



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

Fig.3 Age as of 11 March 2011

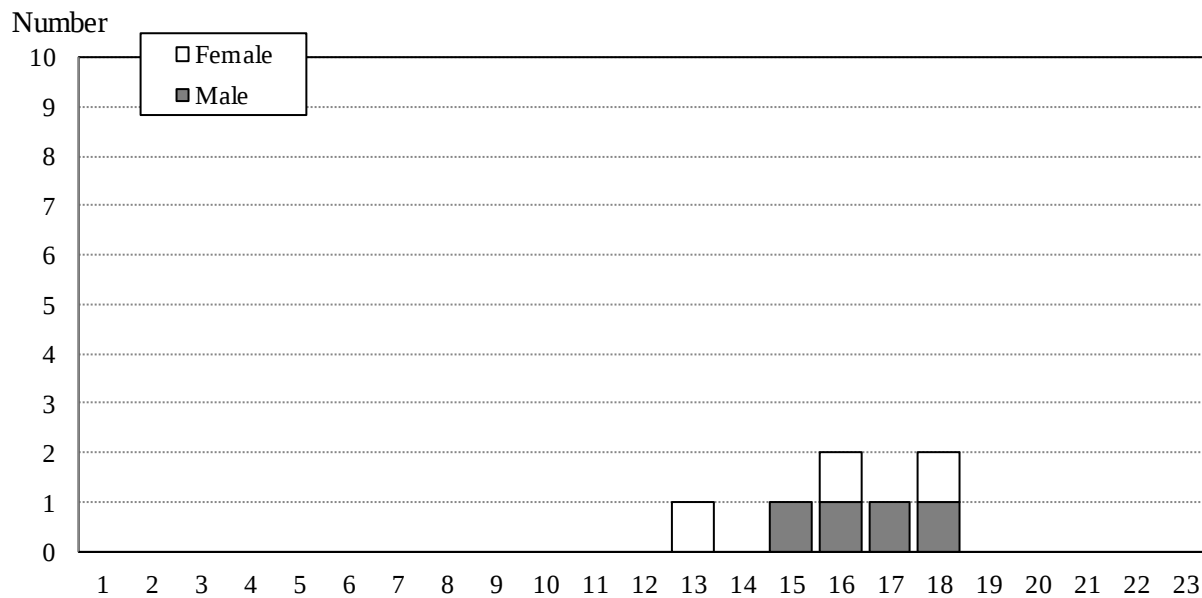


Fig. 4 Age as the date of confirmatory examination

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

Three (42.9%) of the 7 people participated in the Basic Survey (radiation dose estimates), and 3 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 September 2017

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

Estimates are based on effective external radiation doses.

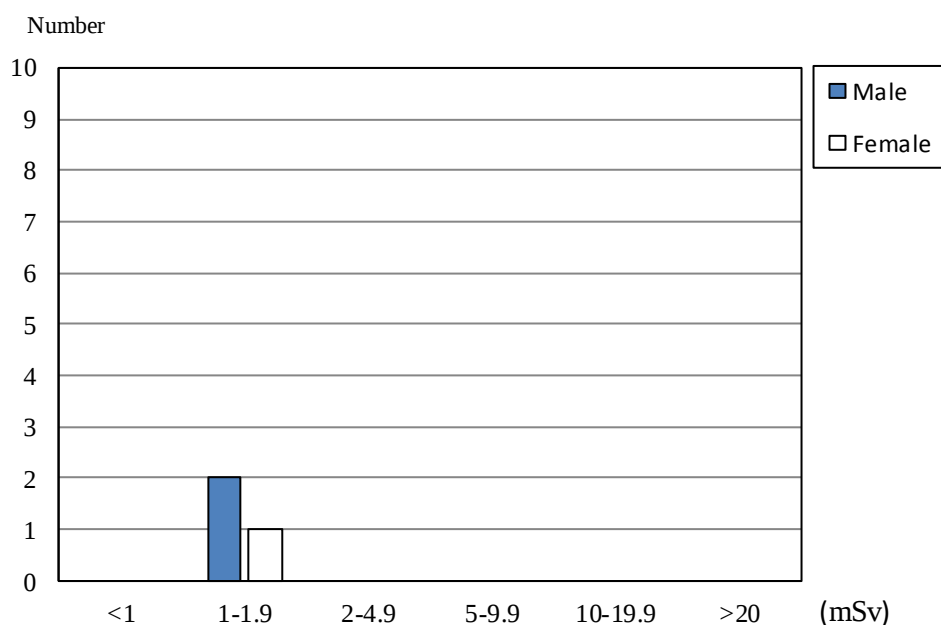


Fig. 5 Effective dose of the respondents

2.2-5 Blood and urinary iodine test results as of 30 September 2017

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
7 suspicious or malignant	1.2 ± 0.1 (0.0%)	3.6 ± 0.7 (14.3%)	1.4 ± 0.7 (14.3%)	20.2 ± 14.0 (14.3%)	— (14.3%)	— (14.3%)
Other 455	1.2 ± 0.2 (4.6%)	3.6 ± 0.5 (6.2%)	1.3 ± 0.8 (7.5%)	28.1 ± 76.3 (13.4%)	— (9.2%)	— (13.6%)

Table 9. Urinary iodine (µg/day)

	Minimum	25th percentile	Median	75th percentile	Maximum
7 suspicious or malignant	69	118	228	340	424
Other 454	26	110	170.5	313.3	8910

- 1) FT4: Free Thyroxine; higher among patients with thyrotoxicosis (such as Graves' disease) and lower with hypothyroidism (such as Hashimoto's thyroiditis).
- 2) FT3: Free Triiodothyronine; higher among patients with thyrotoxicosis (such as Graves' disease) and lower with hypothyroidism (such as Hashimoto's thyroiditis).
- 3) TSH: Thyroid Stimulating Hormone; higher among patients with Hashimoto's disease and lower with Graves' disease.
- 4) Tg: Thyroglobulin; higher when thyroid tissue is destroyed or when neoplastic tissue produces thyroglobulin.
- 5) TgAb: Anti-Thyroglobulin Antibody; higher among patients with Hashimoto's disease and Graves' disease.
- 6) TPOAb: Anti-Thyroid Peroxidase Antibody; higher among patients with Hashimoto's disease or Graves' disease.
- 7) Reference interval varies according to age.

2.2-6 Confirmatory test results by area as of 30 September 2017

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

Table 10. Confirmatory test results by area

	Number of those screened	Participants who required confirmatory test	Proportion who required confirmatory test (%)*	Number who underwent confirmatory test	Suspicious or malignant cases	Proportion of suspicious or malignant cases (%)
13 municipalities ¹⁾	24,193	189	0.8	131	3	0.01
Nakadori ²⁾	116,604	649	0.6	404	4	0.00
Hamadori ³⁾	9,800	53	0.5	10	0	0.00
Aizu ⁴⁾	11,284	32	0.3	12	0	0.00
Total	161,881	923	0.6	557	7	0.00

Priority is given to those in urgent clinical need.

