

# Basic Survey (Radiation Dose Estimates)

Reported on 31 August 2015

## 1. Response Rates and Radiation Dose Estimates

### 1.1 Response Rates of Residents

The overall effective response rate to the Basic Survey (radiation dose estimates), for the entire population of Fukushima Prefecture, was 27.2% (558,550 of 2,055,320) as of 30 June 2015. Response rate for the simplified questionnaire was 3.2% (66,474 of 2,055,320). (See Table 1.)

In FY 2013, we started giving instructions at thyroid ultrasound examination venues for filling out the survey form. Since then, response rates have increased among younger age groups. (See Table 2.)

Instructions have also been provided at venues for check-ups and health exams organized by municipalities since June, 2015. As a result, we continue to receive responses from participants.

Table 1 Response rates to the Basic Survey			
As of 30 June 2015			
Survey population		2,055,320	
Responses	Original questionnaire	492,076	23.9%
	Simplified questionnaire*	66,474	3.2%
	Total	558,550	27.2%
*Preliminary figures			
Fractions have been rounded.			

Table 2 Response rates by age group (years)								
Age Group	0-9	10-19	20-29	30-39	40-49	50-59	60-	Total
As of 31 October 2012 (A)	28.4%	19.4%	16.6%	21.9%	19.9%	21.6%	27.0%	23.0%
As of 30 June 2015 (B)	45.8%	35.2%	17.8%	24.3%	22.1%	22.7%	27.6%	27.2%
Point Change (B) - (A)	17.4	15.8	1.2	2.4	2.2	1.1	0.6	4.2

\* Tables 1 and 2 show the results of the original and simplified questionnaires combined.

## 1.2 Radiation Dose Estimates

Doses have been estimated for 542,571 of 558,550 respondents (97.1%) as of 30 June 2015, and results have been returned to 540,406 respondents. (See Table 3.)

Area (preceding and full-scale surveys)	Survey population a	Responses b	Response rate c=b/a	Completed dose estimates d	Proportion e=d/b	Returned results f	Proportion g=f/b
Kempoku	504,042	150,866	29.9%	147,690	97.9%	147,527	97.8%
Kenchu	557,234	134,549	24.1%	130,594	97.1%	129,346	96.1%
Kennan	152,225	33,969	22.3%	33,008	97.2%	32,683	96.2%
Aizu	267,203	56,267	21.1%	53,785	95.6%	53,628	95.3%
Minami-aizu	30,789	6,224	20.2%	5,894	94.7%	5,851	94.0%
Soso	195,604	89,353	45.7%	86,478	96.8%	86,327	96.6%
Iwaki	348,223	87,322	25.1%	85,122	97.5%	85,044	97.4%
Total	2,055,320	558,550	27.2%	542,571	97.1%	540,406	96.8%

Including Yamakiya of Kawamata, Namie and Iitate.

We have been estimating doses for non-residents who were visiting or staying in Fukushima Prefecture at the time of the accident. (See Table 4.)

Number of requests a	Responses b	Response rate c=b/a	Completed dose estimates d	Proportion e=d/b	Returned results f	Proportion g=f/b
3,916	2,168	55.4%	1,937	89.3%	1,903	87.8%

\* Table 3, 4, and Appendix 1 include the data in the estimation period less than four months.

## 2. Results of Radiation Dose Estimates

Table 5 shows a breakdown of completed dose estimates (from Table 2), excluding cases of data covering less than four months.

Radiation doses for a total of 463,969 residents have been estimated to date. The results for 454,940 respondents (excluding radiation workers) suggest that the doses for about 87% of the respondents in Kempoku area and about 92% in Kenchu area were <2 mSv. The doses for approximately 88% of the respondents in Kennan area and more than 99% of those in Aizu and Minami-aizu areas were <1 mSv. Doses for about 78% of respondents in the Soso area and more than 99% of respondents in Iwaki were also <1 mSv.

Effective Dose (mSv)	Total	Excluding radiation workers					By area (excluding radiation workers)													
							Kempoku *		Kenchu		Kennan		Aizu		Minami-aizu		Soso **		Iwaki	
<1	287,852	282,227	62.0%	93.8%	99.8%	24,789	20.1%	56,569	51.3%	24,846	88.2%	43,955	99.3%	4,771	99.3%	55,298	77.6%	71,999	99.1%	
1-2	146,938	144,636	31.8%			82,689	67.0%	45,269	41.0%	3,320	11.8%	298	0.7%	34	0.7%	12,402	17.4%	624	0.9%	
2-3	25,533	25,169	5.5%			15,397	12.5%	8,050	7.3%	17	0.1%	25	0.1%	0	-	1,650	2.3%	30	0.0%	
3-4	1,548	1,470	0.3%	5.9%	0.2%	464	0.4%	417	0.4%	0	-	1	0.0%	0	-	584	0.8%	4	0.0%	
4-5	540	495	0.1%			40	0.0%	5	0.0%	0	-	0	-	0	-	449	0.6%	1	0.0%	
5-6	430	378	0.1%	18		0.0%	3	0.0%	0	-	0	-	0	-	356	0.5%	1	0.0%		
6-7	268	229	0.1%	0.1%	0.2%	10	0.0%	1	0.0%	0	-	1	0.0%	0	-	217	0.3%	0	-	
7-8	152	114	0.0%			1	0.0%	0	-	0	-	0	-	0	-	113	0.2%	0	-	
8-9	113	73	0.0%	0.0%		0.0%	1	0.0%	0	-	0	-	0	-	0	-	72	0.1%	0	-
9-10	69	39	0.0%		0		-	0	-	0	-	0	-	0	-	39	0.1%	0	-	
10-11	68	35	0.0%	0.0%	0.0%		0	-	0	-	0	-	0	-	0	-	35	0.0%	0	-
11-12	52	30	0.0%			1	0.0%	0	-	0	-	0	-	0	-	29	0.0%	0	-	
12-13	36	13	0.0%	0.0%		0.0%	0	-	0	-	0	-	0	-	0	-	13	0.0%	0	-
13-14	34	12	0.0%		0		-	0	-	0	-	0	-	0	-	12	0.0%	0	-	
14-15	27	6	0.0%	0.0%	0.0%		0	-	0	-	0	-	0	-	0	-	6	0.0%	0	-
≥15	309	14	0.0%			0	-	0	-	0	-	0	-	0	-	14	0.0%	0	-	
Total	463,969	454,940	100.0%	100.0%		100.0%	123,410	100%	110,314	100%	28,183	100%	44,280	100%	4,805	100%	71,289	100%	72,659	100%
Max	66 mSv	25 mSv				11 mSv		6.3 mSv		2.6 mSv		6.0 mSv		1.9 mSv		25 mSv		5.9 mSv		
Mean value	0.9 mSv	0.8 mSv				1.4 mSv		1.0 mSv		0.6 mSv		0.2 mSv		0.1 mSv		0.8 mSv		0.3 mSv		

## 3. Evaluation of the results

The latest effective radiation dose estimates showed similar trends to those observed so far.

Since previous epidemiological studies<sup>1</sup> indicate no significant health effects at doses ≤100 mSv, we concluded that radiation doses estimated so far are unlikely to cause adverse effects on health, although this conclusion is based on external radiation doses estimated only for the first four months following the accident.

### References

- 1) Sources and effects of ionizing radiation, United Nations Scientific Committee on the Effects of Atomic Radiation, UNSCEAR 2008 Report to the General Assembly, with scientific annexes.

## **4. Survey on the representativeness of dose distribution shown in the Basic Survey**

### **(Interim Report)**

In order to investigate whether people who have responded to the Basic Survey represent the whole population in regard to external dose estimates and dose distribution, we started a survey.

#### **4.1 Survey Population and Methods**

In reference to nationwide and prefecture-wide polls, we used a two-stage sampling method to select about 5,000 samples throughout Japan from a survey population of the Basic Survey. After reviewing their responses and addresses to exclude those who already had responded, had died, or had moved outside Fukushima Prefecture, we sent out notice to 2,980 people asking for their participation.

Eliminating those with invalid addresses or those who declined to participate, there are 2,645 people to be interviewed in this door-to-door survey.

#### **4.2 Progress of the Survey**

We started surveying non-respondents on 18 June 2015 by outsourcing interviewers who are familiar with the instructions for filling out the questionnaire. This enables us to ask the residents why they did not answer the questionnaire previously, and to encourage their cooperation. The interviewers help with filling out the survey form and mailing it if necessary.

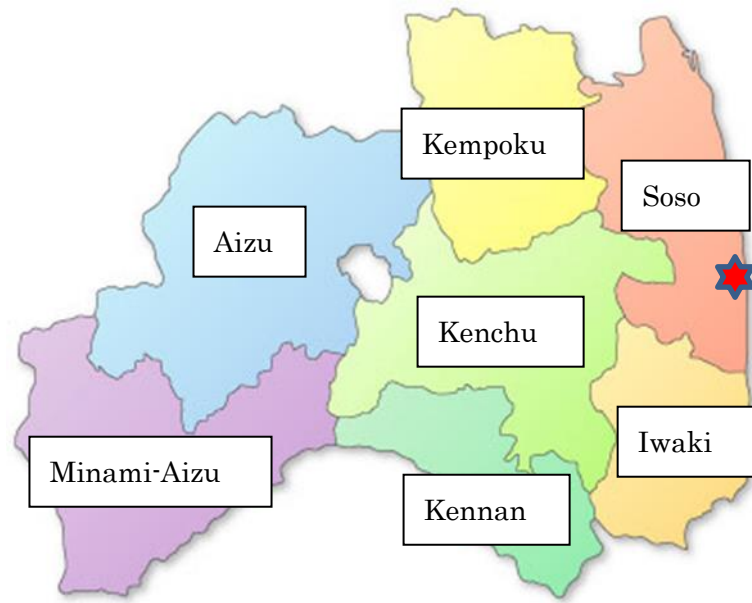
After about one and a half months of conducting the survey, we visited 2,110 people (nearly 80%) of the survey population. While 808 were not home, 557 completed the questionnaires. The overall response rate is about 26%. We will try to make appointments to return and increase the response rate.

#### **4.3 Results**

We will estimate the doses for all respondents, and compare the dose distribution of the respondents from the door-to-door survey and those who responded previously by mail.

Reasons for not having answered the questionnaire are being tallied. The most common reasons gathered so far are the following:

- The participant put off responding because it seemed time consuming.
- The participant could not remember enough to fill out the questionnaire.



Response rates to the Basic Survey by district  
 Preceding and full-scale surveys

As of 30 June 2015

Area	District	Survey population a	Responses b	Response rate c=b/a	Completed dose estimates d	Proportion e=d/b	Returned results f	Proportion g=f/b
Kempoku	Fukushima	295,645	93,370	31.6%	91,776	98.3%	91,671	98.2%
	Nihonmatsu	60,857	16,510	27.1%	16,129	97.7%	16,109	97.6%
	Date	67,577	18,187	26.9%	17,713	97.4%	17,696	97.3%
	Motomiya	31,762	8,867	27.9%	8,570	96.7%	8,562	96.6%
	Kori	13,207	3,879	29.4%	3,769	97.2%	3,769	97.2%
	Kunimi	10,316	3,023	29.3%	2,934	97.1%	2,930	96.9%
	Kawamata	15,885	5,119	32.2%	4,932	96.3%	4,925	96.2%
	Otama	8,793	1,911	21.7%	1,867	97.7%	1,865	97.6%
	Subtotal	504,042	150,866	29.9%	147,690	97.9%	147,527	97.8%
Kenchu	Koriyama	339,718	86,213	25.4%	83,704	97.1%	82,534	95.7%
	Sukagawa	80,160	16,705	20.8%	16,249	97.3%	16,236	97.2%
	Tamura	41,723	10,128	24.3%	9,712	95.9%	9,706	95.8%
	Kagamiishi	13,109	2,856	21.8%	2,791	97.7%	2,789	97.7%
	Tenei	6,470	1,206	18.6%	1,175	97.4%	1,164	96.5%
	Ishikawa	17,487	4,167	23.8%	4,064	97.5%	4,058	97.4%
	Tamakawa	7,337	1,473	20.1%	1,420	96.4%	1,420	96.4%
	Hirata	7,053	1,631	23.1%	1,577	96.7%	1,576	96.6%
	Asakawa	7,163	1,478	20.6%	1,443	97.6%	1,441	97.5%
	Furudono	6,319	1,296	20.5%	1,261	97.3%	1,261	97.3%
	Miharu	18,993	4,850	25.5%	4,718	97.3%	4,682	96.5%
	Ono	11,702	2,546	21.8%	2,480	97.4%	2,479	97.4%
	Subtotal	557,234	134,549	24.1%	130,594	97.1%	129,346	96.1%
Kennan	Shirakawa	65,428	15,247	23.3%	14,782	97.0%	14,594	95.7%
	Nishigo	20,088	4,941	24.6%	4,814	97.4%	4,707	95.3%
	Izumizaki	6,931	1,356	19.6%	1,317	97.1%	1,299	95.8%
	Nakajima	5,306	964	18.2%	939	97.4%	939	97.4%
	Yabuki	18,341	4,024	21.9%	3,919	97.4%	3,913	97.2%
	Tanagura	15,384	2,942	19.1%	2,873	97.7%	2,870	97.6%
	Yamatsuri	6,489	1,435	22.1%	1,386	96.6%	1,386	96.6%
	Hanawa	10,062	2,261	22.5%	2,209	97.7%	2,206	97.6%
	Samegawa	4,196	799	19.0%	769	96.2%	769	96.2%
	Subtotal	152,225	33,969	22.3%	33,008	97.2%	32,683	96.2%
Aizu	Aizuwakamatsu	127,815	29,147	22.8%	28,008	96.1%	27,928	95.8%
	Kitakata	53,202	10,202	19.2%	9,726	95.3%	9,693	95.0%
	Kitashiobara	3,276	595	18.2%	572	96.1%	570	95.8%
	Nishiaizu	7,725	1,436	18.6%	1,332	92.8%	1,330	92.6%
	Bandai	3,888	756	19.4%	734	97.1%	733	97.0%
	Inawashiro	16,271	3,605	22.2%	3,466	96.1%	3,446	95.6%
	Aizubange	17,881	3,235	18.1%	3,064	94.7%	3,053	94.4%
	Yugawa	3,513	708	20.2%	672	94.9%	672	94.9%
	Yanaizu	4,077	713	17.5%	679	95.2%	678	95.1%
	Mishima	2,031	372	18.3%	338	90.9%	338	90.9%
	Kaneyama	2,544	625	24.6%	563	90.1%	562	89.9%
	Showa	1,569	344	21.9%	317	92.2%	317	92.2%
	Aizumisato	23,411	4,529	19.3%	4,314	95.3%	4,308	95.1%
	Subtotal	267,203	56,267	21.1%	53,785	95.6%	53,628	95.3%
Minami-aizu	Shimogo	6,650	1,222	18.4%	1,162	95.1%	1,157	94.7%
	Hinoemata	614	142	23.1%	133	93.7%	133	93.7%
	Tadami	5,030	1,106	22.0%	1,032	93.3%	1,022	92.4%
	Minami-aizu	18,495	3,754	20.3%	3,567	95.0%	3,539	94.3%
	Subtotal	30,789	6,224	20.2%	5,894	94.7%	5,851	94.0%
Soso	Soma	37,371	13,044	34.9%	12,516	96.0%	12,469	95.6%
	Minami-soma	70,012	29,992	42.8%	29,131	97.1%	29,110	97.1%
	Hirono	5,165	2,201	42.6%	2,121	96.4%	2,119	96.3%
	Naraha	7,963	4,150	52.1%	3,981	95.9%	3,978	95.9%
	Tomioka	15,751	8,597	54.6%	8,369	97.3%	8,363	97.3%
	Kawauchi	2,996	1,530	51.1%	1,476	96.5%	1,476	96.5%
	Okuma	11,474	6,046	52.7%	5,801	95.9%	5,798	95.9%
	Futaba	7,051	3,938	55.9%	3,821	97.0%	3,819	97.0%
	Namie	21,335	12,929	60.6%	12,623	97.6%	12,591	97.4%
	Katsurao	1,541	821	53.3%	756	92.1%	756	92.1%
	Shinchi	8,357	2,670	31.9%	2,570	96.3%	2,550	95.5%
	Iitate	6,588	3,435	52.1%	3,313	96.4%	3,298	96.0%
	Subtotal	195,604	89,353	45.7%	86,478	96.8%	86,327	96.6%
Iwaki	Iwaki	348,223	87,322	25.1%	85,122	97.5%	85,044	97.4%
Total		2,055,320	558,550	27.2%	542,571	97.1%	540,406	96.8%

Estimated external radiation doses in the first four months (from 11 March through 11 July)

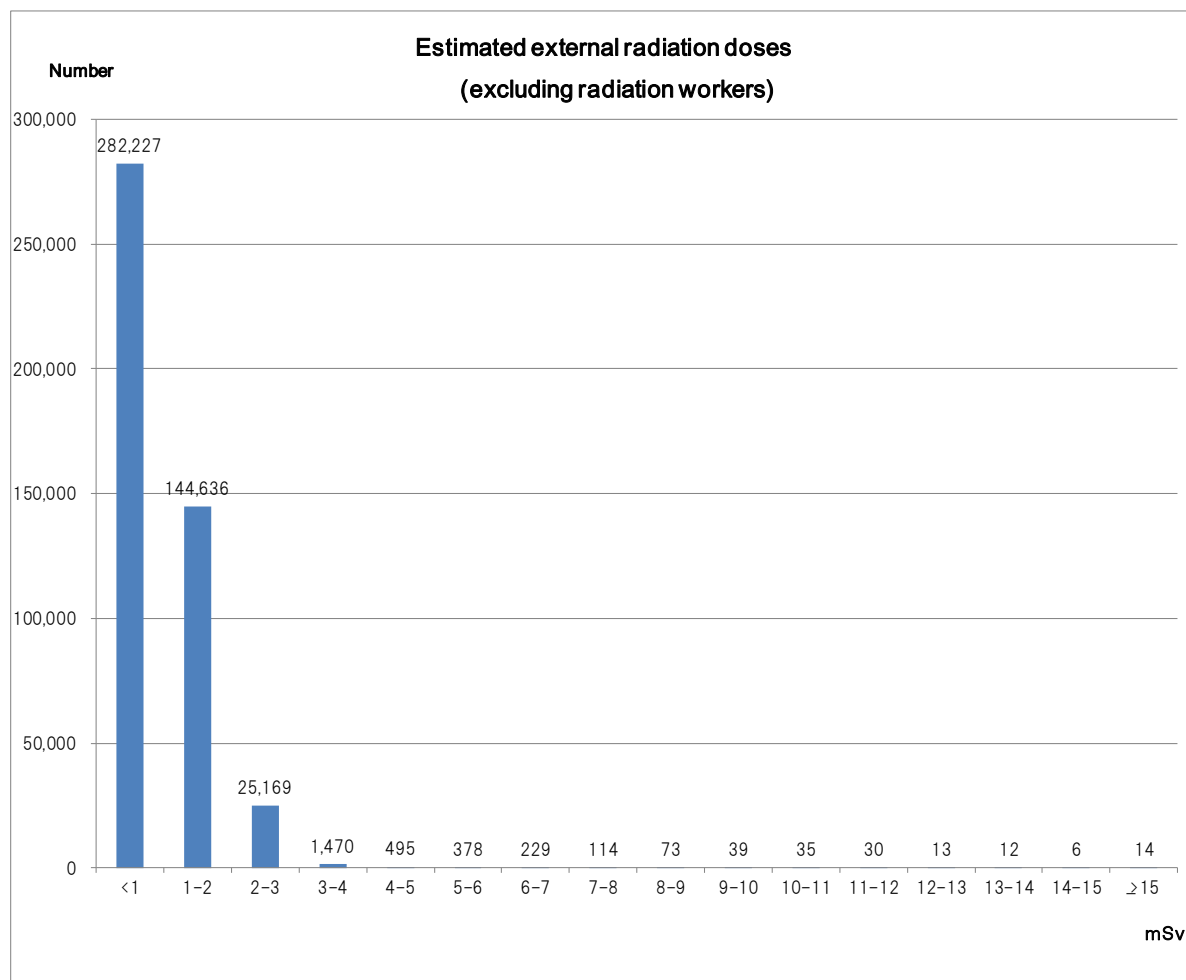
Preceding survey and full-scale survey

As of 30 June 2015

**Estimated external radiation doses by region**

Effective Dose (mSv)	Total	Excluding radiation workers	By region								Proportion (%) excluding radiation workers		
			Kempoku	Kenchu	Kennan	Aizu	Minami-aizu	Soso	Iwaki				
<1	287,852	282,227	24,789	56,569	24,846	43,955	4,771	55,298	71,999	62.0	93.8	99.8	
1-2	146,938	144,636	82,689	45,269	3,320	298	34	12,402	624	31.8			
2-3	25,533	25,169	15,397	8,050	17	25	0	1,650	30	5.5	5.9		
3-4	1,548	1,470	464	417	0	1	0	584	4	0.3	0.2		
4-5	540	495	40	5	0	0	0	449	1	0.1		0.2	
5-6	430	378	18	3	0	0	0	356	1	0.1			
6-7	268	229	10	1	0	1	0	217	0	0.1	0.1		
7-8	152	114	1	0	0	0	0	113	0	0.0	0.0		
8-9	113	73	1	0	0	0	0	72	0	0.0		0.0	
9-10	69	39	0	0	0	0	0	39	0	0.0			
10-11	68	35	0	0	0	0	0	35	0	0.0	0.0		
11-12	52	30	1	0	0	0	0	29	0	0.0			
12-13	36	13	0	0	0	0	0	13	0	0.0	0.0	0.0	
13-14	34	12	0	0	0	0	0	12	0	0.0			
14-15	27	6	0	0	0	0	0	6	0	0.0	0.0		
≥15	309	14	0	0	0	0	0	14	0	0.0	0.0	0.0	
Total	463,969	454,940	123,410	110,314	28,183	44,280	4,805	71,289	72,659	100.0	100.0	100.0	
Max	66	25	11	6.3	2.6	6.0	1.9	25	5.9				
Mean value	0.9	0.8	1.4	1.0	0.6	0.2	0.1	0.8	0.3				

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



**Estimated external radiation dose by age group (excluding radiation workers)**

Effective Dose ( mSv )	Age at the time of the disaster									Total
	0 - 9	10 - 19	20 - 29	30 - 39	40 - 49	50 - 59	60 - 69	70 - 79	80 -	
<1	47,126	43,456	20,762	33,317	28,015	32,134	35,273	25,143	17,001	282,227
1-2	22,692	21,373	9,929	17,975	16,396	18,273	19,061	12,044	6,893	144,636
2-3	6,353	4,198	1,112	2,306	2,200	2,901	3,323	1,946	830	25,169
3-4	248	157	81	154	149	228	224	162	67	1,470
4-5	19	45	36	40	75	92	77	72	39	495
5-6	13	14	27	33	44	83	73	64	27	378
6-7	4	5	12	21	25	45	50	46	21	229
7-8	3	6	6	8	13	35	22	14	7	114
8-9	2	4	3	8	7	15	14	10	10	73
9-10	0	1	1	2	4	12	11	5	3	39
10-11	1	1	1	2	5	11	5	6	3	35
11-12	0	0	1	3	0	5	8	11	2	30
12-13	0	0	0	0	1	6	4	1	1	13
13-14	0	0	1	1	1	4	3	2	0	12
14-15	0	0	0	0	0	3	3	0	0	6
≥15	0	0	0	0	3	3	5	1	2	14
Total	76,461	69,260	31,972	53,870	46,938	53,850	58,156	39,527	24,906	454,940

