

Thyroid Ultrasound Examination, Fukushima Health Management Survey

1. Summary

1.1 Thyroid Ultrasound Examination (TUE) Program

The TUE Program for the fiscal year 2013/14 started on 22 April 2013, and roughly 158,000 children from 34 municipalities have participated in the program so far. With an increase in the number of participants including those from past target municipalities, the program has covered 82.4% of the target population to date (Appendix 1). Starting on 1 November 2012, the TUE Program has been carried out at institutions outside Fukushima Prefecture (Appendix 2). The results have been returned to 94.5% of the 238,785 participants (Appendices 3 and 4).

Screening test coverage as of 30 September 2013 (last screening on 23 August 2013)

	Target population a	Participants		Test results					
		Proportion (%) b (b/a)	Screened outside Fukushima	Proportion (%) c (c/b)	Class				
					A		Requiring confirmatory test		
					A1 d (d/c)	A2 e (e/c)	B f (f/c)	C g (g/c)	
FY 2011/12	47,766	41,493 (86.9)	1,923	41,339 (99.6)	26,187 (63.3)	14,936 (36.1)	216 (0.5)	0 (0.0)	
FY 2012/13	163,264	138,865 (85.1)	3,688	136,936 (98.6)	74,920 (54.7)	61,045 (44.6)	970 (0.7)	1 (0.0)	
FY 2013/14	78,930	58,427 (74.0)	0	47,262 (80.9)	20,418 (43.2)	26,472 (56.0)	372 (0.8)	0 (0.0)	
Total	289,960	238,785 (82.4)	5,611	225,537 (94.5)	121,525 (53.9)	102,453 (45.4)	1,558 (0.7)	1 (0.0)	

Number and proportion of children with nodules/cysts as of 30 September 2013 (last screening on 23 August 2013)

	No 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 2011/12	41,339	214 (0.5)	227 (0.5)	1 (0.0)	14,859 (35.9)
FY 2012/13	136,936	956 (0.7)	701 (0.5)	9 (0.0)	61,158 (44.7)
FY 2013/14	47,262	371 (0.8)	241 (0.5)	1 (0.0)	26,566 (56.2)
Total	225,537	1,541 (0.7)	1,169 (0.5)	11 (0.0)	102,583 (45.5)

1) Fractions are rounded and may not total 100%

1.2 Confirmatory Examination

The number of children who required further testing is 1,559, of whom 73.6% underwent the

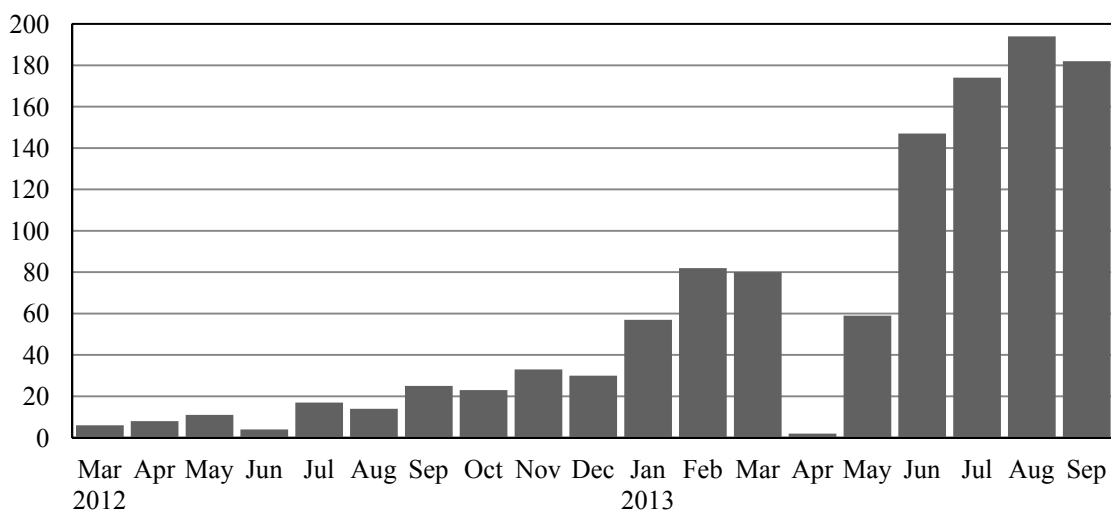
confirmatory testing. Among them, 78.1% have completed the tests (Appendix 5). In addition to Fukushima Medical University Hospital, two institutes, in Koriyama and Iwaki respectively, have provided confirmatory testing since late July 2013. We expect to have some more confirmatory testing venues outside Fukushima Prefecture from November 2013 onwards.