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

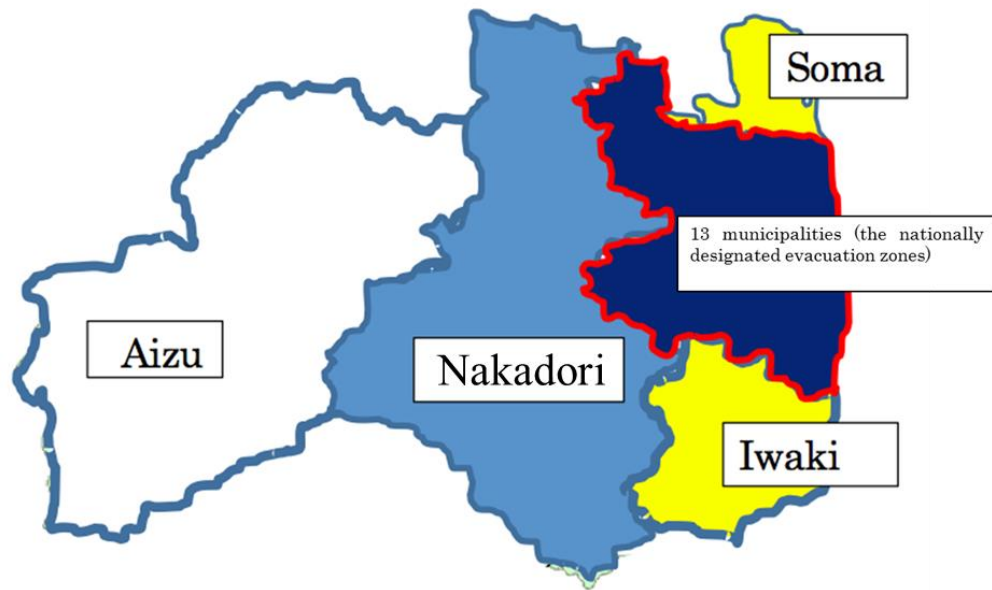


Fig.6 Regional division

2.3 Mental Health Care

2.3-1 Support for participants of primary examination

Since July 2015, we offer person-to-person explanations to participants at public venues where primary examinations take place. After an examination, a medical doctor explains the results, using an online video link to private consultation booths at the venue. As of 30 September 2017, 24,810 (83.4%) of 29,763 participants visited the consultation booth. When the booth cannot be set up at school, phone support or briefing sessions at schools are offered as an alternative.

2.3-2 Support for participants of confirmatory examination

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

Since the full-scale thyroid screening started, 964 participants (340 males and 624 females) have received support as of 30 September 2017. The number of consultations given to them was 2,067 in total. Of these, 1,169 (56.6%) received support services around their first examination and 847 (41.0%) around any subsequent exam – including 126 (6.1%) around FNAC – and 51 (2.5%) when giving informed consent.

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

2.4 Commitment to those not yet examined through the second full-scale thyroid screening (third round examinations)

Since full-scale thyroid screening (third round examinations) nominally ends on 31 March 2018, we will notify those not yet examined about future times and places.

In addition to screening at designated examination facilities inside and outside the prefecture, we also conduct screening at various public venues.

Appendix 1

Thyroid ultrasound examination (TUE) coverage by municipality

As of 30 September 2017

	Survey population a	Participants		Proportion (%) b/a	Number and proportion of participants by age group				Participants living outside Fukushima c	Proportion (%) c/b
		b	Screened outside Fukushima 3)		4-9	10-14	15-19	≥20		
Kawamata	2,142	1,394	33	65.1	405 29.1	544 39.0	405 29.1	40 2.9	37	2.7
Namie	3,314	1,592	488	48.0	482 30.3	511 32.1	490 30.8	109 6.8	532	33.4
Iitate	987	591	23	59.9	170 28.8	257 43.5	149 25.2	15 2.5	31	5.2
Minami-soma	11,540	6,714	1,187	58.2	2,112 31.5	2,599 38.7	1,750 26.1	253 3.8	1,214	18.1
Date	10,210	7,017	233	68.7	2,014 28.7	2,663 38.0	2,082 29.7	258 3.7	223	3.2
Tamura	6,344	4,006	95	63.1	1,254 31.3	1,583 39.5	1,089 27.2	80 2.0	93	2.3
Hirono	975	349	59	35.8	122 35.0	122 35.0	84 24.1	21 6.0	52	14.9
Naraha	1,281	359	92	28.0	114 31.8	123 34.3	93 25.9	29 8.1	94	26.2
Tomioka	2,751	877	279	31.9	223 25.4	268 30.6	306 34.9	80 9.1	290	33.1
Kawauchi	297	154	14	51.9	41 26.6	67 43.5	45 29.2	1 0.6	15	9.7
Okuma	2,259	726	258	32.1	254 35.0	239 32.9	187 25.8	46 6.3	278	38.3
Futaba	1,133	299	111	26.4	99 33.1	109 36.5	77 25.8	14 4.7	111	37.1
Katsurao	211	115	4	54.5	32 27.8	45 39.1	28 24.3	10 8.7	5	4.3
Fukushima	49,339	33,443	2,005	67.8	10,121 30.3	12,039 36.0	10,030 30.0	1,253 3.7	2,129	6.4
Nihonmatsu	9,308	6,285	215	67.5	1,943 30.9	2,441 38.8	1,727 27.5	174 2.8	208	3.3
Motomiya	5,615	3,858	118	68.7	1,301 33.7	1,438 37.3	1,020 26.4	99 2.6	113	2.9
Otama	1,468	1,046	34	71.3	356 34.0	405 38.7	255 24.4	30 2.9	35	3.3
Koriyama	59,467	37,196	2,700	62.5	11,313 30.4	14,169 38.1	10,384 27.9	1,330 3.6	2,770	7.4
Kori	1,853	1,340	36	72.3	424 31.6	499 37.2	365 27.2	52 3.9	32	2.4
Kunimi	1,405	1,003	29	71.4	272 27.1	382 38.1	302 30.1	47 4.7	25	2.5
Tenei	966	613	24	63.5	181 29.5	255 41.6	158 25.8	19 3.1	19	3.1
Shirakawa	11,351	7,470	263	65.8	2,218 29.7	2,816 37.7	2,209 29.6	227 3.0	283	3.8
Nishigo	3,722	2,481	99	66.7	763 30.8	938 37.8	687 27.7	93 3.7	104	4.2
Izumizaki	1,163	784	11	67.4	235 30.0	308 39.3	219 27.9	22 2.8	15	1.9
Miharu	2,766	1,741	42	62.9	450 25.8	624 35.8	583 33.5	84 4.8	39	2.2
Subtotal	191,867	121,453	8,452	63.3	36,899 30.4	45,444 37.4	34,724 28.6	4,386 3.6	8,747	7.2

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

3) Number of participants who underwent the test outside Fukushima, as of 31 August 2017.

Fractions have been rounded and may not total to 100%. Ages are at the time when the participants underwent the testing (the Second Full-scale Thyroid Screening).