**Estimated external radiation doses by sex in the first four months (excluding radiation workers)**

Effective Dose ( mSv )	By sex				Total	Proportion (%)
	Male	Proportion (%)	Female	Proportion (%)		
<1	126,282	60.5	155,945	63.4	282,227	62.0
1-2	67,100	32.1	77,536	31.5	144,636	31.8
2-3	13,675	6.5	11,494	4.7	25,169	5.5
3-4	936	0.4	534	0.2	1,470	0.3
4-5	277	0.1	218	0.1	495	0.1
5-6	194	0.1	184	0.1	378	0.1
6-7	128	0.1	101	0.0	229	0.1
7-8	67	0.0	47	0.0	114	0.0
8-9	43	0.0	30	0.0	73	0.0
9-10	23	0.0	16	0.0	39	0.0
10-11	22	0.0	13	0.0	35	0.0
11-12	16	0.0	14	0.0	30	0.0
12-13	6	0.0	7	0.0	13	0.0
13-14	8	0.0	4	0.0	12	0.0
14-15	3	0.0	3	0.0	6	0.0
≥15	11	0.0	3	0.0	14	0.0
Total	208,791	100.0	246,149	100.0	454,940	100.0

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



As of 30 June 2015

Estimated external radiation doses by region in the first four months (from 11 March through 11 July) excluding radiation workers

Area/region		Effective Doses ( mSv )																	Total
		<1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	≥15		
Kempoku	Fukushima	16,100	52,187	9,271	151	13	10	4	0	0	0	0	0	0	0	0	0	77,736	
	Nihonmatsu	1,306	8,364	3,431	87	1	0	0	0	0	0	0	0	0	0	0	0	13,189	
	Date	4,361	9,010	1,124	147	8	2	3	1	1	0	0	0	0	0	0	0	14,657	
	Motomiya	730	5,194	1,181	22	1	0	0	0	0	0	0	0	0	0	0	0	7,128	
	Kori	315	2,747	66	2	0	1	0	0	0	0	0	0	0	0	0	0	3,131	
	Kunimi	962	1,435	12	0	0	0	0	0	0	0	0	0	0	0	0	0	2,409	
	Kawamata	625	2,699	179	53	17	5	3	0	0	0	0	1	0	0	0	0	3,582	
	Otama	390	1,053	133	2	0	0	0	0	0	0	0	0	0	0	0	0	1,578	
Kempoku Subtotal		24,789	82,689	15,397	464	40	18	10	1	1	0	0	1	0	0	0	0	123,410	
Kenchu	Koriyama	23,454	39,861	7,618	407	5	3	1	0	0	0	0	0	0	0	0	0	71,349	
	Sukagawa	10,387	3,102	324	4	0	0	0	0	0	0	0	0	0	0	0	0	13,817	
	Tamura	7,224	666	22	3	0	0	0	0	0	0	0	0	0	0	0	0	7,915	
	Kagamiishi	2,305	73	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,378	
	Tenei	379	568	55	1	0	0	0	0	0	0	0	0	0	0	0	0	1,003	
	Ishikawa	3,130	38	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3,169	
	Tamakawa	1,145	17	3	0	0	0	0	0	0	0	0	0	0	0	0	0	1,165	
	Hirata	1,270	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,304	
	Asakawa	1,182	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,197	
	Furudono	1,046	14	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1,062	
	Miharu	3,086	798	23	2	0	0	0	0	0	0	0	0	0	0	0	0	3,909	
Ono	1,961	83	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2,046		
Kenchu Subtotal		56,569	45,269	8,050	417	5	3	1	0	0	0	0	0	0	0	0	0	110,314	
Kennan	Shirakawa	11,522	1,187	9	0	0	0	0	0	0	0	0	0	0	0	0	0	12,718	
	Nishigo	2,196	1,954	2	0	0	0	0	0	0	0	0	0	0	0	0	0	4,152	
	Izumizaki	1,079	21	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1,101	
	Nakajima	787	11	1	0	0	0	0	0	0	0	0	0	0	0	0	0	799	
	Yabuki	3,285	78	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3,364	
	Tanagura	2,437	28	3	0	0	0	0	0	0	0	0	0	0	0	0	0	2,468	
	Yamatsuri	1,110	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,119	
	Hanawa	1,802	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,824	
	Samegawa	628	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	638	
Kennan Subtotal		24,846	3,320	17	0	0	0	0	0	0	0	0	0	0	0	0	0	28,183	
Aizu	Aizuwakamatsu	23,038	155	13	0	0	0	1	0	0	0	0	0	0	0	0	0	23,207	
	Kitakata	8,005	54	3	1	0	0	0	0	0	0	0	0	0	0	0	0	8,063	
	Kitashiobara	463	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	467	
	Nishiaizu	995	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	997	
	Bandai	619	9	1	0	0	0	0	0	0	0	0	0	0	0	0	0	629	
	Inawashiro	2,796	29	3	0	0	0	0	0	0	0	0	0	0	0	0	0	2,828	
	Aizubange	2,562	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,577	
	Yugawa	572	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	576	
	Yanaizu	536	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	540	
	Mishima	245	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	245	
	Kaneyama	395	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	398	
	Showa	235	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	236	
	Aizumisato	3,494	20	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3,517	
Aizu Subtotal		43,955	298	25	1	0	0	1	0	0	0	0	0	0	0	0	0	44,280	
Minami-aizu	Shimogo	933	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	938	
	Hinoemata	103	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	103	
	Tadami	827	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	831	
	Minami-aizu	2,908	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,933	
Minami-aizu Subtotal		4,771	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4,805	
Soso	Soma	9,769	442	87	20	5	0	0	0	0	2	0	0	0	0	0	0	10,325	
	Minami-soma	18,894	6,122	507	99	35	3	7	4	1	0	0	1	0	0	0	0	25,673	
	Hirono	1,822	56	2	0	0	0	1	0	1	0	0	0	0	0	0	0	1,882	
	Naraha	3,359	127	13	2	0	1	1	0	0	0	0	0	0	0	0	0	3,503	
	Tomioka	5,796	1,098	98	18	3	2	0	3	2	0	0	1	0	0	0	0	7,021	
	Kawauchi	958	345	16	1	0	1	1	1	0	0	0	0	0	0	0	0	1,323	
	Okuma	3,340	1,266	112	17	6	4	4	3	0	2	2	1	0	4	0	1	4,762	
	Futaba	2,656	464	75	18	6	4	3	6	2	1	0	2	0	0	0	2	3,239	
	Namie	5,874	1,977	356	63	38	17	14	11	9	5	11	7	5	4	3	7	8,401	
	Katsurao	495	161	24	4	0	1	0	0	0	0	0	0	0	0	0	0	685	
	Shinchi	2,139	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,159	
litate	196	324	360	342	356	323	186	85	57	29	22	17	8	4	3	4	2,316		
Soso Subtotal		55,298	12,402	1,650	584	449	356	217	113	72	39	35	29	13	12	6	14	71,289	
Iwaki	Iwaki	71,999	624	30	4	1	1	0	0	0	0	0	0	0	0	0	0	72,659	
Total		282,227	144,636	25,169	1,470	495	378	229	114	73	39	35	30	13	12	6	14	454,940	
Proportion (%)		62.0	31.8	5.5	0.3	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	
		93.8		5.9		0.2		0.1		0.0		0.0		0.0		0.0		100.0	
		99.8				0.2				0.0				0.0				0.0	100.0
Visitors		1,379	270	18	2	0	0	0	0	0	0	0	0	0	0	0	0	1,669	
Total+Visitors		283,606	144,906	25,187	1,472	495	378	229	114	73	39	35	30	13	12	6	14	456,609	

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

# Final Report of Thyroid Ultrasound Examination (Preliminary Baseline Screening)

Reported on 31 August 2015

## 1. Summary

### 1.1 Purpose

One of the health problems caused by the Chernobyl nuclear power plant accident was thyroid cancer in childhood caused by internal exposure to radioactive iodine.

In response to the Tokyo Electric Power Company's (TEPCO's) Fukushima Daiichi nuclear accident, Fukushima Prefecture started a Thyroid Ultrasound Examination program to monitor the long-term health of children.

Preliminary Baseline Screening (Initial Screening) aims to check the baseline condition of participants' thyroid glands.

### 1.2 Group

Residents of Fukushima Prefecture aged 0-18 years (born between 2 April 1992 and 1 April 2011) as of 11 March 2011.

### 1.3 Implementation Period

The Preliminary Baseline Screening (Initial Screening) started from 9 October 2011 and was planned to end on 31 March 2014. However, we continued the examination until notice of the Full-scale Thyroid Screening program (2<sup>nd</sup> screening) was sent to residents in order to provide an opportunity for nonparticipants. The primary examination ended on 30 April 2015.

The reported data of confirmatory testing were as of 30 June 2015.

### 1.4 Responsible Organizations

Fukushima Prefecture commissioned Fukushima Medical University to conduct the survey in cooperation with institutions inside and outside Fukushima Prefecture.

We started the primary examination from 1 November 2012 outside Fukushima, and 98 institutions have agreed to cooperate as of 30 June 2015.

The confirmatory examination has been conducted in Koriyama and Iwaki in Fukushima Prefecture from July 2013, Aizuwakamatsu from August 2014, and several institutions outside Fukushima Prefecture from November 2013. As of 30 June 2015, a total of 28 institutions have conducted confirmatory examinations.

### 1.5 Method

#### 1.5-1 Primary Examination

We use ultrasonography for examination of the thyroid gland.

Assessments were made by specialists on the basis of the following criteria.

-Diagnostic Criteria: A

Those with A1 and A2 test results were recommended for watchful waiting until they undergo the next screening starting from April 2014.

(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 were 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.

### 1.5-3 Flow chart

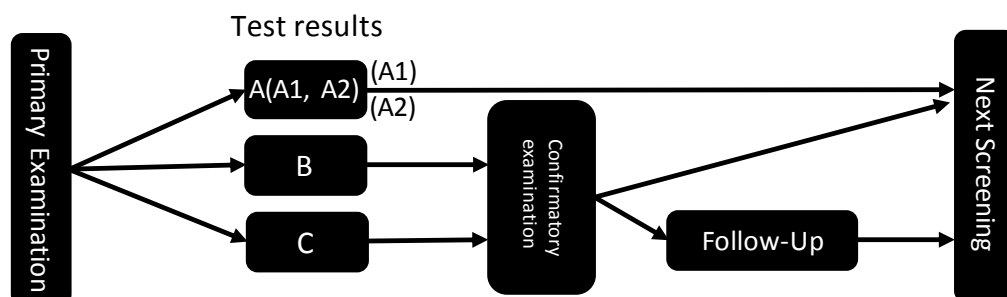


Fig.1 Flow chart

## 1.6 Target Municipalities

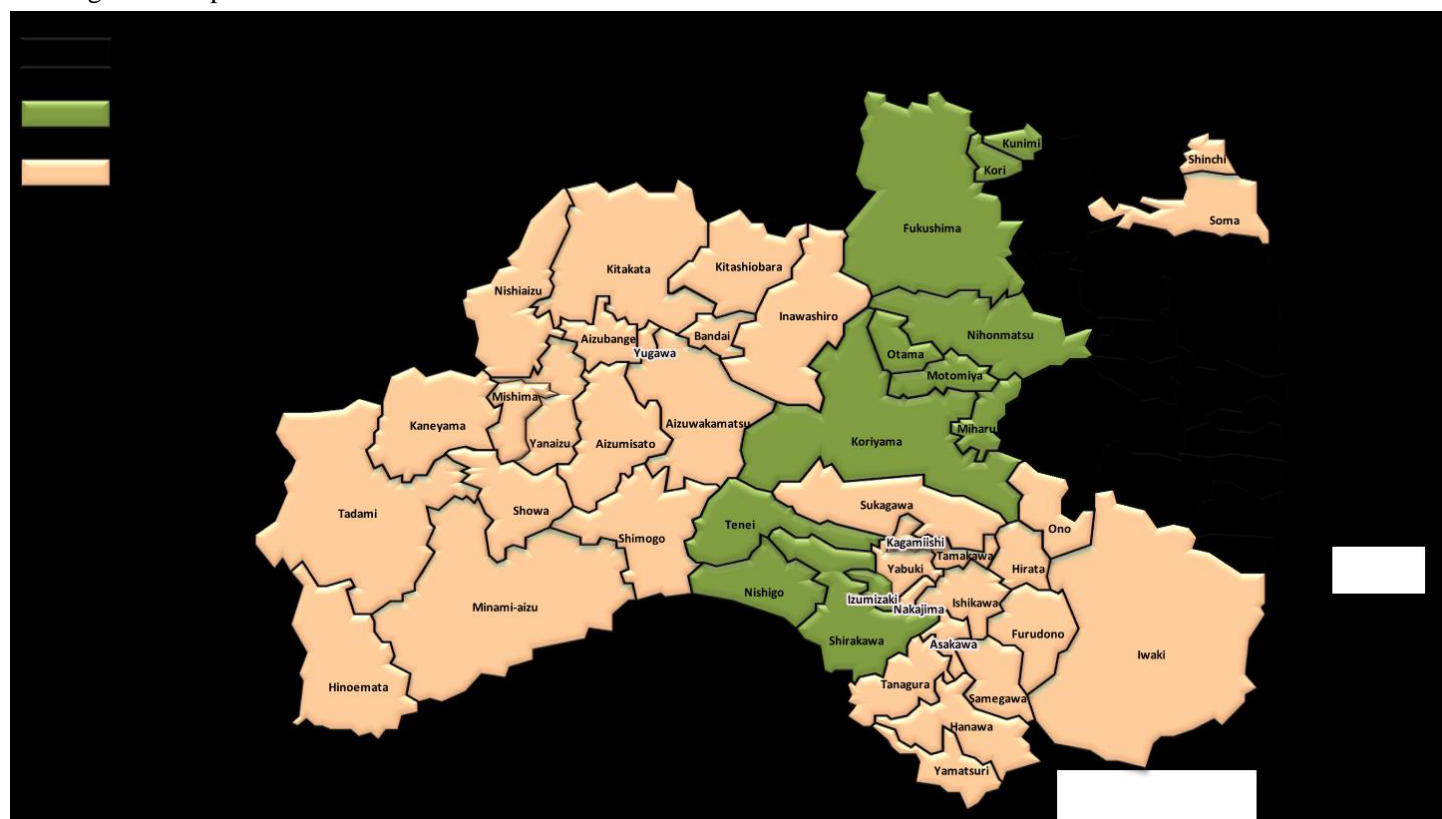


Fig.2 Target Municipalities

## 1.7 Definition of “Final Report”

The data of primary testing were gathered from those who underwent the first screening between 9 October 2011 and 30 April 2015.

The data of confirmatory testing were tallied from participants with confirmed test results as of 30 June 2015. The data from 1 July 2015 onward will be included in a supplementary document.

## 2. Results

### 2.1 Primary Examination

The participation rate was 81.7% (300,476 of 367,685). (See Appendix 2 and 3.)

The results have been returned to all participants. (See Appendix 4 and 5.)

Those with A1 or A2 test results were 298,182 (99.2%), B were 2,293 (0.8%), and C was 1.

Table 1. Screening test coverage

	Target 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 2011	47,768	41,810 (87.5)	2,024	41,810 ( 100.0)	26,373 (63.1)	15,216 (36.4)	221 (0.5)	0 (0.0)
FY 2012	161,129	139,338 (86.5)	4,266	139,338 ( 100.0)	76,196 (54.7)	62,154 (44.6)	987 (0.7)	1 (0.0)
FY 2013	158,788	119,328 (75.1)	3,220	119,328 ( 100.0)	52,037 (43.6)	66,206 (55.5)	1,085 (0.9)	0 (0.0)
Total	367,685	300,476 (81.7)	9,510	300,476 ( 100.0)	154,606 (51.5)	143,576 (47.8)	2,293 (0.8)	1 (0.0)

Table 2. Number and proportion of participants with nodules/cysts

	Number of confirmed screening results  a	Number and proportions 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 2011	41,810	219 (0.5)	232 (0.6)	1 (0.0)	15,140 (36.2)
FY 2012	139,338	973 (0.7)	730 (0.5)	9 (0.0)	62,267 (44.7)
FY 2013	119,328	1,083 (0.9)	753 (0.6)	2 (0.0)	66,494 (55.7)
Total	300,476	2,275 (0.8)	1,715 (0.6)	12 (0.0)	143,901 (47.9)

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

Because some duplicate records were found, numbers may vary slightly from previous reports.

## 2.2 Confirmatory Examination (As of 30 June 2015)

### 2.2-1 Progress Report

The number of participants with B or C test results recommended for further testing was 2,294, of whom 2,108 (91.9%) underwent confirmatory testing. The number of those with confirmed test results was 2,056 (97.5%). (See Appendix 6.)

Of 2,056 participants, 700 (34.0%), specifically 122 with A1 and 578 with A2 results (from Table 3), were advised to take their next regularly scheduled examination (Full-scale thyroid screening program).

Of 1,356 (66.0%) advised to have follow-up provided by health insurance after 6 to 12 months, so far 537 (39.6%) underwent FNAC.

Table 3. Confirmatory testing coverage and results as of 30 June 2015

	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 2011	221	199 (90.0)	197 ( 99.0)	12 ( 6.1)	44 (22.3)	141 (71.6)	91 ( 64.5)
FY 2012	988	920 (93.1)	902 ( 98.0)	54 ( 6.0)	246 (27.3)	602 (66.7)	264 ( 43.9)
FY 2013	1,085	989 (91.2)	957 ( 96.8)	56 ( 5.9)	288 (30.1)	613 (64.1)	182 ( 29.7)
Total	2,294	2,108 (91.9)	2,056 ( 97.5)	122 ( 5.9)	578 (28.1)	1,356 (66.0)	537 ( 39.6)

Those confirmed within the range of A1 and A2 (including those with other thyroid conditions) were advised to take their next regularly scheduled examination.

Those who require 6- or 12-month follow-up provided by health insurance and those beyond the specified level of A2 were categorized as “Follow-up advised.”

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

Among those who underwent FNAC, 113 had nodules classified as suspicious or malignant.

Thirty-eight of them were male, and 75 were female. Age at the time of the confirmatory testing ranged from 8 to 22 years (mean age:  $17.3 \pm 2.7$  years). The minimum and maximum tumor size was 5.1-45.0 mm in diameter. Mean tumor diameter was  $14.2 \pm 7.8$  mm.

### Target municipalities in FY 2011

Suspicious or malignant	15*
Male to female ratio	5:10
Mean age (SD, min-max)	17.3 (2.0, 13-20) 15.7 (1.9, 11-18) at the time of the disaster
Mean tumor size	14.1 mm (6.6 mm, 6.0-33.0 mm)

### Target municipalities in FY 2012

Suspicious or malignant	56*
Male to female ratio	21:35
Mean age (SD, min-max)	17.2 (2.7, 8-21) 14.9 (2.6, 6-18) at the time of the disaster
Mean tumor size	14.5 mm (7.8 mm, 5.2-40.5 mm)

### Target municipalities in FY 2013

Suspicious or malignant	42*
Male to female ratio	12:30
Mean age (SD, min-max)	17.4 (3.0, 11-22) 14.5 (2.8, 8-18) at the time of the disaster
Mean tumor size	13.8 mm (8.4 mm, 5.1-45.0 mm)

### Total for cases FY 2011 – FY 2013

Suspicious or malignant	113*
Male to female ratio	38:75
Mean age (SD, min-max)	17.3 (2.7, 8-22) 14.8 (2.6, 6-18) at the time of the disaster
Mean tumor size	14.2 mm (7.8 mm, 5.1-45.0 mm)

\* See Appendix 7 for details.

### 2.2-3 Suspicious or malignant cases on FNAC by age and sex

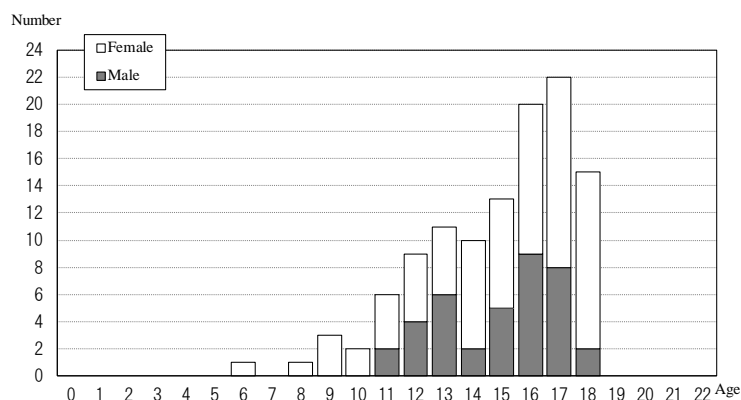


Fig.3 Age as of 11 March 2011

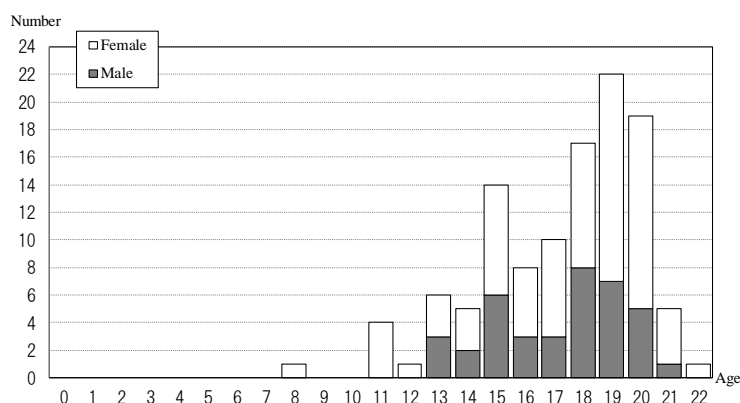


Fig. 4 Age at the date of confirmatory examination

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

Sixty-five (57.5%) of the 113 people participated in the Basic Survey (radiation dose estimates) and 63 of them, including 5 with less than four months' data, have received the results. Among those, 45 (71.4%) had estimated radiation exposure dose below 1 mSv, and the highest effective dose was 2.2 mSv.

Table 5. Number of suspicious or malignant cases by estimated radiation dose

As of 30 June 2015

Effective dose (mSv)	Age at the time of disaster									
	0-5		6-10		11-15		16-18		Total	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
<1	0	0	0	5(1)	7(1)	8	7(1)	18(2)	14(2)	31(3)
1-1.9	0	0	0	0	3	9	2	3	5	12
2-4.9	0	0	0	0	1	0	0	0	1	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	0	5(1)	11(1)	17	9(1)	21(2)	20(2)	43(3)

Numbers inside the brackets are estimates for participants with less than four months' data.

Estimates are based on effective external radiation doses.



