

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

Reported on 14 September 2016

**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 Policy on the Second Full-scale Thyroid Screening (third-round examination)

1.3-1 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.

1.3-2 Revision of the Primary Examination Consent Form (Examination Notice)

In the examination notice, we will detail the purpose of the examination and inform each examinee that the condition of their thyroid gland will be ascertained to an extent that may provoke some anxiety on the part of the examinee. In addition, we will set up a column where the examinee can grant or withhold consent for the examination in order to clearly confirm each examinee's volition before proceeding.

As for examinees residing in Fukushima Prefecture, we have thus far sent examination notices in accordance with examination schedules based on their residence at the time of the earthquake disaster. From this examination forward, however, we will send notices in accordance with examination schedules based on each examinee's current residence, for better convenience.

1.3-3 Revision of the Primary Examination Result Notice

Given that the total number of examinations will increase from the second-round Full-scale Thyroid Screening Program, the primary examination notice will specify the results of the previous two examinations along with those of the latest examination and use easy-to-understand expressions for explaining the results.

For each examinee whose results warrant a confirmatory examination, we will enclose a postcard with the examination results notice to ascertain whether the examinee wishes to undergo a confirmatory examination and how health insurance coverage applies to follow-up treatment.

#### 1.4 Method

##### 1.4-1 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 next screening starting from April 2018.

A1: No nodules / cysts

A2: Nodules  $\leq 5.0$  mm or cysts  $\leq 20.0$  mm

##### -Diagnostic Criteria (B)

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

B: Nodules  $\geq 5.1$  mm or cysts  $\geq 20.1$  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.

##### 1.4-2 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.

##### 1.4-3 Flow chart

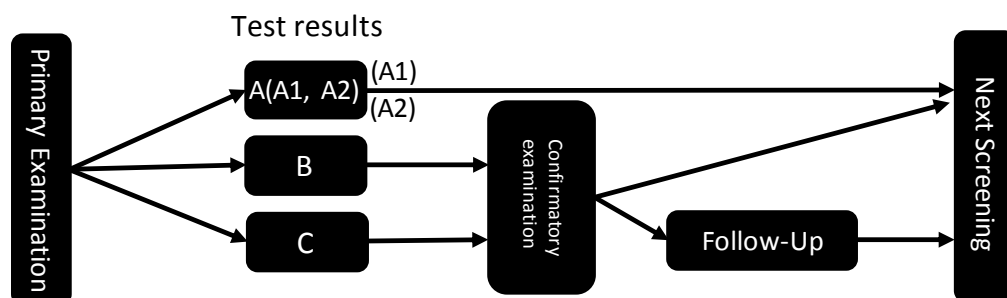


Fig.1 Flow chart

### 1.5 Target Municipalities

- 25 target municipalities for FY 2016
- 34 target municipalities for FY 2017



Fig.2 Target Municipalities

## 2. Results as of 30 June 2016

### 2.1 Results of Primary Examination

#### 2.1-1 Progress Report

The Primary Examination started 1 May 2016, and the participation rate is 4.6% (17,481 of 381,172) from 59 municipalities (25 municipalities in FY 2016, and 34 in FY 2017). (See Appendix 1 and 2.)

As of 30 June 2016, examination results were not fully tabulated.

Table 1. Screening test coverage as of 30 June 2016

	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	216,815	17,026 (7.9)	42	—	—	—	—	
FY 2017	164,357	455 (0.3)	33	—	—	—	—	
Total	381,172	17,481 (4.6)	75	—	—	—	—	