Confirmatory testing coverage and results as of 30 September 2013

	Number of children requiring confirmatory test a	Participants Proportion (%) b (b/a)	Confirmed test results				
			Confirmatory test coverage (%) c (c/b)	Next screening advised		Follow-up advised	
				A1	A2	f (f/c)	Cytology g (g/f)
				d (d/c)	e (e/c)		
FY 2011/12	216	188 (87.0)	176 (93.6)	11 (6.3)	39 (22.2)	126 (71.6)	85 (67.5)
FY 2012/13	971	839 (86.4)	698 (83.2)	44 (6.3)	190 (27.2)	464 (66.5)	189 (40.7)
FY 2013/14	372	121 (32.5)	23 (19.0)	0 (0.0)	11 (47.8)	12 (52.2)	3 (25.0)
Total	1,559	1,148 (73.6)	897 (78.1)	55 (6.1)	240 (26.8)	602 (67.1)	277 (46.0)

- 2) Priority given to those in urgent clinical need
- 3) Those confirmed within the range of A1 and A2 (including those with other thyroid conditions) advised to take the next examination
- 4) Those who require 6- or 12-month follow-up (provided by health insurance), and those beyond the specified level of A2

Number of first visits for confirmatory testing



2. Fine Needle Aspiration Biopsy and Cytology (FNAC)

2.1 Aspiration biopsy cytology results as of 30 September 2013

2.1.1 Target municipalities in FY 2011

Suspicious or malignant 14 (11 surgical cases: 1 of benign nodules; 10 of papillary adenocarcinoma)

Male:female ratio 5:9

Mean age (SD, min-max) 17.2 (2.0, 13-20)
15.6 (2.0, 11-18) at the time of the disaster

Mean tumor size 14.7 mm (6.7 mm, 6.0-33.0 mm)

2.1.2 Target municipalities in FY 2012

Suspicious or malignant 44 (16 surgical cases: 16 of papillary adenocarcinoma)

Male:female ratio 19:25

Mean age(SD, min-max) 16.7 (2.8, 8-21)
14.6 (2.7, 6-18) at the time of the disaster

Mean tumor size 14.6 mm (8.6 mm, 5.2-40.5 mm)

2.1.3 Target municipalities in FY 2013

Suspicious or malignant 1 (non-surgical)

Sex Male

Age 13 (11 at the time of the disaster)

Tumor size 30.3 mm

Total for cases FY 2011 – FY 2013

Suspicious or malignant 59 (27 surgical cases: 1 of benign nodules; 26 of papillary adenocarcinoma)