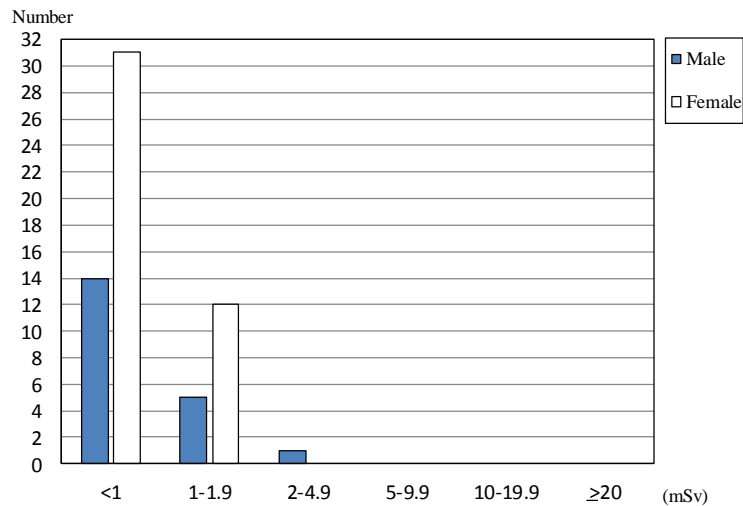


Fig. 5 Effective dose of the respondents

## 2.2-5 Blood and urinary iodine test results as of 30 June 2015

Table 6. 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	2.13-4.07 7)	0.340-3.880	≤32.7	<28.0	<16.0
113 suspicious or malignant	1.2 ± 0.2 (6.2%)	3.4 ± 0.4 (5.3%)	1.3 ± 0.7 (5.3%)	41.4 ± 82.2 (36.3%)	— (27.4%)	— (15.9%)
Other 1,941	1.3 ± 0.3 (7.3%)	3.6 ± 0.9 (6.4%)	1.8 ± 12.1 (8.4%)	33.6 ± 180.6 (17.9%)	— (13.2%)	— (9.8%)

Table 7. Urinary iodine (μg/day)

	Minimum	25th percentile	Median	75th percentile	Maximum
113 suspicious or malignant	42	131	226	375.5	6,020
Other 1,938	24	120	195.5	368	35,700

- 1) FT4: Free Thyroxine; higher among patients with thyrotoxicosis (representative disease: Graves' disease) and lower with hypothyroidism (representative disease: Hashimoto's thyroiditis).
- 2) FT3: Free Triiodothyronine; higher among patients with thyrotoxicosis (representative disease: Graves' disease) and lower with hypothyroidism (representative disease: 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 thyroid cancer 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 range differs according to age.

## 2.2-6 Confirmatory test results by municipality as of 30 June 2015

The proportion of suspicious or malignant diagnoses was 0.03% in FY 2011 target municipalities (13 municipalities in the nationally designated evacuation zones), 0.04% in FY 2012 target municipalities (12 towns of the Kenchu area), and 0.04% in FY 2013 target municipalities (34 towns of Iwaki, the Kennan and Aizu areas).

Table 8.  
Confirmatory test results in FY 2011  
(13 municipalities in the nationally designated evacuation zones)

	Number of those screened	Participants who required confirmatory test	Proportion who required confirmatory test (%)	Number who underwent confirmatory test	Suspicious or malignant cases <sup>1</sup>	Proportion of suspicious or malignant cases (%)
Kawamata	2,221	8	0.4	8	2	0.09
Namie	3,249	26	0.8	24	2	0.06
Iitate	943	6	0.6	6	0	0.00
Minami-soma	10,789	52	0.5	48	2	0.02
Date	10,605	50	0.5	45	2	0.02
Tamura	6,325	32	0.5	26	3	0.05
Hirono	838	5	0.6	4	0	0.00
Naraha	1,153	7	0.6	6	0	0.00
Tomioka	2,302	13	0.6	12	1	0.04
Kawauchi	280	4	1.4	4	1	0.36
Okuma	1,973	14	0.7	13	1	0.05
Futaba	949	3	0.3	2	0	0.00
Katsurao	183	1	0.5	1	0	0.00
Subtotal	41,810	221	0.5	199	14	0.03

1) Excluding one suspected case found benign by aspiration biopsy cytology.

## Confirmatory test results by municipality in FY 2012

	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 (%)
Fukushima	47,307	283	0.6	272	12	0.03
Nihonmatsu	8,857	57	0.6	54	5	0.06
Motomiya	5,234	29	0.6	29	3	0.06
Otama	1,373	7	0.5	7	2	0.15
Koriyama	54,063	458	0.8	415	25	0.05
Kori	1,874	14	0.7	13	0	0.00
Kunimi	1,437	15	1.0	13	0	0.00
Tenei	878	7	0.8	6	0	0.00
Shirakawa	10,810	61	0.6	59	6	0.06
Nishigo	3,618	30	0.8	26	1	0.03
Izumizaki	1,157	5	0.4	5	1	0.09
Miharu	2,730	22	0.8	21	1	0.04
Subtotal	139,338	988	0.7	920	56	0.04

Confirmatory test results by municipality in FY 2013

	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 (%)
Iwaki*	49,429	455	0.9	422	24	0.05
Sukagawa	12,082	105	0.9	101	4	0.03
Soma	5,209	47	0.9	42	0	0.00
Kagamiishi	2,030	11	0.5	9	0	0.00
Shinchi	1,150	7	0.6	7	0	0.00
Nakajima	832	2	0.2	2	0	0.00
Yabuki	2,567	20	0.8	16	0	0.00
Ishikawa	2,163	12	0.6	12	1	0.05
Yamatsuri	794	3	0.4	2	0	0.00
Asakawa	1,093	12	1.1	11	0	0.00
Hirata	873	10	1.1	9	1	0.11
Tanagura	2,322	22	0.9	22	1	0.04
Hanawa	1,255	9	0.7	7	0	0.00
Samegawa	522	4	0.8	2	0	0.00
Ono	1,450	15	1.0	13	0	0.00
Tamakawa	1,015	11	1.1	9	0	0.00
Furudono	822	6	0.7	6	0	0.00
Hinoemata	62	0	0.0	0	0	0.00
Minami-aizu	1,869	17	0.9	15	0	0.00
Kaneyama	144	0	0.0	0	0	0.00
Showa	102	0	0.0	0	0	0.00
Mishima	130	1	0.8	1	0	0.00
Shimogo	710	11	1.5	10	1	0.14
Kitakata	5,897	51	0.9	41	0	0.00
Nishiaizu	646	5	0.8	4	0	0.00
Tadami	510	7	1.4	7	0	0.00
Inawashiro	1,945	13	0.7	13	1	0.05
Bandai	428	4	0.9	3	0	0.00
Kitashiobara	392	1	0.3	1	0	0.00
Aizumisato	2,609	27	1.0	24	0	0.00
Aizubange	2,139	25	1.2	23	1	0.05
Yanaizu	387	2	0.5	2	0	0.00
Aizuwakamatsu	15,235	163	1.1	146	7	0.05
Yugawa	515	7	1.4	7	1	0.19
Subtotal	119,328	1,085	0.9	989	42	0.04

Total	300,476	2,294	0.8	2,108	112	0.04
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\* Including districts of FY 2012

### 3. Primary and confirmatory test results by municipality

In order to compare the results by municipality, we divided the area into three regions, Hamadori, Nakadori, and Aizu. Hamadori and Nakadori are divided into 13 municipalities in the nationally designated evacuation zones and otherwise.

Table 9. Proportion of B or C test results, and suspicious or malignant by area

As of 30 June 2015

		13 municipalities <sup>14</sup>	Nakadori <sup>15</sup>	Hamadori <sup>16</sup>	Aizu <sup>17</sup>	Total
Participants		47,768	199,451	70,539	49,927	367,685
Number of participants of Primary Examination	A <sup>10</sup>	41,810	169,158	55,788	33,720	300,476
Mean age at the time of the disaster (SD) Total		9.5 (5.2)	8.9 (5.1)	8.8 (5.0)	8.3 (4.6)	-
Mean age at the time of the disaster (SD) Female		9.5 (5.3)	9.0 (5.1)	8.9 (5.0)	8.5 (4.6)	-
Mean age at the time of the disaster (SD) Male		9.4 (5.2)	8.8 (5.1)	8.6 (4.9)	8.1 (4.5)	-
Mean age at the time of examination (SD) Total		10.4 (5.3)	10.7 (5.1)	11.2 (5.0)	11.2 (4.6)	-
Mean age at the time of examination (SD) Female		10.4 (5.3)	10.8 (5.2)	11.3 (5.1)	11.4 (4.7)	-
Mean age at the time of examination (SD) Male		10.3 (5.2)	10.6 (5.1)	11.0 (5.0)	11.0 (4.6)	-
Female (%)	%	49.6	49.3	49.9	49.7	49.5
B or C test results	B	221	1,230	509	334	2,294
Proportion of B or C test results	(B/A) %	0.53	0.73	0.91	0.99	0.76
Number of participants of Confirmatory Examination	C <sup>11</sup>	197	1,111	459	289	2,056
Proportion of participants	(C/B) %	89.1	90.3	90.2	86.5	89.6
Participants of FNAC	D <sup>12</sup>	94	298	102	49	543
Proportion of participants of Confirmatory Examination	(D/C) %	47.7	26.8	22.2	17.0	26.4
Proportion of participants of Primary Examination	(D/A) %	0.22	0.18	0.18	0.15	0.18
Number of suspicious or malignant	E <sup>13</sup>	14	63	24	11	112
Proportion	(E/D) %	14.9	21.1	23.5	22.4	20.6
Proportion per 100,000	(E/A)	33.5	37.2	43.0	32.6	37.3
	(%)	(0.033)	(0.037)	(0.043)	(0.033)	(0.037)

10) Excluding duplicates.

11) Excluding number of unconfirmed test results.

12) Number of those who underwent FNAC including those with A1 and A2 test results among participants of Confirmatory Examination.

13) Excluding one suspected case found benign by aspiration biopsy cytology.

14) Tamura, Minami-soma, Date, Kawamata, Hirono, Naraha, Tomioka, Kawauchi, Okuma, Futaba, Namie, Katsurao, Iitate

15) 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

16) Iwaki, Soma, Shinchi

17) Aizuwakamatsu, Kitakata, Shimogo, Hinoemata, Tadami, Minami-aizu, Kitashiobara, Nishiaizu, Bandai, Inawashiro, Aizubange, Yugawa, Yanaizu, Mishima, Kaneyama, Showa, Aizumisato

### Summary

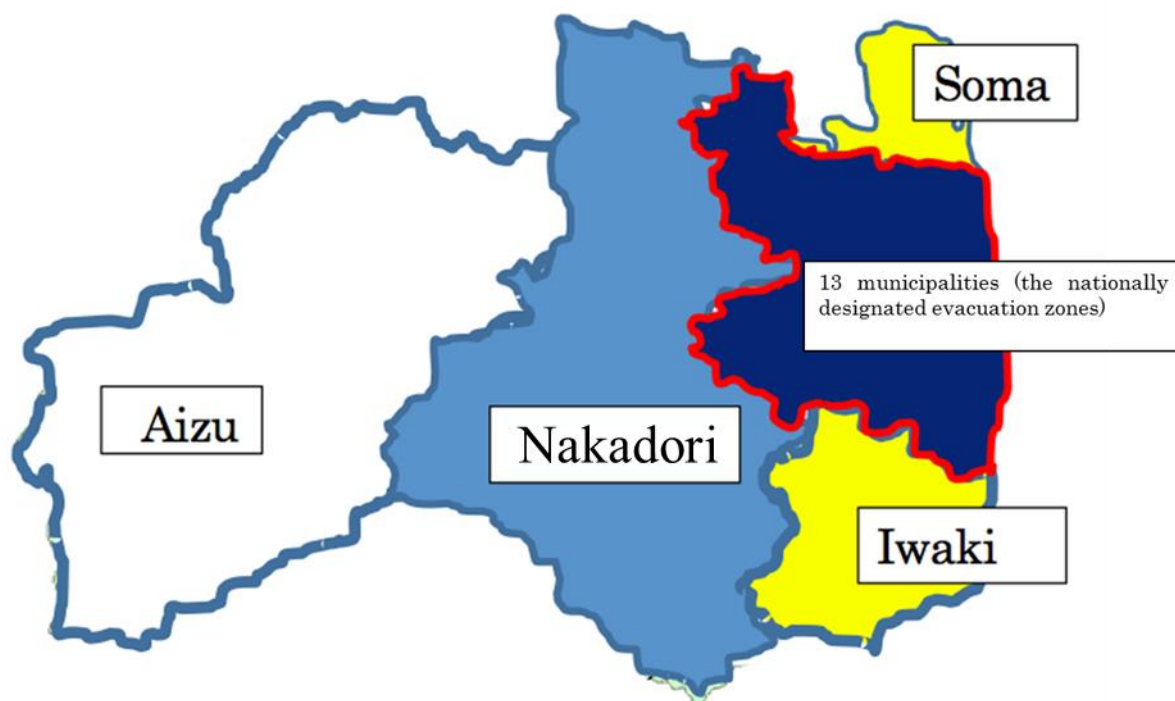
Among the 300,476 participants of Primary Examination, proportion of B or C test results increased in all areas, and was highest in Aizu followed by Hamadori, Nakadori, and 13 municipalities of the nationally designated evacuation zones.

The proportion of suspicious or malignant was almost the same among 13 municipalities in the nationally designated evacuation zones, Nakadori, Hamadori, and Aizu.

#### 4. Mental Health Care

We set up a support team for participants of the confirmatory examination to address their anxiety and concerns by offering various services including online support. In cooperation with teams of medical staff at hospitals, we provide continued support to those who are recommended for a follow-up provided by health insurance.

Since 5 December 2013 through 30 June 2015, a total of 276 participants (69 male and 207 female) have received support. The number of consultations given to them was 655 in total. Of these, 145 (22.1%) received support services on the first time of their examination, 159 (24.3%) at the second time and after, including 53 (8.1%) when undergoing FNAC, 34 (5.2%) when giving informed consent, 218 (33.3%) during follow-up provided by health insurance, including perioperative follow-up, 88 (13.4%) during hospitalization, and 11 (1.7%) on other occasions.



# Appendix 1

Participants by municipality

Participants by municipality	Target Population	Age group (years)			
		0-5	6-10	11-15	16-18
FY 2011					
Kawamata	2,394	588	631	719	456
Namie	3,643	1,023	920	1,031	669
Iitate	1,084	281	300	301	202
Minami-soma	12,526	3,697	3,418	3,297	2,114
Date	11,400	2,755	3,023	3,401	2,221
Tamura	7,068	1,738	1,807	2,073	1,450
Hirono	1,077	258	250	348	221
Naraha	1,432	351	362	415	304
Tomioka	2,962	767	740	897	558
Kawauchi	357	90	99	89	79
Okuma	2,385	782	634	619	350
Futaba	1,207	369	300	337	201
Katsurao	233	56	62	67	48
Subtotal	47,768	12,755	12,546	13,594	8,873
FY 2012					
Fukushima	53,552	15,248	14,062	14,880	9,362
Nihonmatsu	10,256	2,784	2,646	2,945	1,881
Motomiya	6,112	1,760	1,583	1,691	1,078
Otama	1,617	486	399	430	302
Koriyama	64,380	19,216	16,911	17,496	10,757
Kori	2,065	526	547	595	397
Kunimi	1,594	381	420	484	309
Tenei	1,061	300	284	280	197
Shirakawa	12,160	3,357	3,258	3,478	2,067
Nishigo	3,976	1,142	1,081	1,075	678
Izumizaki	1,289	353	355	335	246
Miharu	3,067	750	776	931	610
Subtotal	161,129	46,303	42,322	44,620	27,884
FY 2013					
Iwaki*	62,293	17,234	16,182	17,755	11,122
Sukagawa	15,309	4,344	4,096	4,256	2,613
Soma	6,812	1,981	1,778	1,849	1,204
Kagamiishi	2,597	740	707	723	427
Shinchi	1,434	392	394	411	237
Nakajima	1,079	270	282	317	210
Yabuki	3,277	981	850	896	550
Ishikawa	2,848	711	722	831	584
Yamatsuri	1,010	287	236	315	172
Asakawa	1,340	340	379	372	249
Hirata	1,209	330	298	342	239
Tanagura	2,988	867	744	882	495
Hanawa	1,662	415	391	531	325
Samegawa	694	178	172	186	158
Ono	1,937	497	490	568	382
Tamakawa	1,332	384	347	369	232
Furudono	1,040	287	242	315	196
Hinoemata	107	23	30	34	20
Minami-aizu	2,823	713	682	841	587
Kaneyama	203	40	52	72	39
Showa	128	44	38	33	13
Mishima	192	43	55	53	41
Shimogo	1,007	265	252	293	197
Kitakata	8,910	2,293	2,334	2,578	1,705
Nishiaizu	1,019	216	245	334	224
Tadami	710	195	177	201	137
Inawashiro	2,662	704	659	768	531
Bandai	617	180	163	166	108
Kitashiobara	557	159	140	156	102
Aizumisato	3,658	916	909	1,098	735
Aizubange	3,081	766	800	958	557
Yanaizu	590	158	142	175	115
Aizuwakamatsu	22,987	6,261	5,965	6,578	4,183
Yugawa	676	179	177	192	128
Subtotal	158,788	43,393	41,130	45,448	28,817
Total	367,685	102,451	95,998	103,662	65,574

\* Including districts of FY 2012

Because some duplicate records were found, numbers may vary slightly from previous reports.

## Appendix 2

### Thyroid Ultrasound Examination (TUE) coverage by municipality

Screening coverage by municipality in FY 2011 (13 municipalities in the nationally designated zones)

	Target Population a	Participants		Proportion (%) b/a	Number and proportion of participants by age group				Participants living outside Fukushima c 4)	Proportion (%) c/b
		b	Screened outside Fukushima 5)		0-5	6-10	11-15	16-18		
Kawamata	2,394	2,221	34	92.8	560 95.2 25.2	612 97.0 27.6	687 95.5 30.9	362 79.4 16.3	132	5.9
Namie	3,643	3,249	192	89.2	920 89.9 28.3	858 93.3 26.4	918 89.0 28.3	553 82.7 17.0	1,190	36.6
Iitate	1,084	943	16	87.0	248 88.3 26.3	271 90.3 28.7	264 87.7 28.0	160 79.2 17.0	87	9.2
Minami-soma	12,526	10,789	874	86.1	3,205 86.7 29.7	3,052 89.3 28.3	2,929 88.8 27.1	1,603 75.8 14.9	2,832	26.2
Date	11,400	10,605	155	93.0	2,573 93.4 24.3	2,977 98.5 28.1	3,287 96.6 31.0	1,768 79.6 16.7	593	5.6
Tamura	7,068	6,325	61	89.5	1,557 89.6 24.6	1,762 97.5 27.9	1,969 95.0 31.1	1,037 71.5 16.4	235	3.7
Hirono	1,077	838	57	77.8	204 79.1 24.3	216 86.4 25.8	294 84.5 35.1	124 56.1 14.8	151	18.0
Naraha	1,432	1,153	77	80.5	285 81.2 24.7	319 88.1 27.7	353 85.1 30.6	196 64.5 17.0	223	19.3
Tomioka	2,962	2,302	237	77.7	594 77.4 25.8	638 86.2 27.7	720 80.3 31.3	350 62.7 15.2	621	27.0
Kawauchi	357	280	22	78.4	72 80.0 25.7	92 92.9 32.9	70 78.7 25.0	46 58.2 16.4	52	18.6
Okuma	2,385	1,973	183	82.7	656 83.9 33.2	579 91.3 29.3	529 85.5 26.8	209 59.7 10.6	507	25.7
Futaba	1,207	949	113	78.6	289 78.3 30.5	246 82.0 25.9	277 82.2 29.2	137 68.2 14.4	418	44.0
Katsurao	233	183	3	78.5	43 76.8 23.5	55 88.7 30.1	57 85.1 31.1	28 58.3 15.3	16	8.7
Subtotal	47,768	41,810	2,024	87.5	11,206 87.9 26.8	11,677 93.1 27.9	12,354 90.9 29.5	6,573 74.1 15.7	7,057	16.9

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

3) Number of participants in the age group/Number of participants.

4) Number of participants currently living outside Fukushima.

5) Number of participants who underwent the test outside Fukushima.

Fractions have been rounded and may not total to 100%. Ages are at the time of the disaster.

Because some duplicate records were found, numbers may vary slightly from previous reports.

While some participants who underwent the test at their schools had been categorized according to the municipalities of their schools in the previous survey, they were recategorized into the municipalities they belonged at the time of the disaster.