Thyroid ultrasound examination (TUE) coverage by municipality

As of 30 September FY 2017

	Survey population	Participants		Proportion (%)	Number and proportion of participants by age group				Participants living outside Fukushima	Proportion (%)	
		b	Screened outside Fukushima 3)		b/a	4-9	10-14	15-19			≥20
Screening coverage by municipality in FY 2017											
Iwaki	56,799	5,338	1,372	9.4	1,549 29.0	595 11.1	2,172 40.7	1,022 19.1	1,366	25.6	
Sukagawa	14,110	6,542	172	46.4	1,691 25.8	2,061 31.5	2,418 37.0	372 5.7	210	3.2	
Soma	6,252	3,642	190	58.3	1,100 30.2	1,378 37.8	1,034 28.4	130 3.6	218	6.0	
Kagamiishi	2,416	1,399	26	57.9	346 24.7	551 39.4	452 32.3	50 3.6	30	2.1	
Shinchi	1,320	820	25	62.1	209 25.5	327 39.9	254 31.0	30 3.7	33	4.0	
Nakajima	972	627	4	64.5	176 28.1	239 38.1	193 30.8	19 3.0	5	0.8	
Yabuki	3,041	1,908	31	62.7	614 32.2	729 38.2	508 26.6	57 3.0	40	2.1	
Ishikawa	2,530	1,566	25	61.9	479 30.6	588 37.5	451 28.8	48 3.1	36	2.3	
Yamatsuri	930	558	9	60.0	183 32.8	218 39.1	141 25.3	16 2.9	9	1.6	
Asakawa	1,210	796	18	65.8	214 26.9	312 39.2	238 29.9	32 4.0	25	3.1	
Hirata	1,101	667	8	60.6	207 31.0	261 39.1	183 27.4	16 2.4	8	1.2	
Tanagura	2,749	1,685	21	61.3	520 30.9	670 39.8	457 27.1	38 2.3	28	1.7	
Hanawa	1,492	856	14	57.4	255 29.8	344 40.2	234 27.3	23 2.7	21	2.5	
Samegawa	617	375	9	60.8	118 31.5	153 40.8	95 25.3	9 2.4	12	3.2	
Ono	1,716	995	16	58.0	311 31.3	419 42.1	237 23.8	28 2.8	13	1.3	
Tamakawa	1,210	779	5	64.4	220 28.2	327 42.0	213 27.3	19 2.4	5	0.6	
Furudono	946	591	10	62.5	194 32.8	226 38.2	143 24.2	28 4.7	11	1.9	
Hinoemata	94	34	3	36.2	13 38.2	13 38.2	7 20.6	1 2.9	4	11.8	
Minami-aizu	2,512	1,328	14	52.9	414 31.2	541 40.7	342 25.8	31 2.3	13	1.0	
Kaneyama	177	82	1	46.3	18 22.0	40 48.8	21 25.6	3 3.7	1	1.2	
Showa	127	63	0	49.6	24 38.1	26 41.3	13 20.6	0 0.0	2	3.2	
Mishima	174	84	0	48.3	21 25.0	42 50.0	19 22.6	2 2.4	1	1.2	
Shimogo	873	466	5	53.4	156 33.5	200 42.9	97 20.8	13 2.8	5	1.1	
Kitakata	8,079	771	52	9.5	193 25.0	56 7.3	495 64.2	27 3.5	57	7.4	
Nishiaizu	885	360	4	40.7	120 33.3	159 44.2	73 20.3	8 2.2	7	1.9	
Tadami	642	372	3	57.9	116 31.2	143 38.4	104 28.0	9 2.4	2	0.5	
Inawashiro	2,383	1,289	23	54.1	433 33.6	535 41.5	279 21.6	42 3.3	31	2.4	
Bandai	555	283	7	51.0	93 32.9	131 46.3	52 18.4	7 2.5	7	2.5	
Kitashiobara	502	244	5	48.6	78 32.0	115 47.1	42 17.2	9 3.7	5	2.0	
Aizumisato	3,311	1,651	23	49.9	501 30.3	778 47.1	306 18.5	66 4.0	25	1.5	
Aizubange	2,790	1,420	29	50.9	455 32.0	634 44.6	288 20.3	43 3.0	27	1.9	
Yanaizu	538	277	0	51.5	95 34.3	124 44.8	51 18.4	7 2.5	0	0.0	
Aizuwakamatsu	21,114	2,233	258	10.6	665 29.8	207 9.3	1,296 58.0	65 2.9	289	12.9	
Yugawa	606	327	2	54.0	116 35.5	146 44.6	56 17.1	9 2.8	2	0.6	
Subtotal	144,773	40,428	2,384	27.9	11,897 29.4	13,288 32.9	12,964 32.1	2,279 5.6	2,548	6.3	
Total	336,640	161,881	10,836	48.1	48,796 30.1	58,732 36.3	47,688 29.5	6,665 4.1	11,295	7.0	

Appendix 2

Thyroid ultrasound examination (TUE) coverage by prefecture

As of 31 August 2017

Prefecture	Number of test venues	Participants *	Prefecture	Number of test venues	Participants *	Prefecture	Number of test venues	Participants *
Hokkaido	6	306	Fukui	1	20	Hiroshima	1	32
Aomori	1	132	Yamanashi	2	98	Yamaguchi	1	22
Iwate	3	264	Nagano	2	126	Tokushima	1	9
Miyagi	2	2,360	Gifu	1	42	Kagawa	1	13
Akita	1	165	Shizuoka	2	94	Ehime	1	12
Yamagata	3	544	Aichi	4	203	Kochi	1	13
Ibaraki	4	677	Mie	1	20	Fukuoka	3	75
Tochigi	7	669	Shiga	1	20	Saga	1	5
Gunma	2	210	Kyoto	3	88	Nagasaki	2	22
Saitama	2	482	Osaka	7	205	Kumamoto	1	27
Chiba	4	456	Hyogo	2	121	Oita	1	14
Tokyo	12	1,671	Nara	2	27	Miyazaki	1	29
Kanagawa	5	825	Wakayama	1	6	Kagoshima	1	18
Niigata	2	533	Tottori	1	10	Okinawa	1	46
Toyama	2	21	Shimane	1	12			
Ishikawa	1	39	Okayama	3	53			
						Total	108	10,836

* Participants who underwent testing at venues outside Fukushima carried out either by Fukushima Medical University staff (once in Kanagawa) or by local specialists.

Appendix 3

Results of primary examination by municipality

As of 30 September 2017

	Participants a	Confirmed results b	Number by test results				Nodules		Cysts	
		Proportion (%) b/a (%)	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	1,394	1,393	483	901	9	0	9	6	0	906
		99.9	34.7	64.7	0.6	0.0	0.6	0.4	0.0	65.0
Namie	1,592	1,498	511	974	13	0	13	8	0	976
		94.1	34.1	65.0	0.9	0.0	0.9	0.5	0.0	65.2
Iitate	591	580	194	382	4	0	4	2	0	382
		98.1	33.4	65.9	0.7	0.0	0.7	0.3	0.0	65.9
Minami-soma	6,714	6,470	2,341	4,080	49	0	49	29	0	4,101
		96.4	36.2	63.1	0.8	0.0	0.8	0.4	0.0	63.4
Date	7,017	7,009	2,431	4,530	48	0	48	23	0	4,554
		99.9	34.7	64.6	0.7	0.0	0.7	0.3	0.0	65.0
Tamura	4,006	3,984	1,465	2,475	44	0	44	22	0	2,498
		99.5	36.8	62.1	1.1	0.0	1.1	0.6	0.0	62.7
Hirono	349	329	116	211	2	0	2	3	0	210
		94.3	35.3	64.1	0.6	0.0	0.6	0.9	0.0	63.8
Naraha	359	325	121	203	1	0	1	0	0	203
		90.5	37.2	62.5	0.3	0.0	0.3	0.0	0.0	62.5
Tomiooka	877	826	305	513	8	0	8	0	0	516
		94.2	36.9	62.1	1.0	0.0	1.0	0.0	0.0	62.5
Kawauchi	154	150	38	111	1	0	1	0	0	112
		97.4	25.3	74.0	0.7	0.0	0.7	0.0	0.0	74.7
Okuma	726	673	223	441	9	0	9	3	0	442
		92.7	33.1	65.5	1.3	0.0	1.3	0.4	0.0	65.7
Futaba	299	282	121	160	1	0	1	0	0	160
		94.3	42.9	56.7	0.4	0.0	0.4	0.0	0.0	56.7
Katsurao	115	108	39	69	0	0	0	1	0	69
		93.9	36.1	63.9	0.0	0.0	0.0	0.9	0.0	63.9
Fukushima	33,443	33,390	11,720	21,486	184	0	184	100	0	21,579
		99.8	35.1	64.3	0.6	0.0	0.6	0.3	0.0	64.6
Nihonmatsu	6,285	6,275	2,239	3,991	45	0	45	22	0	4,015
		99.8	35.7	63.6	0.7	0.0	0.7	0.4	0.0	64.0
Motomiya	3,858	3,842	1,334	2,491	17	0	17	8	0	2,502
		99.6	34.7	64.8	0.4	0.0	0.4	0.2	0.0	65.1
Otama	1,046	1,041	368	667	6	0	6	3	0	671
		99.5	35.4	64.1	0.6	0.0	0.6	0.3	0.0	64.5
Koriyama	37,196	36,570	12,520	23,835	215	0	215	125	0	23,937
		98.3	34.2	65.2	0.6	0.0	0.6	0.3	0.0	65.5
Kori	1,340	1,339	488	841	10	0	10	3	0	848
		99.9	36.4	62.8	0.7	0.0	0.7	0.2	0.0	63.3
Kunimi	1,003	1,001	332	661	8	0	8	2	0	666
		99.8	33.2	66.0	0.8	0.0	0.8	0.2	0.0	66.5
Tenei	613	566	189	370	7	0	7	1	0	375
		92.3	33.4	65.4	1.2	0.0	1.2	0.2	0.0	66.3
Shirakawa	7,470	7,420	2,578	4,804	38	0	38	21	0	4,827
		99.3	34.7	64.7	0.5	0.0	0.5	0.3	0.0	65.1
Nishigo	2,481	2,467	799	1,658	10	0	10	7	0	1,661
		99.4	32.4	67.2	0.4	0.0	0.4	0.3	0.0	67.3
Izumizaki	784	768	262	505	1	0	1	5	0	505
		98.0	34.1	65.8	0.1	0.0	0.1	0.7	0.0	65.8
Miharu	1,741	1,734	549	1,174	11	0	11	8	0	1,175
		99.6	31.7	67.7	0.6	0.0	0.6	0.5	0.0	67.8
Subtotal	121,453	120,040	41,766	77,533	741	0	741	402	0	77,890
		98.8	34.8	64.6	0.6	0.0	0.6	0.3	0.0	64.9

