

Basic Survey (Radiation Dose Estimates)

Reported on 27 December 2016

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 27.5% (565,904 of 2,055,305) as of 30 September 2016. Among the respondents, 72,513 answered through the simplified questionnaire. (See Table 1.)

Table 2 shows the response rates by age group.

Table 1 Response rates to the Basic Survey			
As of 30 September 2016			
Survey population		2,055,305	
Responses	Original questionnaire	493,391	24.0%
	Simplified questionnaire*	72,513	3.5%
	Total	565,904	27.5%
*Preliminary figures			
Fractions have been rounded.			

Table 2 Response rates by age group								
As of 30 September 2016								
Age group (years)	0-9	10-19	20-29	30-39	40-49	50-59	60-	Total
Response rate	46.4%	35.7%	18.1%	24.7%	22.4%	22.9%	27.9%	27.5%

1.2 Radiation Dose Estimates

Doses have been estimated for 551,510 of 565,904 respondents (97.5%) as of 30 September 2016, and results have been returned to 551,110 respondents. (See Table 3.)

Table 3 Response rates to the Basic Survey							
As of 30 September 2016							
Area	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	504,038	152,135	30.2%	148,951	97.9%	148,816	97.8%
Kenchu	557,218	136,228	24.4%	133,095	97.7%	133,036	97.7%
Kennan	152,228	35,042	23.0%	34,229	97.7%	34,204	97.6%
Aizu	267,202	57,788	21.6%	55,585	96.2%	55,532	96.1%
Minami-aizu	30,789	6,387	20.7%	6,078	95.2%	6,068	95.0%
Soso	195,591	90,043	46.0%	87,371	97.0%	87,300	97.0%
Iwaki	348,239	88,281	25.4%	86,201	97.6%	86,154	97.6%
Total	2,055,305	565,904	27.5%	551,510	97.5%	551,110	97.4%

Including areas covered by the initial survey of people in Yamakiya, Namie and Iitate.

* Table 3 provides a more detailed view of the responses summarized in Table 1.

* In case uncertainties in the action record of a questionnaire prevented a radiation dose estimate, further inquiry was made to facilitate an estimate. This supplemental effort has been proceeding as much as possible, but failure to make contact with residents has prevented around 13,500 dose estimates from being completed.

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.)

Table 4 Response rates to the Basic Survey						
(Visitors)						
As of 30 September 2016						
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
3,983	2,224	55.8%	2,007	90.2%	2,000	89.9%

* 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 3), excluding cases of data covering less than four months.

Radiation doses for a total of 472,841 residents have been estimated to date. The results for 463,659 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 77 % of respondents in the Soso area and more than 99% of respondents in Iwaki were also <1 mSv.

Estimated external radiation doses (initial and full-scale surveys)																				As of 30 September 2016			
Effective Dose (mSv)	Total	Excluding radiation workers				By area (excluding radiation workers)																	
						Kempoku *		Kenchu		Kennan		Aizu		Minami-aizu		Soso **		Iwaki					
<1	294,119	288,401	62.2%	93.8%	99.8%	24,893	20.0%	58,095	51.5%	25,953	88.3%	45,694	99.3%	4,947	99.3%	55,767	77.3%	73,052	99.1%				
1-2	149,042	146,701	31.6%			83,560	67.0%	46,058	40.8%	3,421	11.6%	308	0.7%	36	0.7%	12,686	17.6%	632	0.9%				
2-3	25,964	25,591	5.5%			15,650	12.6%	8,181	7.3%	17	0.1%	25	0.1%	0	-	1,688	2.3%	30	0.0%				
3-4	1,575	1,495	0.3%			472	0.4%	423	0.4%	0	-	1	0.0%	0	-	595	0.8%	4	0.0%				
4-5	551	505	0.1%	0.2%	0.2%	40	0.0%	5	0.0%	0	-	0	-	0	-	459	0.6%	1	0.0%				
5-6	441	389	0.1%			19	0.0%	3	0.0%	0	-	0	-	0	-	366	0.5%	1	0.0%				
6-7	268	230	0.0%			10	0.0%	1	0.0%	0	-	1	0.0%	0	-	218	0.3%	0	-				
7-8	155	116	0.0%			1	0.0%	0	-	0	-	0	-	0	-	115	0.2%	0	-				
8-9	118	78	0.0%	0.0%	0.0%	1	0.0%	0	-	0	-	0	-	0	-	77	0.1%	0	-				
9-10	72	41	0.0%			0	-	0	-	0	-	0	-	0	-	41	0.1%	0	-				
10-11	69	36	0.0%			0	-	0	-	0	-	0	-	0	-	36	0.0%	0	-				
11-12	52	30	0.0%			1	0.0%	0	-	0	-	0	-	0	-	29	0.0%	0	-				
12-13	37	13	0.0%	0.0%	0.0%	0	-	0	-	0	-	0	-	0	-	13	0.0%	0	-				
13-14	36	12	0.0%			0	-	0	-	0	-	0	-	0	-	12	0.0%	0	-				
14-15	27	6	0.0%			0	-	0	-	0	-	0	-	0	-	6	0.0%	0	-				
≥15	315	15	0.0%			0	-	0	-	0	-	0	-	0	-	15	0.0%	0	-				
Total	472,841	463,659	100.0%	100.0%	100.0%	124,647	100%	112,766	100%	29,391	100%	46,029	100%	4,983	100%	72,123	100%	73,720	100%				
Max	66mSv	25mSv				11mSv		6.3mSv		2.6mSv		6.0mSv		1.9mSv		25mSv		5.9mSv					
Mean value	0.9mSv	0.8mSv				1.4mSv		1.0mSv		0.6mSv		0.2mSv		0.1mSv		0.8mSv		0.3mSv					
Median	0.6mSv	0.6mSv				1.4mSv		0.9mSv		0.5mSv		0.2mSv		0.1mSv		0.5mSv		0.3mSv					

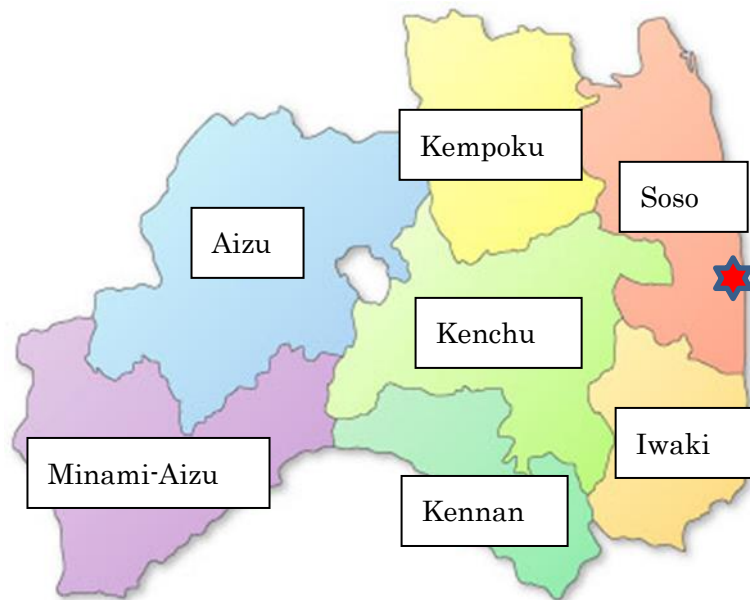
3. Evaluation of the results

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

Since previous epidemiological studies¹ 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.

Reference

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.



Response rates to the Basic Survey by district

Initial and full-scale surveys

As of 30 September 2016

Area	District	Survey population	Responses	Response rate	Completed dose estimates	Proportion	Returned results	Proportion
		a	b	c=b/a	d	e=d/b	f	g=f/b
Kempoku	Fukushima	295,643	93,844	31.7%	92,149	98.2%	92,088	98.1%
	Nihonmatsu	60,857	16,908	27.8%	16,538	97.8%	16,502	97.6%
	Date	67,577	18,278	27.0%	17,772	97.2%	17,760	97.2%
	Motomiya	31,761	9,099	28.6%	8,928	98.1%	8,910	97.9%
	Kori	13,207	3,883	29.4%	3,770	97.1%	3,770	97.1%
	Kunimi	10,316	3,028	29.4%	2,935	96.9%	2,935	96.9%
	Kawamata	15,885	5,174	32.6%	4,988	96.4%	4,983	96.3%
	Otama	8,792	1,921	21.8%	1,871	97.4%	1,868	97.2%
	Subtotal	504,038	152,135	30.2%	148,951	97.9%	148,816	97.8%
Kenchu	Koriyama	339,705	86,778	25.5%	85,003	98.0%	84,969	97.9%
	Sukagawa	80,157	17,151	21.4%	16,711	97.4%	16,694	97.3%
	Tamura	41,723	10,544	25.3%	10,157	96.3%	10,155	96.3%
	Kagamiishi	13,109	2,887	22.0%	2,824	97.8%	2,824	97.8%
	Tenei	6,470	1,229	19.0%	1,198	97.5%	1,198	97.5%
	Ishikawa	17,488	4,202	24.0%	4,100	97.6%	4,099	97.5%
	Tamakawa	7,337	1,500	20.4%	1,452	96.8%	1,452	96.8%
	Hirata	7,053	1,655	23.5%	1,599	96.6%	1,599	96.6%
	Asakawa	7,163	1,508	21.1%	1,473	97.7%	1,471	97.5%
	Furudono	6,319	1,309	20.7%	1,274	97.3%	1,274	97.3%
	Miharu	18,993	4,860	25.6%	4,763	98.0%	4,761	98.0%
	Ono	11,701	2,605	22.3%	2,541	97.5%	2,540	97.5%
	Subtotal	557,218	136,228	24.4%	133,095	97.7%	133,036	97.7%
Kennan	Shirakawa	65,428	15,976	24.4%	15,643	97.9%	15,629	97.8%
	Nishigo	20,089	4,975	24.8%	4,858	97.6%	4,857	97.6%
	Izumizaki	6,931	1,380	19.9%	1,341	97.2%	1,340	97.1%
	Nakajima	5,306	1,001	18.9%	976	97.5%	976	97.5%
	Yabuki	18,341	4,088	22.3%	3,982	97.4%	3,978	97.3%
	Tanagura	15,384	3,026	19.7%	2,961	97.9%	2,958	97.8%
	Yamatsuri	6,491	1,464	22.6%	1,415	96.7%	1,414	96.6%
	Hanawa	10,062	2,313	23.0%	2,262	97.8%	2,261	97.8%
	Samegawa	4,196	819	19.5%	791	96.6%	791	96.6%
	Subtotal	152,228	35,042	23.0%	34,229	97.7%	34,204	97.6%
Aizu	Aizuwakamatsu	127,817	29,596	23.2%	28,622	96.7%	28,590	96.6%
	Kitakata	53,199	11,055	20.8%	10,628	96.1%	10,615	96.0%
	Kitashiobara	3,276	607	18.5%	584	96.2%	583	96.0%
	Nishiaizu	7,725	1,453	18.8%	1,351	93.0%	1,350	92.9%
	Bandai	3,888	793	20.4%	775	97.7%	774	97.6%
	Inawashiro	16,271	3,647	22.4%	3,515	96.4%	3,512	96.3%
	Aizubange	17,881	3,261	18.2%	3,114	95.5%	3,114	95.5%
	Yugawa	3,513	713	20.3%	680	95.4%	680	95.4%
	Yanaizu	4,077	719	17.6%	687	95.5%	687	95.5%
	Mishima	2,031	373	18.4%	339	90.9%	339	90.9%
	Kaneyama	2,544	629	24.7%	573	91.1%	573	91.1%
	Showa	1,569	354	22.6%	327	92.4%	327	92.4%
	Aizumisato	23,411	4,588	19.6%	4,390	95.7%	4,388	95.6%
	Subtotal	267,202	57,788	21.6%	55,585	96.2%	55,532	96.1%
Minami-aizu	Shimogo	6,650	1,251	18.8%	1,191	95.2%	1,186	94.8%
	Hinoemata	614	142	23.1%	133	93.7%	133	93.7%
	Tadami	5,030	1,143	22.7%	1,081	94.6%	1,080	94.5%
	Minami-aizu	18,495	3,851	20.8%	3,673	95.4%	3,669	95.3%
	Subtotal	30,789	6,387	20.7%	6,078	95.2%	6,068	95.0%
Soso	Soma	37,363	13,294	35.6%	12,774	96.1%	12,758	96.0%
	Minami-soma	70,011	30,225	43.2%	29,455	97.5%	29,434	97.4%
	Hirono	5,164	2,219	43.0%	2,140	96.4%	2,138	96.3%
	Naraha	7,963	4,184	52.5%	4,022	96.1%	4,020	96.1%
	Tomioka	15,750	8,616	54.7%	8,411	97.6%	8,405	97.6%
	Kawauchi	2,996	1,539	51.4%	1,487	96.6%	1,487	96.6%
	Okuma	11,473	6,080	53.0%	5,860	96.4%	5,858	96.3%
	Futaba	7,051	3,949	56.0%	3,845	97.4%	3,843	97.3%
	Namie	21,335	12,963	60.8%	12,670	97.7%	12,660	97.7%
	Katsurao	1,541	824	53.5%	768	93.2%	768	93.2%
	Shinchi	8,356	2,706	32.4%	2,606	96.3%	2,604	96.2%
	Iitate	6,588	3,444	52.3%	3,333	96.8%	3,325	96.5%
	Subtotal	195,591	90,043	46.0%	87,371	97.0%	87,300	97.0%
Iwaki	Iwaki	348,239	88,281	25.4%	86,201	97.6%	86,154	97.6%
Total		2,055,305	565,904	27.5%	551,510	97.5%	551,110	97.4%

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

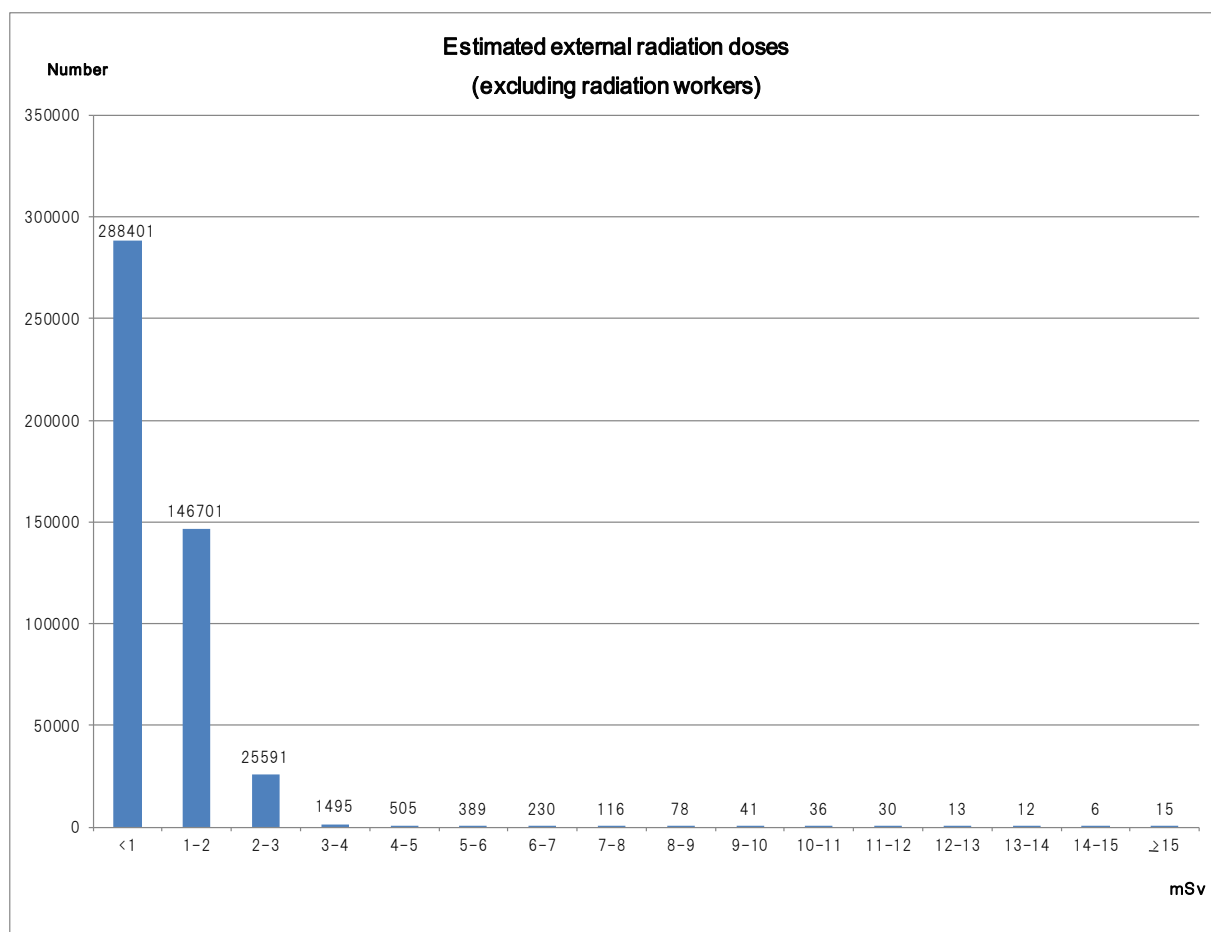
Initial and full-scale surveys

As of 30 September 2016

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	294,119	288,401	24,893	58,095	25,953	45,694	4,947	55,767	73,052	62.2	93.8	99.8
1-2	149,042	146,701	83,560	46,058	3,421	308	36	12,686	632	31.6		
2-3	25,964	25,591	15,650	8,181	17	25	0	1,688	30	5.5	5.8	
3-4	1,575	1,495	472	423	0	1	0	595	4	0.3		
4-5	551	505	40	5	0	0	0	459	1	0.1	0.2	0.2
5-6	441	389	19	3	0	0	0	366	1	0.1		
6-7	268	230	10	1	0	1	0	218	0	0.0	0.1	
7-8	155	116	1	0	0	0	0	115	0	0.0		
8-9	118	78	1	0	0	0	0	77	0	0.0	0.0	0.0
9-10	72	41	0	0	0	0	0	41	0	0.0		
10-11	69	36	0	0	0	0	0	36	0	0.0		
11-12	52	30	1	0	0	0	0	29	0	0.0		
12-13	37	13	0	0	0	0	0	13	0	0.0	0.0	0.0
13-14	36	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	315	15	0	0	0	0	0	15	0	0.0	0.0	
Total	472,841	463,659	124,647	112,766	29,391	46,029	4,983	72,123	73,720	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			
Median	0.6	0.6	1.4	0.9	0.5	0.2	0.1	0.5	0.3			