Screening coverage by municipality in FY 2012

	Target Population  a	Participants		Proportion (%)  b/a	Number and proportion of participants by age group				Participants living outside Fukushima  c 4)	Proportion (%)  c/b
		b	Screened outside Fukushima 5)		0-5	6-10	11-15	16-18		
Fukushima	53,552	47,307	1,238	88.3	13,370	13,565	13,670	6,702	3,649	7.7
					87.7	96.5	91.9	71.6		
					28.3	28.7	28.9	14.2		
Nihonmatsu	10,256	8,857	174	86.4	2,528	2,589	2,672	1,068	439	5.0
					90.8	97.8	90.7	56.8		
					28.5	29.2	30.2	12.1		
Motomiya	6,112	5,234	110	85.6	1,534	1,554	1,506	640	233	4.5
					87.2	98.2	89.1	59.4		
					29.3	29.7	28.8	12.2		
Otama	1,617	1,373	18	84.9	447	397	385	144	48	3.5
					92.0	99.5	89.5	47.7		
					32.6	28.9	28.0	10.5		
Koriyama	64,380	54,063	2,217	84.0	16,317	16,148	15,492	6,106	4,620	8.5
					84.9	95.5	88.5	56.8		
					30.2	29.9	28.7	11.3		
Kori	2,065	1,874	34	90.8	494	541	570	269	76	4.1
					93.9	98.9	95.8	67.8		
					26.4	28.9	30.4	14.4		
Kunimi	1,594	1,437	29	90.2	349	412	464	212	54	3.8
					91.6	98.1	95.9	68.6		
					24.3	28.7	32.3	14.8		
Tenei	1,061	878	13	82.8	285	281	229	83	36	4.1
					95.0	98.9	81.8	42.1		
					32.5	32.0	26.1	9.5		
Shirakawa	12,160	10,810	296	88.9	3,083	3,193	3,242	1,292	615	5.7
					91.8	98.0	93.2	62.5		
					28.5	29.5	30.0	12.0		
Nishigo	3,976	3,618	83	91.0	1,088	1,062	1,012	456	204	5.6
					95.3	98.2	94.1	67.3		
					30.1	29.4	28.0	12.6		
Izumizaki	1,289	1,157	14	89.8	339	346	311	161	46	4.0
					96.0	97.5	92.8	65.4		
					29.3	29.9	26.9	13.9		
Miharu	3,067	2,730	40	89.0	696	760	859	415	106	3.9
					92.8	97.9	92.3	68.0		
					25.5	27.8	31.5	15.2		
Subtotal	161,129	139,338	4,266	86.5	40,530	40,848	40,412	17,548	10,126	7.3
					87.5	96.5	90.6	62.9		
					29.1	29.3	29.0	12.6		



Screening coverage by municipality in FY 2013

	Target Population  a	Participants		Proportion (%)  b/a	Number and proportion of participants by age group				Participants living outside Fukushima  c 4)	Proportion (%)  c/b
		b	Screened outside Fukushima 5)							
					0-5	6-10	11-15	16-18		
Iwaki*	62,293	49,429	1,704	79.3	14,400	15,513	14,293	5,223	2,766	5.6
					83.6	95.9	80.5	47.0		
					29.1	31.4	28.9	10.6		
Sukagawa	15,309	12,082	270	78.9	3,776	3,986	3,286	1,034	445	3.7
					86.9	97.3	77.2	39.6		
					31.3	33.0	27.2	8.6		
Soma	6,812	5,209	234	76.5	1,700	1,662	1,361	486	438	8.4
					85.8	93.5	73.6	40.4		
					32.6	31.9	26.1	9.3		
Kagamiishi	2,597	2,030	33	78.2	641	686	545	158	48	2.4
					86.6	97.0	75.4	37.0		
					31.6	33.8	26.8	7.8		
Shinchi	1,434	1,150	65	80.2	353	379	320	98	74	6.4
					90.1	96.2	77.9	41.4		
					30.7	33.0	27.8	8.5		
Nakajima	1,079	832	9	77.1	230	275	267	60	16	1.9
					85.2	97.5	84.2	28.6		
					27.6	33.1	32.1	7.2		
Yabuki	3,277	2,567	55	78.3	886	830	683	168	56	2.2
					90.3	97.6	76.2	30.5		
					34.5	32.3	26.6	6.5		
Ishikawa	2,848	2,163	58	75.9	668	692	620	183	59	2.7
					94.0	95.8	74.6	31.3		
					30.9	32.0	28.7	8.5		
Yamatsuri	1,010	794	17	78.6	270	233	237	54	21	2.6
					94.1	98.7	75.2	31.4		
					34.0	29.3	29.8	6.8		
Asakawa	1,340	1,093	25	81.6	320	374	305	94	32	2.9
					94.1	98.7	82.0	37.8		
					29.3	34.2	27.9	8.6		
Hirata	1,209	873	15	72.2	284	284	235	70	11	1.3
					86.1	95.3	68.7	29.3		
					32.5	32.5	26.9	8.0		
Tanagura	2,988	2,322	43	77.7	773	730	652	167	60	2.6
					89.2	98.1	73.9	33.7		
					33.3	31.4	28.1	7.2		
Hanawa	1,662	1,255	27	75.5	374	382	392	107	31	2.5
					90.1	97.7	73.8	32.9		
					29.8	30.4	31.2	8.5		
Samegawa	694	522	14	75.2	175	170	137	40	16	3.1
					98.3	98.8	73.7	25.3		
					33.5	32.6	26.2	7.7		
Ono	1,937	1,450	38	74.9	429	472	422	127	41	2.8
					86.3	96.3	74.3	33.2		
					29.6	32.6	29.1	8.8		
Tamakawa	1,332	1,015	13	76.2	346	341	255	73	14	1.4
					90.1	98.3	69.1	31.5		
					34.1	33.6	25.1	7.2		
Furudono	1,040	822	25	79.0	269	240	245	68	26	3.2
					93.7	99.2	77.8	34.7		
					32.7	29.2	29.8	8.3		

\*Including districts of FY 2012

Screening coverage by municipality in FY 2013

	Target Population a	Participants		Proportion (%) b/a	Number and proportion of participants by age group				Participants living outside Fukushima c 4)	Proportion (%) c/b
		b	Screened outside Fukushima 5)		0-5	6-10	11-15	16-18		
Hinoemata	107	62	3	57.9	15	27	19	1	3	4.8
					65.2	90.0	55.9	5.0		
					24.2	43.5	30.6	1.6		
Minami-aizu	2,823	1,869	22	66.2	618	643	484	124	54	2.9
					86.7	94.3	57.6	21.1		
					33.1	34.4	25.9	6.6		
Kaneyama	203	144	8	70.9	37	51	50	6	10	6.9
					92.5	98.1	69.4	15.4		
					25.7	35.4	34.7	4.2		
Showa	128	102	0	79.7	37	38	26	1	6	5.9
					84.1	100.0	78.8	7.7		
					36.3	37.3	25.5	1.0		
Mishima	192	130	1	67.7	30	54	37	9	0	0.0
					69.8	98.2	69.8	22.0		
					23.1	41.5	28.5	6.9		
Shimogo	1,007	710	13	70.5	246	234	184	46	22	3.1
					92.8	92.9	62.8	23.4		
					34.6	33.0	25.9	6.5		
Kitakata	8,910	5,897	74	66.2	1,719	2,238	1,534	406	113	1.9
					75.0	95.9	59.5	23.8		
					29.2	38.0	26.0	6.9		
Nishiaizu	1,019	646	4	63.4	203	238	177	28	9	1.4
					94.0	97.1	53.0	12.5		
					31.4	36.8	27.4	4.3		
Tadami	710	510	4	71.8	169	169	152	20	16	3.1
					86.7	95.5	75.6	14.6		
					33.1	33.1	29.8	3.9		
Inawashiro	2,662	1,945	34	73.1	623	643	513	166	83	4.3
					88.5	97.6	66.8	31.3		
					32.0	33.1	26.4	8.5		
Bandai	617	428	10	69.4	139	159	98	32	21	4.9
					77.2	97.5	59.0	29.6		
					32.5	37.1	22.9	7.5		
Kitashiobara	557	392	9	70.4	144	137	98	13	13	3.3
					90.6	97.9	62.8	12.7		
					36.7	34.9	25.0	3.3		
Aizumisato	3,658	2,609	26	71.3	838	877	713	181	52	2.0
					91.5	96.5	64.9	24.6		
					32.1	33.6	27.3	6.9		
Aizubange	3,081	2,139	29	69.4	629	754	601	155	42	2.0
					82.1	94.3	62.7	27.8		
					29.4	35.3	28.1	7.2		
Yanaizu	590	387	3	65.6	131	129	106	21	6	1.6
					82.9	90.8	60.6	18.3		
					33.9	33.3	27.4	5.4		
Aizuwakamatsu	22,987	15,235	328	66.3	4,423	5,663	4,175	974	480	3.2
					70.6	94.9	63.5	23.3		
					29.0	37.2	27.4	6.4		
Yugawa	676	515	7	76.2	167	177	131	40	8	1.6
					93.3	100.0	68.2	31.3		
					32.4	34.4	25.4	7.8		
Subtotal	158,788	119,328	3,220	75.1	36,062	39,480	33,353	10,433	5,092	4.3
					83.1	96.0	73.4	36.2		
					30.2	33.1	28.0	8.7		
Total	367,685	300,476	9,510	81.7	87,798	92,005	86,119	34,554	22,275	7.4
					85.7	95.8	83.1	52.7		
					29.2	30.6	28.7	11.5		

### Appendix 3

#### Thyroid Ultrasound Examination (TUE) coverage by prefecture

Prefecture	Number of test venues	Participants*	Prefecture	Number of test venues	Participants*	Prefecture	Number of test venues	Participants*
Hokkaido	5	<b>335</b>	Fukui	1	<b>22</b>	Hiroshima	1	<b>39</b>
Aomori	1	<b>163</b>	Yamanashi	2	<b>82</b>	Yamaguchi	1	<b>24</b>
Iwate	3	<b>189</b>	Nagano	2	<b>133</b>	Tokushima	1	<b>10</b>
Miyagi	2	<b>1,534</b>	Gifu	1	<b>43</b>	Kagawa	1	<b>29</b>
Akita	1	<b>213</b>	Shizuoka	2	<b>112</b>	Ehime	1	<b>23</b>
Yamagata	3	<b>458</b>	Aichi	3	<b>180</b>	Kochi	1	<b>14</b>
Ibaraki	4	<b>457</b>	Mie	1	<b>38</b>	Fukuoka	3	<b>84</b>
Tochigi	6	<b>455</b>	Shiga	1	<b>20</b>	Saga	1	<b>7</b>
Gunma	2	<b>186</b>	Kyoto	3	<b>97</b>	Nagasaki	2	<b>26</b>
Saitama	2	<b>253</b>	Osaka	6	<b>210</b>	Kumamoto	1	<b>25</b>
Chiba	3	<b>284</b>	Hyogo	1	<b>135</b>	Oita	1	<b>35</b>
Tokyo	12	<b>1,804</b>	Nara	1	<b>26</b>	Miyazaki	1	<b>35</b>
Kanagawa	4	<b>758</b>	Wakayama	1	<b>13</b>	Kagoshima	1	<b>31</b>
Niigata	1	<b>620</b>	Tottori	1	<b>14</b>	Okinawa	1	<b>121</b>
Toyama	1	<b>34</b>	Shimane	1	<b>13</b>			
Ishikawa	1	<b>45</b>	Okayama	3	<b>81</b>			
						<b>Total</b>	<b>98</b>	<b>9,510</b>

\* Those who underwent testing at venues outside Fukushima carried out either by Fukushima Medical University staff (twice in Niigata and Kanagawa respectively, and three times in Yamagata) or by local specialists.

## Appendix 4

### Thyroid Ultrasound Examination (TUE) results by municipality

Primary test results in FY 2011 (13 municipalities in the nationally designated zones)

	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
Kawamata	2,221	2,221	1,520	693	8	0	8	17	0	681
		100.0	68.4	31.2	0.4	0.0	0.4	0.8	0.0	30.7
Nemie	3,249	3,249	2,119	1,104	26	0	26	42	0	1,088
		100.0	65.2	34.0	0.8	0.0	0.8	1.3	0.0	33.5
Iitate	943	943	693	244	6	0	6	15	0	233
		100.0	73.5	25.9	0.6	0.0	0.6	1.6	0.0	24.7
Minami-soma	10,789	10,789	6,789	3,948	52	0	52	87	0	3,905
		100.0	62.9	36.6	0.5	0.0	0.5	0.8	0.0	36.2
Date	10,605	10,605	6,748	3,807	50	0	48	31	1	3,808
		100.0	63.6	35.9	0.5	0.0	0.5	0.3	0.0	35.9
Tamura	6,325	6,325	4,000	2,293	32	0	32	11	0	2,299
		100.0	63.2	36.3	0.5	0.0	0.5	0.2	0.0	36.3
Hirono	838	838	521	312	5	0	5	3	0	313
		100.0	62.2	37.2	0.6	0.0	0.6	0.4	0.0	37.4
Naraha	1,153	1,153	651	495	7	0	7	4	0	498
		100.0	56.5	42.9	0.6	0.0	0.6	0.3	0.0	43.2
Tomioka	2,302	2,302	1,350	939	13	0	13	8	0	939
		100.0	58.6	40.8	0.6	0.0	0.6	0.3	0.0	40.8
Kawauchi	280	280	156	120	4	0	4	1	0	120
		100.0	55.7	42.9	1.4	0.0	1.4	0.4	0.0	42.9
Okuma	1,973	1,973	1,140	819	14	0	14	7	0	816
		100.0	57.8	41.5	0.7	0.0	0.7	0.4	0.0	41.4
Futaba	949	949	570	376	3	0	3	3	0	375
		100.0	60.1	39.6	0.3	0.0	0.3	0.3	0.0	39.5
Katsurao	183	183	116	66	1	0	1	3	0	65
		100.0	63.4	36.1	0.5	0.0	0.5	1.6	0.0	35.5
Subtotal	41,810	41,810	26,373	15,216	221	0	219	232	1	15,140
		100.0	63.1	36.4	0.5	0.0	0.5	0.6	0.0	36.2

Fractions are rounded and may not total to 100%.

Because some duplicate records were found, numbers may vary slightly from previous reports.

While some participants who underwent the test at their schools had been categorized according to the municipalities of their schools in the previous survey, they were recategorized into the municipalities they belonged at the time of the disaster.

Primary test results in FY 2012

	Participants  a	Confirmed results b  Proportion (%) b/a (%)	Number by test results				Nodules		Cysts	
			Proportion (%)							
			A		B	C	Proportion (%)		Proportion (%)	
			A1	A2			≥5.1 mm	≤5.0 mm	≥20.1 mm	≤20.0 mm
Fukushima	47,307	47,307	26,962	20,062	283	0	276	196	3	20,079
		100.0	57.0	42.4	0.6	0.0	0.6	0.4	0.0	42.4
Nihonmatsu	8,857	8,857	5,198	3,602	56	1	56	46	1	3,605
		100.0	58.7	40.7	0.6	0.0	0.6	0.5	0.0	40.7
Motomiya	5,234	5,234	2,955	2,250	29	0	27	25	1	2,254
		100.0	56.5	43.0	0.6	0.0	0.5	0.5	0.0	43.1
Otama	1,373	1,373	816	550	7	0	7	8	0	550
		100.0	59.4	40.1	0.5	0.0	0.5	0.6	0.0	40.1
Koriyama	54,063	54,063	27,929	25,676	458	0	454	332	3	25,759
		100.0	51.7	47.5	0.8	0.0	0.8	0.6	0.0	47.6
Kori	1,874	1,874	1,025	835	14	0	14	9	0	836
		100.0	54.7	44.6	0.7	0.0	0.7	0.5	0.0	44.6
Kunimi	1,437	1,437	763	659	15	0	14	9	1	663
		100.0	53.1	45.9	1.0	0.0	1.0	0.6	0.1	46.1
Tenei	878	878	528	343	7	0	7	4	0	348
		100.0	60.1	39.1	0.8	0.0	0.8	0.5	0.0	39.6
Shirakawa	10,810	10,810	6,111	4,638	61	0	61	54	0	4,635
		100.0	56.5	42.9	0.6	0.0	0.6	0.5	0.0	42.9
Nishigo	3,618	3,618	2,084	1,504	30	0	30	21	0	1,504
		100.0	57.6	41.6	0.8	0.0	0.8	0.6	0.0	41.6
Izumizaki	1,157	1,157	524	628	5	0	5	11	0	624
		100.0	45.3	54.3	0.4	0.0	0.4	1.0	0.0	53.9
Miharu	2,730	2,730	1,301	1,407	22	0	22	15	0	1,410
		100.0	47.7	51.5	0.8	0.0	0.8	0.5	0.0	51.6
Subtotal	139,338	139,338	76,196	62,154	987	1	973	730	9	62,267
		100.0	54.7	44.6	0.7	0.0	0.7	0.5	0.0	44.7

Primary test results in FY 2013

	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
Iwaki*	49,429	49,429	21,829	27,145	455	0	454	297	1	27,251
		100.0	44.2	54.9	0.9	0.0	0.9	0.6	0.0	55.1
Sukagawa	12,082	12,082	5,495	6,482	105	0	105	56	0	6,513
		100.0	45.5	53.7	0.9	0.0	0.9	0.5	0.0	53.9
Soma	5,209	5,209	2,467	2,695	47	0	47	46	0	2,706
		100.0	47.4	51.7	0.9	0.0	0.9	0.9	0.0	51.9
Kagamiishi	2,030	2,030	956	1,063	11	0	11	8	0	1,065
		100.0	47.1	52.4	0.5	0.0	0.5	0.4	0.0	52.5
Shinchi	1,150	1,150	522	621	7	0	7	6	0	625
		100.0	45.4	54.0	0.6	0.0	0.6	0.5	0.0	54.3
Nakajima	832	832	392	438	2	0	2	9	0	436
		100.0	47.1	52.6	0.2	0.0	0.2	1.1	0.0	52.4
Yabuki	2,567	2,567	1,082	1,465	20	0	20	8	0	1,475
		100.0	42.2	57.1	0.8	0.0	0.8	0.3	0.0	57.5
Ishikawa	2,163	2,163	983	1,168	12	0	12	15	0	1,168
		100.0	45.4	54.0	0.6	0.0	0.6	0.7	0.0	54.0
Yamatsuri	794	794	325	466	3	0	3	4	0	463
		100.0	40.9	58.7	0.4	0.0	0.4	0.5	0.0	58.3
Asakawa	1,093	1,093	470	611	12	0	12	10	0	617
		100.0	43.0	55.9	1.1	0.0	1.1	0.9	0.0	56.5
Hirata	873	873	396	467	10	0	10	2	0	473
		100.0	45.4	53.5	1.1	0.0	1.1	0.2	0.0	54.2
Tanagura	2,322	2,322	1,028	1,272	22	0	22	11	0	1,280
		100.0	44.3	54.8	0.9	0.0	0.9	0.5	0.0	55.1
Hanawa	1,255	1,255	513	733	9	0	9	10	0	736
		100.0	40.9	58.4	0.7	0.0	0.7	0.8	0.0	58.6
Samegawa	522	522	244	274	4	0	4	5	0	274
		100.0	46.7	52.5	0.8	0.0	0.8	1.0	0.0	52.5
Ono	1,450	1,450	565	870	15	0	15	13	0	873
		100.0	39.0	60.0	1.0	0.0	1.0	0.9	0.0	60.2
Tamakawa	1,015	1,015	453	551	11	0	11	6	0	556
		100.0	44.6	54.3	1.1	0.0	1.1	0.6	0.0	54.8
Furudono	822	822	395	421	6	0	6	7	0	424
		100.0	48.1	51.2	0.7	0.0	0.7	0.9	0.0	51.6

\* Including districts of FY 2012

Primary test results in FY 2013

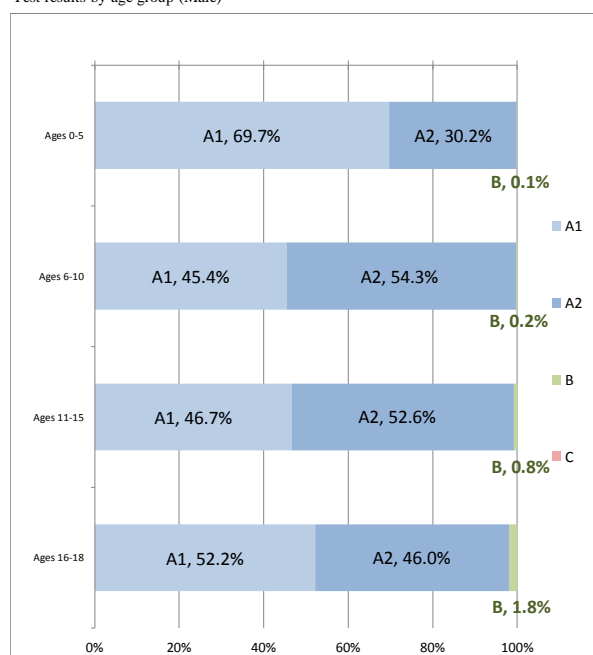
	Participants	Confirmed results b	Number by test results				Nodules		Cysts	
			Proportion (%)							
		Proportion (%) b/a (%)	A		B	C	Proportion (%)		Proportion (%)	
			A1	A2			≥5.1 mm	≤5.0 mm	≥20.1 mm	≤20.0 mm
Hinoemata	62	62	26	36	0	0	0	3	0	34
		100.0	41.9	58.1	0.0	0.0	0.0	4.8	0.0	54.8
Minami-aizu	1,869	1,869	773	1,079	17	0	17	15	0	1,080
		100.0	41.4	57.7	0.9	0.0	0.9	0.8	0.0	57.8
Kaneyama	144	144	66	78	0	0	0	1	0	78
		100.0	45.8	54.2	0.0	0.0	0.0	0.7	0.0	54.2
Showa	102	102	57	45	0	0	0	0	0	45
		100.0	55.9	44.1	0.0	0.0	0.0	0.0	0.0	44.1
Mishima	130	130	39	90	1	0	1	0	0	91
		100.0	30.0	69.2	0.8	0.0	0.8	0.0	0.0	70.0
Shimogo	710	710	328	371	11	0	11	4	0	374
		100.0	46.2	52.3	1.5	0.0	1.5	0.6	0.0	52.7
Kitakata	5,897	5,897	2,364	3,482	51	0	51	42	0	3,493
		100.0	40.1	59.0	0.9	0.0	0.9	0.7	0.0	59.2
Nishiaizu	646	646	247	394	5	0	5	5	0	396
		100.0	38.2	61.0	0.8	0.0	0.8	0.8	0.0	61.3
Tadami	510	510	212	291	7	0	7	3	0	293
		100.0	41.6	57.1	1.4	0.0	1.4	0.6	0.0	57.5
Inawashiro	1,945	1,945	804	1,128	13	0	13	16	0	1,128
		100.0	41.3	58.0	0.7	0.0	0.7	0.8	0.0	58.0
Bandai	428	428	174	250	4	0	4	2	0	252
		100.0	40.7	58.4	0.9	0.0	0.9	0.5	0.0	58.9
Kitashiobara	392	392	165	226	1	0	1	3	0	226
		100.0	42.1	57.7	0.3	0.0	0.3	0.8	0.0	57.7
Aizumisato	2,609	2,609	1,086	1,496	27	0	27	17	0	1,509
		100.0	41.6	57.3	1.0	0.0	1.0	0.7	0.0	57.8
Aizubange	2,139	2,139	867	1,247	25	0	25	9	0	1,257
		100.0	40.5	58.3	1.2	0.0	1.2	0.4	0.0	58.8
Yanaizu	387	387	185	200	2	0	2	0	0	202
		100.0	47.8	51.7	0.5	0.0	0.5	0.0	0.0	52.2
Aizuwakamatsu	15,235	15,235	6,338	8,734	163	0	162	118	1	8,781
		100.0	41.6	57.3	1.1	0.0	1.1	0.8	0.0	57.6
Yugawa	515	515	191	317	7	0	7	2	0	320
		100.0	37.1	61.6	1.4	0.0	1.4	0.4	0.0	62.1
Subtotal	119,328	119,328	52,037	66,206	1,085	0	1,083	753	2	66,494
		100.0	43.6	55.5	0.9	0.0	0.9	0.6	0.0	55.7
Total	300,476	300,476	154,606	143,576	2,293	1	2,275	1,715	12	143,901
		100.0	51.5	47.8	0.8	0.0	0.8	0.6	0.0	47.9

## Appendix 5

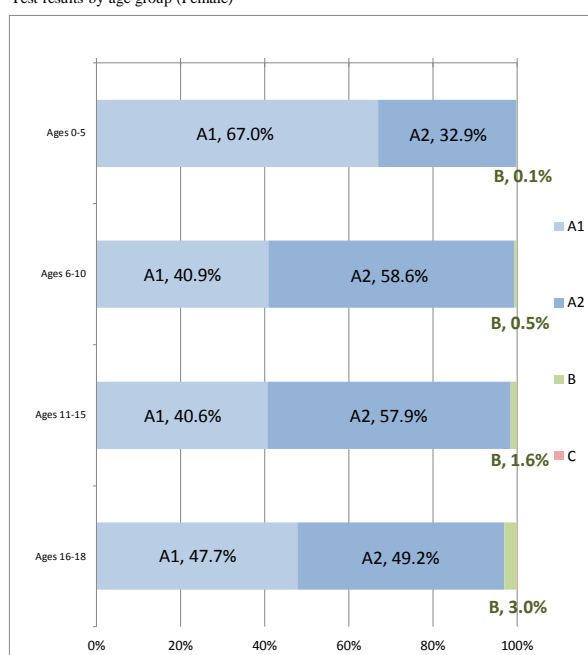
### 1. Thyroid Ultrasound Examination results by age and sex