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

As of 30 September 2017

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

Screening coverage by municipality in FY 2017

Iwaki	5,338	3,178	1,413	1,735	30	0	30	18	0	1,748
		59.5	44.5	54.6	0.9	0.0	0.9	0.6	0.0	55.0
Sukagawa	6,542	2,263	831	1,400	32	0	32	18	0	1,413
		34.6	36.7	61.9	1.4	0.0	1.4	0.8	0.0	62.4
Soma	3,642	1,854	736	1,099	19	0	19	13	0	1,108
		50.9	39.7	59.3	1.0	0.0	1.0	0.7	0.0	59.8
Kagamiishi	1,399	409	152	253	4	0	4	4	0	254
		29.2	37.2	61.9	1.0	0.0	1.0	1.0	0.0	62.1
Shinchi	820	231	86	141	4	0	4	3	0	142
		28.2	37.2	61.0	1.7	0.0	1.7	1.3	0.0	61.5
Nakajima	627	614	209	403	2	0	2	3	0	402
		97.9	34.0	65.6	0.3	0.0	0.3	0.5	0.0	65.5
Yabuki	1,908	1,798	627	1,165	6	0	6	3	0	1,167
		94.2	34.9	64.8	0.3	0.0	0.3	0.2	0.0	64.9
Ishikawa	1,566	1,526	600	920	6	0	6	4	0	921
		97.4	39.3	60.3	0.4	0.0	0.4	0.3	0.0	60.4
Yamatsuri	558	550	187	361	2	0	2	1	0	362
		98.6	34.0	65.6	0.4	0.0	0.4	0.2	0.0	65.8
Asakawa	796	773	277	487	9	0	9	3	0	493
		97.1	35.8	63.0	1.2	0.0	1.2	0.4	0.0	63.8
Hirata	667	655	257	394	4	0	4	1	0	395
		98.2	39.2	60.2	0.6	0.0	0.6	0.2	0.0	60.3
Tanagura	1,685	1,670	602	1,059	9	0	9	8	0	1,065
		99.1	36.0	63.4	0.5	0.0	0.5	0.5	0.0	63.8
Hanawa	856	849	305	535	9	0	9	3	0	539
		99.2	35.9	63.0	1.1	0.0	1.1	0.4	0.0	63.5
Samegawa	375	366	136	227	3	0	3	3	0	229
		97.6	37.2	62.0	0.8	0.0	0.8	0.8	0.0	62.6
Ono	995	979	292	680	7	0	7	2	0	684
		98.4	29.8	69.5	0.7	0.0	0.7	0.2	0.0	69.9
Tamakawa	779	691	251	437	3	0	3	4	0	438
		88.7	36.3	63.2	0.4	0.0	0.4	0.6	0.0	63.4
Furudono	591	575	222	352	1	0	1	1	0	352
		97.3	38.6	61.2	0.2	0.0	0.2	0.2	0.0	61.2
Hinoemata	34	30	10	20	0	0	0	0	0	20
		88.2	33.3	66.7	0.0	0.0	0.0	0.0	0.0	66.7
Minami-aizu	1,328	1,165	433	725	7	0	7	2	0	727
		87.7	37.2	62.2	0.6	0.0	0.6	0.2	0.0	62.4
Kaneyama	82	73	26	47	0	0	0	1	0	46
		89.0	35.6	64.4	0.0	0.0	0.0	1.4	0.0	63.0
Showa	63	59	28	31	0	0	0	0	0	31
		93.7	47.5	52.5	0.0	0.0	0.0	0.0	0.0	52.5
Mishima	84	73	20	53	0	0	0	1	0	53
		86.9	27.4	72.6	0.0	0.0	0.0	1.4	0.0	72.6
Shinogo	466	388	162	225	1	0	1	1	0	226
		83.3	41.8	58.0	0.3	0.0	0.3	0.3	0.0	58.2
Kitakata	771	312	141	171	0	0	0	1	0	170
		40.5	45.2	54.8	0.0	0.0	0.0	0.3	0.0	54.5
Nishiaizu	360	328	120	208	0	0	0	0	0	208
		91.1	36.6	63.4	0.0	0.0	0.0	0.0	0.0	63.4
Tadami	372	358	131	225	2	0	2	0	0	227
		96.2	36.6	62.8	0.6	0.0	0.6	0.0	0.0	63.4
Inawashiro	1,289	1,196	428	761	7	0	7	5	0	764
		92.8	35.8	63.6	0.6	0.0	0.6	0.4	0.0	63.9
Bandai	283	254	98	156	0	0	0	0	0	156
		89.8	38.6	61.4	0.0	0.0	0.0	0.0	0.0	61.4
Kitashiobara	244	215	74	140	1	0	1	1	0	139
		88.1	34.4	65.1	0.5	0.0	0.5	0.5	0.0	64.7
Aizumisato	1,651	1,486	551	929	6	0	6	4	0	933
		90.0	37.1	62.5	0.4	0.0	0.4	0.3	0.0	62.8
Aizubange	1,420	1,172	406	763	3	0	3	8	0	764
		82.5	34.6	65.1	0.3	0.0	0.3	0.7	0.0	65.2
Yanaizu	277	242	81	161	0	0	0	0	0	161
		87.4	33.5	66.5	0.0	0.0	0.0	0.0	0.0	66.5
Aizuwakamatsu	2,233	1,234	507	723	4	0	4	6	0	723
		55.3	41.1	58.6	0.3	0.0	0.3	0.5	0.0	58.6
Yugawa	327	286	107	178	1	0	1	1	0	178
		87.5	37.4	62.2	0.3	0.0	0.3	0.3	0.0	62.2
Subtotal	40,428	27,852	10,506	17,164	182	0	182	123	0	17,238
		68.9	37.7	61.6	0.7	0.0	0.7	0.4	0.0	61.9
Total	161,881	147,892	52,272	94,697	923	0	923	525	0	95,128
		91.4	35.3	64.0	0.6	0.0	0.6	0.4	0.0	64.3