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



As of 30 September 2016

Estimated external radiation doses by age group (excluding radiation workers)

Effective Dose (mSv)	Age at the time of the disaster (years)									Total
	0 - 9	10 - 19	20 - 29	30 - 39	40 - 49	50 - 59	60 - 69	70 - 79	80 -	
<1	47,978	44,466	21,263	34,144	28,568	32,835	36,305	25,716	17,126	288,401
1-2	22,931	21,629	10,079	18,232	16,600	18,526	19,487	12,284	6,933	14,701
2-3	6,420	4,247	1,129	2,332	2,240	2,966	3,423	1,995	839	25,591
3-4	250	157	81	158	153	230	233	164	69	1,495
4-5	19	47	35	39	75	95	81	76	38	505
5-6	14	13	29	34	46	86	73	66	28	389
6-7	3	6	10	22	24	45	52	47	21	230
7-8	4	4	8	9	13	35	22	14	7	116
8-9	2	6	2	7	8	16	16	12	9	78
9-10	0	1	2	3	3	12	11	5	4	41
10-11	1	1	1	2	6	11	5	6	3	36
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	6	1	2	15
Total	77,622	70,577	32,641	54,986	47,741	54,878	59,732	40,400	25,082	463,659

Estimated external radiation doses by sex (excluding radiation workers)

Effective Dose (mSv)	By sex				Total	Proportion (%)
	Male	Proportion (%)	Female	Proportion (%)		
<1	128,718	60.6	159,683	63.5	288,401	62.2
1-2	67,995	32.0	78,706	31.3	146,701	31.6
2-3	13,898	6.5	11,693	4.7	25,591	5.5
3-4	951	0.4	544	0.2	1,495	0.3
4-5	282	0.1	223	0.1	505	0.1
5-6	199	0.1	190	0.1	389	0.1
6-7	130	0.1	100	0.0	230	0.0
7-8	64	0.0	52	0.0	116	0.0
8-9	49	0.0	29	0.0	78	0.0
9-10	24	0.0	17	0.0	41	0.0
10-11	22	0.0	14	0.0	36	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	12	0.0	3	0.0	15	0.0
Total	212,377	100.0	251,282	100.0	463,659	100.0

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

As of 30 September 2016

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	16,156	52,434	9,336	151	13	10	4	0	0	0	0	0	0	0	0	0	78,104
	Nihonmatsu	1,318	8,656	3,528	90	1	0	0	0	0	0	0	0	0	0	0	0	13,593
	Date	4,377	9,041	1,133	147	8	2	3	1	1	0	0	0	0	0	0	0	14,713
	Motomiya	744	5,452	1,257	24	1	0	0	0	0	0	0	0	0	0	0	0	7,478
	Kori	315	2,747	66	2	0	1	0	0	0	0	0	0	0	0	0	0	3,131
	Kunimi	963	1,435	12	0	0	0	0	0	0	0	0	0	0	0	0	0	2,410
	Kawamata	630	2,738	185	56	17	6	3	0	0	0	0	1	0	0	0	0	3,636
	Otama	390	1,057	133	2	0	0	0	0	0	0	0	0	0	0	0	0	1,582
Kempoku Subtotal		24,893	83,560	15,650	472	40	19	10	1	1	0	0	1	0	0	0	0	124,647
Kenchu	Koriyama	23,933	40,536	7,735	413	5	3	1	0	0	0	0	0	0	0	0	0	72,626
	Sukagawa	10,744	3,187	334	4	0	0	0	0	0	0	0	0	0	0	0	0	14,269
	Tamura	7,645	677	23	3	0	0	0	0	0	0	0	0	0	0	0	0	8,348
	Kagamiishi	2,337	74	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,411
	Tenei	395	573	57	1	0	0	0	0	0	0	0	0	0	0	0	0	1,026
	Ishikawa	3,165	38	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3,204
	Tamakawa	1,175	18	3	0	0	0	0	0	0	0	0	0	0	0	0	0	1,196
	Hirata	1,292	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,326
	Asakawa	1,212	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,227
	Furudono	1,059	14	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1,075
	Miharu	3,117	809	24	2	0	0	0	0	0	0	0	0	0	0	0	0	3,952
	Ono	2,021	83	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2,106
Kenchu Subtotal		58,095	46,058	8,181	423	5	3	1	0	0	0	0	0	0	0	0	0	112,766
Kennan	Shirakawa	12,292	1,269	9	0	0	0	0	0	0	0	0	0	0	0	0	0	13,570
	Nishigo	2,224	1,970	2	0	0	0	0	0	0	0	0	0	0	0	0	0	4,196
	Izumizaki	1,102	21	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1,124
	Nakajima	823	12	1	0	0	0	0	0	0	0	0	0	0	0	0	0	836
	Yabuki	3,347	79	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3,427
	Tanagura	2,524	28	3	0	0	0	0	0	0	0	0	0	0	0	0	0	2,555
	Yamatsuri	1,139	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,148
	Hanawa	1,852	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,875
	Samegawa	650	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	660
Kennan Subtotal		25,953	3,421	17	0	0	0	0	0	0	0	0	0	0	0	0	0	29,391
Aizu	Aizuwakamatsu	23,629	160	13	0	0	0	1	0	0	0	0	0	0	0	0	0	23,803
	Kitakata	8,888	56	3	1	0	0	0	0	0	0	0	0	0	0	0	0	8,948
	Kitashiobara	475	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	479
	Nishiaizu	1,012	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,014
	Bandai	654	9	1	0	0	0	0	0	0	0	0	0	0	0	0	0	664
	Inawashiro	2,840	30	3	0	0	0	0	0	0	0	0	0	0	0	0	0	2,873
	Aizubange	2,610	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,625
	Yugawa	579	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	583
	Yanaizu	544	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	548
	Mishima	246	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	246
	Kaneyama	405	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	408
	Showa	245	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	246
	Aizumisato	3,567	22	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3,592
Aizu Subtotal		45,694	308	25	1	0	0	1	0	0	0	0	0	0	0	0	0	46,029
Minami-aizu	Shimogo	961	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	966
	Hinoemata	103	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	103
	Tadami	874	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	879
	Minami-aizu	3,009	26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3,035
Minami-aizu Subtotal		4,947	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4,983
Soso	Soma	10,008	458	87	20	5	0	0	0	0	2	0	0	0	0	0	0	10,580
	Minami-soma	19,100	6,219	513	99	35	3	7	4	1	0	0	1	0	0	0	0	25,982
	Hirono	1,836	58	2	0	0	0	1	0	1	0	0	0	0	0	0	0	1,898
	Naraha	3,393	131	13	2	0	1	1	0	0	0	0	0	0	0	0	0	3,541
	Tomikoka	5,826	1,102	98	18	3	2	0	3	2	0	0	1	0	0	0	0	7,055
	Kawauchi	962	350	16	1	0	1	1	1	0	0	0	0	0	0	0	0	1,332
	Okuma	3,370	1,284	112	17	6	4	4	3	0	2	2	1	0	4	0	1	4,810
	Futaba	2,671	468	77	18	6	4	3	6	2	1	0	2	0	0	0	2	3,260
	Namie	5,739	2,117	383	68	40	17	12	13	9	6	11	7	5	4	3	8	8,442
	Katsurao	502	162	24	4	0	1	0	0	0	0	0	0	0	0	0	0	693
	Shinchi	2,174	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,194
	Iitate	186	317	363	348	364	333	189	85	62	30	23	17	8	4	3	4	2,336
Soso Subtotal		55,767	12,686	1,688	595	459	366	218	115	77	41	36	29	13	12	6	15	72,123
Iwaki	Iwaki	73,052	632	30	4	1	1	0	0	0	0	0	0	0	0	0	0	73,720
Total		288,401	146,701	25,591	1,495	505	389	230	116	78	41	36	30	13	12	6	15	463,659
Proportion (%)		62.2	31.6	5.5	0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	99.8
		93.8		5.8		0.2		0.1		0.0		0.0		0.0		0.0		99.9
		99.8					0.2					0.0					0.0	100.0
Visitors		1,448	271	18	2	0	0	0	0	0	0	0	0	0	0	0	1	1,740
Total+Visitors		289,849	146,972	25,609	1,497	505	389	230	116	78	41	36	30	13	12	6	16	465,399

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

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

Reported on 27 December 2016

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 (second round), to assess the condition of their thyroid glands following first round Preliminary Baseline 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 proceeded for two years.

Thereafter we will repeat the examination every two years until the age of 20, and every five years afterwards. We will endeavor to make sure they do not let more than five years pass between the exams through age 25.

1.4 Responsible Organizations

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

As of 30 September 2016, we provide the primary examination at 57 medical institutions under contract, and try to have more institutions inside Fukushima Prefecture.

One hundred five institutions outside Fukushima Prefecture have agreed to cooperate as of 30 September 2016.

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 35 institutions that provide the examination as of 30 September 2016.

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 ≤ 5.0 mm or cysts ≤ 20.0 mm

-Diagnostic Criteria (B)

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

B: Nodules ≥ 5.1 mm or cysts ≥ 20.1 mm

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

-Diagnostic Criteria (C)

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

C: Immediate need for confirmatory examination.

1.5-2 Confirmatory Examination

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

1.5-3 Flow chart

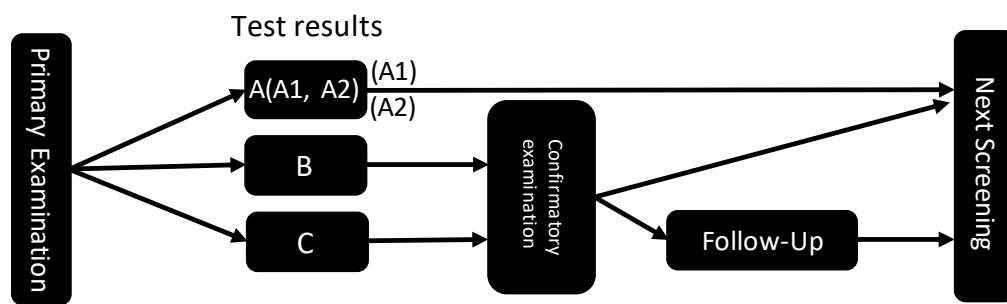



Fig.1 Flow chart

1.6 Target Municipalities

 25 target municipalities for FY 2014


 34 target municipalities for FY 2015



Fig.2 Target Municipalities

2. Results as of 30 September 2016

2.1 Results of Primary Examination

2.1-1 Progress Report

The Primary Examination started 2 April 2014, and the participation rate is 70.9 % (270,454 of 381,282) from 59 municipalities (25 municipalities in FY 2014, and 34 in FY 2015). (See Appendix 1 and 2.)

The results have been returned to 100.0% (270,431) of the participants. (See Appendix 3.)

Those with A1 or A2 test results were 268,209 (99.2%), B were 2,222 (0.8%), and C was 0.

Table 1. Screening test coverage as of 30 September 2016

	Survey Population a	Participants		Proportion (%) c (c/b)	Test results			
		Proportion (%) b (b/a)	Screened outside Fukushima		Class (%)			
					A		Requiring confirmatory test	
					A1 d (d/c)	A2 e (e/c)	B f (f/c)	C g (g/c)
FY 2014	216,876	159,127 (73.4)	11,395	159,118 (100.0)	66,426 (41.7)	91,387 (57.4)	1,305 (0.8)	0 (0.0)
FY 2015	164,406	111,327 (67.7)	4,213	111,313 (100.0)	42,249 (38.0)	68,147 (61.2)	917 (0.8)	0 (0.0)
Total	381,282	270,454 (70.9)	15,608	270,431 (100.0)	108,675 (40.2)	159,534 (59.0)	2,222 (0.8)	0 (0.0)

Table 2. Number and proportion of children with nodules/cysts as of 30 September 2016

	Number of confirmed screening results a	Number and proportion of children with nodules/cysts			
		Nodules		Cysts	
		≥5.1 mm b (b/a)	≤5.0 mm c (c/a)	≥20.1 mm d (d/a)	≤20.0 mm e (e/a)
FY 2014	159,118	1,301 (0.8)	1,007 (0.6)	2 (0.0)	91,802 (57.7)
FY 2015	111,313	913 (0.8)	561 (0.5)	4 (0.0)	68,509 (61.5)
Total	270,431	2,214 (0.8)	1,568 (0.6)	6 (0.0)	160,311 (59.3)

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

New records were identified, so numbers may vary slightly from previous reports.

In the case of residents age 25 with no prior visits for the First Full-Scale Thyroid Screening, they are added to the number of participants, so the numbers are expected to increase.

2.1-2 Participation rates by age group

Participation rate of age group 18-21 (as of 1 April 2014) in target municipalities for FY 2014 was 27.8%, which was lower than other age groups.

Participation rate of age group 18-22 (as of 1 April 2015) in target municipalities for FY 2015 was 23.4%, which was lower than other age groups.

Participation rate of the age group of 18 and older in target municipalities for FY 2014 and FY 2015 in total was 25.6%, which was lower than other age groups.

Table 3. Participation rates in target municipalities by age group

As of 30 September 2016

		Total	Age group (years)			
			2-7	8-12	13-17	18-21
FY 2014 target municipalities	Age group (years)					
	Survey population (a)	216,876	56,485	53,374	57,781	49,236
	Participants (b)	159,127	45,329	49,783	50,338	13,677
	Proportion (%) (b/a)	73.4	80.2	93.3	87.1	27.8
FY 2015 target municipalities	Age group (years)		3-7	8-12	13-17	18-22
	Survey population (a)	164,406	33,763	38,762	44,020	47,861
	Participants (b)	111,327	25,837	36,189	38,106	11,195
	Proportion (%) (b/a)	67.7	76.5	93.4	86.6	23.4
Total	Survey population (a)	381,282	90,248	92,136	101,801	97,097
	Participants (b)	270,454	71,166	85,972	88,444	24,872
	Proportion (%) (b/a)	70.9	78.9	93.3	86.9	25.6

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

Among 245,278 participants who were diagnosed as A1 or A2 in the Preliminary Baseline Screening, 243,948 (99.5%) had A1 or A2 results, and 1,330 (0.5%) were diagnosed as B from the Full-scale Survey.

Among 1,369 participants who were diagnosed as B in the Preliminary Baseline Screening, 638 (46.6%) had A1 or A2 results, and 731 (53.4%) were diagnosed as B from the Full-scale Thyroid Screening Program.

Table 4. Comparison with the Preliminary Baseline Screening

As of 30 September 2016

			Number of test results of the Preliminary Baseline Screening* (%) a	Results of the Full-scale Thyroid Screening			
				A		B d d/a (%)	C e e/a (%)
				A1 b b/a (%)	A2 c c/a (%)		
Results of the Preliminary Baseline Screening	A	A1	125,903 (100.0)	83,474 (66.3)	42,036 (33.4)	393 (0.3)	0 (0.0)
		A2	119,375 (100.0)	11,493 (9.6)	106,945 (89.6)	937 (0.8)	0 (0.0)
	B		1,369 (100.0)	108 (7.9)	530 (38.7)	731 (53.4)	0 (0.0)
	C		0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
	Non-participants		23,784 (100.0)	13,600 (57.2)	10,023 (42.1)	161 (0.7)	0 (0.0)
	Total		270,431 (100.0)	108,675 (40.2)	159,534 (59.0)	2,222 (0.8)	0 (0.0)

* Results of the participants with confirmed test results of the Full-scale survey.