Ages	A						B			C			Total		
	A1			A2			Male	Female	Total	Male	Female	Total	Male	Female	Total
	Male	Female	Total	Male	Female	Total									
0-5	31,415	28,613	60,028	13,609	14,063	27,672	41	57	98	0	0	0	45,065	42,733	87,798
6-10	21,451	18,323	39,774	25,632	26,246	51,878	117	236	353	0	0	0	47,200	44,805	92,005
11-15	20,225	17,362	37,587	22,798	24,743	47,541	327	664	991	0	0	0	43,350	42,769	86,119
16-18	8,392	8,825	17,217	7,386	9,099	16,485	290	561	851	0	1	1	16,068	18,486	34,554
Total	81,483	73,123	154,606	69,425	74,151	143,576	775	1,518	2,293	0	1	1	151,683	148,793	300,476

Test results by age group (Male)



Test results by age group (Female)



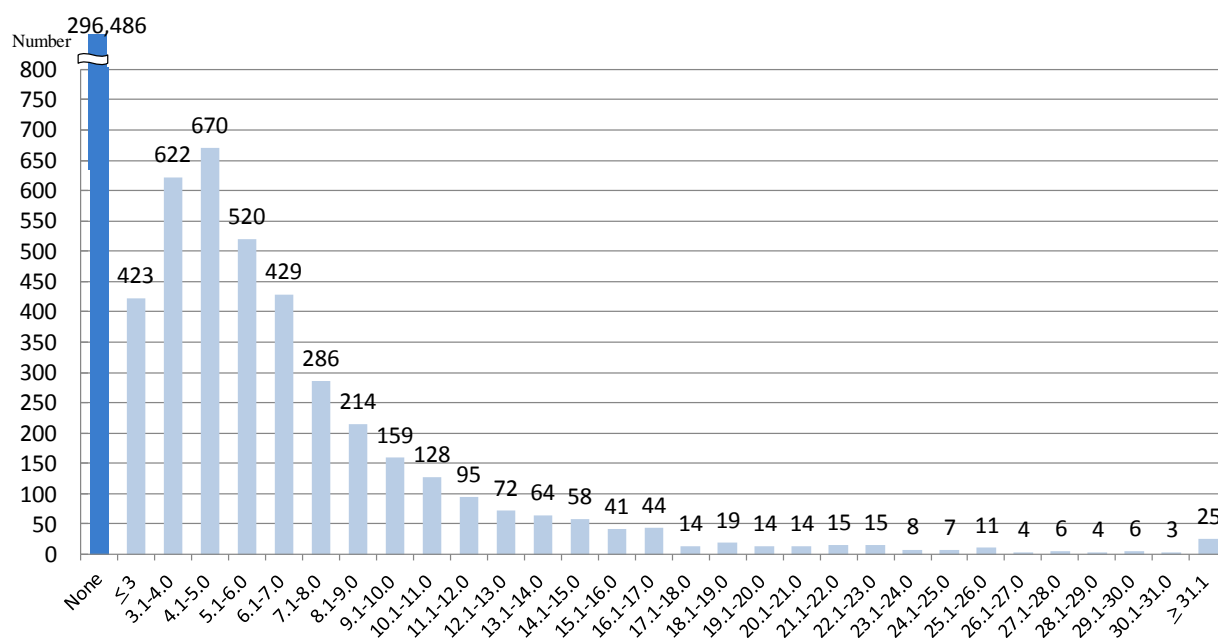
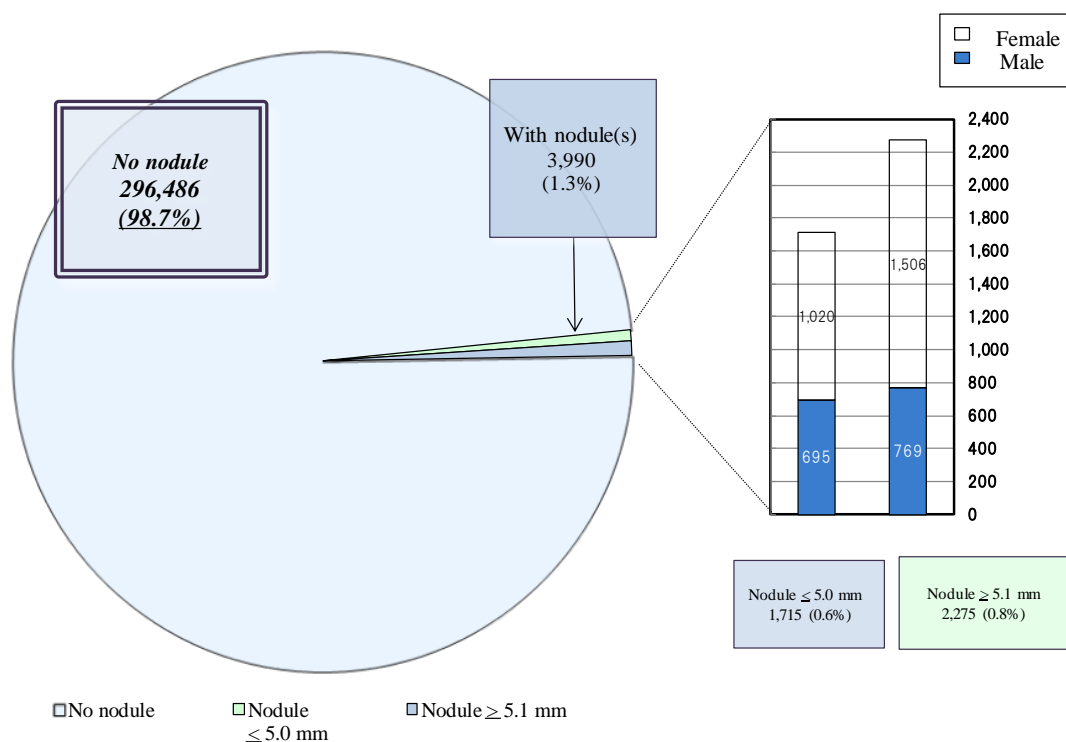
Percentages have been rounded and may not total to 100%.

Ages are as of 11 March 2011.



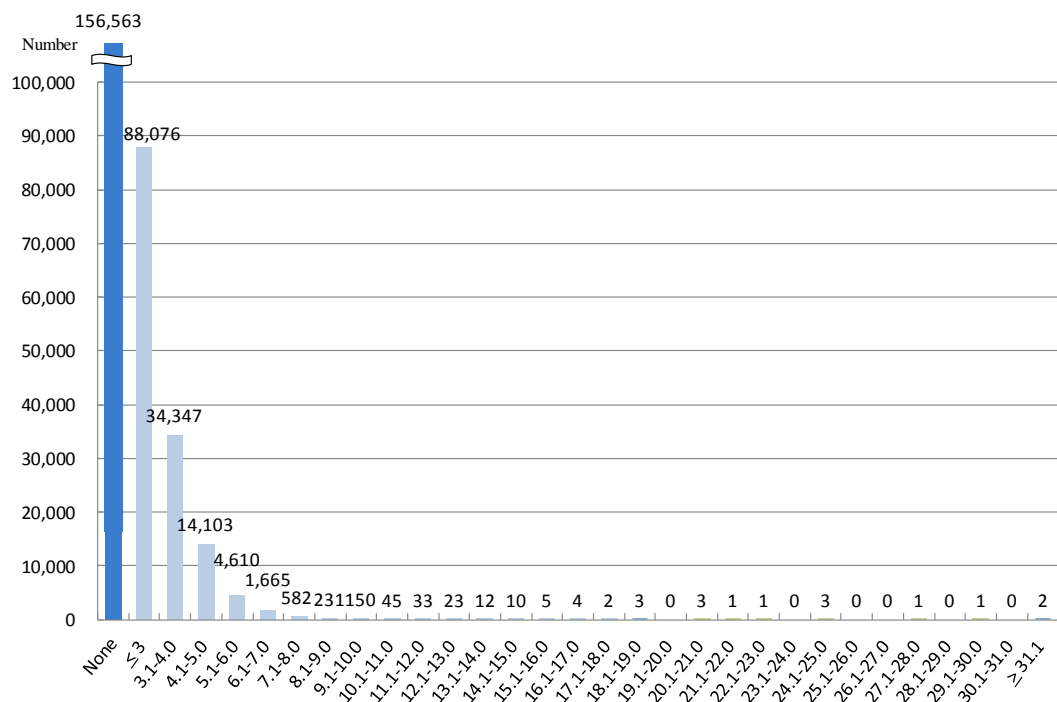
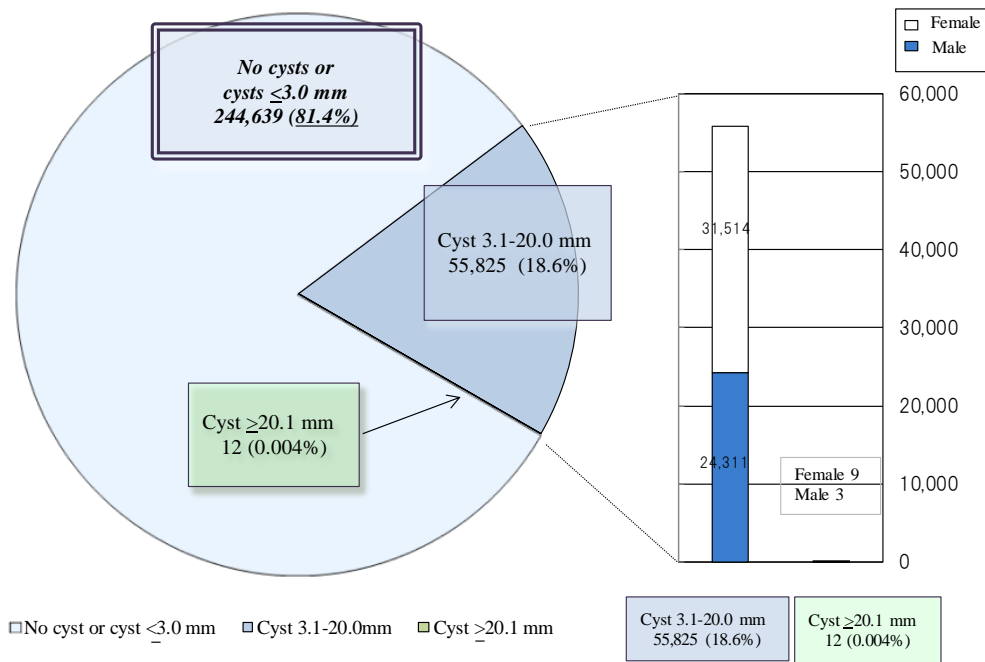
## 2. Nodule size

Nodule size	Total	Test result		Proportion
		Male	Female	
None	296,486	150,219	146,267	A1
≤ 3.0 mm	423	190	233	A2
3.1-5.0 mm	1,292	505	787	
5.1-10.0 mm	1,608	578	1,030	B
10.1-15.0 mm	417	118	299	
15.1-20.0 mm	132	39	93	
20.1-25.0 mm	59	17	42	
≥ 25.1 mm	59	17	42	
Total	300,476	151,683	148,793	



### 3. Cyst size

Cyst size	Total	Class		%
		Male	Female	
None	156,563	82,237	74,326	81.4%
≤ 3.0 mm	88,076	45,132	42,944	
3.1-5.0 mm	48,450	21,694	26,756	18.6%
5.1-10.0 mm	7,238	2,575	4,663	
10.1-15.0 mm	123	41	82	
15.1-20.0 mm	14	1	13	
20.1-25.0 mm	8	1	7	0.004%
≥ 25.1 mm	4	2	2	
Total	300,476	151,683	148,793	



## Appendix 6

### Confirmatory test results by municipality

As of 30 June 2015

Confirmatory test results by municipality								Number of confirmed results				
	Number of those screened	Participants who required confirmatory test	Number of those who underwent confirmatory test by age					Total	Next screening advised		Follow-up advised	
			Total	Ages 0-5	Ages 6-10	Ages 11-15	Ages 16-18		k	Aspiration biopsy cytology		
a	b	c	d	e	f	g	h	i	j	k	l	
		Proportion (%)	Proportion (%)	Proportion (%)	Proportion (%)	Proportion (%)	Proportion (%)	Proportion (%)	Proportion (%)	Proportion (%)	Proportion (%)	
Target municipalities for Confirmatory test in FY 2011												
Kawamata	2,221	8	8	0	1	3	4	7	1	0	6	5
		0.4	100.0	0.0	12.5	37.5	50.0	87.5	14.3	0.0	85.7	83.3
Namie	3,249	26	24	1	3	8	12	23	1	4	18	12
		0.8	92.3	4.2	12.5	33.3	50.0	95.8	4.3	17.4	78.3	66.7
Iitate	943	6	6	0	2	1	3	6	0	3	3	3
		0.6	100.0	0.0	33.3	16.7	50.0	100.0	0.0	50.0	50.0	100.0
Minami-soma	10,789	52	48	6	5	16	21	48	4	11	33	19
		0.5	92.3	12.5	10.4	33.3	43.8	100.0	8.3	22.9	68.8	57.6
Date	10,605	50	45	0	3	16	26	45	4	8	33	23
		0.5	90.0	0.0	6.7	35.6	57.8	100.0	8.9	17.8	73.3	69.7
Tamura	6,325	32	26	1	3	12	10	26	0	5	21	14
		0.5	81.3	3.8	11.5	46.2	38.5	100.0	0.0	19.2	80.8	66.7
Hirono	838	5	4	0	1	1	2	4	1	2	1	0
		0.6	80.0	0.0	25.0	25.0	50.0	100.0	25.0	50.0	25.0	0.0
Naraha	1,153	7	6	1	0	1	4	6	0	2	4	2
		0.6	85.7	16.7	0.0	16.7	66.7	100.0	0.0	33.3	66.7	50.0
Tomioka	2,302	13	12	0	1	5	6	12	0	2	10	7
		0.6	92.3	0.0	8.3	41.7	50.0	100.0	0.0	16.7	83.3	70.0
Kawauchi	280	4	4	0	1	0	3	4	0	1	3	2
		1.4	100.0	0.0	25.0	0.0	75.0	100.0	0.0	25.0	75.0	66.7
Okuma	1,973	14	13	1	1	6	5	13	1	5	7	2
		0.7	92.9	7.7	7.7	46.2	38.5	100.0	7.7	38.5	53.8	28.6
Futaba	949	3	2	0	0	1	1	2	0	0	2	2
		0.3	66.7	0.0	0.0	50.0	50.0	100.0	0.0	0.0	100.0	100.0
Katsurao	183	1	1	0	1	0	0	1	0	1	0	0
		0.5	100.0	0.0	100.0	0.0	0.0	100.0	0.0	100.0	0.0	0.0
Subtotal	41,810	221	199	10	22	70	97	197	12	44	141	91
		0.5	90.0	5.0	11.1	35.2	48.7	99.0	6.1	22.3	71.6	64.5
Target municipalities for Confirmatory test in FY 2012												
Fukushima	47,307	283	272	6	28	106	132	266	12	68	186	95
		0.6	96.1	2.2	10.3	39.0	48.5	97.8	4.5	25.6	69.9	51.1
Nihonmatsu	8,857	57	54	0	5	27	22	53	3	7	43	24
		0.6	94.7	0.0	9.3	50.0	40.7	98.1	5.7	13.2	81.1	55.8
Motomiya	5,234	29	29	1	4	14	10	28	0	9	19	7
		0.6	100.0	3.4	13.8	48.3	34.5	96.6	0.0	32.1	67.9	36.8
Otama	1,373	7	7	0	0	4	3	7	0	1	6	4
		0.5	100.0	0.0	0.0	57.1	42.9	100.0	0.0	14.3	85.7	66.7
Koriyama	54,063	458	415	21	65	172	157	405	24	127	254	100
		0.8	90.6	5.1	15.7	41.4	37.8	97.6	5.9	31.4	62.7	39.4
Kori	1,874	14	13	1	2	3	7	13	0	2	11	3
		0.7	92.9	7.7	15.4	23.1	53.8	100.0	0.0	15.4	84.6	27.3
Kunimi	1,437	15	13	2	2	2	7	13	1	2	10	4
		1.0	86.7	15.4	15.4	15.4	53.8	100.0	7.7	15.4	76.9	40.0
Tenei	878	7	6	1	2	1	2	6	1	2	3	0
		0.8	85.7	16.7	33.3	16.7	33.3	100.0	16.7	33.3	50.0	0.0
Shirakawa	10,810	61	59	2	10	27	20	59	6	14	39	15
		0.6	96.7	3.4	16.9	45.8	33.9	100.0	10.2	23.7	66.1	38.5
Nishigo	3,618	30	26	2	6	9	9	26	2	8	16	5
		0.8	86.7	7.7	23.1	34.6	34.6	100.0	7.7	30.8	61.5	31.3
Izumizaki	1,157	5	5	0	2	0	3	5	1	2	2	1
		0.4	100.0	0.0	40.0	0.0	60.0	100.0	20.0	40.0	40.0	50.0
Miharu	2,730	22	21	0	1	11	9	21	4	4	13	6
		0.8	95.5	0.0	4.8	52.4	42.9	100.0	19.0	19.0	61.9	46.2
Subtotal	139,338	988	920	36	127	376	381	902	54	246	602	264
		0.7	93.1	3.9	13.8	40.9	41.4	98.0	6.0	27.3	66.7	43.9

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

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

Ages are as of 11 March 2011.

While some participants who underwent the test at their schools had been categorized according to the municipalities of their schools in the previous survey, they were recategorized into the municipalities they belonged at the time of the disaster.

Confirmatory test results by municipality

As of 30 June 2015

	Number of those screened	Participants who required confirmatory test	Number of those who underwent confirmatory test by age					Number of confirmed results				
			Total	Ages 0-5	Ages 6-10	Ages 11-15	Ages 16-18	Total	Next screening advised		Follow-up advised	
									A1	A2	k	Aspiration biopsy cytology
a	b	c	d	e	f	g	h	i	j	k	l	
		Proportion (%)	Proportion (%)	Proportion (%)	Proportion (%)	Proportion (%)	Proportion (%)	Proportion (%)	Proportion (%)	Proportion (%)	Proportion (%)	
Target municipalities for Confirmatory test in FY 2013												
Iwaki*	49,429	455 0.9	422 92.7	21 5.0	60 14.2	203 48.1	138 32.7	412 97.6	23 5.6	130 31.6	259 62.9	92 35.5
Sukagawa	12,082	105 0.9	101 96.2	6 5.9	16 15.8	54 53.5	25 24.8	99 98.0	7 7.1	33 33.3	59 59.6	12 20.3
Soma	5,209	47 0.9	42 89.4	3 7.1	9 21.4	19 45.2	11 26.2	41 97.6	3 7.3	16 39.0	22 53.7	6 27.3
Kagamiishi	2,030	11 0.5	9 81.8	0 0.0	4 44.4	4 44.4	1 11.1	9 100.0	0 0.0	2 22.2	7 77.8	1 14.3
Shinchi	1,150	7 0.6	7 100.0	0 0.0	3 42.9	3 42.9	1 14.3	6 85.7	0 0.0	0 0.0	6 100.0	3 50.0
Nakajima	832	2 0.2	2 100.0	0 0.0	0 0.0	1 50.0	1 50.0	2 100.0	0 0.0	0 0.0	2 100.0	1 50.0
Yabuki	2,567	20 0.8	16 80.0	0 0.0	3 18.8	6 37.5	7 43.8	13 81.3	0 0.0	4 30.8	9 69.2	1 11.1
Ishikawa	2,163	12 0.6	12 100.0	0 0.0	4 33.3	4 33.3	4 33.3	10 83.3	0 0.0	1 10.0	9 90.0	5 55.6
Yamatsuri	794	3 0.4	2 66.7	0 0.0	0 0.0	1 50.0	1 50.0	2 100.0	0 0.0	0 0.0	2 100.0	0 0.0
Asakawa	1,093	12 1.1	11 91.7	1 9.1	1 9.1	6 54.5	3 27.3	11 100.0	0 0.0	3 27.3	8 72.7	2 25.0
Hirata	873	10 1.1	9 90.0	0 0.0	4 44.4	3 33.3	2 22.2	8 88.9	1 12.5	1 12.5	6 75.0	1 16.7
Tanagura	2,322	22 0.9	22 100.0	2 9.1	5 22.7	9 40.9	6 27.3	20 90.9	2 10.0	2 10.0	16 80.0	6 37.5
Hanawa	1,255	9 0.7	7 77.8	0 0.0	1 14.3	3 42.9	3 42.9	6 85.7	0 0.0	2 33.3	4 66.7	1 25.0
Samegawa	522	4 0.8	2 50.0	0 0.0	1 50.0	0 0.0	1 50.0	1 50.0	0 0.0	0 0.0	1 100.0	0 0.0
Ono	1,450	15 1.0	13 86.7	1 7.7	2 15.4	6 46.2	4 30.8	13 100.0	1 7.7	4 30.8	8 61.5	0 0.0
Tamakawa	1,015	11 1.1	9 81.8	1 11.1	2 22.2	3 33.3	3 33.3	9 100.0	0 0.0	3 33.3	6 66.7	1 16.7
Furudono	822	6 0.7	6 100.0	0 0.0	1 16.7	4 66.7	1 16.7	6 100.0	0 0.0	2 33.3	4 66.7	1 25.0
Hinoemata	62	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 0.0	0 0.0
Minami-aizu	1,869	17 0.9	15 88.2	0 0.0	7 46.7	7 46.7	1 6.7	13 86.7	1 7.7	3 23.1	9 69.2	2 22.2
Kaneyama	144	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 0.0	0 0.0
Showa	102	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 0.0	0 0.0
Mishima	130	1 0.8	1 100.0	0 0.0	1 100.0	0 0.0	0 0.0	1 100.0	0 0.0	0 0.0	1 100.0	0 0.0
Shimogo	710	11 1.5	10 90.9	0 0.0	1 10.0	6 60.0	3 30.0	10 100.0	0 0.0	3 30.0	7 70.0	3 42.9
Kitakata	5,897	51 0.9	41 80.4	1 2.4	11 26.8	18 43.9	11 26.8	41 100.0	3 7.3	11 26.8	27 65.9	11 40.7
Nishiaizu	646	5 0.8	4 80.0	0 0.0	2 50.0	1 25.0	1 25.0	3 75.0	0 0.0	0 0.0	3 100.0	0 0.0
Tadami	510	7 1.4	7 100.0	0 0.0	3 42.9	4 57.1	0 0.0	6 85.7	0 0.0	2 33.3	4 66.7	1 25.0
Inawashiro	1,945	13 0.7	13 100.0	1 7.7	1 7.7	8 61.5	3 23.1	13 100.0	2 15.4	3 23.1	8 61.5	1 12.5
Bandai	428	4 0.9	3 75.0	1 33.3	0 0.0	1 33.3	1 33.3	3 100.0	1 33.3	0 0.0	2 66.7	0 0.0
Kitashiobara	392	1 0.3	1 100.0	1 100.0	0 0.0	0 0.0	0 0.0	1 100.0	0 0.0	1 100.0	0 0.0	0 0.0
Aizumisato	2,609	27 1.0	24 88.9	1 4.2	4 16.7	12 50.0	7 29.2	23 95.8	2 8.7	9 39.1	12 52.2	3 25.0
Aizubange	2,139	25 1.2	23 92.0	3 13.0	4 17.4	9 39.1	7 30.4	23 100.0	0 0.0	4 17.4	19 82.6	4 21.1
Yanaizu	387	2 0.5	2 100.0	0 0.0	0 0.0	2 100.0	0 0.0	2 100.0	0 0.0	1 50.0	1 50.0	0 0.0
Aizuwakamatsu	15,235	163 1.1	146 89.6	6 4.1	31 21.2	80 54.8	29 19.9	143 97.9	9 6.3	48 33.6	86 60.1	23 26.7
Yugawa	515	7 1.4	7 100.0	0 0.0	1 14.3	3 42.9	3 42.9	7 100.0	1 14.3	0 0.0	6 85.7	1 16.7
Subtotal	119,328	1,085 0.9	989 91.2	49 5.0	182 18.4	480 48.5	278 28.1	957 96.8	56 5.9	288 30.1	613 64.1	182 29.7
Total	300,476	2,294 0.8	2,108 91.9	95 4.5	331 15.7	926 43.9	756 35.9	2,056 97.5	122 5.9	578 28.1	1,356 66.0	537 39.6

\*Including districts of FY 2012

## Appendix 7

### Surgical cases of malignant or suspicious for malignancy

#### 1. Target municipalities in FY 2011

Suspicious or malignant: 15 (15 surgical cases: 1 of benign thyroid nodules; 13 of papillary thyroid carcinoma; 1 poorly differentiated thyroid carcinoma)

#### 2. Target municipalities in FY 2012

Suspicious or malignant: 56 (52 surgical cases: 51 of papillary thyroid carcinoma ; 1 poorly differentiated thyroid carcinoma)

#### 3. Target municipalities in FY 2013

Suspicious or malignant: 42 (32 surgical cases: 31 of papillary thyroid carcinoma; 1 poorly differentiated thyroid carcinoma)

#### 4. Total for cases FY 2011 – FY 2013

Suspicious or malignant: 113 (99 surgical cases: 1 of benign thyroid nodules; 95 of papillary thyroid carcinoma; 3 poorly differentiated thyroid carcinoma )

# Thyroid Ultrasound Examination (Full-scale Thyroid Screening Program)

Reported on 31 August 2015

## 1. Summary

### 1.1 Purpose

In order to monitor the long-term health of children, we are now engaged in a Full-scale Thyroid Screening Program to assess the condition of their thyroid glands following Preliminary Baseline Screening (Initial Screening).