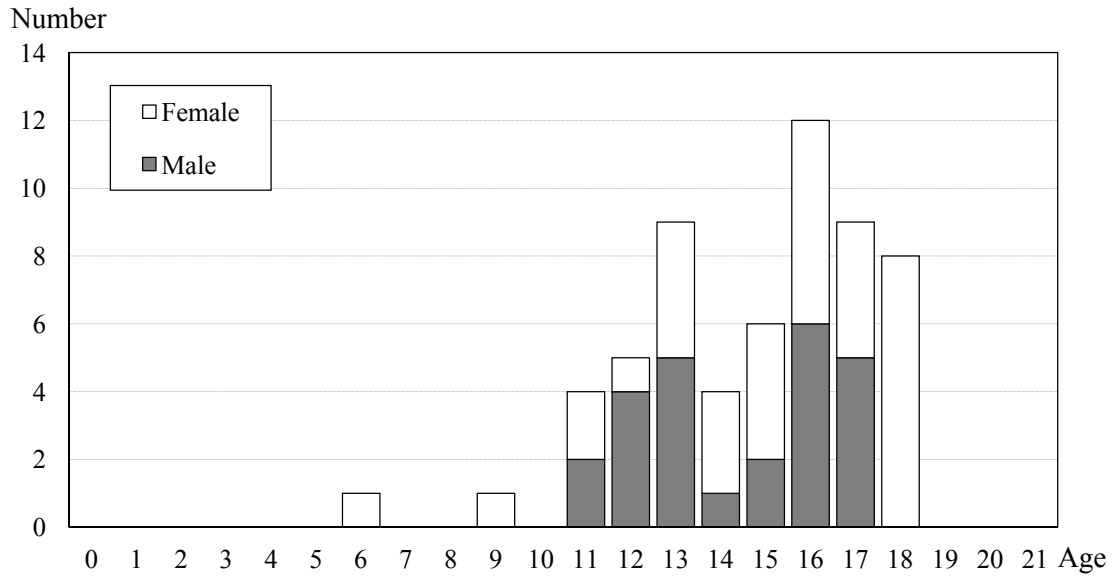
Male:female ratio 25:34

Mean age(SD, min-max) 16.8 (2.6, 8-21)
14.8 (2.6, 6-18) at the time of the disaster

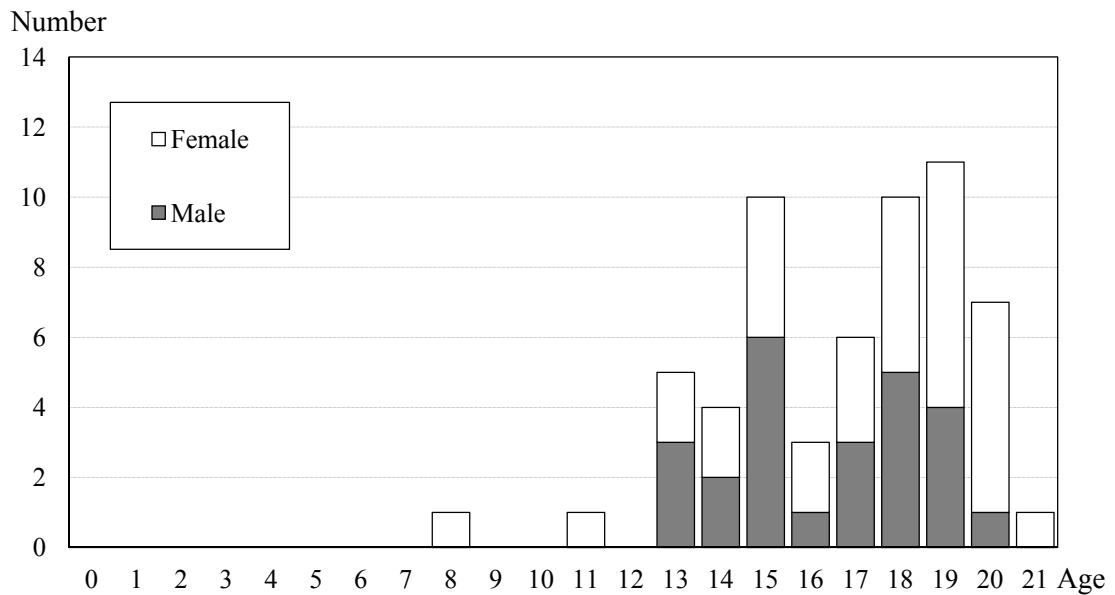
Mean tumor size 14.9 mm (8.3 mm, 5.2-40.5 mm)

2.2 Suspicious or malignant cases on FNAC by age and sex (including one confirmed case of benign nodules as of 30 September 2013)

2.2.1 Suspicious or malignant cases by age as of 11 March 2011



2.2.2 Suspicious or malignant cases by age as of the date of confirmatory examination



2.3 Suspicious or malignant cases on FNAC by estimated radiation dose

Twenty-one of the 59 cases (35.6%) participated in the Basic Survey (radiation dose estimates), of which 12 (57.1%) had estimated radiation exposure dose below 1 mSv.

Number of suspicious or malignant cases by age and dose

Effective dose (mSv)	Sex	Age at the time of disaster				
		0-5	6-10	11-15	16-18	Total
< 0.5	Male	0	0	0	1	1
	Female	0	0	1	2	3
0.5-1.0	Male	0	0	3	0	3
	Female	0	1	0	4	5
1.0-1.5	Male	0	0	2	1	3
	Female	0	0	3	1	4
1.5-2.0	Male	0	0	1	0	1
	Female	0	0	1	0	1
Total	Male	0	0	6	2	8
	Female	0	1	5	7	13