This is not the breakdown of the total (300,476) of confirmed screening results from the Preliminary Baseline Screening.

2.2 Results of Confirmatory Examination

2.2-1 Progress Report

The number of those who required further testing (started in June 2014) was 2,222, of whom 1,685 (75.8%) underwent confirmatory testing. Among them, 1,553 (92.2%) have completed the tests. (See Appendix 5.)

Of 1,553 participants, 378 (A1 and A2 results 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 (24.3%).

Those who require 6- or 12-month follow-up provided by health insurance were 1,175 (75.7%).

Table 5. Confirmatory testing coverage and results as of 30 September 2016

	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	1,305	1,077 (82.5)	1,036 (96.2)	37 (3.6)	237 (22.9)	762 (73.6)	148 (19.4)
FY 2015	917	608 (66.3)	517 (85.0)	15 (2.9)	89 (17.2)	413 (79.9)	41 (9.9)
Total	2,222	1,685 (75.8)	1,553 (92.2)	52 (3.3)	326 (21.0)	1,175 (75.7)	189 (16.1)

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, 68 had nodules classified as suspicious or malignant.

Thirty-one of them were male, and 37 were female. Age at the time of the confirmatory testing ranged from 9 to 23 years (mean age: 16.9 ± 3.3 years). The minimum and maximum tumor size was 5.3-35.6 mm in diameter. Mean tumor diameter was 11.1 ± 5.7 mm.

Results from the Preliminary Baseline Screening show that 62 of the 68 participants were categorized as A (A1: 31; A2: 31), 5 as B and one other had no record.

Table 6. Results of FNAC

Target municipalities in FY 2014

Suspicious or malignant	51 *
Male to female ratio	21: 30
Mean age (SD, min-max)	17.2 (3.1, 10-23) 13.1 (3.1, 6-18) at the time of the disaster
Mean tumor size	9.4 mm (3.1 mm, 5.3-17.4 mm)

Target municipalities in FY 2015

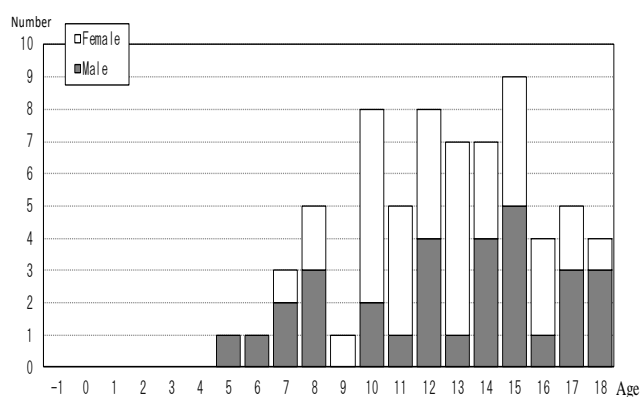
Suspicious or malignant	17 *
Male to female ratio	10: 7
Mean age (SD, min-max)	15.9 (3.6, 9-21) 11.1 (3.3, 5-16) at the time of the disaster
Mean tumor size	16.0 mm (8.3 mm, 5.7-35.6 mm)

Target municipalities in FY 2014-2015

Suspicious or malignant	68 *
Male to female ratio	31: 37
Mean age (SD, min-max)	16.9 (3.3, 9-23) 12.6 (3.3, 5-18) at the time of the disaster
Mean tumor size	11.1 mm (5.7 mm, 5.3-35.6 mm)

* See Appendix 6 for details.

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



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

Fig.3 Age as of 11 March 2011

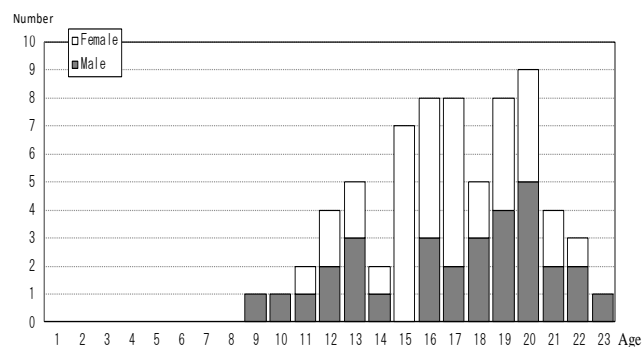


Fig. 4 Age as the date of confirmatory examination

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

Thirty-five (51.5%) of the 68 people participated in the Basic Survey (radiation dose estimates), and 35 received the results. The highest effective dose documented was 2.1 mSv.

Table 7. A breakdown of dose estimates for participants of the Basic Survey As of 30 September 2016

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	4	1	3	5	2	0	9	6
1-1.9	0	0	0	1	4	4	3	3	7	8
2-4.9	0	0	1	0	0	2	1	1	2	3
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	5	2	7	11	6	4	18	17

Estimates are based on effective external radiation doses.

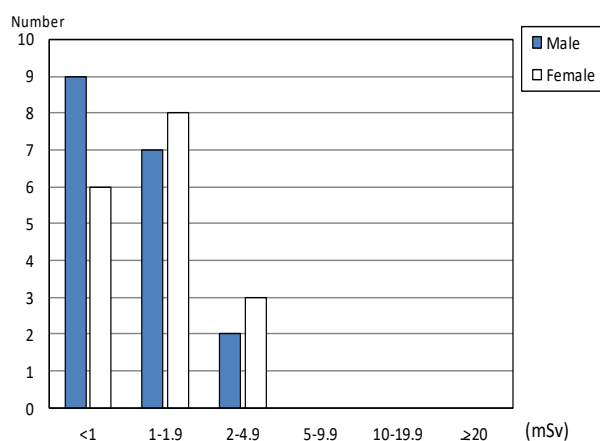


Fig. 5 Effective dose of the respondents

2.2-5 Blood and urinary iodine test results as of 30 September 2016

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

	FT4 1) (ng/dL)	FT3 2) (pg/mL)	TSH 3) (μIU/mL)	Tg 4) (ng/mL)	TgAb 5) (IU/mL)	TPOAb 6) (IU/mL)
Reference Range	0.95-1.74 7)	2.13-4.07 7)	0.340-3.880 7)	≤32.7	<28.0	<16.0
68 suspicious or malignant	1.2 ± 0.2 (4.4%)	3.5 ± 0.4 (2.9%)	1.7 ± 1.0 (11.8%)	42.9 ± 111.2 (19.1%)	— (23.5%)	— (14.7%)
Other 1,483	1.2 ± 0.2 (7.3%)	3.6 ± 0.7 (6.5%)	1.3 ± 1.0 (8.4%)	28.4 ± 141.9 (13.4%)	— (9.2%)	— (8.1%)

Table 9. Urinary iodine (μg/day)

	Minimum	25th percentile	Median	75th percentile	Maximum
68 suspicious or malignant	43	123.8	193	439.3	2520
Other 1,477	33	116	183	357	36600

- 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.
Laboratory reference range revised to ≤ 33.7 ng/mL as of 30 March 2015.
- 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 September 2016

The proportion of suspicious or malignant diagnoses was 0.03% in FY 2014 target municipalities (13 municipalities in the nationally designated evacuation zones and 12 towns of the Kempoku area), 0.02% in FY 2015 target municipalities (34 towns of Iwaki, the Kennan and Aizu areas).

Table 10.

Confirmatory test results by municipality 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	1,763	23	1.3	20	0	0.00
Namie	2,508	28	1.1	22	2	0.08
Iitate	764	14	1.8	11	0	0.00
Minami-soma	8,908	81	0.9	70	4	0.04
Date	9,111	86	0.9	78	7	0.08
Tamura	5,006	51	1.0	43	2	0.04
Hirono	679	9	1.3	8	0	0.00
Naraha	1,001	5	0.5	5	0	0.00
Tomioka	2,002	24	1.2	21	0	0.00
Kawauchi	213	2	0.9	2	0	0.00
Okuma	1,758	16	0.9	13	2	0.11
Futaba	685	2	0.3	1	0	0.00
Katsurao	150	2	1.3	2	0	0.00
Fukushima	42,693	349	0.8	294	10	0.02
Nihonmatsu	7,885	59	0.7	51	1	0.01
Motomiya	4,809	31	0.6	26	3	0.06
Otama	1,263	6	0.5	6	0	0.00
Koriyama	48,034	364	0.8	293	17	0.04
Kori	1,635	14	0.9	10	1	0.06
Kunimi	1,240	9	0.7	8	0	0.00
Tenei	793	11	1.4	6	0	0.00
Shirakawa	9,666	63	0.7	48	1	0.01
Nishigo	3,178	28	0.9	21	1	0.03
Izumizaki	997	4	0.4	3	0	0.00
Miharu	2,386	24	1.0	15	0	0.00
Subtotal	159,127	1,305	0.8	1,077	51	0.03

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	45,252	376	0.8	240	7	0.02
Sukagawa	11,447	105	0.9	84	1	0.01
Soma	4,749	32	0.7	27	1	0.02
Kagamiishi	1,978	16	0.8	14	1	0.05
Shinchi	1,037	13	1.3	11	0	0.00
Nakajima	754	5	0.7	4	1	0.13
Yabuki	2,412	16	0.7	14	0	0.00
Ishikawa	2,027	14	0.7	12	0	0.00
Yamatsuri	740	6	0.8	4	0	0.00
Asakawa	1,030	9	0.9	8	0	0.00
Hirata	855	7	0.8	5	0	0.00
Tanagura	2,160	17	0.8	12	1	0.05
Hanawa	1,166	11	0.9	10	0	0.00
Samegawa	495	6	1.2	5	0	0.00
Ono	1,262	12	1.0	9	0	0.00
Tamakawa	964	9	0.9	5	0	0.00
Furudono	794	5	0.6	5	0	0.00
Hinoemata	66	0	0.0	0	0	0.00
Minami-aizu	1,762	16	0.9	11	0	0.00
Kaneyama	121	0	0.0	0	0	0.00
Showa	93	0	0.0	0	0	0.00
Mishima	121	1	0.8	1	0	0.00
Shimogo	614	4	0.7	2	0	0.00
Kitakata	5,727	44	0.8	27	3	0.05
Nishiaizu	654	5	0.8	3	0	0.00
Tadami	458	7	1.5	3	1	0.22
Inawashiro	1,730	12	0.7	10	0	0.00
Bandai	401	4	1.0	3	0	0.00
Kitashiobara	377	2	0.5	2	0	0.00
Aizumisato	2,538	21	0.8	10	0	0.00
Aizubange	2,063	18	0.9	11	0	0.00
Yanaizu	386	0	0.0	0	0	0.00
Aizuwakamatsu	14,578	120	0.8	54	1	0.01
Yugawa	516	4	0.8	2	0	0.00
Subtotal	111,327	917	0.8	608	17	0.02
Total	270,454	2,222	0.8	1,685	68	0.03

2.3 Mental Health Care

2.3-1 Support for participants of primary examination

Summary support results from the First and Second Full-Scale Thyroid Screening Programs are aggregated into the Report of Third-Round Thyroid Ultrasound Examinations.

2.3-2 Support for participants of confirmatory examination

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

Since the full-scale thyroid screening started, 774 participants (275 males and 499 females) have received support as of 30 September 2016. The number of consultations given to them was 1,460 in total. Of these, 844 (57.8%) received the support services during the first time of the examination, 570 (39%) at the second time and after including 115 (7.9%) when undergoing FNAC, and 46 (3.2%) 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.

Appendix 1

Thyroid Ultrasound Examination (TUE) coverage by municipality

As of 30 September 2016

	Survey Population	Participants		Proportion (%)	Number and proportion of participants by age group				Participants living outside Fukushima	Proportion (%)
		Screened outside Fukushima 3)								
			2-7		8-12	13-17	≥18			
	a	b	3)	b/a					c	c/b
Screening coverage by municipality in FY 2014										
Kawamata	2,460	1,763	57	71.7	428	574	596	165	74	4.2
					24.3	32.6	33.8	9.4		
Namie	3,772	2,508	724	66.5	654	724	761	369	791	31.5
					26.1	28.9	30.3	14.7		
Iitate	1,123	764	38	68.0	186	275	239	64	49	6.4
					24.3	36.0	31.3	8.4		
Minami-soma	12,982	8,908	1,831	68.6	2,314	2,924	2,668	1,002	1,885	21.2
					26.0	32.8	30.0	11.2		
Date	11,741	9,111	348	77.6	2,263	2,748	2,972	1,128	375	4.1
					24.8	30.2	32.6	12.4		
Tamura	7,320	5,006	150	68.4	1,160	1,638	1,693	515	147	2.9
					23.2	32.7	33.8	10.3		
Hirono	1,108	679	110	61.3	167	194	220	98	99	14.6
					24.6	28.6	32.4	14.4		
Naraha	1,490	1,001	139	67.2	238	296	327	140	145	14.5
					23.8	29.6	32.7	14.0		
Tomioka	3,101	2,002	461	64.6	473	548	665	316	489	24.4
					23.6	27.4	33.2	15.8		
Kawauchi	360	213	23	59.2	49	75	69	20	22	10.3
					23.0	35.2	32.4	9.4		
Okuma	2,499	1,758	396	70.3	536	541	481	200	442	25.1
					30.5	30.8	27.4	11.4		
Futaba	1,258	685	260	54.5	182	229	190	84	265	38.7
					26.6	33.4	27.7	12.3		
Katsurao	241	150	15	62.2	34	56	47	13	12	8.0
					22.7	37.3	31.3	8.7		
Fukushima	55,737	42,693	2,461	76.6	11,035	12,769	13,355	5,534	3,021	7.1
					25.8	29.9	31.3	13.0		
Nihonmatsu	10,596	7,885	321	74.4	1,925	2,499	2,665	796	325	4.1
					24.4	31.7	33.8	10.1		
Motomiya	6,345	4,809	172	75.8	1,229	1,510	1,550	520	183	3.8
					25.6	31.4	32.2	10.8		
Otama	1,684	1,263	30	75.0	355	398	387	123	38	3.0
					28.1	31.5	30.6	9.7		
Koriyama	66,762	48,034	3,172	71.9	11,418	15,487	15,464	5,665	3,855	8.0
					23.8	32.2	32.2	11.8		
Kori	2,137	1,635	67	76.5	380	503	551	201	56	3.4
					23.2	30.8	33.7	12.3		
Kunimi	1,624	1,240	45	76.4	238	382	443	177	44	3.5
					19.2	30.8	35.7	14.3		
Tenei	1,101	793	27	72.0	214	264	251	64	29	3.7
					27.0	33.3	31.7	8.1		
Shirakawa	12,742	9,666	335	75.9	2,547	2,942	3,124	1,053	394	4.1
					26.4	30.4	32.3	10.9		
Nishigo	4,173	3,178	122	76.2	889	1,006	944	339	144	4.5
					28.0	31.7	29.7	10.7		
Izumizaki	1,337	997	24	74.6	265	314	304	114	19	1.9
					26.6	31.5	30.5	11.4		
Miharu	3,183	2,386	67	75.0	533	682	808	363	69	2.9
					22.3	28.6	33.9	15.2		
Subtotal	216,876	159,127	11,395	73.4	39,712	49,578	50,774	19,063	12,972	8.2
					25.0	31.2	31.9	12.0		

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.

New records were identified, so numbers may vary slightly from previous reports.