### 1.2 Group

Residents of Fukushima Prefecture including visitors who were born between 2 April 1992 and 1 April 2011 (Preliminary Baseline Screening), and those who were born between 2 April 2011 and 1 April 2012.

### 1.3 Implementation Period

Full-scale Screening started 2 April 2014 and will proceed for two years.

Thereafter we will repeat the examination every two years until the age of 20, and every five years afterwards.

### 1.4 Responsible Organizations

Fukushima Prefecture commissioned Fukushima Medical University to conduct the survey in cooperation with institutions inside and outside Fukushima.

As of 30 June 2015, we provide the primary examination at 24 medical institutions under contract, and try to have more institutions inside Fukushima Prefecture.

Ninety-eight institutions outside Fukushima Prefecture have agreed to cooperate as of 30 June 2015.

The confirmatory examination has been conducted in Koriyama and Iwaki in Fukushima Prefecture from July 2013, Aizuwakamatsu from August 2014, and several institutions outside Fukushima Prefecture from November 2013. There are 28 institutions that provide the examination as of 30 June 2015.

### 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 next screening starting from April 2016.

(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.

### 1.5-2 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.

### 1.5-3 Flow chart

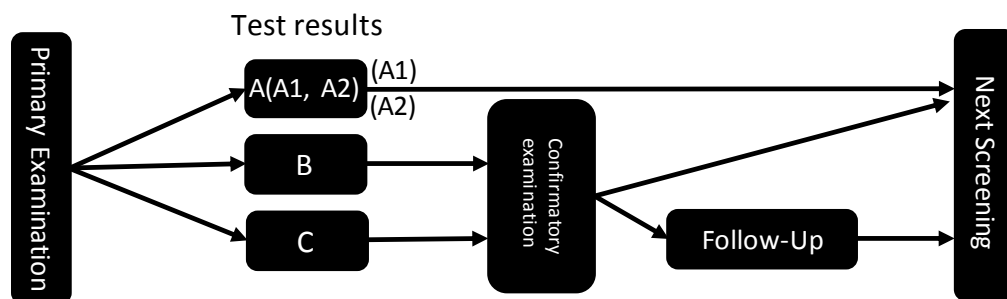


Fig.1 Flow chart

## 1.6 Target Municipalities

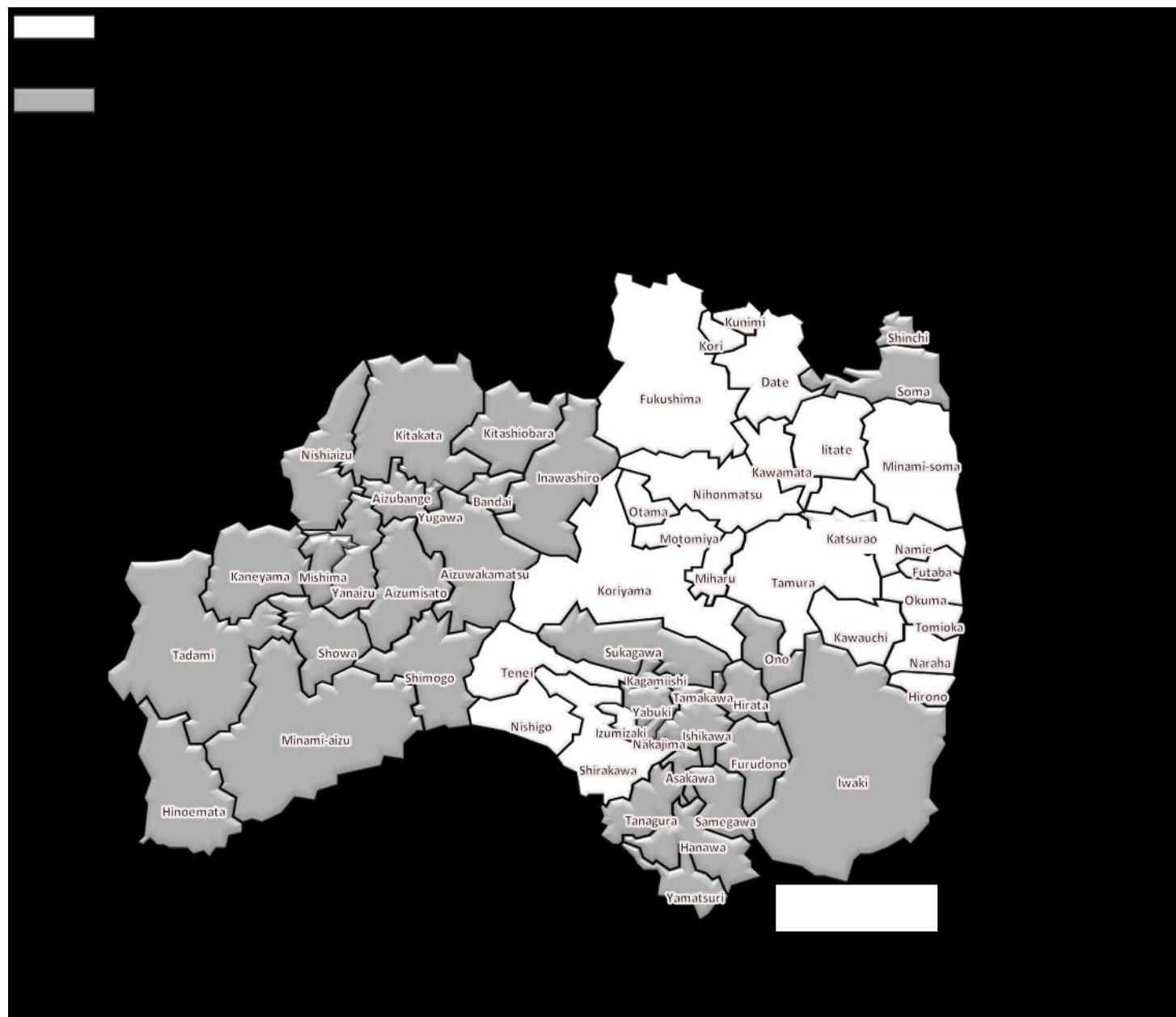


Fig.2 Target Municipalities



## 2. Results (As of 30 June 2015)

### 2.1-1 Primary Examination

The Primary Examination started 2 April 2014, and the participation rate as of 30 June 2015 is 44.7% (169,455 of 378,778) from 59 municipalities (25 municipalities in FY 2014, and 34 in FY 2015). (See Appendix 1 and 2.)

The results have been returned to 90.7% (153,677) of the participants. (See Appendix 3.)

Those with A1 or A2 test results were 152,454 (99.2%), B were 1,223 (0.8%), and C was 0.

Table 1. Screening test coverage as of 30 June 2015

	Target 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 2014	216,779	149,065 (68.8)	8,570	147,820 ( 99.2)	61,596 (41.7)	85,051 (57.5)	1,173 (0.8)	0 (0.0)
FY 2015	161,999	20,390 (12.6)	19	5,857 ( 28.7)	2,288 (39.1)	3,519 (60.1)	50 (0.9)	0 (0.0)
Total	378,778	169,455 (44.7)	8,589	153,677 ( 90.7)	63,884 (41.6)	88,570 (57.6)	1,223 (0.8)	0 (0.0)

Table 2. Number and proportion of children with nodules/cysts as of 30 June 2015

	Number of confirmed screening results a	Number and proportions 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 2014	147,820	1,169 (0.8)	911 (0.6)	2 (0.0)	85,430 (57.8)
FY 2015	5,857	50 (0.9)	37 (0.6)	0 (0.0)	3,534 (60.3)
Total	153,677	1,219 (0.8)	948 (0.6)	2 (0.0)	88,964 (57.9)

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

Because some duplicate records were found, numbers may vary slightly from previous reports.

## 2.1-2 Participation rates by age group

Participation rate of age group 18-21 in target municipalities for FY 2014 was 22.3%, the lowest among other age groups.

Table 3. Participation rates in target municipalities for FY 2014 by age group

As of 30 June 2015

		Total	Age group (years)			
			2-7	8-12	13-17	18-21
FY 2014 target municipalities	Target population (a)	216,779	56,385	53,375	57,782	49,237
	Participants (b)	149,065	41,757	48,266	48,060	10,982
	Proportion (%) (b/a)	68.8	74.1	90.4	83.2	22.3

Participation rate for FY 2015 is not yet tabulated in the table.

Ages are as of 1 April 2014.

## 2.1-3 Comparison with the Preliminary Baseline Screening (Initial Screening)

Among 152,454 participants who were diagnosed as A1 or A2, 142,399 (93.4%) had A1 or A2 results from the Preliminary Baseline Screening (Initial Screening).

Among 1,223 participants who were diagnosed as B, 823 (67.3%) had A1 or A2 results from the Preliminary Baseline Screening (Initial Screening).

Table 4. Changes in the results of Preliminary Baseline Screening and Full-scale Thyroid Screening as of 30 June 2015

			Number of confirmed test results of Full-scale Thyroid Screening Program (%) a	Results of the Preliminary Baseline Screening				
				A		B d d/a (%)	C e e/a (%)	Non-participants f f/a (%)
				A1 b b/a (%)	A2 c c/a (%)			
Results of the Full-scale Thyroid Screening	A	A1	63,884 (100.0)	51,823 ( 81.1)	5,719 ( 9.0)	51 ( 0.1)	0 ( 0.0)	6,291 ( 9.8)
		A2	88,570 (100.0)	28,168 ( 31.8)	56,689 ( 64.0)	234 ( 0.3)	0 ( 0.0)	3,479 ( 3.9)
	B		1,223 (100.0)	270 ( 22.1)	553 ( 45.2)	358 ( 29.3)	0 ( 0.0)	42 ( 3.4)
	C		0 (0.0)	0 ( 0.0)	0 ( 0.0)	0 ( 0.0)	0 ( 0.0)	0 ( 0.0)
	Total		153,677 (100.0)	80,261 ( 52.2)	62,961 ( 41.0)	643 ( 0.4)	0 ( 0.0)	9,812 ( 6.4)

## 2.2 Confirmatory Examination

### 2.2-1 Progress Report

The number of those who required further testing (started in June 2014) is 1,223, of whom 767 (62.7%) underwent confirmatory testing. Among them, 669 (87.2%) have completed the tests. (See Appendix 4.)

Of 669 participants, 190 (28 with A1 result and 162 with A2 result from Table 5) were found to be back within the range of A1 and A2, and were advised to take their next regularly scheduled examination (28.4%).

Those who require 6- or 12-month follow-up provided by health insurance were 479 (71.6%).

Table 5. Confirmatory testing coverage and results as of 30 June 2015

	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 2014	1,173	752 (64.1)	659 ( 87.6)	28 ( 4.2)	161 (24.4)	470 (71.3)	87 ( 18.5)
FY 2015	50	15 (30.0)	10 ( 66.7)	0 ( 0.0)	1 (10.0)	9 (90.0)	1 ( 11.1)
Total	1,223	767 (62.7)	669 ( 87.2)	28 ( 4.2)	162 (24.2)	479 (71.6)	88 ( 18.4)

Those confirmed within the range of A1 and A2 (including those with other thyroid conditions) were advised to take their next regularly scheduled examination.

Those who require 6- or 12-month follow-up provided by health insurance and those beyond the specified level of A2 were categorized as “Follow-up advised.”

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

Among those who underwent FNAC, 25 had nodules classified as suspicious or malignant.

Eleven of them were male, and 14 were female. Age at the time of the confirmatory testing ranged from 10 to 22 years (mean age:  $17.0 \pm 3.2$  years). The minimum and maximum tumor size was 5.3-17.4 mm in diameter. Mean tumor diameter was  $9.4 \pm 3.4$  mm.

Results from the Preliminary Baseline Screening show that 10 of the 25 participants were categorized as A1, 13 as A2, and 2 as B.

Table 6. Target municipalities in FY 2014

Suspicious or malignant	25 *
Male to female ratio	11:14
Mean age (SD, min-max)	17.0 (3.2, 10-22) 13.2 (3.2, 6-18) at the time of the disaster
Mean tumor size	9.4 mm (3.4 mm, 5.3-17.4 mm)

\* See Appendix 6 for details.

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

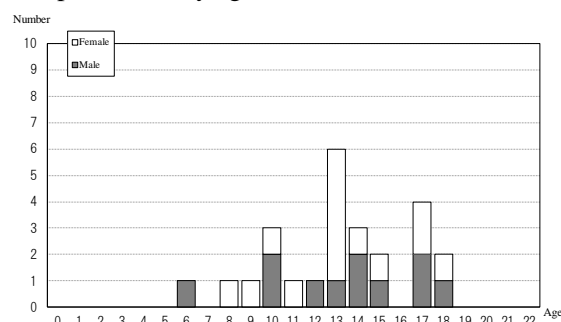


Fig.3 Age as of 11 March 2011

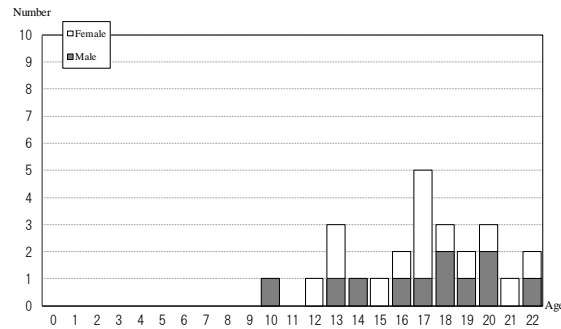


Fig. 4 Age as the date of confirmatory examination

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

Fourteen (56.0%) of the 25 people participated in the Basic Survey (radiation dose estimates), and received the results. Among those, 4 had estimated radiation exposure dose below 1 mSv, and the highest effective dose documented was 2.1 mSv.

Table 7. Number of suspicious or malignant cases by age and sex

As of 30 June 2015

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	1	0	0	2	1	0	2	2
1-1.9	0	0	0	1	2	2	1	2	3	5
2-4.9	0	0	1	0	0	0	1	0	2	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	2	1	2	4	3	2	7	7

Estimates are based on effective external radiation doses.

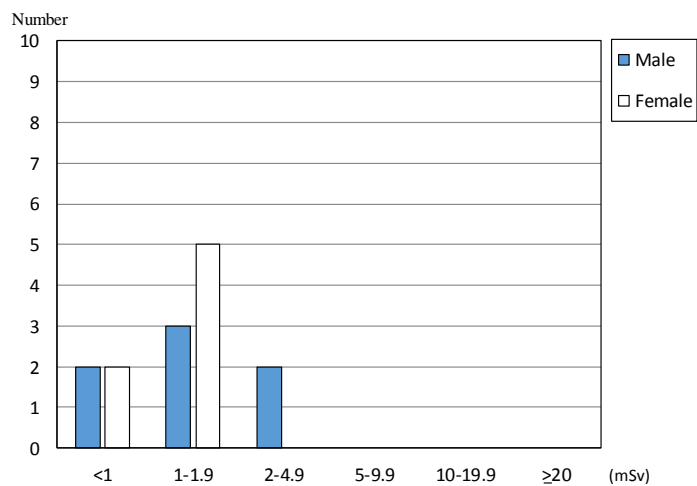


Fig. 5 Effective dose of the respondents

## 2.2-5 Blood and urinary iodine test results as of 30 June 2015

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	2.13-4.07 7)	0.340-3.880	≤32.7	<28.0	<16.0
25 suspicious or malignant	1.2 ± 0.2 (4.0%)	3.5 ± 0.4 (0.0%)	1.7 ± 1.0 (12.0%)	28.1 ± 39.0 (20.0%)	— (24.0%)	— (20.0%)
Other 642	1.2 ± 0.2 (7.3%)	3.6 ± 0.6 (6.4%)	1.4 ± 0.9 (9.5%)	23.9 ± 43.0 (14.3%)	— (8.7%)	— (8.1%)

Table 9. Urinary iodine (μg/day)

	Minimum	25th percentile	Median	75th percentile	Maximum
25 suspicious or malignant	60	109.5	190	437.5	1,370
Other 639	33	117	185	356	11,800

- 1) FT4: Free Thyroxine; higher among patients with thyrotoxicosis (representative disease: Graves' disease) and lower with hypothyroidism (representative disease: Hashimoto's thyroiditis).
- 2) FT3: Free Triiodothyronine; higher among patients with thyrotoxicosis (representative disease: Graves' disease) and lower with hypothyroidism (representative disease: 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 thyroid cancer 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 range differs according to age.

## 2.2-6 Confirmatory test results by municipality as of 30 June 2015

The proportion of suspicious or malignant diagnoses was 0.02% in FY 2014 target municipalities (13 municipalities in the nationally designated evacuation zones and 12 towns of the Kempoku area), 0.00% in FY 2015 target municipalities (34 towns of Iwaki, the Kennan and Aizu areas).

Table 10.

Confirmatory test results in FY 2014

	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 (%)
Kawamata	1,692	20	1.2	17	0	0.00
Namie	2,106	27	1.3	18	2	0.09
Iitate	722	12	1.7	10	0	0.00
Minami-soma	8,235	72	0.9	54	2	0.02
Date	8,869	82	0.9	74	6	0.07
Tamura	4,699	48	1.0	37	2	0.04
Hirono	521	7	1.3	7	0	0.00
Naraha	759	4	0.5	3	0	0.00
Tomioka	1,486	18	1.2	12	0	0.00
Kawauchi	182	1	0.5	0	0	0.00
Okuma	1,367	10	0.7	8	1	0.07
Futaba	514	2	0.4	0	0	0.00
Katsurao	133	2	1.5	2	0	0.00
Fukushima	41,048	322	0.8	265	8	0.02
Nihonmatsu	7,624	53	0.7	42	1	0.01
Motomiya	4,663	30	0.6	23	1	0.02
Otama	1,232	4	0.3	4	0	0.00
Koriyama	44,540	328	0.7	128	1	0.00
Kori	1,556	14	0.9	7	1	0.06
Kunimi	1,188	8	0.7	6	0	0.00
Tenei	743	8	1.1	0	0	0.00
Shirakawa	8,994	54	0.6	13	0	0.00
Nishigo	2,984	23	0.8	10	0	0.00
Izumizaki	928	1	0.1	1	0	0.00
Miharu	2,280	23	1.0	11	0	0.00
Subtotal	149,065	1,173	0.8	752	25	0.02

Confirmatory test results by municipality in FY 2015

	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 (%)
Iwaki	4,080	2	0.0	1	0	0.00
Sukagawa	7,679	20	0.3	0	0	0.00
Soma	3,483	2	0.1	2	0	0.00
Kagamiishi	1,556	4	0.3	1	0	0.00
Shinchi	785	0	0.0	0	0	0.00
Nakajima	97	2	2.1	0	0	0.00
Yabuki	275	5	1.8	2	0	0.00
Ishikawa	132	1	0.8	1	0	0.00
Yamatsuri	34	0	0.0	0	0	0.00
Asakawa	83	3	3.6	2	0	0.00
Hirata	68	0	0.0	0	0	0.00
Tanagura	135	2	1.5	1	0	0.00
Hanawa	79	2	2.5	1	0	0.00
Samegawa	20	0	0.0	0	0	0.00
Ono	152	2	1.3	1	0	0.00
Tamakawa	86	0	0.0	0	0	0.00
Furudono	31	0	0.0	0	0	0.00
Hinoemata	4	0	0.0	0	0	0.00
Minami-aizu	450	1	0.2	0	0	0.00
Kaneyama	2	0	0.0	0	0	0.00
Showa	1	0	0.0	0	0	0.00
Mishima	0	0	0.0	0	0	0.00
Shimogo	13	0	0.0	0	0	0.00
Kitakata	46	0	0.0	0	0	0.00
Nishiaizu	3	0	0.0	0	0	0.00
Tadami	155	0	0.0	0	0	0.00
Inawashiro	605	3	0.5	3	0	0.00
Bandai	86	0	0.0	0	0	0.00
Kitashiobara	4	0	0.0	0	0	0.00
Aizumisato	15	0	0.0	0	0	0.00
Aizubange	19	0	0.0	0	0	0.00
Yanaizu	43	0	0.0	0	0	0.00
Aizuwakamatsu	164	1	0.6	0	0	0.00
Yugawa	5	0	0.0	0	0	0.00
Subtotal	20,390	50	0.2	15	0	0.00

Total	169,455	1,223	0.7	767	25	0.01
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## **2.3 Mental Health Care**

### **2.3-1 For Participants of Confirmatory Examination**

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

Since the full-scale thyroid screening started, 521 participants (188 male and 333 female) have received support as of 30 June 2015. The number of consultations given to them was 885 in total. Of these, 527 (59.5%) received the support services during the first time of the examination, 338 (38.2%) at the second time and after including 70 (7.9%) when undergoing FNAC, and 20 (2.3%) when giving informed consent.

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

### **2.3-2 Briefing on the result of primary examination**

Since July 2015, we offer explanations to participants face to face at the primary examination public venue. After the examination, the briefing is offered by physicians using an online video link at consultation booths on request. When the booth could not be set up at the venues, phone support or briefing sessions are offered at schools as an alternative.

## **2.4 Schedule of Full-scale Thyroid Screening (from the 3<sup>rd</sup> time onward)**

As an existing framework, the residents undergo thyroid examination every 2 years until age 20 in a sequence guided by their municipal address. After that, they take the examination every 5 years regardless of their addresses so that it is easier for them to understand when to undergo the screening. We will endeavor to make sure they do not let more than 5 years pass between the exams through age 25. (See Appendix 7 for details.)