2.4 Blood and urinary iodine test results as of 30 September 2013

2.4.1 Blood test results of 59 suspicious or malignant cases

	FT4 ¹⁾ (ng/dL)	FT3 ²⁾ (pg/mL)	TSH ³⁾ (μ IU/mL)	Tg ⁴⁾ (ng/mL)	TgAb ⁵⁾ (IU/mL)	TPOAb ⁶⁾ (IU/mL)
Reference Range	0.8-1.9	2.2-4.1 ⁷⁾	0.4-4.0	\leq 32.7	< 28.0	< 16.0
Mean \pm SD	1.2 \pm 0.2	3.4 \pm 0.5	1.3 \pm 0.7	49.0 \pm 103.3		
Abnormality ratio (%)	0	0	3.4	37.3	23.7	13.6

2.4.2 Blood test results of 1,087 children who underwent confirmatory test (excluding suspicious or malignant cases)

	FT4 (ng/dL)	FT3 (pg/mL)	TSH (μ IU/mL)	Tg (ng/mL)	TgAb (IU/mL)	TPOAb (IU/mL)
Reference Range	0.8-1.9	2.2-4.1	0.4-4.0	\leq 32.7	< 28.0	< 16.0
Mean \pm SD	1.3 \pm 0.3	3.7 \pm 1.0	2.1 \pm 16.2	34.5 \pm 202.5		
Abnormality ratio (%)	1.4	1.1	6.2	17.1	12.3	10.1

- 1) FT4: Free Thyroxine; higher among patients with Graves' disease and lower with Hashimoto's disease.
- 2) FT3: Free Triiodothyronine; higher among patients with Graves' disease and lower with Hashimoto's disease.
- 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) FT3 reference range is adjusted for age.

2.4.3 Urinary iodine ($\mu\text{g}/\text{day}$)

	59 suspicious/malignant	Other 1,085 cases
Minimum	61	28
25th percentile	148	120
Median	249	188
75th percentile	382	348
Maximum	6,020	27,100

2.5 Confirmatory test results by municipality as of 30 September 2013

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

	Number of children screened	Number 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	2,236	8	0.4	8	2	0.09
Namie	3,222	25	0.8	23	1	0.03
Iitate	941	6	0.6	6	0	0.00
Minami-soma	10,638	52	0.5	48	2	0.02
Date	10,636	50	0.5	45	2	0.02
Tamura	6,368	33	0.5	26	3	0.05
Hirono	808	4	0.5	3	0	0.00
Naraha	1,103	6	0.5	4	0	0.00
Tomioka	2,204	11	0.5	9	1	0.05
Kawauchi	272	4	1.5	4	1	0.37
Okuma	1,929	13	0.7	9	1	0.05
Futaba	922	3	0.3	2	0	0.00
Katsurao	180	1	0.6	1	0	0.00
Other areas ²⁾	34	0	0.0	0	0	0.00
Total	41,493	216	0.5	188	13	0.03

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

2) Number of children who underwent tests at an institute outside the 13 nationally designated evacuation zones

Confirmatory test results by municipality in FY 2012 (Iwaki not fully covered)

	Number of children screened	Number 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	47,030	275	0.6	253	12	0.03
Nihonmatsu	8,709	53	0.6	47	5	0.06
Motomiya	5,187	28	0.5	26	3	0.06
Otama	1,359	7	0.5	7	2	0.15
Koriyama	53,838	458	0.9	377	16	0.03
Kori	1,806	12	0.7	10	0	0.00
Kunimi	1,372	15	1.1	13	0	0.00
Tenei	862	6	0.7	5	0	0.00
Shirakawa	11,081	63	0.6	57	4	0.04
Nishigo	3,627	30	0.8	24	1	0.03
Izumizaki	1,153	5	0.4	5	0	0.00
Miharu	2,500	16	0.6	13	1	0.04
Iwaki	341	3	0.9	2	0	0.00
Total	138,865	971	0.7	839	44	0.03

Confirmatory test results by municipality in FY 2013

	Number of children screened	Number 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	40,480	263	0.6	65	1	0.00
Sukagawa	10,391	54	0.5	27	0	0.00
Soma	4,770	41	0.9	20	0	0.00
Kagamiishi	1,748	7	0.4	4	0	0.00
Shinchi	1,038	7	0.7	5	0	0.00
Total	58,427	372	0.6	121	1	0.00