Thyroid Ultrasound Examination (TUE) coverage by municipality

As of 30 September 2016

	Survey 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		
Screening coverage by municipality in FY 2015										
Iwaki	64,309	45,252	2,244	70.4	8,299	14,274	15,528	7,151	2,432	5.4
Sukagawa	15,879	11,447	308	72.1	18.3	31.5	34.3	15.8	358	3.1
Soma	7,087	4,749	291	67.0	2,651	3,676	3,737	1,383	383	8.1
Kagamiishi	2,705	1,978	35	73.1	23.2	32.1	32.6	12.1	55	2.8
Shinchi	1,476	1,037	44	70.3	1,121	1,540	1,597	491	56	5.4
Nakajima	1,115	754	8	67.6	23.6	32.4	33.6	10.3	11	1.5
Yabuki	3,422	2,412	68	70.5	526	625	624	203	64	2.7
Ishikawa	2,956	2,027	42	68.6	26.6	31.6	31.5	10.3	59	2.9
Yamatsuri	1,056	740	26	70.1	205	347	373	112	15	2.0
Asakawa	1,389	1,030	43	74.2	19.8	33.5	36.0	10.8	45	4.4
Hirata	1,272	855	17	67.2	135	251	290	78	19	2.2
Tanagura	3,089	2,160	63	69.9	17.9	33.3	38.5	10.3	68	3.1
Hanawa	1,715	1,166	30	68.0	629	757	800	226	34	2.9
Samegawa	723	495	19	68.5	26.1	31.4	33.2	9.4	17	3.4
Ono	1,990	1,262	29	63.4	482	592	718	235	30	2.4
Tamakawa	1,372	964	15	70.3	23.8	29.2	35.4	11.6	11	1.1
Furudono	1,084	794	32	73.2	195	225	232	88	25	3.1
Hinoemata	110	66	4	60.0	26.4	30.4	31.4	11.9	3	4.5
Minami-aizu	2,913	1,762	48	60.5	209	317	362	142	46	2.6
Kaneyama	203	121	5	59.6	20.3	30.8	35.1	13.8	5	4.1
Showa	134	93	3	69.4	202	274	297	82	4	4.3
Mishima	197	121	0	61.4	23.6	32.0	34.7	9.6	1	0.8
Shimogo	1,011	614	15	60.7	519	681	723	237	13	2.1
Kitakata	9,236	5,727	129	62.0	24.0	31.5	33.5	11.0	134	2.3
Nishiaizu	1,055	654	10	62.0	246	362	409	149	13	2.0
Tadami	735	458	6	62.3	21.1	31.0	35.1	12.8	8	1.7
Inawashiro	2,757	1,730	51	62.7	128	157	153	57	59	3.4
Bandai	628	401	10	63.9	25.9	31.7	30.9	11.5	8	2.0
Kitashiobara	581	377	11	64.9	238	420	440	164	12	3.2
Aizumisato	3,790	2,538	57	67.0	18.9	33.3	34.9	13.0	56	2.2
Aizubange	3,183	2,063	39	64.8	208	339	319	98	37	1.8
Yanaizu	612	386	4	63.1	21.6	35.2	33.1	10.2	3	0.8
Aizuwakamatsu	23,926	14,578	491	60.9	194	224	255	121	559	3.8
Yugawa	696	516	16	74.1	24.4	28.2	32.1	15.2	17	3.3
Subtotal	164,406	111,327	4,213	67.7	8	20	35	3	4,660	4.2
Total	381,282	270,454	15,608	70.9	61,836	85,384	89,543	33,691	17,632	6.5

Appendix 2

Thyroid Ultrasound Examination (TUE) coverage by prefecture

As of 31 August 2016

Prefecture	Number of test venues	Participants*	Prefecture	Number of test venues	Participants*	Prefecture	Number of test venues	Participants*
Hokkaido	6	415	Fukui	1	20	Hiroshima	1	42
Aomori	1	179	Yamanashi	2	147	Yamaguchi	1	20
Iwate	3	361	Nagano	2	156	Tokushima	1	11
Miyagi	2	2,935	Gifu	1	37	Kagawa	1	22
Akita	1	281	Shizuoka	2	135	Ehime	1	17
Yamagata	3	808	Aichi	3	243	Kochi	1	14
Ibaraki	4	894	Mie	1	37	Fukuoka	3	88
Tochigi	7	907	Shiga	1	27	Saga	1	15
Gunma	2	266	Kyoto	3	123	Nagasaki	2	36
Saitama	2	781	Osaka	7	271	Kumamoto	1	29
Chiba	4	833	Hyogo	1	142	Oita	1	35
Tokyo	12	2,653	Nara	2	31	Miyazaki	1	36
Kanagawa	5	1,372	Wakayama	1	8	Kagoshima	1	26
Niigata	2	907	Tottori	1	10	Okinawa	1	81
Toyama	1	25	Shimane	1	6			
Ishikawa	1	61	Okayama	3	65			
						Total	105	15,608

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

Appendix 3

Results of primary examination by municipality

As of 30 September 2016

	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	1,763	1,763	779	961	23	0	22	13	1	972
		100.0	44.2	54.5	1.3	0.0	1.2	0.7	0.1	55.1
Nemie	2,508	2,508	1,023	1,457	28	0	28	18	0	1,467
		100.0	40.8	58.1	1.1	0.0	1.1	0.7	0.0	58.5
Iitate	764	764	359	391	14	0	14	3	0	396
		100.0	47.0	51.2	1.8	0.0	1.8	0.4	0.0	51.8
Minami-soma	8,908	8,908	3,815	5,012	81	0	81	62	0	5,037
		100.0	42.8	56.3	0.9	0.0	0.9	0.7	0.0	56.5
Date	9,111	9,110	3,958	5,066	86	0	86	69	0	5,091
		100.0	43.4	55.6	0.9	0.0	0.9	0.8	0.0	55.9
Tamura	5,006	5,006	2,050	2,905	51	0	51	30	0	2,924
		100.0	41.0	58.0	1.0	0.0	1.0	0.6	0.0	58.4
Hirono	679	679	285	385	9	0	9	6	0	385
		100.0	42.0	56.7	1.3	0.0	1.3	0.9	0.0	56.7
Naraha	1,001	1,001	418	578	5	0	5	8	0	578
		100.0	41.8	57.7	0.5	0.0	0.5	0.8	0.0	57.7
Tomioka	2,002	2,001	820	1,157	24	0	24	19	0	1,165
		100.0	41.0	57.8	1.2	0.0	1.2	0.9	0.0	58.2
Kawauchi	213	213	69	142	2	0	2	1	0	143
		100.0	32.4	66.7	0.9	0.0	0.9	0.5	0.0	67.1
Okuma	1,758	1,758	760	982	16	0	16	12	0	985
		100.0	43.2	55.9	0.9	0.0	0.9	0.7	0.0	56.0
Futaba	685	685	283	400	2	0	2	7	0	399
		100.0	41.3	58.4	0.3	0.0	0.3	1.0	0.0	58.2
Katsurao	150	150	74	74	2	0	2	1	0	74
		100.0	49.3	49.3	1.3	0.0	1.3	0.7	0.0	49.3
Fukushima	42,693	42,692	18,064	24,279	349	0	347	265	0	24,405
		100.0	42.3	56.9	0.8	0.0	0.8	0.6	0.0	57.2
Nihonmatsu	7,885	7,885	3,436	4,390	59	0	59	55	0	4,400
		100.0	43.6	55.7	0.7	0.0	0.7	0.7	0.0	55.8
Motomiya	4,809	4,809	2,090	2,688	31	0	31	20	0	2,698
		100.0	43.5	55.9	0.6	0.0	0.6	0.4	0.0	56.1
Otama	1,263	1,263	567	690	6	0	6	8	0	690
		100.0	44.9	54.6	0.5	0.0	0.5	0.6	0.0	54.6
Koriyama	48,034	48,028	19,246	28,418	364	0	364	280	0	28,534
		100.0	40.1	59.2	0.8	0.0	0.8	0.6	0.0	59.4
Kori	1,635	1,635	703	918	14	0	14	11	0	921
		100.0	43.0	56.1	0.9	0.0	0.9	0.7	0.0	56.3
Kunimi	1,240	1,240	492	739	9	0	8	10	1	740
		100.0	39.7	59.6	0.7	0.0	0.6	0.8	0.1	59.7
Tenei	793	793	328	454	11	0	11	11	0	462
		100.0	41.4	57.3	1.4	0.0	1.4	1.4	0.0	58.3
Shirakawa	9,666	9,666	4,161	5,442	63	0	63	50	0	5,461
		100.0	43.0	56.3	0.7	0.0	0.7	0.5	0.0	56.5
Nishigo	3,178	3,178	1,356	1,794	28	0	28	25	0	1,802
		100.0	42.7	56.5	0.9	0.0	0.9	0.8	0.0	56.7
Izumizaki	997	997	369	624	4	0	4	10	0	624
		100.0	37.0	62.6	0.4	0.0	0.4	1.0	0.0	62.6
Miharu	2,386	2,386	921	1,441	24	0	24	13	0	1,449
		100.0	38.6	60.4	1.0	0.0	1.0	0.5	0.0	60.7
Subtotal	159,127	159,118	66,426	91,387	1,305	0	1,301	1,007	2	91,802
		100.0	41.7	57.4	0.8	0.0	0.8	0.6	0.0	57.7

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 (%)				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 2015										
Iwaki	45,252	45,245	16,904	27,965	376	0	372	232	4	28,091
		100.0	37.4	61.8	0.8	0.0	0.8	0.5	0.0	62.1
Sukagawa	11,447	11,446	4,439	6,902	105	0	105	56	0	6,955
		100.0	38.8	60.3	0.9	0.0	0.9	0.5	0.0	60.8
Soma	4,749	4,748	2,008	2,708	32	0	32	26	0	2,716
		100.0	42.3	57.0	0.7	0.0	0.7	0.5	0.0	57.2
Kagamiishi	1,978	1,978	787	1,175	16	0	16	10	0	1,179
		100.0	39.8	59.4	0.8	0.0	0.8	0.5	0.0	59.9
Shinchi	1,037	1,037	412	612	13	0	13	2	0	619
		100.0	39.7	59.0	1.3	0.0	1.3	0.2	0.0	59.7
Nakajima	754	754	305	444	5	0	5	4	0	444
		100.0	40.5	58.9	0.7	0.0	0.7	0.5	0.0	58.9
Yabuki	2,412	2,412	955	1,441	16	0	16	8	0	1,449
		100.0	39.6	59.7	0.7	0.0	0.7	0.3	0.0	60.1
Ishikawa	2,027	2,027	827	1,186	14	0	14	13	0	1,190
		100.0	40.8	58.5	0.7	0.0	0.7	0.6	0.0	58.7
Yamatsuri	740	740	269	465	6	0	6	1	0	467
		100.0	36.4	62.8	0.8	0.0	0.8	0.1	0.0	63.1
Asakawa	1,030	1,030	444	577	9	0	9	4	0	580
		100.0	43.1	56.0	0.9	0.0	0.9	0.4	0.0	56.3
Hirata	855	855	362	486	7	0	7	3	0	491
		100.0	42.3	56.8	0.8	0.0	0.8	0.4	0.0	57.4
Tanagura	2,160	2,160	862	1,281	17	0	17	10	0	1,289
		100.0	39.9	59.3	0.8	0.0	0.8	0.5	0.0	59.7
Hanawa	1,166	1,166	459	696	11	0	11	8	0	699
		100.0	39.4	59.7	0.9	0.0	0.9	0.7	0.0	59.9
Samegawa	495	494	185	303	6	0	6	4	0	306
		99.8	37.4	61.3	1.2	0.0	1.2	0.8	0.0	61.9
Ono	1,262	1,262	409	841	12	0	12	5	0	844
		100.0	32.4	66.6	1.0	0.0	1.0	0.4	0.0	66.9
Tamakawa	964	964	369	586	9	0	9	8	0	591
		100.0	38.3	60.8	0.9	0.0	0.9	0.8	0.0	61.3
Furudono	794	794	312	477	5	0	5	4	0	479
		100.0	39.3	60.1	0.6	0.0	0.6	0.5	0.0	60.3
Hinoemata	66	66	28	38	0	0	0	1	0	37
		100.0	42.4	57.6	0.0	0.0	0.0	1.5	0.0	56.1
Minami-aizu	1,762	1,762	688	1,058	16	0	16	5	0	1,069
		100.0	39.0	60.0	0.9	0.0	0.9	0.3	0.0	60.7
Kaneyama	121	121	39	82	0	0	0	0	0	82
		100.0	32.2	67.8	0.0	0.0	0.0	0.0	0.0	67.8
Showa	93	93	36	57	0	0	0	1	0	57
		100.0	38.7	61.3	0.0	0.0	0.0	1.1	0.0	61.3
Mishima	121	121	27	93	1	0	1	0	0	94
		100.0	22.3	76.9	0.8	0.0	0.8	0.0	0.0	77.7
Shimogo	614	614	250	360	4	0	4	3	0	362
		100.0	40.7	58.6	0.7	0.0	0.7	0.5	0.0	59.0
Kitakata	5,727	5,726	2,126	3,556	44	0	44	22	0	3,581
		100.0	37.1	62.1	0.8	0.0	0.8	0.4	0.0	62.5
Nishiaizu	654	654	288	361	5	0	5	5	0	361
		100.0	44.0	55.2	0.8	0.0	0.8	0.8	0.0	55.2
Tadami	458	458	176	275	7	0	7	2	0	278
		100.0	38.4	60.0	1.5	0.0	1.5	0.4	0.0	60.7
Inawashiro	1,730	1,730	689	1,029	12	0	12	9	0	1,036
		100.0	39.8	59.5	0.7	0.0	0.7	0.5	0.0	59.9
Bandai	401	401	157	240	4	0	4	1	0	243
		100.0	39.2	59.9	1.0	0.0	1.0	0.2	0.0	60.6
Kitashiobara	377	377	143	232	2	0	2	2	0	232
		100.0	37.9	61.5	0.5	0.0	0.5	0.5	0.0	61.5
Aizumisato	2,538	2,538	1,009	1,508	21	0	21	10	0	1,516
		100.0	39.8	59.4	0.8	0.0	0.8	0.4	0.0	59.7
Aizubange	2,063	2,063	705	1,340	18	0	18	18	0	1,347
		100.0	34.2	65.0	0.9	0.0	0.9	0.9	0.0	65.3
Yanaizu	386	386	154	232	0	0	0	1	0	232
		100.0	39.9	60.1	0.0	0.0	0.0	0.3	0.0	60.1
Aizuwakamatsu	14,578	14,575	5,245	9,210	120	0	120	80	0	9,259
		100.0	36.0	63.2	0.8	0.0	0.8	0.5	0.0	63.5
Yugawa	516	516	181	331	4	0	4	3	0	334
		100.0	35.1	64.1	0.8	0.0	0.8	0.6	0.0	64.7
Subtotal	111,327	111,313	42,249	68,147	917	0	913	561	4	68,509
		100.0	38.0	61.2	0.8	0.0	0.8	0.5	0.0	61.5
Total	270,454	270,431	108,675	159,534	2,222	0	2,214	1,568	6	160,311
		100.0	40.2	59.0	0.8	0.0	0.8	0.6	0.0	59.3

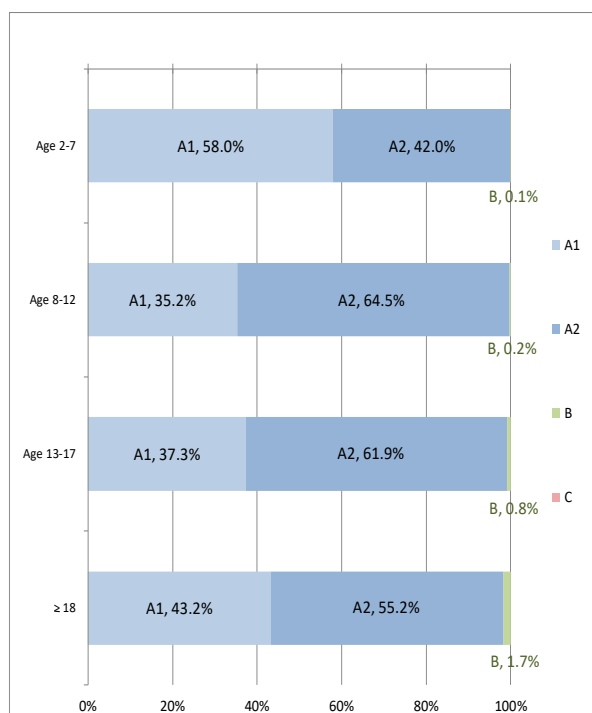
Appendix 4

1. Thyroid Ultrasound Examination results by age and sex

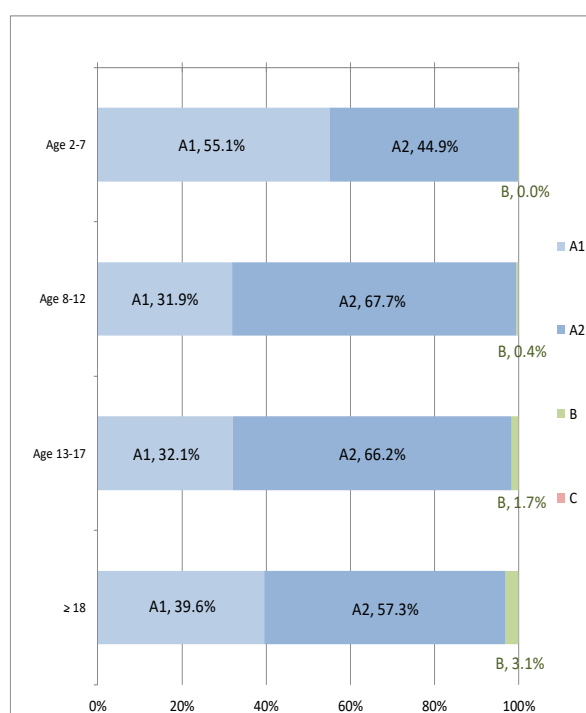
As of 30 September 2016

Ages	A						B			C			Total		
	A1			A2			Male	Female	Total	Male	Female	Total	Male	Female	Total
	Male	Female	Total	Male	Female	Total									
2-7	18,413	16,563	34,976	13,331	13,496	26,827	19	14	33	0	0	0	31,763	30,073	61,836
8-12	15,391	13,308	28,699	28,187	28,217	56,404	107	174	281	0	0	0	43,685	41,699	85,384
13-17	16,985	14,130	31,115	28,183	29,152	57,335	358	735	1,093	0	0	0	45,526	44,017	89,543
≥18	6,639	7,246	13,885	8,488	10,480	18,968	255	560	815	0	0	0	15,382	18,286	33,668
Total	57,428	51,247	108,675	78,189	81,345	159,534	739	1,483	2,222	0	0	0	136,356	134,075	270,431