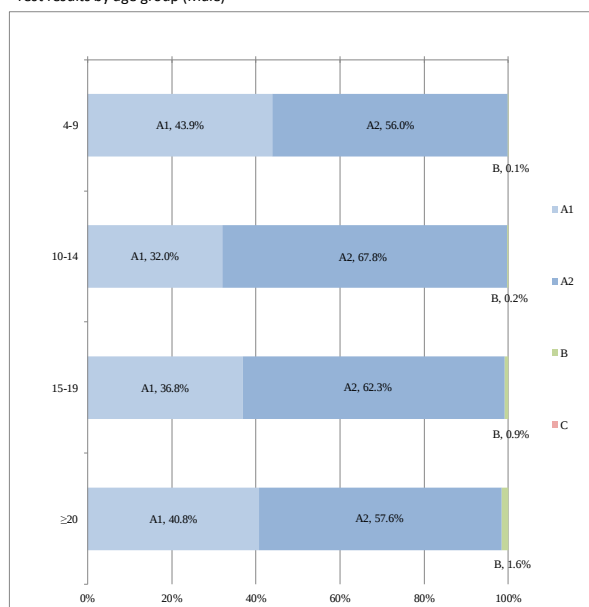
Appendix 4

1. Thyroid ultrasound examination results by age and sex

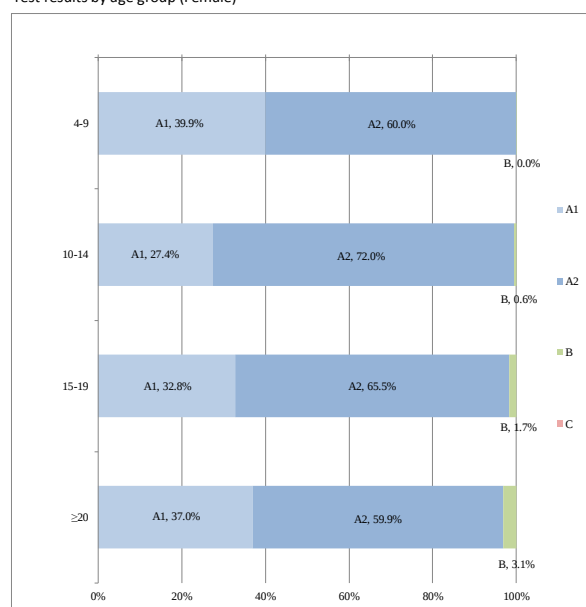
As of 30 September 2017

Ages	A						B			C			Total		
	A1			A2			Male	Female	Total	Male	Female	Total	Male	Female	Total
	Male	Female	Total	Male	Female	Total									
4-9	10,372	8,930	19,302	13,216	13,419	26,635	14	7	21	0	0	0	23,602	22,356	45,958
10-14	8,943	7,298	16,241	18,945	19,191	38,136	66	155	221	0	0	0	27,954	26,644	54,598
15-19	7,572	6,742	14,314	12,798	13,448	26,246	185	343	528	0	0	0	20,555	20,533	41,088
≥20	1,122	1,293	2,415	1,584	2,096	3,680	44	109	153	0	0	0	2,750	3,498	6,248
Total	28,009	24,263	52,272	46,543	48,154	94,697	309	614	923	0	0	0	74,861	73,031	147,892

Test results by age group (Male)



Test results by age group (Female)



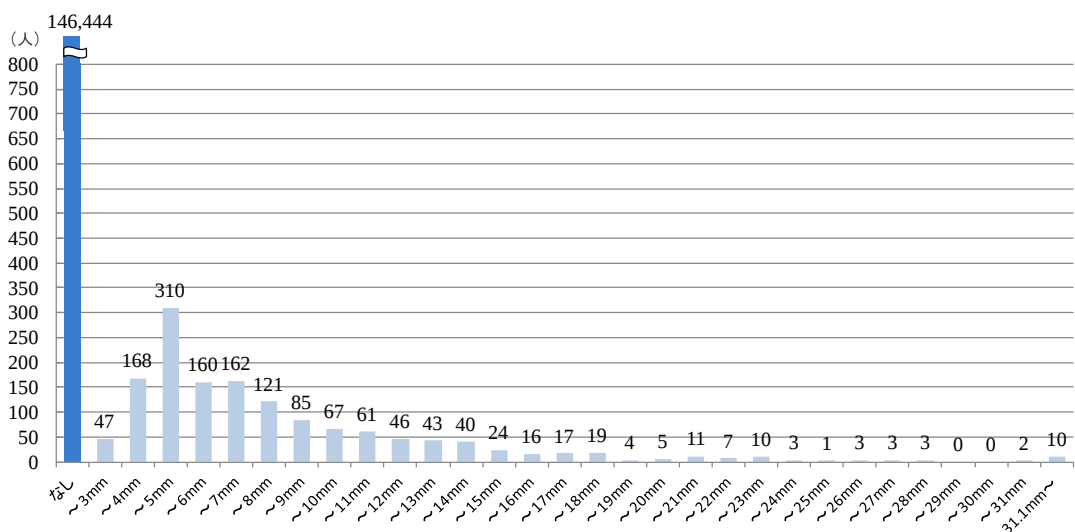
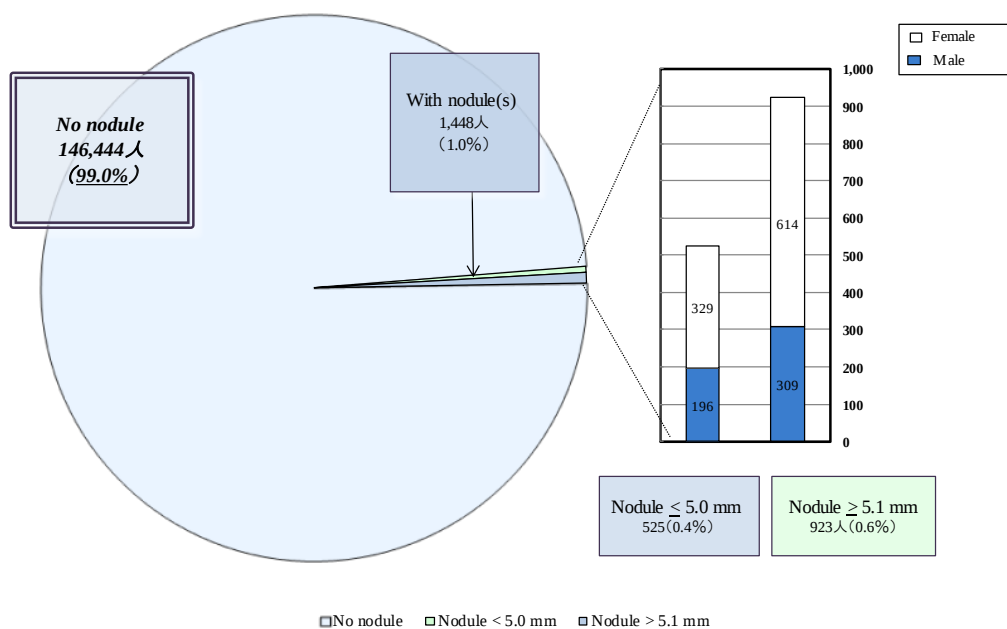
Percentages have been rounded and may not total to 100%.

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

2. Nodule size

As of 30 September 2017

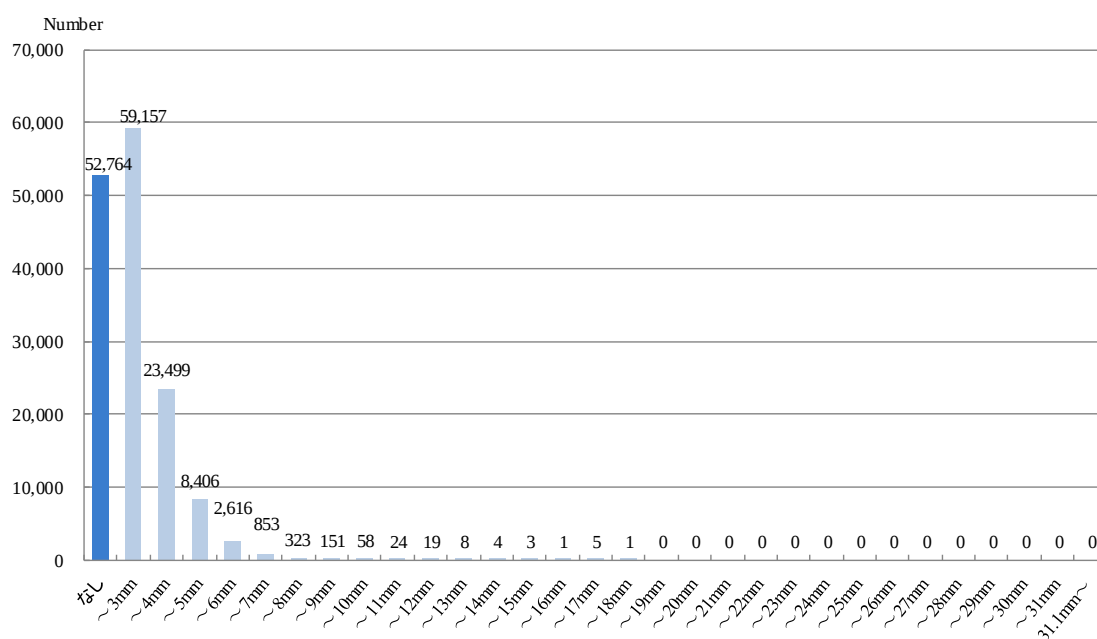
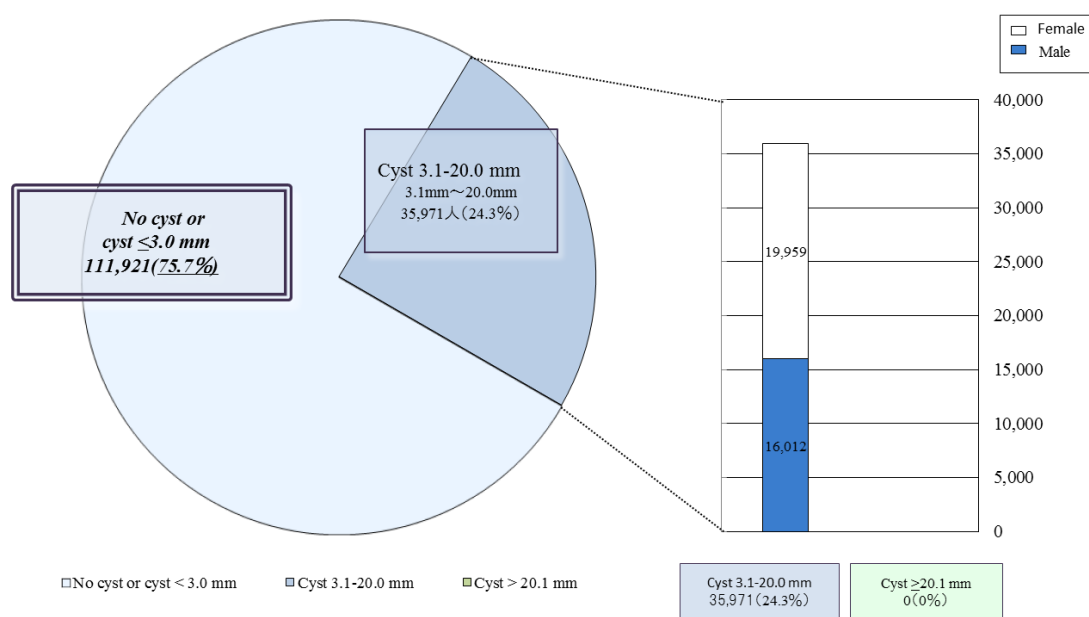
Nodule size	Total	Gender		Class	Proportion
		Male	Female		
None	146,444	74,356	72,088	A 1	99.0%
≤ 3.0 mm	47	20	27	A2	0.4%
3.1-5.0 mm	478	176	302		
5.1-10.0 mm	595	196	399	B	0.6%
10.1-15.0 mm	214	72	142		
15.1-20.0 mm	61	20	41		
20.1-25.0 mm	32	13	19		
≥ 25.1 mm	21	8	13		
Total	147,892	74,861	73,031		