Appendix 1. Thyroid Ultrasound Examination (TUE) coverage by municipality

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

30 September 2013

	Target population a	Participants		Proportion (%) b/a	Number and proportion of participants by age group ⁶⁾				Participants currently living outside Fukushima c ⁴⁾	Proportion (%) c/b
		b	Screened outside Fukushima		0-5	6-10	11-15	16-18		
Kawamata	2,403	2,236	33	93.1	561 ¹⁾ 95.7 ²⁾ 25.1 ³⁾	623 98.6 27.9	691 96.0 30.9	361 77.6 16.1	61	2.7
Namie	3,645	3,222	180	88.4	906 89.6 28.1	854 92.7 26.5	913 88.5 28.3	549 80.6 17.0	1,204	37.4
Iitate	1,090	941	14	86.3	249 89.6 26.5	268 89.0 28.5	264 87.1 28.1	160 76.9 17.0	71	7.5
Minami-soma	12,530	10,638	838	84.9	3,151 85.8 29.6	3,002 87.9 28.2	2,904 88.1 27.3	1,581 73.8 14.9	3,445	32.4
Date	11,357	10,636	152	93.7	2,566 93.5 24.1	3,003 99.2 28.2	3,298 97.7 31.0	1,769 80.0 16.6	272	2.6
Tamura	7,081	6,368	57	89.9	1,541 89.6 24.2	1,799 99.3 28.3	2,003 96.5 31.5	1,025 69.4 16.1	69	1.1
Hirono	1,077	808	51	75.0	194 76.1 24.0	210 84.0 26.0	285 81.9 35.3	119 53.1 14.7	162	20.0
Naraha	1,429	1,103	70	77.2	266 76.9 24.1	308 85.1 27.9	341 82.4 30.9	188 61.2 17.0	209	18.9
Tomioka	2,940	2,204	223	75.0	576 75.0 26.1	612 83.4 27.8	680 76.7 30.9	336 61.0 15.2	638	28.9
Kawauchi	357	272	17	76.2	68 75.6 25.0	89 89.9 32.7	69 77.5 25.4	46 58.2 16.9	58	21.3
Okuma	2,386	1,929	174	80.8	633 81.4 32.8	569 89.6 29.5	521 84.2 27.0	206 58.2 10.7	441	22.9
Futaba	1,204	922	111	76.6	282 76.8 30.6	237 80.1 25.7	269 80.3 29.2	134 65.0 14.5	474	51.4
Katsurao	233	180	3	77.3	43 76.8 23.9	53 85.5 29.4	57 85.1 31.7	27 56.3 15.0	15	8.3
Other areas ⁵⁾	34	34	0	100.0	0 0.0 0.0	6 100.0 17.6	10 100.0 29.4	18 100.0 52.9	2	5.9
Total	47,766	41,493	1,923	86.9	11,036 87.1 26.6	11,633 92.7 28.0	12,305 90.7 29.7	6,519 72.7 15.7	7,121	17.2

- 1) Number of participants
- 2) Number of participants/Number in the target population age group
- 3) Number of participants in the age group/Number of participants
- 4) Number of participants currently living outside Fukushima who underwent the test either in or

outside Fukushima

5) Number of participants who underwent the test outside nationally designated evacuation zones

6) Age at the time of the disaster

Target municipalities for Screening in FY 2012/13 (Iwaki not fully covered)