Test results by age group (Male)



Test results by age group (Female)



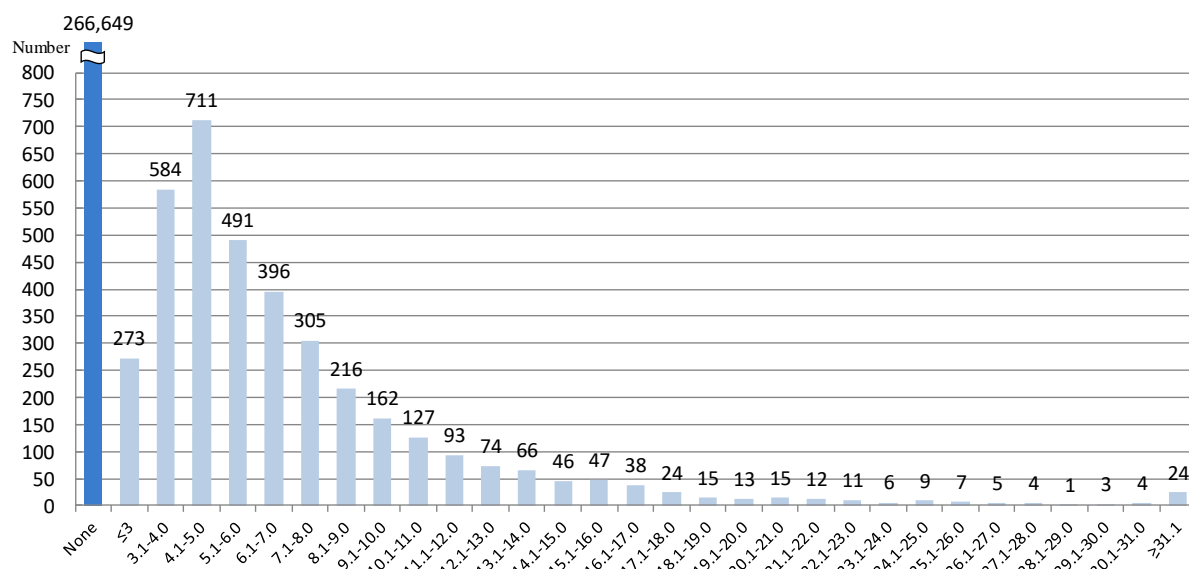
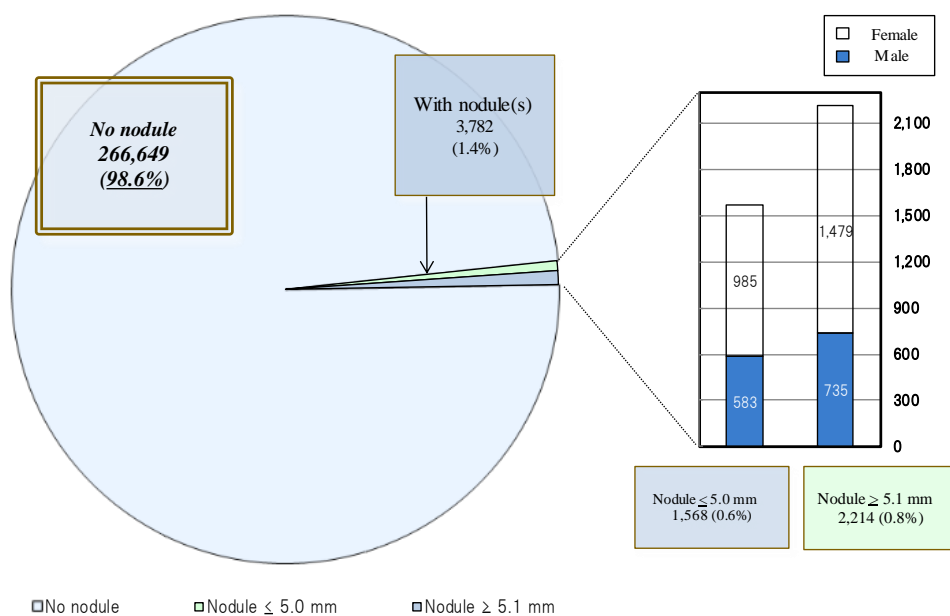
Percentages have been rounded and may not total to 100%.

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

2. Nodule size

As of 30 September 2016

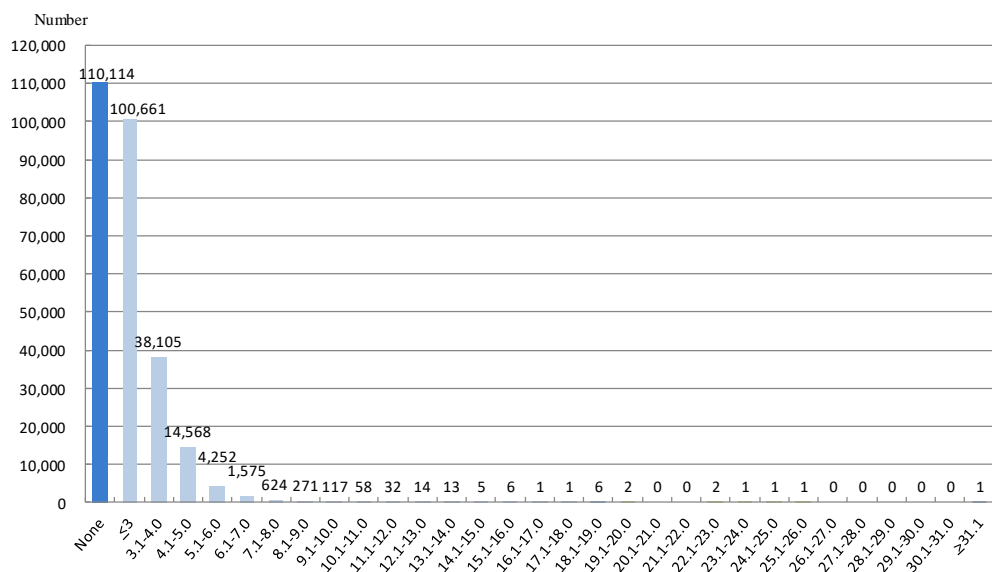
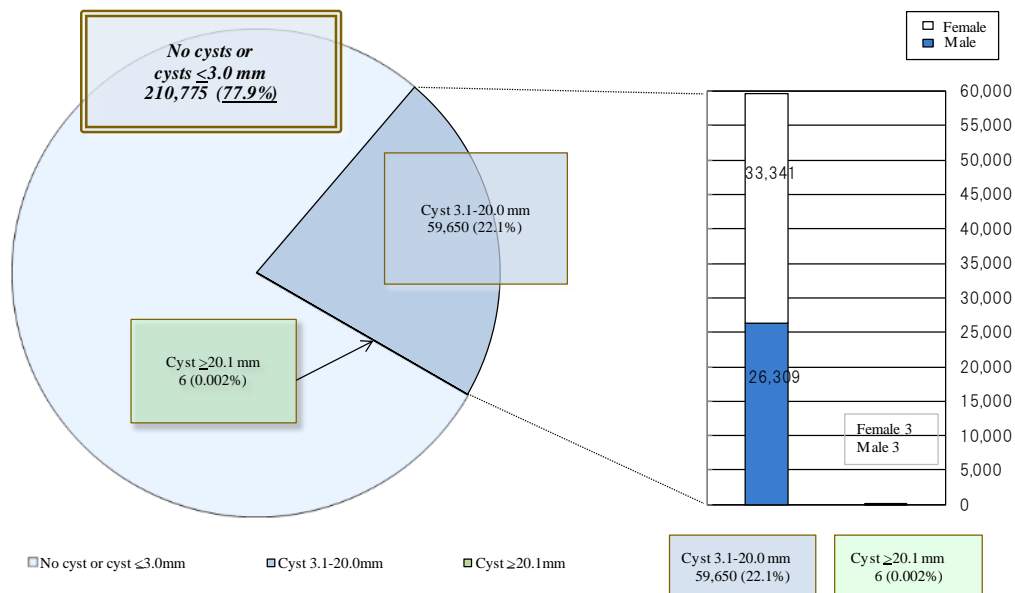
Nodule size	Total	Gender		Class	Proportion
		Male	Female		
None	266,649	135,038	131,611	A 1	98.6%
≤ 3.0 mm	273	117	156	A 2	0.6%
3.1-5.0 mm	1,295	466	829		
5.1-10.0 mm	1,570	514	1,056	B	0.8%
10.1-15.0 mm	406	144	262		
15.1-20.0 mm	137	55	82		
20.1-25.0 mm	53	8	45		
≥ 25.1 mm	48	14	34		
Total	270,431	136,356	134,075		



3. Cyst size

As of 30 September 2016

Cyst size	Total	Gender		Class	Proportion
		Male	Female		
None	110,114	57,948	52,166	A 1	77.9%
≤ 3.0 mm	100,661	52,096	48,565	A 2	
3.1-5.0 mm	52,673	23,931	28,742		
5.1-10.0 mm	6,839	2,335	4,504		
10.1-15.0 mm	122	39	83		
15.1-20.0 mm	16	4	12	B	22.1%
20.1-25.0 mm	4	2	2		
≥ 25.1 mm	2	1	1		
Total	270,431	136,356	134,075		



Appendix 5

Confirmatory test results by municipality

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

As of 30 September 2016

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

Screening coverage by municipality in FY 2014

Kawamata	1,763	23	20	0	3	12	5	20	3	7	10	1
		1.3	87.0	0.0	15.0	60.0	25.0	100.0	15.0	35.0	50.0	10.0
Namie	2,508	28	22	0	2	9	11	22	0	2	20	3
		1.1	78.6	0.0	9.1	40.9	50.0	100.0	0.0	9.1	90.9	15.0
Iitate	764	14	11	0	2	6	3	11	2	3	6	1
		1.8	78.6	0.0	18.2	54.5	27.3	100.0	18.2	27.3	54.5	16.7
Minami-soma	8,908	81	70	2	10	27	31	68	4	16	48	14
		0.9	86.4	2.9	14.3	38.6	44.3	97.1	5.9	23.5	70.6	29.2
Date	9,111	86	78	1	17	38	22	75	0	27	48	9
		0.9	90.7	1.3	21.8	48.7	28.2	96.2	0.0	36.0	64.0	18.8
Tamura	5,006	51	43	1	3	29	10	41	1	10	30	6
		1.0	84.3	2.3	7.0	67.4	23.3	95.3	2.4	24.4	73.2	20.0
Hirono	679	9	8	0	1	3	4	7	0	3	4	0
		1.3	88.9	0.0	12.5	37.5	50.0	87.5	0.0	42.9	57.1	0.0
Naraha	1,001	5	5	0	0	1	4	5	0	0	5	0
		0.5	100.0	0.0	0.0	20.0	80.0	100.0	0.0	0.0	100.0	0.0
Tomioka	2,002	24	21	0	3	4	14	20	1	5	14	1
		1.2	87.5	0.0	14.3	19.0	66.7	95.2	5.0	25.0	70.0	7.1
Kawauchi	213	2	2	0	0	1	1	2	0	0	2	0
		0.9	100.0	0.0	0.0	50.0	50.0	100.0	0.0	0.0	100.0	0.0
Okuma	1,758	16	13	0	1	6	6	13	0	2	11	3
		0.9	81.3	0.0	7.7	46.2	46.2	100.0	0.0	15.4	84.6	27.3
Futaba	685	2	1	0	0	0	1	1	1	0	0	0
		0.3	50.0	0.0	0.0	0.0	100.0	100.0	100.0	0.0	0.0	0.0
Katsurao	150	2	2	0	2	0	0	2	0	2	0	0
		1.3	100.0	0.0	100.0	0.0	0.0	100.0	0.0	100.0	0.0	0.0
Fukushima	42,693	349	294	5	39	140	110	287	12	53	222	50
		0.8	84.2	1.7	13.3	47.6	37.4	97.6	4.2	18.5	77.4	22.5
Nihonmatsu	7,885	59	51	1	6	23	21	50	1	9	40	4
		0.7	86.4	2.0	11.8	45.1	41.2	98.0	2.0	18.0	80.0	10.0
Motomiya	4,809	31	26	0	1	15	10	24	0	4	20	5
		0.6	83.9	0.0	3.8	57.7	38.5	92.3	0.0	16.7	83.3	25.0
Otama	1,263	6	6	0	0	4	2	6	0	3	3	0
		0.5	100.0	0.0	0.0	66.7	33.3	100.0	0.0	50.0	50.0	0.0
Koriyama	48,034	364	293	7	31	132	123	275	9	55	211	41
		0.8	80.5	2.4	10.6	45.1	42.0	93.9	3.3	20.0	76.7	19.4
Kori	1,635	14	10	0	1	5	4	9	0	3	6	1
		0.9	71.4	0.0	10.0	50.0	40.0	90.0	0.0	33.3	66.7	16.7
Kunimi	1,240	9	8	1	1	0	6	8	0	1	7	0
		0.7	88.9	12.5	12.5	0.0	75.0	100.0	0.0	12.5	87.5	0.0
Tenei	793	11	6	0	0	3	3	6	1	1	4	1
		1.4	54.5	0.0	0.0	50.0	50.0	100.0	16.7	16.7	66.7	25.0
Shirakawa	9,666	63	48	1	4	24	19	47	1	17	29	4
		0.7	76.2	2.1	8.3	50.0	39.6	97.9	2.1	36.2	61.7	13.8
Nishigo	3,178	28	21	0	2	13	6	21	0	8	13	4
		0.9	75.0	0.0	9.5	61.9	28.6	100.0	0.0	38.1	61.9	30.8
Izumizaki	997	4	3	0	0	1	2	2	0	0	2	0
		0.4	75.0	0.0	0.0	33.3	66.7	66.7	0.0	0.0	100.0	0.0
Miharu	2,386	24	15	0	0	10	5	14	1	6	7	0
		1.0	62.5	0.0	0.0	66.7	33.3	93.3	7.1	42.9	50.0	0.0
Subtotal	159,127	1,305	1077	19	129	506	423	1036	37	237	762	148
		0.8	82.5	1.8	12.0	47.0	39.3	96.2	3.6	22.9	73.6	19.4

h) Excluding participants who have not received 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