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

# Appendix 1

## Thyroid Ultrasound Examination (TUE) coverage by municipality

As of 30 June 2016

	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		
Screening coverage by municipality in FY 2016										
Kawamata	2,459	914	0	37.2	279 30.5	507 55.5	114 12.5	14 1.5	0	0.0
Namie	3,772	196	1	5.2	40 20.4	88 44.9	57 29.1	11 5.6	2	1.0
Iitate	1,122	238	0	21.2	61 25.6	153 64.3	22 9.2	2 0.8	1	0.4
Minami-soma	12,979	4,053	14	31.2	1,107 27.3	1,891 46.7	1,009 24.9	46 1.1	18	0.4
Date	11,737	4,897	6	41.7	1,458 29.8	2,484 50.7	864 17.6	91 1.9	6	0.1
Tamura	7,316	2,720	3	37.2	891 32.8	1,473 54.2	333 12.2	23 0.8	3	0.1
Hirono	1,108	216	0	19.5	80 37.0	103 47.7	32 14.8	1 0.5	0	0.0
Naraha	1,490	149	0	10.0	45 30.2	73 49.0	30 20.1	1 0.7	1	0.7
Tomioka	3,100	117	0	3.8	24 20.5	46 39.3	43 36.8	4 3.4	1	0.9
Kawauchi	360	62	0	17.2	22 35.5	27 43.5	13 21.0	0 0.0	0	0.0
Okuma	2,498	142	0	5.7	38 26.8	60 42.3	44 31.0	0 0.0	3	2.1
Futaba	1,258	51	0	4.1	16 31.4	24 47.1	11 21.6	0 0.0	0	0.0
Katsurao	241	39	0	16.2	14 35.9	19 48.7	4 10.3	2 5.1	1	2.6
Fukushima	55,724	618	2	1.1	152 24.6	56 9.1	407 65.9	3 0.5	5	0.8
Nihonmatsu	10,592	705	3	6.7	136 19.3	448 63.5	71 10.1	50 7.1	2	0.3
Motomiya	6,345	368	3	5.8	190 51.6	136 37.0	9 2.4	33 9.0	2	0.5
Otama	1,683	235	0	14.0	1 0.4	209 88.9	18 7.7	7 3.0	0	0.0
Koriyama	66,748	139	5	0.2	61 43.9	33 23.7	42 30.2	3 2.2	11	7.9
Kori	2,135	655	0	30.7	166 25.3	383 58.5	93 14.2	13 2.0	0	0.0
Kunimi	1,622	429	5	26.4	207 48.3	153 35.7	49 11.4	20 4.7	2	0.5
Tenei	1,101	2	0	0.2	1 50.0	1 50.0	0 0.0	0 0.0	0	0.0
Shirakawa	12,733	11	0	0.1	3 27.3	3 27.3	5 45.5	0 0.0	0	0.0
Nishigo	4,173	1	0	0.0	0 0.0	0 0.0	1 100.0	0 0.0	0	0.0
Izumizaki	1,336	0	0	0.0	0 0.0	0 0.0	0 0.0	0 0.0	0	0.0
Miharu	3,183	69	0	2.2	22 31.9	12 17.4	35 50.7	0 0.0	0	0.0
Subtotal	216,815	17,026	42	7.9	5,014 29.4	8,382 49.2	3,306 19.4	324 1.9	58	0.3

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.

Fractions have been rounded and may not total to 100%. Ages are at the time when the participants underwent the testing.