30 September 2013

	Target population a	Participants		Proportion (%) b/a	Number and proportion of participants by age group				Participants living outside Fukushima c	Proportion (%) c/b
		b	Screened outside Fukushima		0-5	6-10	11-15	16-18		
Fukushima-shi	53,852	47,030	1,183	87.3	13,143	13,602	13,684	6,601	2,659	5.7
					85.8	96.0	91.4	70.2		
					27.9	28.9	29.1	14.0		
					2,483	2,586	2,616	1,024		
Nihonmatsu	10,243	8,709	155	85.0	89.2	97.5	89.3	54.6	220	2.5
					28.5	29.7	30.0	11.8		
					1,523	1,559	1,489	616		
Motomiya	6,147	5,187	102	84.4	85.7	97.6	88.0	57.1	133	2.6
					29.4	30.1	28.7	11.9		
					445	394	383	137		
					91.2	99.0	89.1	45.1		
Otama	1,620	1,359	17	83.9	32.7	29.0	28.2	10.1	24	1.8
					15,724	16,005	15,970	6,139		
					81.6	94.1	87.6	55.4		
Koriyama	65,586	53,838	1,777	82.1	29.2	29.7	29.7	11.4	2,846	5.3
					478	527	545	256		
					90.7	97.2	92.1	64.5		
					26.5	29.2	30.2	14.2		
Kori	2,058	1,806	29	87.8	34.3	38.8	43.9	20.2	32	1.8
					90.5	97.7	93.0	65.4		
					25.0	28.3	32.0	14.7		
					287	283	217	75		
Kunimi	1,557	1,372	27	88.1	93.8	98.6	77.5	38.1	20	1.5
					33.3	32.8	25.2	8.7		
					3,054	3,202	3,466	1,359		
					90.6	97.5	92.4	62.3		
Tenei	1,070	862	12	80.6	27.6	28.9	31.3	12.3	21	2.4
					1,088	1,068	1,028	443		
					94.4	98.1	93.5	65.1		
					30.0	29.4	28.3	12.2		
Shirakawa	12,590	11,081	267	88.0	34.6	34.4	30.7	15.6	272	2.5
					95.3	97.5	91.1	63.4		
					30.0	29.8	26.6	13.5		
					683	718	732	367		
Nishigo	4,021	3,627	78	90.2	91.1	96.9	89.5	64.4	82	2.3
					27.3	28.7	29.3	14.7		
					32	179	130	0		
					100.0	99.4	100.0	0.0		
Izumizaki	1,299	1,153	13	88.8	9.4	52.5	38.1	0.0	15	1.3
					39,629	40,855	41,006	17,375		
					85.2	95.7	89.7	61.4		
					28.5	29.4	29.5	12.5		
Miharu	2,879	2,500	28	86.8	100.0	99.4	100.0	0.0	48	1.9
					9.4	52.5	38.1	0.0		
					32	179	130	0		
					100.0	99.4	100.0	0.0		
Iwaki	342	341	0	99.7	0	0	0	0	0	0.0
					39,629	40,855	41,006	17,375		
					85.2	95.7	89.7	61.4		
					28.5	29.4	29.5	12.5		
Total	163,264	138,865	3,688	85.1	6,372	4.6				

Target municipalities for Screening in FY 2013/14

30 September 2013

	Target population a	Participants		Proportion (%) b/a	Number and proportion of participants by age group				Participants living outside Fukushima c	Proportion (%) c/b
		b	Screened outside Fukushima		0-5	6-10	11-15	16-18		
Iwaki	53,367	40,480	0	75.9	10,375	14,804	11,814	3,487	627	1.5
	61,834			65.5	60.3	93.0	67.1	31.4		
					25.6	36.6	29.2	8.6		
Sukagawa	14,828	10,391	0	70.1	3,294	3,850	2,571	676	81	0.8
					76.2	95.3	65.0	27.0		
					31.7	37.1	24.7	6.5		
					1,562	1,600	1,234	374		
Soma	6,798	4,770	0	70.2	78.9	90.3	67.0	31.1	171	3.6
					32.7	33.5	25.9	7.8		
					560	660	416	112		
					76.0	95.1	61.8	27.7		
Kagamiishi	2,508	1,748	0	69.7	32.0	37.8	23.8	6.4	17	1.0
					31.7	37.3	27.6	7.2		
					81.3	94.9	67.3	30.5		
					30.5	35.9	26.6	6.9		
Shinchi	1,429	1,038	0	72.6	16,108	21,287	16,311	4,721	25	2.4
					74.0	93.3	66.6	30.5		
					65.4	93.3	66.6	30.5		
					27.6	36.4	27.9	8.1		
Subtotal	78,930	58,427	0	74.0	66,773	73,775	69,622	28,615	921	1.6
	87,397			66.9	79.7	94.5	83.1	54.2		
					28.0	30.9	29.2	12.0		
					66,773	73,775	69,622	28,615		
Total	289,960	238,785	5,611	82.4	14,414	6.0				
	298,427			80.0	28.0	30.9	29.2	12.0		