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

As of 30 September 2016

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

Screening coverage by municipality in FY 2015

Iwaki	45,252	376	240	2	22	95	121
		0.8	63.8	0.8	9.2	39.6	50.4
Sukagawa	11,447	105	84	2	10	39	33
		0.9	80.0	2.4	11.9	46.4	39.3
Soma	4,749	32	27	3	2	14	8
		0.7	84.4	11.1	7.4	51.9	29.6
Kagamiishi	1,978	16	14	0	0	7	7
		0.8	87.5	0.0	0.0	50.0	50.0
Shinchi	1,037	13	11	0	2	5	4
		1.3	84.6	0.0	18.2	45.5	36.4
Nakajima	754	5	4	0	0	3	1
		0.7	80.0	0.0	0.0	75.0	25.0
Yabuki	2,412	16	14	0	3	5	6
		0.7	87.5	0.0	21.4	35.7	42.9
Ishikawa	2,027	14	12	0	1	8	3
		0.7	85.7	0.0	8.3	66.7	25.0
Yamatsuri	740	6	4	0	1	1	2
		0.8	66.7	0.0	25.0	25.0	50.0
Asakawa	1,030	9	8	1	0	4	3
		0.9	88.9	12.5	0.0	50.0	37.5
Hirata	855	7	5	0	2	3	0
		0.8	71.4	0.0	40.0	60.0	0.0
Tanagura	2,160	17	12	0	2	6	4
		0.8	70.6	0.0	16.7	50.0	33.3
Hanawa	1,166	11	10	0	0	5	5
		0.9	90.9	0.0	0.0	50.0	50.0
Samegawa	495	6	5	0	0	3	2
		1.2	83.3	0.0	0.0	60.0	40.0
Ono	1,262	12	9	0	2	4	3
		1.0	75.0	0.0	22.2	44.4	33.3
Tamakawa	964	9	5	0	0	4	1
		0.9	55.6	0.0	0.0	80.0	20.0
Furudono	794	5	5	0	1	1	3
		0.6	100.0	0.0	20.0	20.0	60.0
Hinoemata	66	0	0	0	0	0	0
		0.0	0.0	0.0	0.0	0.0	0.0
Minami-aizu	1,762	16	11	0	3	6	2
		0.9	68.8	0.0	27.3	54.5	18.2
Kaneyama	121	0	0	0	0	0	0
		0.0	0.0	0.0	0.0	0.0	0.0
Showa	93	0	0	0	0	0	0
		0.0	0.0	0.0	0.0	0.0	0.0
Mishima	121	1	1	0	0	1	0
		0.8	100.0	0.0	0.0	100.0	0.0
Shimogo	614	4	2	0	0	0	2
		0.7	50.0	0.0	0.0	0.0	100.0
Kitakata	5,727	44	27	0	1	14	12
		0.8	61.4	0.0	3.7	51.9	44.4
Nishiaizu	654	5	3	0	0	2	1
		0.8	60.0	0.0	0.0	66.7	33.3
Tadami	458	7	3	0	0	2	1
		1.5	42.9	0.0	0.0	66.7	33.3
Inawashiro	1,730	12	10	0	0	5	5
		0.7	83.3	0.0	0.0	50.0	50.0
Bandai	401	4	3	0	0	0	3
		1.0	75.0	0.0	0.0	0.0	100.0
Kitashiobara	377	2	2	0	1	0	1
		0.5	100.0	0.0	50.0	0.0	50.0
Aizumisato	2,538	21	10	1	1	3	5
		0.8	47.6	10.0	10.0	30.0	50.0
Aizubange	2,063	18	11	0	0	5	6
		0.9	61.1	0.0	0.0	45.5	54.5
Yanaizu	386	0	0	0	0	0	0
		0.0	0.0	0.0	0.0	0.0	0.0
Aizuwakamatsu	14,578	120	54	0	2	30	22
		0.8	45.0	0.0	3.7	55.6	40.7
Yugawa	516	4	2	0	0	2	0
		0.8	50.0	0.0	0.0	100.0	0.0
Subtotal	111,327	917	608	9	56	277	266
		0.8	66.3	1.5	9.2	45.6	43.8

Total	270,454	2,222	1,685	28	185	783	689
		0.8	75.8	1.7	11.0	46.5	40.9

199	6	33	160	17
82.9	3.0	16.6	80.4	10.6
75	1	18	56	5
89.3	1.3	24.0	74.7	8.9
24	0	5	19	2
88.9	0.0	20.8	79.2	10.5
13	0	2	11	1
92.9	0.0	15.4	84.6	9.1
11	1	2	8	2
100.0	9.1	18.2	72.7	25.0
4	0	0	4	1
100.0	0.0	0.0	100.0	25.0
14	0	4	10	0
100.0	0.0	28.6	71.4	0.0
12	1	3	8	1
100.0	8.3	25.0	66.7	12.5
3	0	2	1	1
75.0	0.0	66.7	33.3	100.0
8	1	0	7	1
100.0	12.5	0.0	87.5	14.3
5	0	2	3	0
100.0	0.0	40.0	60.0	0.0
10	0	1	9	3
83.3	0.0	10.0	90.0	33.3
9	1	1	7	1
90.0	11.1	11.1	77.8	14.3
5	0	0	5	0
100.0	0.0	0.0	100.0	0.0
8	1	0	7	0
88.9	12.5	0.0	87.5	0.0
5	0	1	4	0
100.0	0.0	20.0	80.0	0.0
5	0	2	3	0
100.0	0.0	40.0	60.0	0.0
0	0	0	0	0
0.0	0.0	0.0	0.0	0.0
10	0	2	8	0
90.9	0.0	20.0	80.0	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
1	0	0	1	0
100.0	0.0	0.0	100.0	0.0
2	0	0	2	1
100.0	0.0	0.0	100.0	50.0
20	0	2	18	3
74.1	0.0	10.0	90.0	16.7
3	0	1	2	0
100.0	0.0	33.3	66.7	0.0
3	0	0	3	1
100.0	0.0	0.0	100.0	33.3
8	0	1	7	0
80.0	0.0	12.5	87.5	0.0
3	0	0	3	0
100.0	0.0	0.0	100.0	0.0
2	0	0	2	0
100.0	0.0	0.0	100.0	0.0
7	1	2	4	0
70.0	14.3	28.6	57.1	0.0
7	0	0	7	0
63.6	0.0	0.0	100.0	0.0
0	0	0	0	0
0.0	0.0	0.0	0.0	0.0
40	2	5	33	1
74.1	5.0	12.5	82.5	3.0
1	0	0	1	0
50.0	0.0	0.0	100.0	0.0
369	15	89	413	41
85.4	2.9	17.2	79.9	9.9

Appendix 6

Surgical cases for malignancy or suspicion of malignancy

1. Target municipalities in FY 2014

Suspicious or malignant: 51 (36 surgical cases: 35 papillary thyroid carcinomas, 1 other thyroid carcinoma)

2. Target municipalities in FY 2015

Suspicious or malignant: 17 (8 surgical cases: 8 papillary thyroid carcinomas)

3. Total for cases FY 2014 - 2015

Suspicious or malignant: 68 (44 surgical cases: 43 papillary thyroid carcinomas, 1 other thyroid carcinoma)

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

Reported on 27 December 2016

1. Summary

1.1 Purpose

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

1.2 Group

In addition to those residing in Fukushima Prefecture – including visitors – who were born between 2 April 1992 and 1 April 2011, included in Preliminary Baseline Screening, the Full-scale Thyroid Screening (second- and third-round examinations) also includes those who were born between 2 April 2011 and 1 April 2012.

1.3 Implementation Period

The Second Full-scale Screening Program started 1 May 2016 and will cover examinees up to age 20 on a municipality-by-municipality schedule to FY 2017. Thereafter, we will revise the schedule to screen examinees every five years – at ages 25 and 30 for example – to make it easier for examinees to remember when they are due for examination. However, we will endeavor to make sure they do not let more than five years pass between the examinations through age 25.

1.4 Responsible Organizations

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

As of 30 September 2016, we provide the primary examination at 57 medical institutions under contract, and try to have more institutions inside Fukushima Prefecture.

One hundred five institutions outside Fukushima Prefecture have agreed to cooperate as of 30 September 2016.

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 35 institutions that provide the examination as of 30 September 2016.

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 2018.

A1: No nodules / cysts

A2: Nodules ≤ 5.0 mm or cysts ≤ 20.0 mm

-Diagnostic Criteria (B)

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

B: Nodules ≥ 5.1 mm or cysts ≥ 20.1 mm

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

-Diagnostic Criteria (C)

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

C: Immediate need for confirmatory examination.

1.5-2 Confirmatory Examination

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

1.5-3 Flow chart

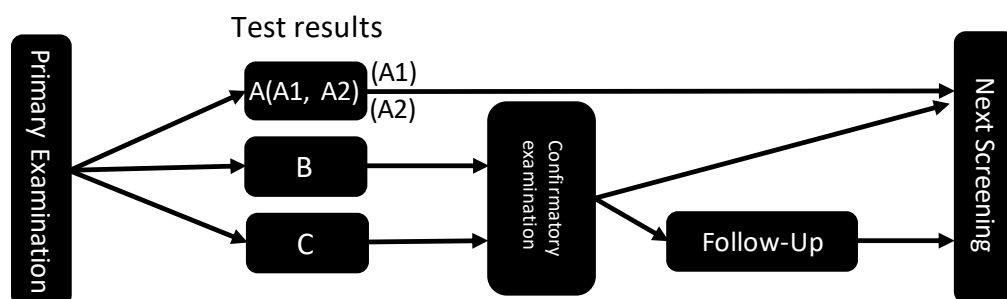


Fig.1 Flow chart

1.6 Target Municipalities

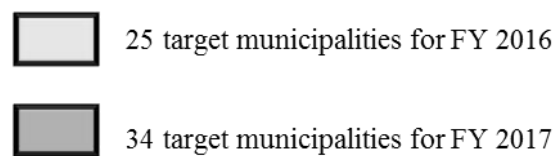


Fig.2 Target Municipalities

2. Results as of 30 September 2016

2.1 Results of Primary Examination

2.1-1 Progress Report

The Primary Examination started 1 May 2016, and the participation rate is 14.7% (49,387 of 336,609) from 59 municipalities (25 municipalities in FY 2016, and 34 in FY 2017). (See Appendix 1 and 2.)

The results have been returned to 61.3% (30,253) of the participants. (See Appendix 3.)

Those with A1 or A2 test results were 30,042 (99.3%), B were 211 (0.7%), and C was 0.

Table 1. Screening test coverage as of 30 September 2016

	Survey Population a	Participants		Proportion (%) c (c/b)	Test results			
		Proportion (%) b (b/a)	Screened outside Fukushima		Class (%)			
					A		Requiring confirmatory test	
					A1 d (d/c)	A2 e (e/c)	B f (f/c)	C g (g/c)
FY 2016	191,843	48,482 (25.3)	2,362	29,606 (61.1)	10,711 (36.2)	18,688 (63.1)	207 (0.7)	0 (0.0)
FY 2017	144,766	905 (0.6)	133	647 (71.5)	273 (42.2)	370 (57.2)	4 (0.6)	0 (0.0)
Total	336,609	49,387 (14.7)	2,495	30,253 (61.3)	10,984 (36.3)	19,058 (63.0)	211 (0.7)	0 (0.0)

Table 2. Number and proportion of children with nodules/cysts as of 30 September 2016

	Number of confirmed screening results a	Number and proportion of children with nodules/cysts			
		Nodules		Cysts	
		≥5.1 mm b (b/a)	≤5.0 mm c (c/a)	≥20.1 mm d (d/a)	≤20.0 mm e (e/a)
FY 2016	29,606	207 (0.7)	116 (0.4)	0 (0.0)	18,789 (63.5)
FY 2017	647	4 (0.6)	2 (0.3)	0 (0.0)	374 (57.8)
Total	30,253	211 (0.7)	118 (0.4)	0 (0.0)	19,163 (63.3)

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

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

2.1-2 Comparison with the First Full-scale Thyroid Screening (Second-Round Examination)

Among 28,246 participants who were diagnosed as A1 or A2 in the First Full-scale Thyroid Screening, 28,142 (99.6%) had A1 or A2 results, and 104 (0.4%) were diagnosed as B from the Second Full-scale Thyroid Screening Program.

Among 168 participants who were diagnosed as B in the First Full-scale Thyroid Screening, 73 (43.5%) had A1 or A2 results, and 95 (56.5%) were diagnosed as B from the Second Full-scale Thyroid Screening Program.

Table 3. Comparison with the First Full-scale Thyroid Screening As of 30 September 2016

			Number of test results of the First Full-scale Thyroid Screening* (%) a	Results of the Second Full-scale Thyroid Screening			
				A		B d d/a (%)	C e e/a (%)
				A1 b b/a (%)	A2 c c/a (%)		
Results of the First Full-scale Thyroid Screening	A	A1	12,628 (100.0)	8,753 (69.3)	3,852 (30.5)	23 (0.2)	0 (0.0)
		A2	15,618 (100.0)	1,358 (8.7)	14,179 (90.8)	81 (0.5)	0 (0.0)
		B	168 (100.0)	12 (7.1)	61 (36.3)	95 (56.5)	0 (0.0)
		C	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
		Non-participants	1,839 (100.0)	861 (46.8)	966 (52.5)	12 (0.7)	0 (0.0)
Total			30,253 (100.0)	10,984 (36.3)	19,058 (63.0)	211 (0.7)	0 (0.0)

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

This is not the breakdown of the total (270,431) of confirmed screening results from the First Full-scale Thyroid Screening.

2.2 Results of Confirmatory Examination

2.2-1 Progress Report

Confirmatory Examinations start October 2016, so as of 30 September 2016 they have not been implemented. There are 211 of them. (See Appendix 5.)

Table 4. Confirmatory testing coverage and results as of 30 September 2016

	Number of those requiring confirmatory test a	Participants Proportion (%) b (b/a)	Confirmatory test coverage (%) c (c/b)	Confirmed test results			
				Next screening advised		Follow-up advised	
				A1 d (d/c)	A2 e (e/c)	f (f/c)	Cytology g (g/f)
FY 2016	207	-	-	-	-	-	-
FY 2017	4	-	-	-	-	-	-
Total	211	-	-	-	-	-	-

2.2-2 Confirmatory test results by municipality as of 30 September 2016

The Confirmatory Examination is due to start October 2016.

Table 5.

Confirmatory test results by municipality in FY 2016

	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	1,286	3	0.2	-	-	-
Namie	810	3	0.4	-	-	-
Iitate	445	3	0.7	-	-	-
Minami-soma	5,195	34	0.7	-	-	-
Date	6,540	31	0.5	-	-	-
Tamura	3,127	26	0.8	-	-	-
Hirono	269	2	0.7	-	-	-
Naraha	205	0	0.0	-	-	-
Tomioka	314	2	0.6	-	-	-
Kawauchi	79	0	0.0	-	-	-
Okuma	344	3	0.9	-	-	-
Futaba	109	1	0.9	-	-	-
Katsurao	49	0	0.0	-	-	-
Fukushima	16,613	34	0.2	-	-	-
Nihonmatsu	5,783	36	0.6	-	-	-
Motomiya	3,302	9	0.3	-	-	-
Otama	943	5	0.5	-	-	-
Koriyama	712	5	0.7	-	-	-
Kori	1,251	4	0.3	-	-	-
Kunimi	957	6	0.6	-	-	-
Tenei	10	0	0.0	-	-	-
Shirakawa	34	0	0.0	-	-	-
Nishigo	10	0	0.0	-	-	-
Izumizaki	7	0	0.0	-	-	-
Miharu	88	0	0.0	-	-	-
Subtotal	48,482	207	0.4	-	-	-

Confirmatory test results by municipality in FY 2017

	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	325	2	0.6	-	-	-
Sukagawa	56	0	0.0	-	-	-
Soma	204	1	0.5	-	-	-
Kagamiishi	6	0	0.0	-	-	-
Shinchi	26	0	0.0	-	-	-
Nakajima	1	0	0.0	-	-	-
Yabuki	9	0	0.0	-	-	-
Ishikawa	12	0	0.0	-	-	-
Yamatsuri	2	0	0.0	-	-	-
Asakawa	1	0	0.0	-	-	-
Hirata	7	0	0.0	-	-	-
Tanagura	9	0	0.0	-	-	-
Hanawa	5	0	0.0	-	-	-
Samegawa	2	0	0.0	-	-	-
Ono	21	0	0.0	-	-	-
Tamakawa	7	0	0.0	-	-	-
Furudono	5	0	0.0	-	-	-
Hinoemata	0	0	0.0	-	-	-
Minami-aizu	10	0	0.0	-	-	-
Kaneyama	0	0	0.0	-	-	-
Showa	0	0	0.0	-	-	-
Mishima	0	0	0.0	-	-	-
Shimogo	3	0	0.0	-	-	-
Kitakata	28	0	0.0	-	-	-
Nishiaizu	3	0	0.0	-	-	-
Tadami	5	0	0.0	-	-	-
Inawashiro	23	0	0.0	-	-	-
Bandai	0	0	0.0	-	-	-
Kitashiobara	2	0	0.0	-	-	-
Aizumisato	10	0	0.0	-	-	-
Aizubange	16	0	0.0	-	-	-
Yanaizu	0	0	0.0	-	-	-
Aizuwakamatsu	100	1	1.0	-	-	-
Yugawa	7	0	0.0	-	-	-
Subtotal	905	4	0.4	-	-	-

* Because this table shows the proportion of confirmatory test examinees among participants of the primary examination, it is different from the proportion of primary test results in table 1 on P.4.

2.3 Mental Health Care

2.3-1 Support for participants of primary examination

Since July 2015, we offer person-to-person explanations to participants at public venues where primary examinations take place. After an examination, this service is provided on request, with physicians using an online video link to private consultation booths at the venue. As of 30 September 2016, 16,519 (76.9%) of 21,469 participants visited the consultation booth. When the booth cannot be set up at a venue, phone support or briefing sessions at schools are offered as an alternative.

2.3-2 Support for participants of confirmatory examination

The Confirmatory Examination had not been implemented at the time of this report.