## Appendix 1

### Thyroid Ultrasound Examination (TUE) coverage by municipality

As of 30 June 2015

	Target Population	Participants		Proportion (%)	Number and proportion of participants by age group				Participants living outside Fukushima	Proportion (%)
	a	b	Screened outside Fukushima <sup>3)</sup>	b/a	2-7	8-12	13-17	18-23	c	c/b
Screening coverage by municipality in FY 2014										
Kawamata	2,460	1,692	38	68.8	404 <sup>1)</sup>	571	587	130 <sup>2)</sup>	54	3.2
					23.9	33.7	34.7	7.7		
Namie	3,771	2,106	565	55.8	556	633	650	267	626	29.7
					26.4	30.1	30.9	12.7		
Iitate	1,123	722	32	64.3	176	269	234	43	38	5.3
					24.4	37.3	32.4	6.0		
Minami-soma	12,982	8,235	1,505	63.4	2,141	2,761	2,514	819	1,720	20.9
					26.0	33.5	30.5	9.9		
Date	11,742	8,869	278	75.5	2,216	2,724	2,958	971	269	3.0
					25.0	30.7	33.4	10.9		
Tamura	7,321	4,699	125	64.2	1,059	1,622	1,634	384	114	2.4
					22.5	34.5	34.8	8.2		
Hirono	1,108	521	91	47.0	150	174	138	59	82	15.7
					28.8	33.4	26.5	11.3		
Naraha	1,489	759	113	51.0	204	244	222	89	119	15.7
					26.9	32.1	29.2	11.7		
Tomioka	3,101	1,486	339	47.9	376	431	475	204	379	25.5
					25.3	29.0	32.0	13.7		
Kawauchi	360	182	15	50.6	44	69	55	14	17	9.3
					24.2	37.9	30.2	7.7		
Okuma	2,499	1,367	316	54.7	435	444	358	130	353	25.8
					31.8	32.5	26.2	9.5		
Futaba	1,258	514	199	40.9	158	173	131	52	211	41.1
					30.7	33.7	25.5	10.1		
Katsurao	240	133	13	55.4	29	53	41	10	12	9.0
					21.8	39.8	30.8	7.5		
Fukushima	55,732	41,048	1,999	73.7	10,407	12,566	13,146	4,929	2,419	5.9
					25.4	30.6	32.0	12.0		
Nihonmatsu	10,596	7,624	237	72.0	1,843	2,456	2,644	681	230	3.0
					24.2	32.2	34.7	8.9		
Motomiya	6,342	4,663	143	73.5	1,183	1,497	1,537	446	144	3.1
					25.4	32.1	33.0	9.6		
Otama	1,684	1,232	20	73.2	344	398	382	108	24	1.9
					27.9	32.3	31.0	8.8		
Koriyama	66,747	44,540	2,066	66.7	10,133	15,001	14,748	4,658	2,509	5.6
					22.8	33.7	33.1	10.5		
Kori	2,136	1,556	42	72.8	364	501	547	144	33	2.1
					23.4	32.2	35.2	9.3		
Kunimi	1,624	1,188	29	73.2	221	379	442	146	28	2.4
					18.6	31.9	37.2	12.3		
Tenei	1,101	743	19	67.5	203	259	230	51	18	2.4
					27.3	34.9	31.0	6.9		
Shirakawa	12,670	8,994	236	71.0	2,424	2,873	2,897	800	256	2.8
					27.0	31.9	32.2	8.9		
Nishigo	4,173	2,984	95	71.5	852	986	884	262	99	3.3
					28.6	33.0	29.6	8.8		
Izumizaki	1,337	928	17	69.4	252	312	279	85	12	1.3
					27.2	33.6	30.1	9.2		
Miharu	3,183	2,280	38	71.6	511	671	793	305	38	1.7
					22.4	29.4	34.8	13.4		
Subtotal	216,779	149,065	8,570	68.8	36,685	48,067	48,526	15,787	9,804	6.6
					24.6	32.2	32.6	10.6		

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.

Because some duplicate records were found, numbers may vary slightly from previous reports.

Thyroid Ultrasound Examination (TUE) coverage by municipality

As of 30 June 2015

	Target Population	Participants		Proportion (%)	Number and proportion of participants by age group				Participants living outside Fukushima	Proportion (%)
		Screened outside Fukushima 3)	b/a							
					2-7	8-12	13-17	18-23		
	a	b							c	c/b
Screening coverage by municipality in FY 2015										
Iwaki	64,237	4,080	3	6.4	1,019	2,720	317	24	10	0.2
					25.0	66.7	7.8	0.6		
Sukagawa	15,874	7,679	0	48.4	1,268	3,524	2,719	168	5	0.1
					16.5	45.9	35.4	2.2		
Soma	7,083	3,483	0	49.2	548	1,412	1,460	63	3	0.1
					15.7	40.5	41.9	1.8		
Kagamiishi	2,704	1,556	0	57.5	463	607	452	34	3	0.2
					29.8	39.0	29.0	2.2		
Shinchi	1,475	785	0	53.2	89	326	358	12	3	0.4
					11.3	41.5	45.6	1.5		
Nakajima	1,079	97	0	9.0	5	8	68	16	0	0.0
					5.2	8.2	70.1	16.5		
Yabuki	3,277	275	0	8.4	24	25	183	43	1	0.4
					8.7	9.1	66.5	15.6		
Ishikawa	2,848	132	0	4.6	11	11	83	27	0	0.0
					8.3	8.3	62.9	20.5		
Yamatsuri	1,010	34	0	3.4	6	3	20	5	0	0.0
					17.6	8.8	58.8	14.7		
Asakawa	1,340	83	0	6.2	2	8	55	18	1	1.2
					2.4	9.6	66.3	21.7		
Hirata	1,210	68	0	5.6	3	18	39	8	0	0.0
					4.4	26.5	57.4	11.8		
Tanagura	2,989	135	1	4.5	17	17	74	27	4	3.0
					12.6	12.6	54.8	20.0		
Hanawa	1,664	79	0	4.7	2	8	54	15	0	0.0
					2.5	10.1	68.4	19.0		
Samegawa	694	20	0	2.9	1	1	16	2	0	0.0
					5.0	5.0	80.0	10.0		
Ono	1,937	152	2	7.8	8	13	100	31	4	2.6
					5.3	8.6	65.8	20.4		
Tamakawa	1,333	86	0	6.5	8	17	50	11	0	0.0
					9.3	19.8	58.1	12.8		
Furudono	1,040	31	0	3.0	5	5	18	3	0	0.0
					16.1	16.1	58.1	9.7		
Hinoemata	110	4	0	3.6	0	1	3	0	0	0.0
					0.0	25.0	75.0	0.0		
Minami-aizu	2,912	450	0	15.5	80	223	143	4	0	0.0
					17.8	49.6	31.8	0.9		
Kaneyama	203	2	0	1.0	0	2	0	0	0	0.0
					0.0	100.0	0.0	0.0		
Showa	134	1	0	0.7	1	0	0	0	0	0.0
					100.0	0.0	0.0	0.0		
Mishima	195	0	0	0.0	0	0	0	0	0	0.0
					0.0	0.0	0.0	0.0		
Shimogo	1,010	13	0	1.3	1	5	6	1	0	0.0
					7.7	38.5	46.2	7.7		
Kitakata	8,911	46	3	0.5	9	22	7	8	2	4.3
					19.6	47.8	15.2	17.4		
Nishiaizu	1,019	3	0	0.3	0	0	2	1	0	0.0
					0.0	0.0	66.7	33.3		
Tadami	733	155	1	21.1	18	66	69	2	0	0.0
					11.6	42.6	44.5	1.3		
Inawashiro	2,754	605	2	22.0	139	362	88	16	6	1.0
					23.0	59.8	14.5	2.6		
Bandai	628	86	1	13.7	0	18	67	1	0	0.0
					0.0	20.9	77.9	1.2		
Kitashiobara	581	4	0	0.7	0	0	2	2	0	0.0
					0.0	0.0	50.0	50.0		
Aizumisato	3,658	15	1	0.4	3	2	6	4	1	6.7
					20.0	13.3	40.0	26.7		
Aizubange	3,081	19	1	0.6	3	9	2	5	1	5.3
					15.8	47.4	10.5	26.3		
Yanaizu	611	43	0	7.0	4	23	15	1	0	0.0
					9.3	53.5	34.9	2.3		
Aizuwakamatsu	22,989	164	4	0.7	31	56	64	13	4	2.4
					18.9	34.1	39.0	7.9		
Yugawa	676	5	0	0.7	0	1	4	0	0	0.0
					0.0	20.0	80.0	0.0		
Subtotal	161,999	20,390	19	12.6	3,768	9,513	6,544	565	48	0.2
					18.5	46.7	32.1	2.8		
Total	378,778	169,455	8,589	44.7	40,453	57,580	55,070	16,352	9,852	5.8
					23.9	34.0	32.5	9.6		

## Appendix 2

### Thyroid Ultrasound Examination (TUE) coverage by prefecture

As of 31 May 2015

Prefecture	Number of test venues	Participants*	Prefecture	Number of test venues	Participants*	Prefecture	Number of test venues	Participants*
Hokkaido	5	<b>225</b>	Fukui	1	<b>8</b>	Hiroshima	1	<b>19</b>
Aomori	1	<b>103</b>	Yamanashi	2	<b>89</b>	Yamaguchi	1	<b>11</b>
Iwate	3	<b>229</b>	Nagano	2	<b>85</b>	Tokushima	1	<b>4</b>
Miyagi	2	<b>1,944</b>	Gifu	1	<b>23</b>	Kagawa	1	<b>16</b>
Akita	1	<b>150</b>	Shizuoka	2	<b>82</b>	Ehime	1	<b>7</b>
Yamagata	3	<b>614</b>	Aichi	3	<b>126</b>	Kochi	1	<b>8</b>
Ibaraki	4	<b>453</b>	Mie	1	<b>18</b>	Fukuoka	3	<b>41</b>
Tochigi	6	<b>533</b>	Shiga	1	<b>18</b>	Saga	1	<b>13</b>
Gunma	2	<b>162</b>	Kyoto	3	<b>46</b>	Nagasaki	2	<b>21</b>
Saitama	2	<b>236</b>	Osaka	6	<b>137</b>	Kumamoto	1	<b>9</b>
Chiba	3	<b>334</b>	Hyogo	1	<b>86</b>	Oita	1	<b>20</b>
Tokyo	12	<b>1,310</b>	Nara	1	<b>19</b>	Miyazaki	1	<b>21</b>
Kanagawa	4	<b>554</b>	Wakayama	1	<b>6</b>	Kagoshima	1	<b>17</b>
Niigata	1	<b>658</b>	Tottori	1	<b>7</b>	Okinawa	1	<b>34</b>
Toyama	1	<b>12</b>	Shimane	1	<b>3</b>			
Ishikawa	1	<b>42</b>	Okayama	3	<b>36</b>			
						<b>Total</b>	<b>98</b>	<b>8,589</b>

\* Those who underwent testing at venues outside Fukushima carried out either by Fukushima Medical University staff (once in Niigata, Kanagawa, and Yamagata respectively) or by local specialists.

## Appendix 3

Results of primary examination by municipality

As of 30 June 2015

	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 2014

Kawamata	1,692	1,690	750	920	20	0	19	12	1	928
		99.9	44.4	54.4	1.2	0.0	1.1	0.7	0.1	54.9
Nemie	2,106	2,075	860	1,188	27	0	27	14	0	1,202
		98.5	41.4	57.3	1.3	0.0	1.3	0.7	0.0	57.9
Iitate	722	720	342	366	12	0	12	3	0	370
		99.7	47.5	50.8	1.7	0.0	1.7	0.4	0.0	51.4
Minami-soma	8,235	8,023	3,440	4,511	72	0	72	56	0	4,533
		97.4	42.9	56.2	0.9	0.0	0.9	0.7	0.0	56.5
Date	8,869	8,862	3,840	4,940	82	0	82	66	0	4,963
		99.9	43.3	55.7	0.9	0.0	0.9	0.7	0.0	56.0
Tamura	4,699	4,688	1,931	2,709	48	0	48	25	0	2,728
		99.8	41.2	57.8	1.0	0.0	1.0	0.5	0.0	58.2
Hirono	521	497	215	275	7	0	7	6	0	273
		95.4	43.3	55.3	1.4	0.0	1.4	1.2	0.0	54.9
Naraha	759	732	310	418	4	0	4	6	0	418
		96.4	42.3	57.1	0.5	0.0	0.5	0.8	0.0	57.1
Tomioka	1,486	1,447	603	826	18	0	18	12	0	832
		97.4	41.7	57.1	1.2	0.0	1.2	0.8	0.0	57.5
Kawauchi	182	182	59	122	1	0	1	1	0	123
		100.0	32.4	67.0	0.5	0.0	0.5	0.5	0.0	67.6
Okuma	1,367	1,336	578	748	10	0	10	11	0	748
		97.7	43.3	56.0	0.7	0.0	0.7	0.8	0.0	56.0
Futaba	514	506	220	284	2	0	2	4	0	284
		98.4	43.5	56.1	0.4	0.0	0.4	0.8	0.0	56.1
Katsurao	133	133	68	63	2	0	2	1	0	63
		100.0	51.1	47.4	1.5	0.0	1.5	0.8	0.0	47.4
Fukushima	41,048	40,992	17,299	23,371	322	0	320	246	0	23,489
		99.9	42.2	57.0	0.8	0.0	0.8	0.6	0.0	57.3
Nihonmatsu	7,624	7,615	3,309	4,253	53	0	53	53	0	4,259
		99.9	43.5	55.9	0.7	0.0	0.7	0.7	0.0	55.9
Motomiya	4,663	4,631	2,016	2,585	30	0	30	15	0	2,600
		99.3	43.5	55.8	0.6	0.0	0.6	0.3	0.0	56.1
Otama	1,232	1,228	551	673	4	0	4	8	0	672
		99.7	44.9	54.8	0.3	0.0	0.3	0.7	0.0	54.7
Koriyama	44,540	43,904	17,453	26,123	328	0	328	255	0	26,229
		98.6	39.8	59.5	0.7	0.0	0.7	0.6	0.0	59.7
Kori	1,556	1,553	664	875	14	0	14	8	0	881
		99.8	42.8	56.3	0.9	0.0	0.9	0.5	0.0	56.7
Kunimi	1,188	1,188	475	705	8	0	7	10	1	705
		100.0	40.0	59.3	0.7	0.0	0.6	0.8	0.1	59.3
Tenei	743	711	296	407	8	0	8	9	0	412
		95.7	41.6	57.2	1.1	0.0	1.1	1.3	0.0	57.9
Shirakawa	8,994	8,942	3,846	5,042	54	0	54	45	0	5,057
		99.4	43.0	56.4	0.6	0.0	0.6	0.5	0.0	56.6
Nishigo	2,984	2,980	1,269	1,688	23	0	23	23	0	1,695
		99.9	42.6	56.6	0.8	0.0	0.8	0.8	0.0	56.9
Izumizaki	928	916	337	578	1	0	1	10	0	576
		98.7	36.8	63.1	0.1	0.0	0.1	1.1	0.0	62.9
Miharu	2,280	2,269	865	1,381	23	0	23	12	0	1,390
		99.5	38.1	60.9	1.0	0.0	1.0	0.5	0.0	61.3
Subtotal	149,065	147,820	61,596	85,051	1,173	0	1,169	911	2	85,430
		99.2	41.7	57.5	0.8	0.0	0.8	0.6	0.0	57.8

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

	Participants a	Confirmed results b Proportion (%) b/a (%)	Number by test results				Nodules		Cysts	
			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 2015										
Iwaki	4,080	316	128	186	2	0	2	2	0	186
		7.7	40.5	58.9	0.6	0.0	0.6	0.6	0.0	58.9
Sukagawa	7,679	3,286	1,278	1,988	20	0	20	20	0	1,995
		42.8	38.9	60.5	0.6	0.0	0.6	0.6	0.0	60.7
Soma	3,483	139	50	87	2	0	2	0	0	88
		4.0	36.0	62.6	1.4	0.0	1.4	0.0	0.0	63.3
Kagamiishi	1,556	762	304	454	4	0	4	3	0	454
		49.0	39.9	59.6	0.5	0.0	0.5	0.4	0.0	59.3
Shinchi	785	13	5	8	0	0	0	0	0	8
		1.7	38.5	61.5	0.0	0.0	0.0	0.0	0.0	61.5
Nakajima	97	86	33	51	2	0	2	2	0	50
		88.7	38.4	59.3	2.3	0.0	2.3	2.3	0.0	58.1
Yabuki	275	193	75	113	5	0	5	0	0	116
		70.2	38.9	58.5	2.6	0.0	2.6	0.0	0.0	60.1
Ishikawa	132	116	46	69	1	0	1	0	0	69
		87.9	39.7	59.5	0.9	0.0	0.9	0.0	0.0	59.5
Yamatsuri	34	34	15	19	0	0	0	0	0	19
		100.0	44.1	55.9	0.0	0.0	0.0	0.0	0.0	55.9
Asakawa	83	82	32	47	3	0	3	0	0	50
		98.8	39.0	57.3	3.7	0.0	3.7	0.0	0.0	61.0
Hirata	68	59	20	39	0	0	0	0	0	39
		86.8	33.9	66.1	0.0	0.0	0.0	0.0	0.0	66.1
Tanagura	135	131	53	76	2	0	2	0	0	78
		97.0	40.5	58.0	1.5	0.0	1.5	0.0	0.0	59.5
Hanawa	79	74	30	42	2	0	2	2	0	43
		93.7	40.5	56.8	2.7	0.0	2.7	2.7	0.0	58.1
Samegawa	20	20	8	12	0	0	0	1	0	11
		100.0	40.0	60.0	0.0	0.0	0.0	5.0	0.0	55.0
Ono	152	147	50	95	2	0	2	2	0	96
		96.7	34.0	64.6	1.4	0.0	1.4	1.4	0.0	65.3
Tamakawa	86	50	19	31	0	0	0	0	0	31
		58.1	38.0	62.0	0.0	0.0	0.0	0.0	0.0	62.0
Furudono	31	25	9	16	0	0	0	1	0	15
		80.6	36.0	64.0	0.0	0.0	0.0	4.0	0.0	60.0
Hinoemata	4	3	1	2	0	0	0	0	0	2
		75.0	33.3	66.7	0.0	0.0	0.0	0.0	0.0	66.7
Minami-aizu	450	27	7	19	1	0	1	0	0	19
		6.0	25.9	70.4	3.7	0.0	3.7	0.0	0.0	70.4
Kaneyama	2	2	1	1	0	0	0	0	0	1
		100.0	50.0	50.0	0.0	0.0	0.0	0.0	0.0	50.0
Showa	1	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
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	13	8	3	5	0	0	0	0	0	5
		61.5	37.5	62.5	0.0	0.0	0.0	0.0	0.0	62.5
Kitakata	46	33	14	19	0	0	0	0	0	19
		71.7	42.4	57.6	0.0	0.0	0.0	0.0	0.0	57.6
Nishiaizu	3	3	0	3	0	0	0	0	0	3
		100.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	100.0
Tadami	155	8	3	5	0	0	0	0	0	5
		5.2	37.5	62.5	0.0	0.0	0.0	0.0	0.0	62.5
Inawashiro	605	64	27	34	3	0	3	2	0	35
		10.6	42.2	53.1	4.7	0.0	4.7	3.1	0.0	54.7
Bandai	86	1	0	1	0	0	0	0	0	1
		1.2	0.0	100.0	0.0	0.0	0.0	0.0	0.0	100.0
Kitashiobara	4	4	1	3	0	0	0	0	0	3
		100.0	25.0	75.0	0.0	0.0	0.0	0.0	0.0	75.0
Aizumisato	15	13	5	8	0	0	0	0	0	8
		86.7	38.5	61.5	0.0	0.0	0.0	0.0	0.0	61.5
Aizubange	19	15	8	7	0	0	0	0	0	7
		78.9	53.3	46.7	0.0	0.0	0.0	0.0	0.0	46.7
Yanaizu	43	2	2	0	0	0	0	0	0	0
		4.7	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Aizuwakamatsu	164	137	61	75	1	0	1	2	0	74
		83.5	44.5	54.7	0.7	0.0	0.7	1.5	0.0	54.0
Yugawa	5	4	0	4	0	0	0	0	0	4
		80.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	100.0
Subtotal	20,390	5,857	2,288	3,519	50	0	50	37	0	3,534
		28.7	39.1	60.1	0.9	0.0	0.9	0.6	0.0	60.3
Total	169,455	153,677	63,884	88,570	1,223	0	1,219	948	2	88,964
		90.7	41.6	57.6	0.8	0.0	0.8	0.6	0.0	57.9

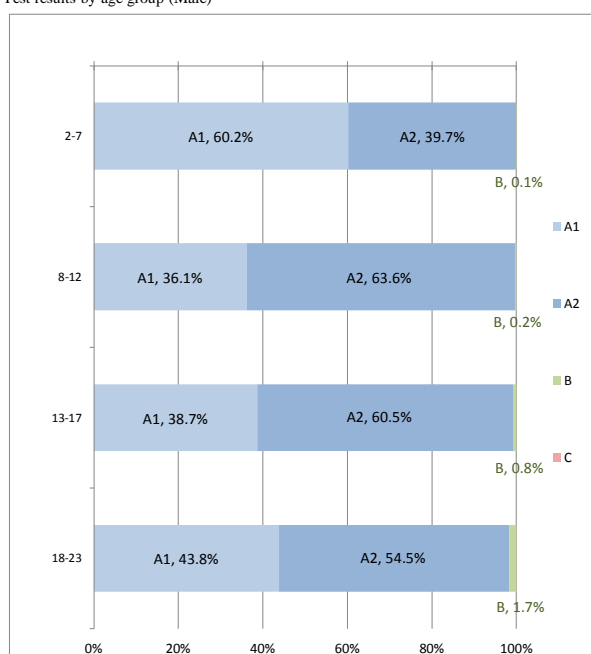
## Appendix 4

### 1. Thyroid Ultrasound Examination results by age and sex

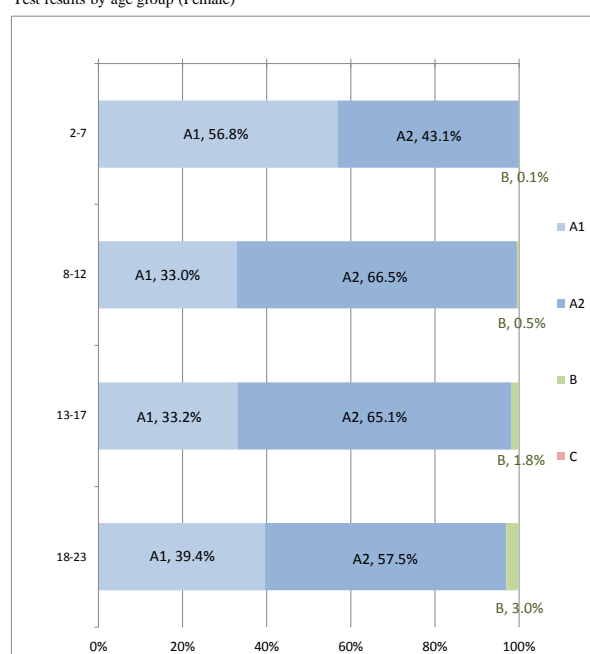
As of 30 June 2015

Ages	A						B			C			Total		
	A1			A2											
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
2-7	11,538	10,223	21,761	7,616	7,753	15,369	11	9	20	0	0	0	19,165	17,985	37,150
8-12	9,225	8,020	17,245	16,235	16,182	32,417	61	115	176	0	0	0	25,521	24,317	49,838
13-17	9,953	8,248	18,201	15,572	16,169	31,741	205	435	640	0	0	0	25,730	24,852	50,582
18-23	3,256	3,421	6,677	4,052	4,991	9,043	126	261	387	0	0	0	7,434	8,673	16,107
Total	33,972	29,912	63,884	43,475	45,095	88,570	403	820	1,223	0	0	0	77,850	75,827	153,677