3. Cyst size

As of 30 September 2017

Cyst size	Total	Gender		Class	Proportion
		Male	Female		
None	52,764	28,196	24,568	A1	75.7%
≤ 3.0 mm	59,157	30,653	28,504	A2	
3.1-5.0 mm	31,905	14,553	17,352		
5.1-10.0 mm	4,001	1,440	2,561		
10.1-15.0 mm	58	17	41		
15.1-20.0 mm	7	2	5		
20.1-25.0 mm	0	0	0	B	0.000%
≥ 25.1 mm	0	0	0		
Total	147,892	74,861	73,031		



Appendix 5

								As of 30 September 2017				
市町村名	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				
			†	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/h
13 municipalities*	24,193	189 0.8	131 69.3	1 0.8	32 24.4	79 60.3	19 14.5	116 88.5	0 0.0	15 12.9	101 87.1	10 9.9
Nakadori*	116,604	649 0.6	404 62.2	13 3.2	89 22.0	241 59.7	61 15.1	345 85.4	3 0.9	29 8.4	313 90.7	11 3.5
Hamadori*	9,800	53 0.5	10 18.9	0 0.0	1 10.0	2 20.0	7 70.0	7 70.0	0 0.0	1 14.3	6 85.7	1 16.7
Aizu*	11,284	32 0.3	12 37.5	3 25.0	4 33.3	4 33.3	1 8.3	6 50.0	0 0.0	0 0.0	6 100.0	0 0.0
Total	161,881	923 0.6	557 60.3	17 3.1	126 22.6	326 58.5	88 15.8	474 85.1	3 0.6	45 9.5	426 89.9	22 5.2

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

i, j) Those who will take Full-scale thyroid screening program since April 2018.

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

Fractions have been rounded and may not total to 100%. Ages are at the time when the participants underwent the testing (the Second Full-scale Thyroid Screening).

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

Appendix 6

Surgical cases for malignancy or suspicion of malignancy

1. Target municipalities in FY 2016

Suspicious or malignant: 7 (7 surgical cases: 7 papillary thyroid carcinomas)

2. Target municipalities in FY 2017

Suspicious or malignant: 0

3. Total for cases FY 2016 - 2017

Suspicious or malignant: 7 (7 surgical cases: 7 papillary thyroid carcinomas)

Report on Results of the FY2014 Interview-
based Survey

Fukushima Health Management Survey
“Mental Health and Lifestyle Survey”
Survey of Respondent Characteristics

Fukushima Health Management Survey
Mental Health and Lifestyle Survey

Purpose

The purpose of this survey is to clarify reasons for response or non-response for the “Mental Health and Lifestyle Survey” of the Fukushima Health Management Survey and to increase the response rate by identifying the basic characteristics, socioeconomic status, mental health status, and reasons for responding of respondents and the same of non-respondents approached in the surveys conducted between FY2011 and FY 2013.

Survey Respondents

Invitation to participate in the survey were made to 1,309 people (480 within Fukushima Prefecture / 829 outside Fukushima Prefecture) selected by random sampling from among those of the approximately 210,000 people targeted by the “Mental Health and Lifestyle Survey” who are residents (aged 20 or over) of Namie Town or Minamisoma City living either in or outside Fukushima prefecture. An interview-based survey was then conducted for 313 (23.9%) of the target population.

Methods

- Survey period: October 2014 - January 2015
- Self-administered questionnaire
 - Sex, age, place of residence (within/outside the prefecture), family structure, education, employment status, living circumstances, subjective health perception (physical/mental), LSNS-6 (social isolation), K6* (overall mental health status), PCL-S** (trauma reaction)
- Interview-based survey (semi-structured interview)
 - Whether or not the respondent responded to the surveys between FY2011 and FY2013, reasons for submitting/not submitting the questionnaire, suggestions for improvements, etc.

Table 1-1. Attributes of Survey Subjects

		Total n=313		Non-respondents n=144		Respondents n=169		<i>p</i>
Age	Average (SD)	58.0 ±	18.7	57.7 ±	20.5	58.9 ±	16.9	0.588
Sex	Male	131 (	41.9)	66 (	45.8)	65 (	38.5)	0.207
	Female	182 (	58.1)	78 (	54.2)	104 (	61.5)	
Place of Residence	In Fukushima Prefecture	145 (	46.3)	61 (	42.4)	84 (	49.7)	0.212
	Outside Fukushima Prefecture	168 (	53.7)	83 (	57.6)	85 (	50.3)	
Family Structure	Living alone	117 (	40.1)	47 (	35.9)	70 (	43.5)	0.230
	Other	175 (	59.9)	84 (	64.1)	91 (	56.5)	
Academic Background	Completed elementary / junior high school	60 (	20.5)	32 (	24.2)	28 (	17.5)	0.190
	High school graduate or above	232 (	79.5)	100 (	75.8)	132 (	82.5)	
Employment Status	Not in work	179 (	61.1)	71 (	53.8)	108 (	67.1)	0.022
	In work	114 (	38.9)	61 (	46.2)	53 (	32.9)	
Economic Situation	Good	200 (	67.8)	90 (	67.2)	110 (	68.3)	0.901
	Bad	95 (	32.2)	44 (	32.8)	51 (	31.7)	
LSNS-6 (social support situation)	Median value (25%-75%)	12.0 (	7.0-17.8)	10.0 (	6.0-17.3)	13.0 (	8.0-18.0)	0.125
	<12	144 (	48.6)	74 (	55.2)	70 (	43.2)	0.047
	>12	152 (	51.4)	60 (	44.8)	92 (	56.8)	

n (%) Chi-square test, t-test, Mann-Whitney U test.

LSNS-6 scale: LSNS-6 score of <12 indicates a strong possibility that the individual is socially isolated.