Thyroid Ultrasound Examination (TUE) coverage by municipality

As of 30 June 2016

	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		
Iwaki	64,294	146	15	0.2	37 25.3	21 14.4	79 54.1	9 6.2	20	13.7
Sukagawa	15,877	26	6	0.2	13 50.0	7 26.9	4 15.4	2 7.7	8	30.8
Soma	7,082	153	0	2.2	16 10.5	13 8.5	124 81.0	0 0.0	0	0.0
Kagamiishi	2,705	3	0	0.1	0 0.0	2 66.7	0 0.0	1 33.3	0	0.0
Shinchi	1,476	23	0	1.6	3 13.0	0 0.0	20 87.0	0 0.0	1	4.3
Nakajima	1,115	1	0	0.1	1 100.0	0 0.0	0 0.0	0 0.0	0	0.0
Yabuki	3,419	4	0	0.1	1 25.0	3 75.0	0 0.0	0 0.0	0	0.0
Ishikawa	2,957	1	0	0.0	1 100.0	0 0.0	0 0.0	0 0.0	0	0.0
Yamatsuri	1,055	0	0	0.0	0 0.0	0 0.0	0 0.0	0 0.0	0	0.0
Asakawa	1,387	0	0	0.0	0 0.0	0 0.0	0 0.0	0 0.0	0	0.0
Hirata	1,272	4	0	0.3	2 50.0	1 25.0	1 25.0	0 0.0	0	0.0
Tanagura	3,085	5	1	0.2	2 40.0	2 40.0	0 0.0	1 20.0	2	40.0
Hanawa	1,715	3	0	0.2	0 0.0	0 0.0	3 100.0	0 0.0	0	0.0
Samegawa	723	0	0	0.0	0 0.0	0 0.0	0 0.0	0 0.0	0	0.0
Ono	1,990	14	0	0.7	6 42.9	3 21.4	5 35.7	0 0.0	0	0.0
Tamakawa	1,372	4	0	0.3	1 25.0	3 75.0	0 0.0	0 0.0	0	0.0
Furudono	1,084	2	0	0.2	2 100.0	0 0.0	0 0.0	0 0.0	0	0.0
Hinoemata	110	0	0	0.0	0 0.0	0 0.0	0 0.0	0 0.0	0	0.0
Minami-aizu	2,913	4	0	0.1	1 25.0	2 50.0	1 25.0	0 0.0	0	0.0
Kaneyama	203	0	0	0.0	0 0.0	0 0.0	0 0.0	0 0.0	0	0.0
Showa	134	0	0	0.0	0 0.0	0 0.0	0 0.0	0 0.0	0	0.0
Mishima	197	0	0	0.0	0 0.0	0 0.0	0 0.0	0 0.0	0	0.0
Shimogo	997	1	0	0.1	0 0.0	0 0.0	1 100.0	0 0.0	0	0.0
Kitakata	9,235	8	1	0.1	2 25.0	2 25.0	4 50.0	0 0.0	5	62.5
Nishiaizu	1,055	0	0	0.0	0 0.0	0 0.0	0 0.0	0 0.0	0	0.0
Tadami	735	1	0	0.1	0 0.0	1 100.0	0 0.0	0 0.0	0	0.0
Inawashiro	2,757	11	0	0.4	3 27.3	2 18.2	6 54.5	0 0.0	6	54.5
Bandai	628	0	0	0.0	0 0.0	0 0.0	0 0.0	0 0.0	0	0.0
Kitashiobara	581	0	0	0.0	0 0.0	0 0.0	0 0.0	0 0.0	0	0.0
Aizumisato	3,790	3	1	0.1	0 0.0	1 33.3	2 66.7	0 0.0	1	33.3
Aizubange	3,181	7	2	0.2	1 14.3	0 0.0	6 85.7	0 0.0	3	42.9
Yanaizu	612	0	0	0.0	0 0.0	0 0.0	0 0.0	0 0.0	0	0.0
Aizuwakamatsu	23,925	30	7	0.1	6 20.0	4 13.3	14 46.7	6 20.0	13	43.3
Yugawa	696	1	0	0.1	0 0.0	0 0.0	1 100.0	0 0.0	0	0.0
Subtotal	164,357	455	33	0.3	98 21.5	67 14.7	271 59.6	19 4.2	59	13.0
Total	381,172	17,481	75	4.6	5,112 29.2	8,449 48.3	3,577 20.5	343 2.0	117	0.7

Appendix 2

Thyroid Ultrasound Examination (TUE) coverage by prefecture

As of 31 May 2016

Prefecture	Number of test venues	Participants*	Prefecture	Number of test venues	Participants*	Prefecture	Number of test venues	Participants*
Hokkaido	6	0	Fukui	1	0	Hiroshima	1	0
Aomori	1	0	Yamanashi	2	0	Yamaguchi	1	0
Iwate	3	0	Nagano	2	2	Tokushima	1	0
Miyagi	2	0	Gifu	1	0	Kagawa	1	0
Akita	1	0	Shizuoka	2	0	Ehime	1	0
Yamagata	3	1	Aichi	3	3	Kochi	1	0
Ibaraki	4	0	Mie	1	0	Fukuoka	3	0
Tochigi	7	6	Shiga	1	0	Saga	1	0
Gunma	2	1	Kyoto	3	0	Nagasaki	2	0
Saitama	2	6	Osaka	6	1	Kumamoto	1	0
Chiba	4	0	Hyogo	1	0	Oita	1	0
Tokyo	12	41	Nara	2	0	Miyazaki	1	0
Kanagawa	5	8	Wakayama	1	3	Kagoshima	1	0
Niigata	2	3	Tottori	1	0	Okinawa	1	0
Toyama	1	0	Shimane	1	0			
Ishikawa	1	0	Okayama	3	0			
						<b>Total</b>	104	75

\* Participants who underwent testing at venues outside Fukushima carried out either by Fukushima Medical University staff or by local specialists.