Appendix 1

Thyroid Ultrasound Examination (TUE) coverage by municipality

As of 30 September 2016

	Survey Population	Participants		Proportion (%)	Number and proportion of participants by age group				Participants living outside Fukushima	Proportion (%)
		Screened outside Fukushima 3)								
			4-9		10-14	15-19	≥ 20			
	a	b	3)	b/a					c	c/b
Screening coverage by municipality in FY 2016										
Kawamata	2,142	1,286	16	60.0	376	524	352	34	20	1.6
					29.2	40.7	27.4	2.6		
Namie	3,314	810	216	24.4	210	239	292	69	307	37.9
					25.9	29.5	36.0	8.5		
Iitate	987	445	10	45.1	106	198	131	10	18	4.0
					23.8	44.5	29.4	2.2		
Minami-soma	11,540	5,195	486	45.0	1,606	2,106	1,310	173	735	14.1
					30.9	40.5	25.2	3.3		
Date	10,208	6,540	99	64.1	1,884	2,574	1,867	215	118	1.8
					28.8	39.4	28.5	3.3		
Tamura	6,344	3,127	49	49.3	1,148	1,499	418	62	59	1.9
					36.7	47.9	13.4	2.0		
Hirono	975	269	30	27.6	100	109	46	14	35	13.0
					37.2	40.5	17.1	5.2		
Naraha	1,281	205	42	16.0	72	87	41	5	58	28.3
					35.1	42.4	20.0	2.4		
Tomioka	2,751	314	128	11.4	86	97	107	24	180	57.3
					27.4	30.9	34.1	7.6		
Kawauchi	297	79	6	26.6	25	32	22	0	8	10.1
					31.6	40.5	27.8	0.0		
Okuma	2,258	344	131	15.2	133	110	87	14	182	52.9
					38.7	32.0	25.3	4.1		
Futaba	1,133	109	40	9.6	36	43	27	3	64	58.7
					33.0	39.4	24.8	2.8		
Katsurao	211	49	3	23.2	18	20	7	4	4	8.2
					36.7	40.8	14.3	8.2		
Fukushima	49,339	16,613	834	33.7	4,829	3,610	7,233	941	1,280	7.7
					29.1	21.7	43.5	5.7		
Nihonmatsu	9,308	5,783	108	62.1	1,815	2,355	1,470	143	119	2.1
					31.4	40.7	25.4	2.5		
Motomiya	5,614	3,302	60	58.8	1,187	1,365	671	79	66	2.0
					35.9	41.3	20.3	2.4		
Otama	1,468	943	18	64.2	344	397	178	24	21	2.2
					36.5	42.1	18.9	2.5		
Koriyama	59,447	712	40	1.2	270	110	295	37	41	5.8
					37.9	15.4	41.4	5.2		
Kori	1,853	1,251	19	67.5	396	490	319	46	15	1.2
					31.7	39.2	25.5	3.7		
Kunimi	1,405	957	19	68.1	267	377	274	39	17	1.8
					27.9	39.4	28.6	4.1		
Tenei	966	10	3	1.0	4	4	2	0	3	30.0
					40.0	40.0	20.0	0.0		
Shirakawa	11,353	34	4	0.3	11	9	12	2	3	8.8
					32.4	26.5	35.3	5.9		
Nishigo	3,721	10	1	0.3	1	3	5	1	1	10.0
					10.0	30.0	50.0	10.0		
Izumizaki	1,163	7	0	0.6	2	1	4	0	1	14.3
					28.6	14.3	57.1	0.0		
Miharu	2,765	88	0	3.2	31	15	40	2	1	1.1
					35.2	17.0	45.5	2.3		
Subtotal	191,843	48,482	2,362	25.3	14,957	16,374	15,210	1,941	3,356	6.9
					30.9	33.8	31.4	4.0		

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 (the Second Full-scale Thyroid Screening).

Thyroid Ultrasound Examination (TUE) coverage by municipality

As of 30 September 2016

Hybrid Ultrasound Examination (HUE) coverage by municipality										As of 30 September 2017	
	Survey Population	Participants		Proportion (%)	Number and proportion of participants by age group				Participants living outside Fukushima	Proportion (%)	
		Screened outside Fukushima 3)	b/a		4-9	10-14	15-19	≥ 20			c
a	b			3)							
Screening coverage by municipality in FY 2017											
Iwaki	56,789	325	62	0.6	108 33.2	56 17.2	121 37.2	40 12.3	58	17.8	
Sukagawa	14,109	56	9	0.4	27 48.2	14 25.0	12 21.4	3 5.4	9	16.1	
Soma	6,256	204	5	3.3	42 20.6	20 9.8	138 67.6	4 2.0	3	1.5	
Kagamiishi	2,417	6	1	0.2	0 0.0	2 33.3	2 33.3	2 33.3	1	16.7	
Shinchi	1,319	26	1	2.0	3 11.5	1 3.8	21 80.8	1 3.8	1	3.8	
Nakajima	972	1	0	0.1	1 100.0	0 0.0	0 0.0	0 0.0	0	0.0	
Yabuki	3,042	9	4	0.3	3 33.3	3 33.3	1 11.1	2 22.2	3	33.3	
Ishikawa	2,537	12	1	0.5	4 33.3	2 16.7	6 50.0	0 0.0	2	16.7	
Yamatsuri	931	2	0	0.2	0 0.0	0 0.0	2 100.0	0 0.0	0	0.0	
Asakawa	1,211	1	0	0.1	0 0.0	0 0.0	0 0.0	1 100.0	0	0.0	
Hirata	1,101	7	0	0.6	3 42.9	2 28.6	2 28.6	0 0.0	0	0.0	
Tanagura	2,750	9	3	0.3	3 33.3	3 33.3	1 11.1	2 22.2	3	33.3	
Hanawa	1,492	5	0	0.3	2 40.0	0 0.0	3 60.0	0 0.0	1	20.0	
Samegawa	616	2	1	0.3	0 0.0	1 50.0	1 50.0	0 0.0	1	50.0	
Ono	1,720	21	5	1.2	7 33.3	6 28.6	8 38.1	0 0.0	2	9.5	
Tamakawa	1,211	7	0	0.6	2 28.6	4 57.1	1 14.3	0 0.0	0	0.0	
Furudono	945	5	1	0.5	3 60.0	0 0.0	1 20.0	1 20.0	1	20.0	
Hinoemata	94	0	0	0.0	0 0.0	0 0.0	0 0.0	0 0.0	0	0.0	
Minami-aizu	2,512	10	0	0.4	2 20.0	2 20.0	6 60.0	0 0.0	0	0.0	
Kaneyama	177	0	0	0.0	0 0.0	0 0.0	0 0.0	0 0.0	0	0.0	
Showa	127	0	0	0.0	0 0.0	0 0.0	0 0.0	0 0.0	0	0.0	
Mishima	174	0	0	0.0	0 0.0	0 0.0	0 0.0	0 0.0	0	0.0	
Shimogo	870	3	0	0.3	0 0.0	0 0.0	3 100.0	0 0.0	0	0.0	
Kitakata	8,077	28	6	0.3	5 17.9	7 25.0	10 35.7	6 21.4	8	28.6	
Nishiaizu	885	3	1	0.3	1 33.3	0 0.0	1 33.3	1 33.3	1	33.3	
Tadami	641	5	0	0.8	2 40.0	2 40.0	1 20.0	0 0.0	0	0.0	
Inawashiro	2,383	23	0	1.0	11 47.8	4 17.4	8 34.8	0 0.0	6	26.1	
Bandai	555	0	0	0.0	0 0.0	0 0.0	0 0.0	0 0.0	0	0.0	
Kitashiobara	502	2	0	0.4	0 0.0	0 0.0	2 100.0	0 0.0	0	0.0	
Aizumisato	3,311	10	1	0.3	3 30.0	4 40.0	3 30.0	0 0.0	1	10.0	
Aizubange	2,790	16	4	0.6	2 12.5	0 0.0	9 56.3	5 31.3	4	25.0	
Yanaizu	537	0	0	0.0	0 0.0	0 0.0	0 0.0	0 0.0	0	0.0	
Aizuwakamatsu	21,107	100	28	0.5	32 32.0	17 17.0	33 33.0	18 18.0	24	24.0	
Yugawa	606	7	0	1.2	0 0.0	0 0.0	7 100.0	0 0.0	0	0.0	
Subtotal	144,766	905	133	0.6	266 29.4	150 16.6	403 44.5	86 9.5	129	14.3	
Total	336,609	49,387	2,495	14.7	15,223 30.8	16,524 33.5	15,613 31.6	2,027 4.1	3,485	7.1	

Appendix 2

Thyroid Ultrasound Examination (TUE) coverage by prefecture

As of 31 August 2016

Prefecture	Number of test venues	Participants*	Prefecture	Number of test venues	Participants*	Prefecture	Number of test venues	Participants*
Hokkaido	6	100	Fukui	1	6	Hiroshima	1	5
Aomori	1	53	Yamanashi	2	38	Yamaguchi	1	13
Iwate	3	87	Nagano	2	40	Tokushima	1	1
Miyagi	2	277	Gifu	1	12	Kagawa	1	3
Akita	1	23	Shizuoka	2	29	Ehime	1	0
Yamagata	3	125	Aichi	3	59	Kochi	1	5
Ibaraki	4	161	Mie	1	10	Fukuoka	3	21
Tochigi	7	229	Shiga	1	5	Saga	1	4
Gunma	2	52	Kyoto	3	25	Nagasaki	2	8
Saitama	2	142	Osaka	7	40	Kumamoto	1	9
Chiba	4	133	Hyogo	1	12	Oita	1	5
Tokyo	12	421	Nara	2	2	Miyazaki	1	6
Kanagawa	5	117	Wakayama	1	4	Kagoshima	1	7
Niigata	2	147	Tottori	1	6	Okinawa	1	8
Toyama	1	5	Shimane	1	9			
Ishikawa	1	17	Okayama	3	14			
						Total	105	2,495

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

Appendix 3

Results of primary examination by municipality

As of 30 September 2016

	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 2016

Kawamata	1,286	1,085	379	703	3	0	3	6	0	705
		84.4	34.9	64.8	0.3	0.0	0.3	0.6	0.0	65.0
Nanie	810	451	160	288	3	0	3	5	0	287
		55.7	35.5	63.9	0.7	0.0	0.7	1.1	0.0	63.6
Iitate	445	302	103	196	3	0	3	1	0	196
		67.9	34.1	64.9	1.0	0.0	1.0	0.3	0.0	64.9
Minami-soma	5,195	4,440	1,530	2,876	34	0	34	20	0	2,891
		85.5	34.5	64.8	0.8	0.0	0.8	0.5	0.0	65.1
Date	6,540	5,521	1,870	3,620	31	0	31	17	0	3,637
		84.4	33.9	65.6	0.6	0.0	0.6	0.3	0.0	65.9
Tamura	3,127	2,883	1,047	1,810	26	0	26	16	0	1,824
		92.2	36.3	62.8	0.9	0.0	0.9	0.6	0.0	63.3
Hirono	269	244	70	172	2	0	2	1	0	173
		90.7	28.7	70.5	0.8	0.0	0.8	0.4	0.0	70.9
Naraha	205	177	62	115	0	0	0	0	0	115
		86.3	35.0	65.0	0.0	0.0	0.0	0.0	0.0	65.0
Tomioka	314	192	62	128	2	0	2	0	0	129
		61.1	32.3	66.7	1.0	0.0	1.0	0.0	0.0	67.2
Kawauchi	79	68	20	48	0	0	0	0	0	48
		86.1	29.4	70.6	0.0	0.0	0.0	0.0	0.0	70.6
Okuma	344	210	71	136	3	0	3	1	0	136
		61.0	33.8	64.8	1.4	0.0	1.4	0.5	0.0	64.8
Futaba	109	74	30	43	1	0	1	0	0	43
		67.9	40.5	58.1	1.4	0.0	1.4	0.0	0.0	58.1
Katsurao	49	44	16	28	0	0	0	0	0	28
		89.8	36.4	63.6	0.0	0.0	0.0	0.0	0.0	63.6
Fukushima	16,613	4,400	1,964	2,402	34	0	34	25	0	2,411
		26.5	44.6	54.6	0.8	0.0	0.8	0.6	0.0	54.8
Nihonmatsu	5,783	3,873	1,372	2,465	36	0	36	14	0	2,487
		67.0	35.4	63.6	0.9	0.0	0.9	0.4	0.0	64.2
Motomiya	3,302	2,334	779	1,546	9	0	9	3	0	1,553
		70.7	33.4	66.2	0.4	0.0	0.4	0.1	0.0	66.5
Otama	943	886	318	563	5	0	5	1	0	568
		94.0	35.9	63.5	0.6	0.0	0.6	0.1	0.0	64.1
Koriyama	712	484	183	296	5	0	5	3	0	297
		68.0	37.8	61.2	1.0	0.0	1.0	0.6	0.0	61.4
Kori	1,251	1,060	383	673	4	0	4	2	0	676
		84.7	36.1	63.5	0.4	0.0	0.4	0.2	0.0	63.8
Kunimi	957	770	250	514	6	0	6	1	0	519
		80.5	32.5	66.8	0.8	0.0	0.8	0.1	0.0	67.4
Tenei	10	5	1	4	0	0	0	0	0	4
		50.0	20.0	80.0	0.0	0.0	0.0	0.0	0.0	80.0
Shirakawa	34	16	7	9	0	0	0	0	0	9
		47.1	43.8	56.3	0.0	0.0	0.0	0.0	0.0	56.3
Nishigo	10	4	3	1	0	0	0	0	0	1
		40.0	75.0	25.0	0.0	0.0	0.0	0.0	0.0	25.0
Izumizaki	7	2	2	0	0	0	0	0	0	0
		28.6	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Miharu	88	81	29	52	0	0	0	0	0	52
		92.0	35.8	64.2	0.0	0.0	0.0	0.0	0.0	64.2
Subtotal	48,482	29,606	10,711	18,688	207	0	207	116	0	18,789
		61.1	36.2	63.1	0.7	0.0	0.7	0.4	0.0	63.5

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 (%)				Proportion (%) ≥5.1 mm ≤5.0 mm		Proportion (%) ≥20.1 mm ≤20.0 mm	
			A		B	C				
			A1	A2						
Screening coverage by municipality in FY 2017										
Iwaki	325	220	92	126	2	0	2	0	0	128
		67.7	41.8	57.3	0.9	0.0	0.9	0.0	0.0	58.2
Sukagawa	56	35	17	18	0	0	0	0	0	18
		62.5	48.6	51.4	0.0	0.0	0.0	0.0	0.0	51.4
Soma	204	174	73	100	1	0	1	1	0	101
		85.3	42.0	57.5	0.6	0.0	0.6	0.6	0.0	58.0
Kagamiishi	6	5	1	4	0	0	0	0	0	4
		83.3	20.0	80.0	0.0	0.0	0.0	0.0	0.0	80.0
Shinchi	26	25	10	15	0	0	0	0	0	15
		96.2	40.0	60.0	0.0	0.0	0.0	0.0	0.0	60.0
Nakajima	1	1	1	0	0	0	0	0	0	0
		100.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yabuki	9	7	3	4	0	0	0	0	0	4
		77.8	42.9	57.1	0.0	0.0	0.0	0.0	0.0	57.1
Ishikawa	12	7	4	3	0	0	0	0	0	3
		58.3	57.1	42.9	0.0	0.0	0.0	0.0	0.0	42.9
Yamatsuri	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
Asakawa	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
Hirata	7	7	0	7	0	0	0	0	0	7
		100.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	100.0
Tanagura	9	7	2	5	0	0	0	0	0	5
		77.8	28.6	71.4	0.0	0.0	0.0	0.0	0.0	71.4
Hanawa	5	5	3	2	0	0	0	0	0	2
		100.0	60.0	40.0	0.0	0.0	0.0	0.0	0.0	40.0
Samegawa	2	1	0	1	0	0	0	0	0	1
		50.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	100.0
Ono	21	18	8	10	0	0	0	1	0	10
		85.7	44.4	55.6	0.0	0.0	0.0	5.6	0.0	55.6
Tamakawa	7	7	0	7	0	0	0	0	0	7
		100.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	100.0
Furudono	5	4	2	2	0	0	0	0	0	2
		80.0	50.0	50.0	0.0	0.0	0.0	0.0	0.0	50.0
Hinoemata	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	10	5	4	1	0	0	0	0	0	1
		50.0	80.0	20.0	0.0	0.0	0.0	0.0	0.0	20.0
Kaneyama	0	0	0	0	0	0	0	0	0	0
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Showa	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
Shimogo	3	1	0	1	0	0	0	0	0	1
		33.3	0.0	100.0	0.0	0.0	0.0	0.0	0.0	100.0
Kitakata	28	19	10	9	0	0	0	0	0	9
		67.9	52.6	47.4	0.0	0.0	0.0	0.0	0.0	47.4
Nishiaizu	3	2	2	0	0	0	0	0	0	0
		66.7	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tadami	5	2	0	2	0	0	0	0	0	2
		40.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	100.0
Inawashiro	23	17	11	6	0	0	0	0	0	6
		73.9	64.7	35.3	0.0	0.0	0.0	0.0	0.0	35.3
Bandai	0	0	0	0	0	0	0	0	0	0
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Kitashiobara	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
Aizumisato	10	3	1	2	0	0	0	0	0	2
		30.0	33.3	66.7	0.0	0.0	0.0	0.0	0.0	66.7
Aizubange	16	10	4	6	0	0	0	0	0	6
		62.5	40.0	60.0	0.0	0.0	0.0	0.0	0.0	60.0
Yanaizu	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	100	61	23	37	1	0	1	0	0	38
		61.0	37.7	60.7	1.6	0.0	1.6	0.0	0.0	62.3
Yugawa	7	2	1	1	0	0	0	0	0	1
		28.6	50.0	50.0	0.0	0.0	0.0	0.0	0.0	50.0
Subtotal	905	647	273	370	4	0	4	2	0	374
		71.5	42.2	57.2	0.6	0.0	0.6	0.3	0.0	57.8
Total	49,387	30,253	10,984	19,058	211	0	211	118	0	19,163
		61.3	36.3	63.0	0.7	0.0	0.7	0.4	0.0	63.3