Table 1-2. Differences in Psychological Distress and PTSD Symptoms

		Total	Non-respondents	Respondents	<i>p</i>
		n=313	n=144	n=169	
K6					
	Median value (25%-75%)	4.0 (1.0-9.0)	4.0 (0-10.0)	5.0 (1.0-10.0)	0.941
	<13	254 (87.3)	107 (82.3)	147 (91.3)	0.033
	≥13	37 (12.7)	23 (17.7)	14 (8.7)	
PCL					
	Median value (25%-75%)	27.0 (20.0-36.5)	25.0 (19.0-36.8)	29.0 (20.0-37.0)	0.256
	<44	243 (84.1)	101 (78.9)	142 (88.2)	0.036
	≥44	46 (15.9)	27 (21.1)	19 (11.8)	

n (%) Chi-square test and Mann-Whitney U test

Note: K6 scale: K6 score ≥13 indicates a possibility of depression, etc.

PCL scale: PCL score ≥44 indicates a possibility of PTSD.

Table 2 Reasons for Submission and Proposals for Improvements in the Questionnaire Respondent/Non-respondent Groups

	Total	Respondents	Non-respondents
		Those who responded at least once n=169	
Reasons for submitting response			
Wanted to be useful / contribute	-	82 (48.5)	-
Wanted to communicate own situation and/or views	-	77 (45.6)	-
Because the survey was conducted by the prefecture/medical university	-	68 (40.2)	-
In the habit of responding to questionnaires	-	33 (19.5)	-
Had time to respond	-	23 (13.6)	-
Viewed the response results (accompanying document)	-	7 (4.1)	-
Family told them to submit it	-	4 (2.4)	-
Other	-	13 (7.7)	-
		Excludes those who responded every year n=113	n=144
Reasons for not submitting response	n=257		
Did not have time	120 (46.7)	61 (54.0)	59 (41.0)
Felt it was not necessary for them	69 (26.8)	31 (27.4)	38 (26.4)
Too many questions	41 (16.0)	21 (18.6)	20 (13.9)
Writing was too stressful	41 (16.0)	10 (8.8)	31 (21.5)
Did not understand the purpose of the survey	23 (8.9)	6 (5.3)	17 (11.8)
Did not want to participate in a prefectural / medical university survey	9 (3.5)	0 (0.0)	9 (6.3)
Did not receive the response results	3 (1.2)	2 (1.8)	1 (0.7)
Other	59 (23.0)	15 (13.3)	44 (30.6)
		Excludes those who responded every year n=113	n=144
Proposals for improvements	n=257		
Reduce the length of the questionnaire	118 (45.9)	74 (65.5)	44 (30.6)
Reduce the frequency of the survey to once in few years	48 (18.7)	26 (23.0)	22 (15.3)
Enable the survey to be done at the same time as the health checks	41 (16.0)	12 (10.6)	29 (20.1)
Ensure that response results are received	27 (10.5)	10 (8.8)	17 (11.8)
Improve question content	5 (1.9)	1 (0.9)	4 (2.8)
Provide some kind of reward/benefit for taking part	3 (1.2)	0 (0.0)	3 (2.1)
Other	53 (20.6)	6 (5.3)	47 (32.6)

n (%)

Summary of Conclusions

- There were no major differences in characteristics between those who had responded to the surveys and those who had not. However, many of those in the non-respondent group had a tendency to be socially isolated and had a higher risk of some mental health problems such as depression and PTSD.
- The main reason cited for having responded to the surveys was to contribute to society or convey their own feelings and opinions. The main reason cited for not having responded to the survey was that the respondent did not have the time to do so (the survey was too long or had too many questions).
- According to the results, it might be necessary to consider countermeasures to increase the response rate (e.g., reduce the number of questions), as well as to carry out activities to improve awareness of non-respondents.

Report on Results of the FY2016
Interview-based Survey

Fukushima Health Management Survey
“Mental Health and Lifestyle Survey”
Evaluations of the Usefulness of the
Telephone Support Line

Fukushima Health Management Survey
Mental Health and Lifestyle Survey

Purpose and Methods 1

[Purpose]

We carried out an interview-based survey among respondents to the “Mental Health and Lifestyle Survey” who had received the telephone support, in order to evaluate the effectiveness of the telephone intervention provided by the support team and identify related issues. In this survey, we asked respondents about their views on the telephone support and any related needs.

[Survey Respondents]

Invitations to participate in the survey were made to 1,784 people randomly selected from those who were subjects of the FY2015 “Mental Health and Lifestyle Survey” eligible for telephone support and were living in the target areas below. After excluding those who declined to participate (707 people) and those who had moved or were away (362 people), an interview-based survey was then conducted with 715 people (614 within the prefecture / 101 outside the prefecture; survey consent rate: 40.1%).

[Target Areas]

Within the prefecture (Fukushima City, Koriyama City, Iwaki City, Minamisoma City)

Outside the prefecture (Tokyo, Saitama Prefecture, Kanagawa Prefecture, Miyagi Prefecture)

Purpose and Methods 2

[Survey Method]

Interviewers belonging to a company commissioned to conduct the survey visited the subjects for semi-structured interviews (invitation forms were sent by post beforehand)

[Survey Contents]

<Basic characteristics>

Sex, age, residence (within/outside the prefecture), subjective health perception, social network (LSNS-6)

<Questions concerning telephone-based support>

Awareness of the support, requests for the support, response by the support staff, satisfaction with the support, usefulness of the support, behavioral change after the support, positive expectations regarding the support, etc.

<Other>

Returning individual results of the “Mental Health and Lifestyle Survey” and soliciting intent to participate in the following year’s survey

Results 1: Basic Attributes of Respondents

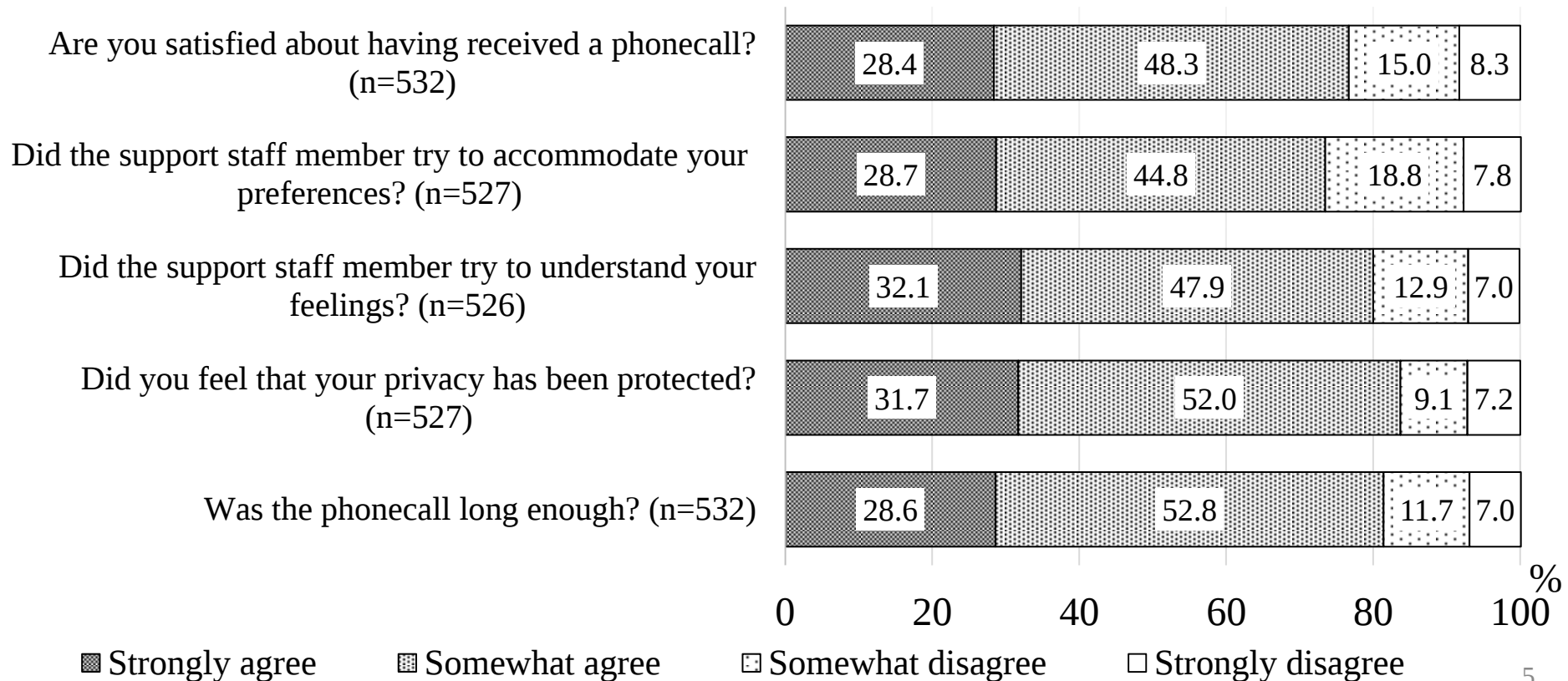
	Support Recipients	Support Non- recipients
No. of respondents	646	69
Sex		
Male (%)	303 (46.9)	28 (40.6)
Female (%)	343 (53.1)	41 (59.4)
Age		
Average age	61.4	47.3
SD	21.4	23.3
Area of residence		
In Fukushima Prefecture (%)	560 (86.7)	54 (78.3)
Outside Fukushima Prefecture (%)	86 (13.3)	15 (21.7)