Test results by age group (Male)



Test results by age group (Female)



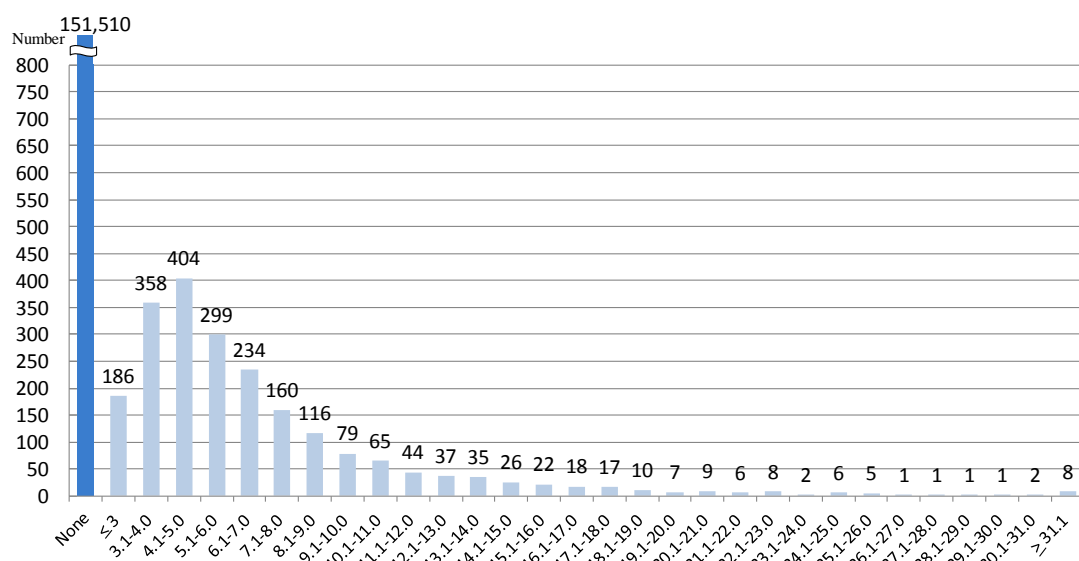
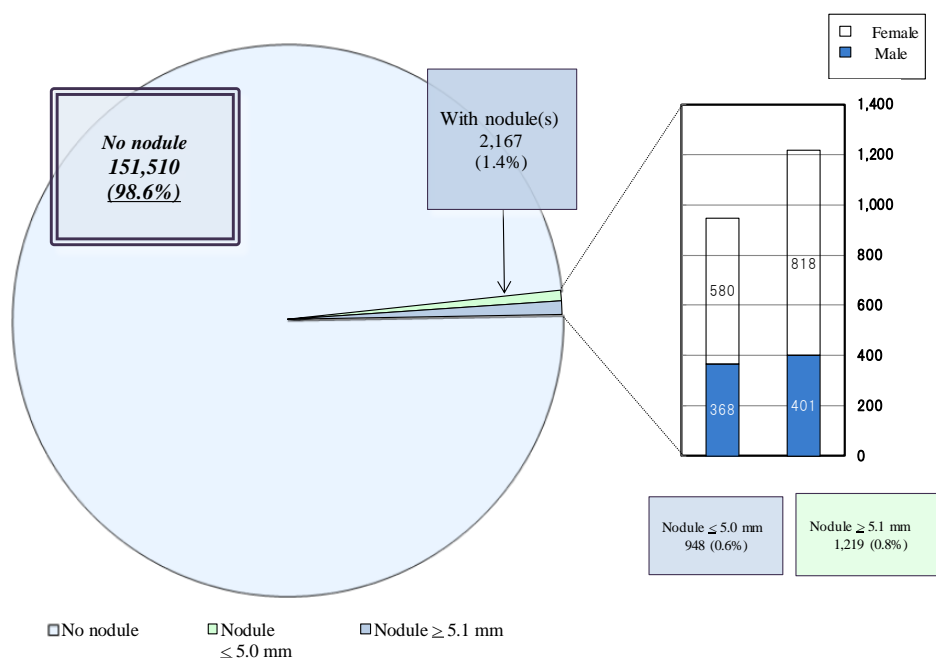
Percentages have been rounded and may not total to 100%.

Ages are at the time when the participants underwent the testing.

## 2. Nodule size

As of 30 June 2015

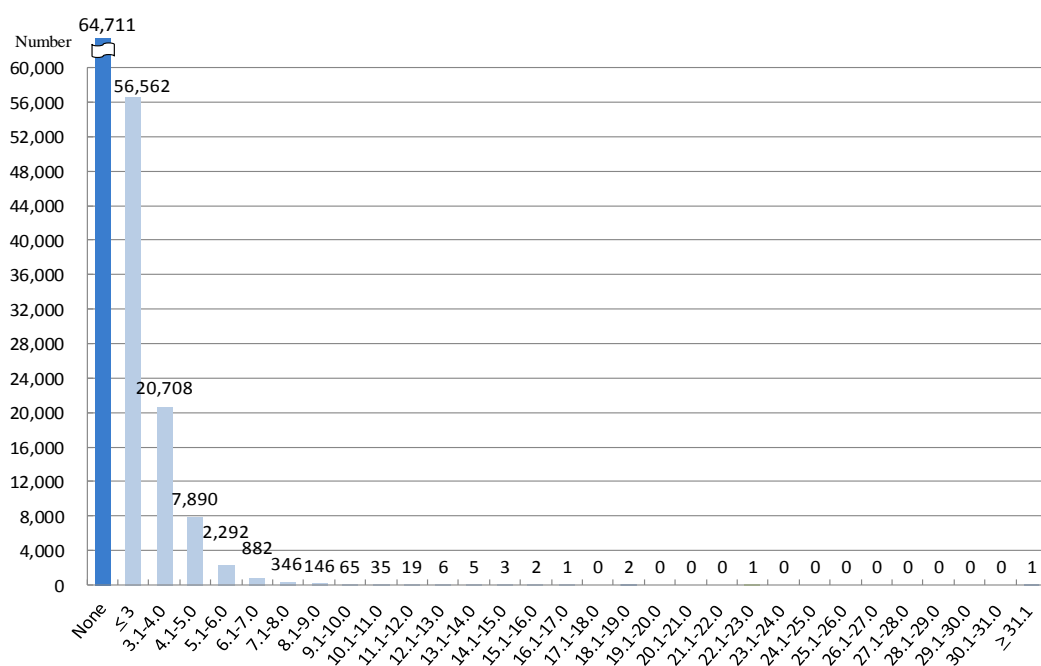
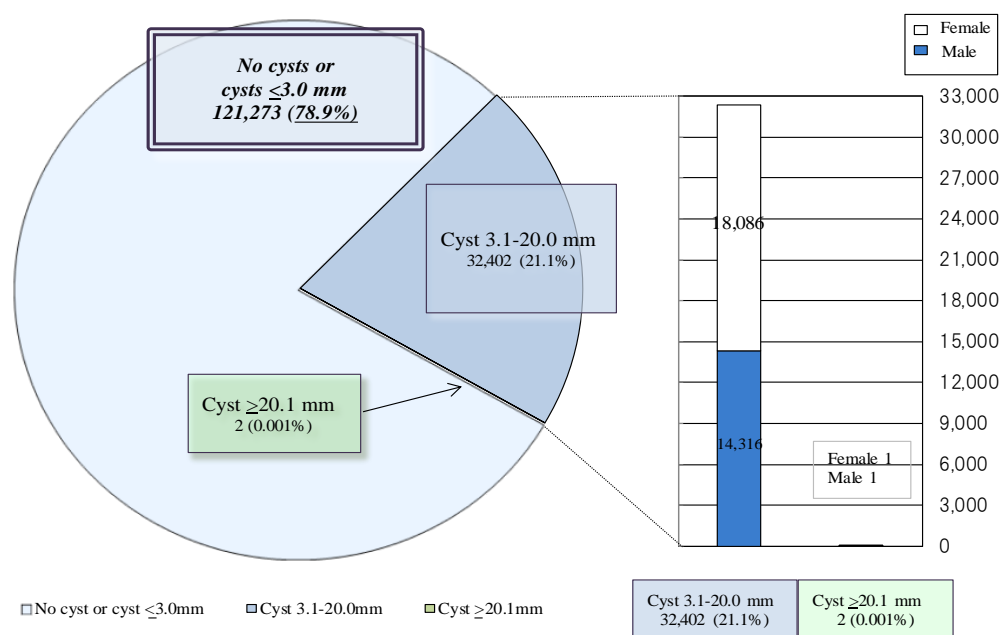
Nodule size	Total	Test result		Proportion
		Male	Female	
None	151,510	77,081	74,429	A1
≤ 3.0 mm	186	79	107	A2
3.1-5.0 mm	762	289	473	B
5.1-10.0 mm	888	293	595	
10.1-15.0 mm	207	74	133	
15.1-20.0 mm	74	21	53	
20.1-25.0 mm	31	7	24	
≥ 25.1 mm	19	6	13	
Total	153,677	77,850	75,827	



### 3. Cyst size

As of 30 June 2015

Cyst size	Total			Class	%
	Male	Female			
None	64,711	34,279	30,432	A1	78.9%
≤ 3.0 mm	56,562	29,254	27,308	A2	
3.1-5.0 mm	28,598	13,024	15,574		
5.1-10.0 mm	3,731	1,272	2,459		
10.1-15.0 mm	68	17	51		
15.1-20.0 mm	5	3	2		
20.1-25.0 mm	1	0	1	B	21.1%
≥ 25.1 mm	1	1	0		
Total	153,677	77,850	75,827		





## Appendix 5

Confirmatory test results by municipality

	Number of those screened	Participants who required confirmatory test	Number of those who underwent confirmatory test by age				
			Total	Ages 2-7	Ages 8-12	Ages 13-17	Ages 18-23
	a	b	c	d	e	f	g
		Proportion (%)	Proportion (%)	Proportion (%)	Proportion (%)	Proportion (%)	Proportion (%)

As of 30 June 2015

Total	Number of confirmed results			
	Next screening advised		Follow-up advised	
	A1 i	A2 j	k	Aspiration biopsy cytology l
Proportion (%)	Proportion (%)	Proportion (%)	Proportion (%)	Proportion (%)

Screening coverage by municipality in FY 2014

Kawamata	1,692	20	17	0	3	11	3	17	3	6	8	1	17	3
		1.2	85.0	0.0	17.6	64.7	17.6	100.0	17.6	35.3	47.1	12.5	100.0	17.6
Namie	2,106	27	18	0	2	8	8	17	0	2	15	3	94.4	0.0
		1.3	66.7	0.0	11.1	44.4	44.4	10	0.0	11.8	88.2	20.0	10	2
Iitate	722	12	10	0	2	6	2	100.0	20.0	30.0	50.0	20.0	100.0	20.0
		1.7	83.3	0.0	20.0	60.0	20.0	50	4	13	33	8	92.6	8.0
Minami-soma	8,235	72	54	2	9	25	18	70	0	26	44	8	94.6	0.0
		0.9	75.0	3.7	16.7	46.3	33.3	35	1	9	25	5	94.6	0.0
Date	8,869	82	74	1	17	38	18	94.6	0.0	37.1	62.9	18.2	35	1
		0.9	90.2	1.4	23.0	51.4	24.3	94.6	2.9	25.7	71.4	20.0	94.6	2.9
Tamura	4,699	48	37	1	3	26	7	7	0	3	4	0	7	0
		1.0	77.1	2.7	8.1	70.3	18.9	100.0	0.0	42.9	57.1	0.0	100.0	0.0
Hirono	521	7	7	0	1	3	3	3	0	0	3	0	3	0
		1.3	100.0	0.0	14.3	42.9	42.9	100.0	0.0	0.0	100.0	0.0	100.0	0.0
Naraha	759	4	3	0	0	0	3	11	0	3	8	1	11	0
		0.5	75.0	0.0	0.0	0.0	100.0	91.7	0.0	27.3	72.7	12.5	91.7	0.0
Tomioka	1,486	18	12	0	1	3	8	0	0	0	0	0	0	0
		1.2	66.7	0.0	8.3	25.0	66.7	0	0	0	0	0	0	0
Kawauchi	182	1	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		0.5	0.0	0.0	0.0	0.0	0.0	8	0	1	7	2	100.0	0.0
Okuma	1,367	10	8	0	0	5	3	0	0	0	0	0	0	0
		0.7	80.0	0.0	0.0	62.5	37.5	0	0	0	0	0	0	0
Futaba	514	2	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		0.4	0.0	0.0	0.0	0.0	0.0	1	0	1	0	0	50.0	0.0
Katsurao	133	2	2	0	2	0	0	255	12	49	194	44	255	12
		1.5	100.0	0.0	100.0	0.0	0.0	96.2	4.7	19.2	76.1	22.7	96.2	4.7
Fukushima	41,048	322	265	5	37	132	91	42	1	9	32	4	42	1
		0.8	82.3	1.9	14.0	49.8	34.3	100.0	2.4	21.4	76.2	12.5	100.0	2.4
Nihonmatsu	7,624	53	42	1	6	20	15	19	0	4	15	2	19	0
		0.7	79.2	2.4	14.3	47.6	35.7	82.6	0.0	21.1	78.9	13.3	82.6	0.0
Motomiya	4,663	30	23	0	1	13	9	4	0	2	2	0	4	0
		0.6	76.7	0.0	4.3	56.5	39.1	100.0	0.0	50.0	50.0	0.0	100.0	0.0
Otama	1,232	4	4	0	0	3	1	74	4	18	52	6	74	4
		0.3	100.0	0.0	0.0	75.0	25.0	57.8	5.4	24.3	70.3	11.5	57.8	5.4
Koriyama	44,540	328	128	0	17	77	34	7	0	2	5	1	7	0
		0.7	39.0	0.0	13.3	60.2	26.6	100.0	0.0	28.6	71.4	20.0	100.0	0.0
Kori	1,556	14	7	0	1	4	2	6	0	0	6	0	6	0
		0.9	50.0	0.0	14.3	57.1	28.6	100.0	0.0	0.0	100.0	0.0	100.0	0.0
Kunimi	1,188	8	6	1	1	0	4	0	0	0	0	0	0	0
		0.7	75.0	16.7	16.7	0.0	66.7	0	0	0	0	0	0	0
Tenei	743	8	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		1.1	0.0	0.0	0.0	0.0	0.0	9	0	5	4	0	9	0
Shirakawa	8,994	54	13	1	0	7	5	69.2	0.0	55.6	44.4	0.0	69.2	0.0
		0.6	24.1	7.7	0.0	53.8	38.5	6	0	3	3	1	6	0
Nishigo	2,984	23	10	0	1	3	6	60.0	0.0	50.0	50.0	33.3	60.0	0.0
		0.8	43.5	0.0	10.0	30.0	60.0	1	0	0	1	0	1	0
Izumizaki	928	1	1	0	0	1	0	100.0	0.0	0.0	100.0	0.0	100.0	0.0
		0.1	100.0	0.0	0.0	100.0	0.0	7	1	2	4	0	7	1
Miharu	2,280	23	11	0	0	9	2	63.6	14.3	28.6	57.1	0.0	63.6	14.3
		1.0	47.8	0.0	0.0	81.8	18.2	659	28	161	470	87	659	28
Subtotal	149,065	1,173	752	12	104	394	242	87.6	4.2	24.4	71.3	18.5	87.6	4.2
		0.8	64.1	1.6	13.8	52.4	32.2							

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

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

Confirmatory test results by municipality

As of 30 June 2015

	Number of those screened	Participants who required confirmatory test	Number of those who underwent confirmatory test by age					Number of confirmed results				
			Total	Ages 2-7	Ages 8-12	Ages 13-17	Ages 18-23	Total	Next screening advised		Follow-up advised	
									A1 i	A2 j	k	Aspiration biopsy cytology l
a	b	c	d	e	f	g	h	i	j	k	l	
Screening coverage by municipality in FY 2015												
Iwaki	4,080	2	1	0	1	0	0	0	0	0	0	
		0.0	50.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	
Sukagawa	7,679	20	0	0	0	0	0	0	0	0	0	
		0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Soma	3,483	2	2	0	0	2	0	2	0	1	0	
		0.1	100.0	0.0	0.0	100.0	0.0	100.0	0.0	50.0	0.0	
Kagamiishi	1,556	4	1	0	0	1	0	0	0	0	0	
		0.3	25.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	
Shinchi	785	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	0.0	
Nakajima	97	2	0	0	0	0	0	0	0	0	0	
		2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Yabuki	275	5	2	0	0	1	1	0	0	0	0	
		1.8	40.0	0.0	0.0	50.0	50.0	0.0	0.0	0.0	0.0	
Ishikawa	132	1	1	0	0	1	0	1	0	1	0	
		0.8	100.0	0.0	0.0	100.0	0.0	100.0	0.0	100.0	0.0	
Yamatsuri	34	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	0.0	
Asakawa	83	3	2	0	0	2	0	1	0	1	0	
		3.6	66.7	0.0	0.0	100.0	0.0	50.0	0.0	100.0	0.0	
Hirata	68	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	0.0	
Tanagura	135	2	1	0	0	1	0	1	0	1	0	
		1.5	50.0	0.0	0.0	100.0	0.0	100.0	0.0	100.0	0.0	
Hanawa	79	2	1	0	0	1	0	1	0	1	0	
		2.5	50.0	0.0	0.0	100.0	0.0	100.0	0.0	100.0	0.0	
Samegawa	20	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	0.0	
Ono	152	2	1	0	0	1	0	1	0	1	0	
		1.3	50.0	0.0	0.0	100.0	0.0	100.0	0.0	100.0	0.0	
Tamakawa	86	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	0.0	
Furudono	31	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	0.0	
Hinoemata	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	0.0	0.0	
Minami-aizu	450	1	0	0	0	0	0	0	0	0	0	
		0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Kaneyama	2	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	0.0	
Showa	1	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	0.0	
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	0.0	0.0	
Shimogo	13	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	0.0	
Kitakata	46	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	0.0	
Nishiaizu	3	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	0.0	
Tadami	155	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	0.0	
Inawashiro	605	3	3	0	0	2	1	3	0	3	0	
		0.5	100.0	0.0	0.0	66.7	33.3	100.0	0.0	100.0	0.0	
Bandai	86	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	0.0	
Kitashiobara	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	0.0	0.0	
Aizumisato	15	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	0.0	
Aizubange	19	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	0.0	
Yanaizu	43	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	0.0	
Aizuwakamatsu	164	1	0	0	0	0	0	0	0	0	0	
		0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Yugawa	5	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	0.0	
Subtotal	20,390	50	15	0	1	12	2	10	0	1	9	
		0.2	30.0	0.0	6.7	80.0	13.3	66.7	0.0	10.0	90.0	
Total	169,455	1,223	767	12	105	406	244	669	28	162	479	
		0.7	62.7	1.6	13.7	52.9	31.8	87.2	4.2	24.2	71.6	
				</								

## Appendix 6

### Surgical cases for malignancy or suspicion of malignancy

#### 1. Target municipalities in FY 2014

Suspicious or malignant: 25 (6 surgical cases: 6 of papillary thyroid carcinoma)

## Appendix 7

### Schedule of Full-scale Thyroid Screening (from the 3<sup>rd</sup> time onward)

Those born between April 2 and April 1 the next year.	FY 2016 Age	FY 2017 Age	FY 2018 Age	FY 2019 Age	FY 2020 Age	FY 2021 Age	FY 2022 Age	FY 2023 Age	FY 2024 Age	FY 2025 Age	FY 2026 Age	FY 2027 Age	FY 2028 Age	FY 2029 Age	FY 2030 Age	FY 2031 Age	FY 2032 Age	FY 2033 Age	FY 2034 Age	FY 2035 Age	FY 2036 Age
Born in FY 1992	24	★25	26	27	28	29	★30	31	32	33	34	★35	36	37	38	39	★40	41	42	43	44
Born in FY 1993	23	24	★25	26	27	28	29	★30	31	32	33	34	★35	36	37	38	39	★40	41	42	43
Born in FY 1994	◇22	◇23	24	★25	26	27	28	29	★30	31	32	33	34	★35	36	37	38	39	★40	41	42
Born in FY 1995	21	22	23	24	★25	26	27	28	29	★30	31	32	33	34	★35	36	37	38	39	★40	41
Born in FY 1996	20	21	◇22	◇23	24	★25	26	27	28	29	★30	31	32	33	34	★35	36	37	38	39	★40
Born in FY 1997	19	20	21	22	23	24	★25	26	27	28	29	★30	31	32	33	34	★35	36	37	38	39
Born in FY 1998	18	19	20	21	◇22	◇23	24	★25	26	27	28	29	★30	31	32	33	34	★35	36	37	38
Born in FY 1999	17	18	19	20	21	22	23	24	★25	26	27	28	29	★30	31	32	33	34	★35	36	37
Born in FY 2000	16	17	18	19	20	21	◇22	◇23	24	★25	26	27	28	29	★30	31	32	33	34	★35	36
Born in FY 2001	15	16	17	18	19	20	21	22	23	24	★25	26	27	28	29	★30	31	32	33	34	★35
Born in FY 2002	14	15	16	17	18	19	20	21	◇22	◇23	24	★25	26	27	28	29	★30	31	32	33	34
Born in FY 2003	13	14	15	16	17	18	19	20	21	22	23	24	★25	26	27	28	29	★30	31	32	33
Born in FY 2004	12	13	14	15	16	17	18	19	20	21	◇22	◇23	24	★25	26	27	28	29	★30	31	32
Born in FY 2005	11	12	13	14	15	16	17	18	19	20	21	22	23	24	★25	26	27	28	29	★30	31
Born in FY 2006	10	11	12	13	14	15	16	17	18	19	20	21	◇22	◇23	24	★25	26	27	28	29	★30
Born in FY 2007	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	★25	26	27	28	29
Born in FY 2008	8	9	10	11	12	13	14	15	16	17	18	19	20	21	◇22	◇23	24	★25	26	27	28
Born in FY 2009	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	★25	26	27
Born in FY 2010	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	◇22	◇23	24	★25	26
Born in FY 2011	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	★25

■	Examination conducted twice in two years for the first half and the second half in a sequence guided by their municipal address (existing procedure)
★	Examination done every 5 years after the age of 25 (new procedure)
◇	Examination conducted not to let more than 5 years pass between the exams through age 25 (existing procedure)