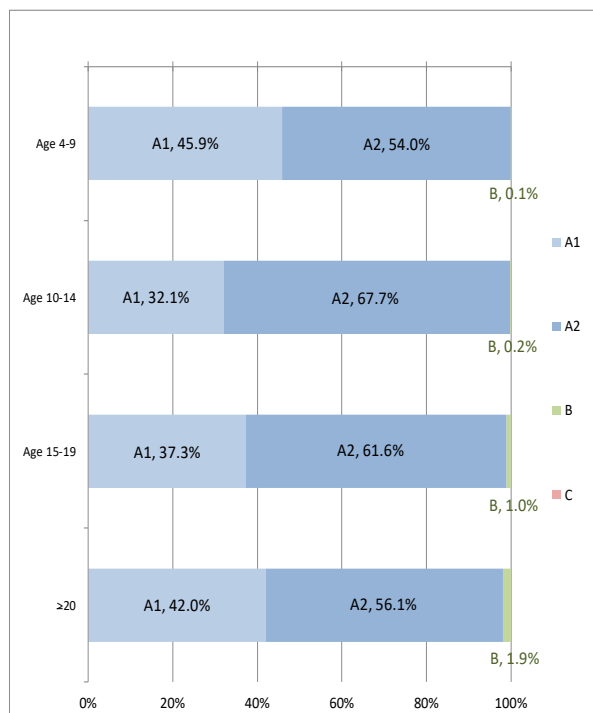
Appendix 4

1. Thyroid Ultrasound Examination results by age and sex

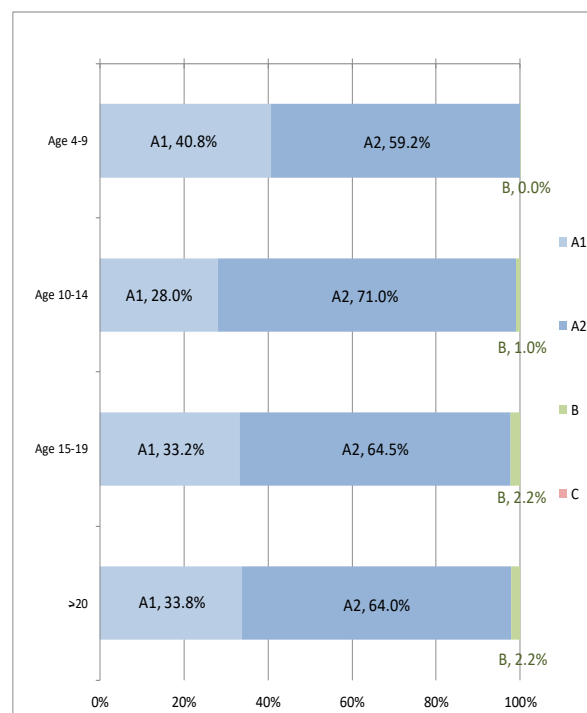
As of 30 September 2016

Ages	A						B			C			Total		
	A1			A2			Male	Female	Total	Male	Female	Total	Male	Female	Total
	Male	Female	Total	Male	Female	Total									
4-9	2,455	2,127	4,582	2,886	3,089	5,975	3	1	4	0	0	0	5,344	5,217	10,561
10-14	1,829	1,546	3,375	3,851	3,920	7,771	12	55	67	0	0	0	5,692	5,521	11,213
15-19	1,444	1,126	2,570	2,385	2,186	4,571	40	75	115	0	0	0	3,869	3,387	7,256
≥20	223	234	457	298	443	741	10	15	25	0	0	0	531	692	1,223
Total	5,951	5,033	10,984	9,420	9,638	19,058	65	146	211	0	0	0	15,436	14,817	30,253

Test results by age group (Male)



Test results by age group (Female)



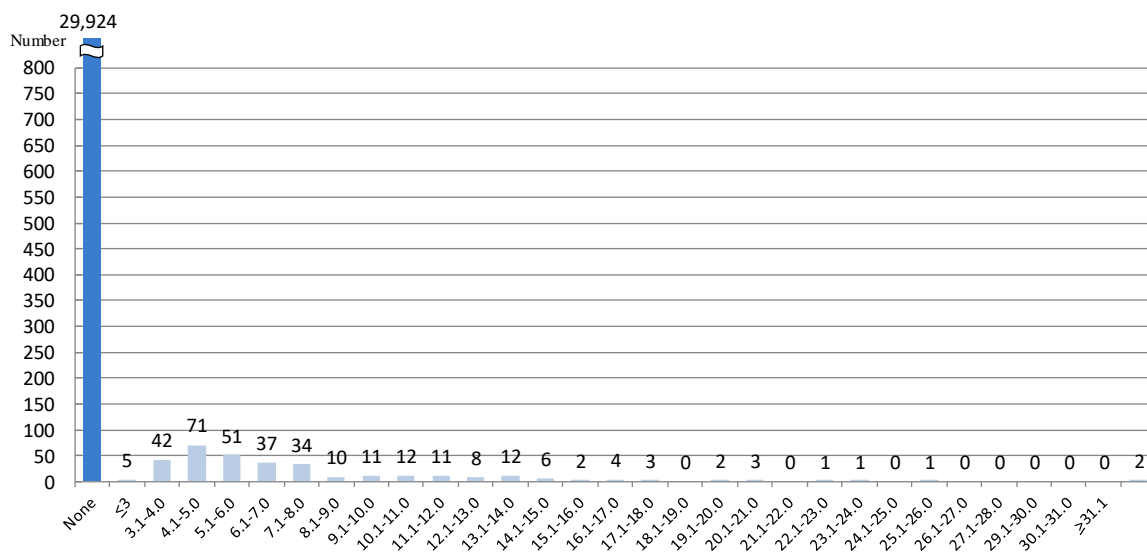
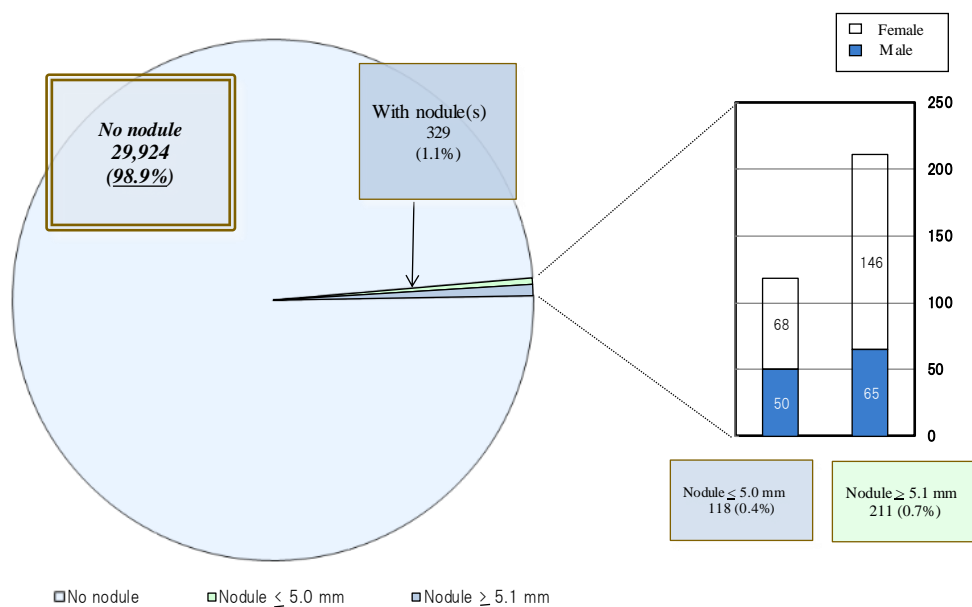
Percentages have been rounded and may not total to 100%.

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

2. Nodule size

As of 30 September 2016

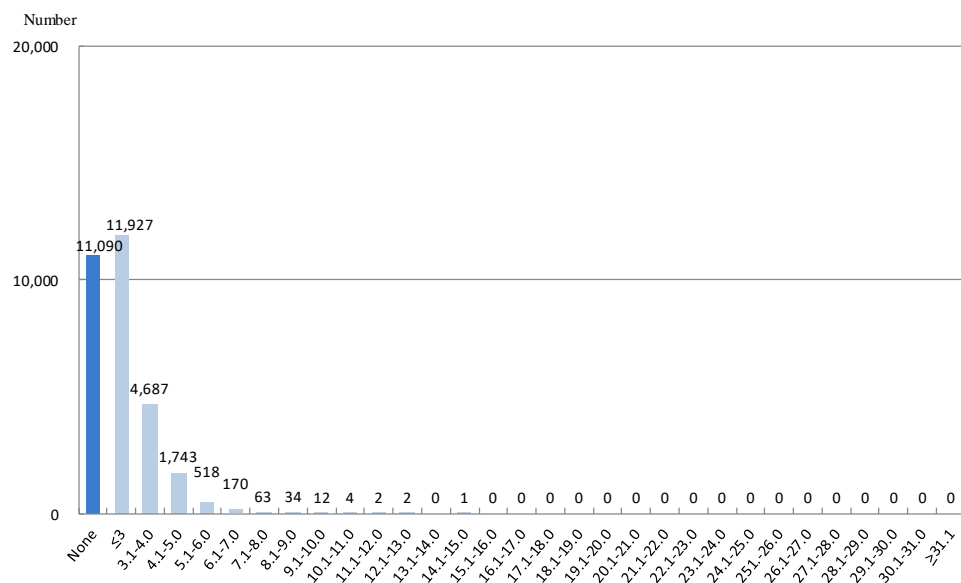
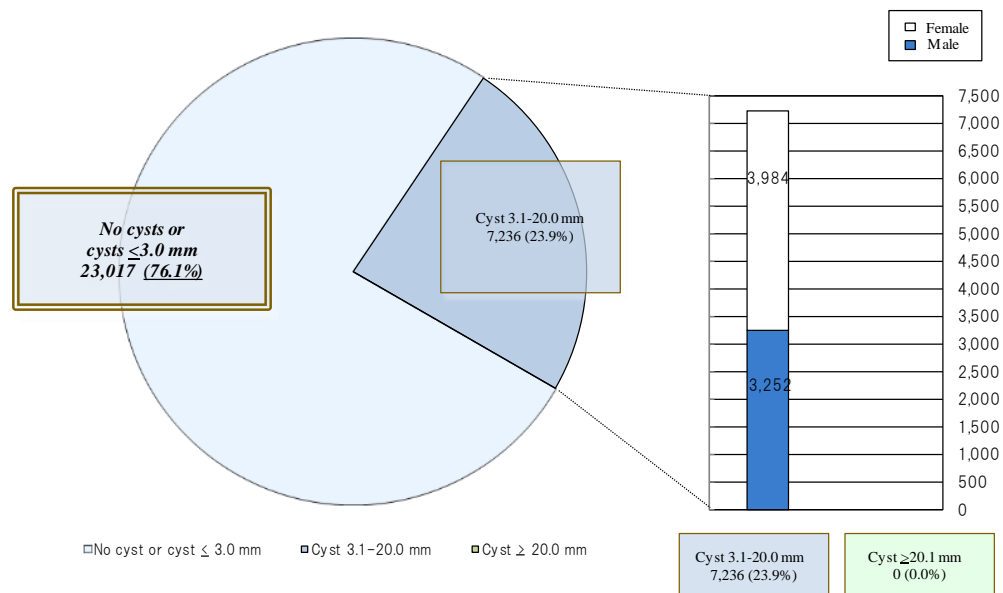
Nodule size	Total	Gender		Class	Proportion
		Male	Female		
None	29,924	15,321	14,603	A 1	98.9%
≤ 3.0 mm	5	2	3	A 2	0.4%
3.1-5.0 mm	113	48	65		
5.1-10.0 mm	143	47	96	B	0.7%
10.1-15.0 mm	49	9	40		
15.1-20.0 mm	11	5	6		
20.1-25.0 mm	5	3	2		
≥ 25.1 mm	3	1	2		
Total	30,253	15,436	14,817		



3. Cyst size

As of 30 September 2016

Cyst size	Total	Gender		Class	Proportion
		Male	Female		
None	11,090	5,992	5,098	A 1	76.1%
≤ 3.0 mm	11,927	6,192	5,735	A 2	
3.1-5.0 mm	6,430	2,951	3,479		
5.1-10.0 mm	797	297	500		
10.1-15.0 mm	9	4	5		
15.1-20.0 mm	0	0	0		
20.1-25.0 mm	0	0	0	B	0.000%
≥ 25.1 mm	0	0	0		
Total	30,253	15,436	14,817		



Appendix 5

Confirmatory test results by municipality

As of 30 September 2016

Confirmatory test results by municipality								As at 30 September 2017											
District	Number of those screened	Participants who required confirmatory test	Number of those who underwent confirmatory test					Total	Number of confirmed results			Follow-up advised	Aspiration biopsy cytology						
			Total	Ages 4-9	Ages 10-14	Ages 15-19	≥ 20		Next screening advised	A1	A2								
	Proportion (%)	Proportion (%)												Proportion (%)	Proportion (%)	Proportion (%)	Proportion (%)	Proportion (%)	Proportion (%)

Screening coverage by municipality in FY 2016

Kawamata	1,286	3	-	-	-	-	-
		0.2	-	-	-	-	-
Namie	810	3	-	-	-	-	-
		0.4	-	-	-	-	-
Iitate	445	3	-	-	-	-	-
		0.7	-	-	-	-	-
Minami-soma	5,195	34	-	-	-	-	-
		0.7	-	-	-	-	-
Date	6,540	31	-	-	-	-	-
		0.5	-	-	-	-	-
Tamura	3,127	26	-	-	-	-	-
		0.8	-	-	-	-	-
Hirono	269	2	-	-	-	-	-
		0.7	-	-	-	-	-
Naraha	205	0	-	-	-	-	-
		0.0	-	-	-	-	-
Tomioka	314	2	-	-	-	-	-
		0.6	-	-	-	-	-
Kawauchi	79	0	-	-	-	-	-
		0.0	-	-	-	-	-
Okuma	344	3	-	-	-	-	-
		0.9	-	-	-	-	-
Futaba	109	1	-	-	-	-	-
		0.9	-	-	-	-	-
Katsurao	49	0	-	-	-	-	-
		0.0	-	-	-	-	-
Fukushima	16,613	34	-	-	-	-	-
		0.2	-	-	-	-	-
Nihonmatsu	5,783	36	-	-	-	-	-
		0.6	-	-	-	-	-
Motomiya	3,302	9	-	-	-	-	-
		0.3	-	-	-	-	-
Otama	943	5	-	-	-	-	-
		0.5	-	-	-	-	-
Koriyama	712	5	-	-	-	-	-
		0.7	-	-	-	-	-
Kori	1,251	4	-	-	-	-	-
		0.3	-	-	-	-	-
Kunimi	957	6	-	-	-	-	-
		0.6	-	-	-	-	-
Tenei	10	0	-	-	-	-	-
		0.0	-	-	-	-	-
Shirakawa	34	0	-	-	-	-	-
		0.0	-	-	-	-	-
Nishigo	10	0	-	-	-	-	-
		0.0	-	-	-	-	-
Izumizaki	7	0	-	-	-	-	-
		0.0	-	-	-	-	-
Miharu	88	0	-	-	-	-	-
		0.0	-	-	-	-	-
Subtotal	48,482	207	-	-	-	-	-
		0.4	-	-	-	-	-

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 (the Second Full-scale Thyroid Screening).

As of 30 September 2016

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