Support recipients: Those eligible for telephone support who had received support via the support line

Support non-recipients: Those eligible for telephone support who had not received support via the support line

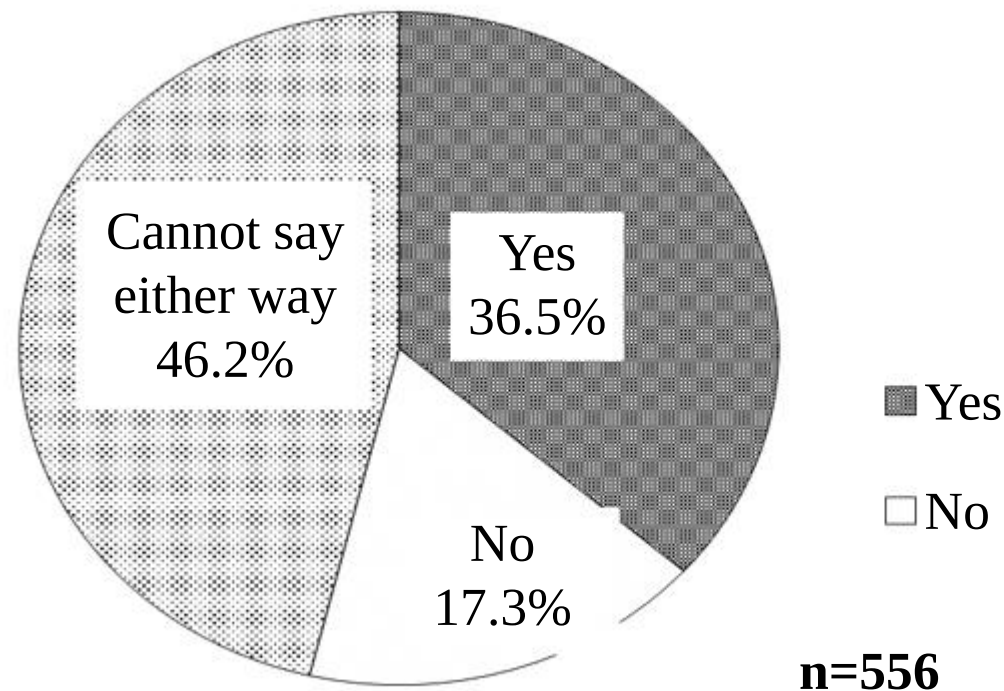
Results 2: Evaluation of Support Line Staff by Support Recipients

- **Including those who reported being satisfied with the telephone support, around 80% of respondents gave positive ratings for each item.**



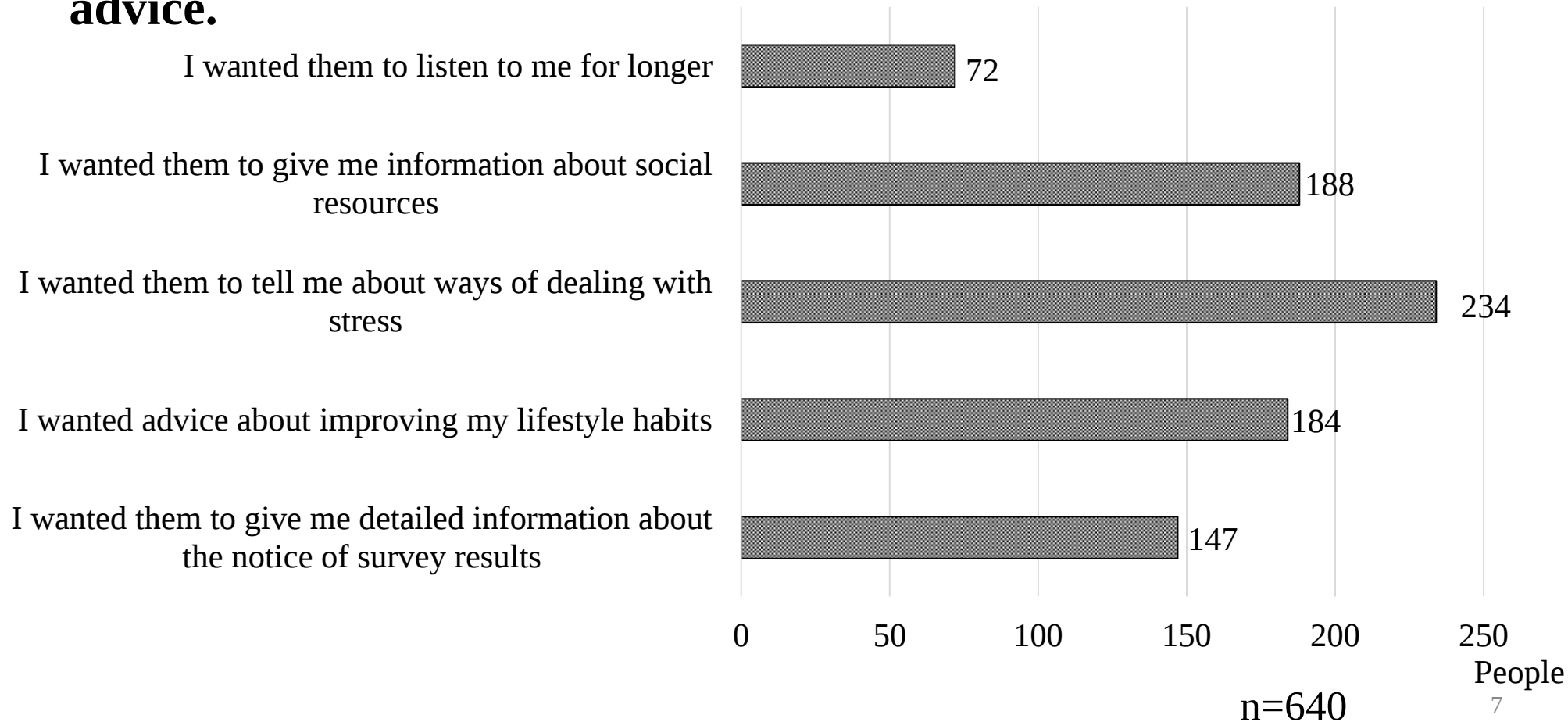
Results 3: Support Recipients' Views on Usefulness of Telephone Support

- The most common response to the question “Was the telephone support useful?” was “Cannot say either way,” which was selected by 46.2%.



Results 4: Expectations Regarding Telephone Support (multiple answers)

- **Many respondents stated that they not only wanted someone to listen to their concerns, but also wanted someone to provide specific solutions, such as ways of dealing with stress, information, and advice.**



Observations

Most of the respondents receiving the telephone support gave positive evaluations of it. It is particularly noteworthy that more than 70% of people were satisfied with the telephone support.

On the other hand, there are high expectations regarding advice about coping with stress, more detailed information concerning available resources and lifestyle-related issues. These results could be very helpful to improve telephone support skills.

In addition to usefulness of the telephone support, this survey also revealed some issues to be resolved in near future.