Appendix 2. Thyroid Ultrasound Examination (TUE) coverage by prefecture

As of 30 September 2013

Prefecture	Number of test venues	Participants	Prefecture	Number of test venues	Participants	Prefecture	Number of test venues	Participants
Hokkaido	2	206	Fukui	1	15	Hiroshima	1	15
Aomori	1	114	Yamanashi	1	43	Yamaguchi	1	18
Iwate	1	116	Nagano	2	83	Tokushima	1	3
Miyagi	2	853	Gifu	1	30	Kagawa	1	24
Akita	1	142	Shizuoka	2	73	Ehime	1	13
Yamagata	2	394	Aichi	2	109	Kōchi	1	9
Ibaraki	2	195	Mie	1	20	Fukuoka	2	52
Tochigi	5	293	Shiga	1	12	Saga	1	5
Gunma	1	126	Kyōto	2	59	Nagasaki	2	17
Saitama	1	157	Ōsaka	5	134	Kumamoto	1	19
Chiba	3	120	Hyōgo	2	90	Ōita	1	29
Tōkyō	9	933	Nara	1	16	Miyazaki	1	28
Kanagawa	2	394	Wakayama	1	10	Kagoshima	1	24
Niigata	1	423	Tottori	1	12	Okinawa	1	73
Toyama	1	15	Shimane	1	10			
Ishikawa	1	34	Okayama	3	51	Total	78	5,611

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

Appendix 3. Thyroid Ultrasound Examination (TUE) results by municipality

Confirmatory test results in FY 2011 (13 municipalities in the nationally designated evacuation zones) as of 30 September 2013

	Participants a	Number confirmed b	Number by test result				Nodules		Cysts	
			Proportion (%)				Proportion (%)		Proportion (%)	
			A		B	C				
			A1	A2			≥ 5.1 mm	≤ 5.0 mm	≥ 20.1 mm	≤ 20.0 mm
Kawamata	2,236	2,233	1,530	695	8	0	8	17	0	683
		99.9	68.5	31.1	0.4	0.0	0.4	0.8	0.0	30.6
Namie	3,222	3,207	2,098	1,084	25	0	25	41	0	1,069
		99.5	65.4	33.8	0.8	0.0	0.8	1.3	0.0	33.3
Iitate	941	940	692	242	6	0	6	15	0	231
		99.9	73.6	25.7	0.6	0.0	0.6	1.6	0.0	24.6
Minami-soma	10,638	10,598	6,710	3,836	52	0	52	86	0	3,794
		99.6	63.3	36.2	0.5	0.0	0.5	0.8	0.0	35.8
Date	10,636	10,623	6,765	3,808	50	0	48	30	1	3,809
		99.9	63.7	35.8	0.5	0.0	0.5	0.3	0.0	35.9
Tamura	6,368	6,365	4,027	2,305	33	0	33	11	0	2,311
		100.0	63.3	36.2	0.5	0.0	0.5	0.2	0.0	36.3
Hirono	808	797	500	293	4	0	4	3	0	293
		98.6	62.7	36.8	0.5	0.0	0.5	0.4	0.0	36.8
Naraha	1,103	1,090	623	461	6	0	6	4	0	463
		98.8	57.2	42.3	0.6	0.0	0.6	0.4	0.0	42.5
Tomioka	2,204	2,184	1,293	880	11	0	11	6	0	879
		99.1	59.2	40.3	0.5	0.0	0.5	0.3	0.0	40.2
Kawauchi	272	267	149	114	4	0	4	1	0	114
		98.2	55.8	42.7	1.5	0.0	1.5	0.4	0.0	42.7
Okuma	1,929	1,917	1,117	787	13	0	13	7	0	784
		99.4	58.3	41.1	0.7	0.0	0.7	0.4	0.0	40.9
Futaba	922	904	552	349	3	0	3	3	0	348
		98.0	61.1	38.6	0.3	0.0	0.3	0.3	0.0	38.5
Katsurao	180	180	114	65	1	0	1	3	0	64
		100.0	63.3	36.1	0.6	0.0	0.6	1.7	0.0	35.6
Other areas	34	34	17	17	0	0	0	0	0	17
		100.0	50.0	50.0	0.0	0.0	0.0	0.0	0.0	50.0
Total	41,493	41,339	26,187	14,936	216	0	214	227	1	14,859
		99.6	63.3	36.1	0.5	0.0	0.5	0.5	0.0	35.9

Target municipalities in FY 2012 (Iwaki not fully covered)

as of 30 September 2013

	Participants a	Number of confirmed tests b/a	Number by test result Proportion (%) by test result				Nodules		Cysts	
			A		B	C	Proportion (%)		Proportion (%)	
			A1	A2			≥ 5.1 mm	≤ 5.0 mm	≥ 20.1 mm	≤ 20.0 mm
Fukushima	47,030	46,896	26,780	19,841	275	0	268	190	3	19,857
		99.7	57.1	42.3	0.6	0.0	0.6	0.4	0.0	42.3
Nihonmatsu	8,709	8,687	5,110	3,524	52	1	52	42	1	3,525
		99.7	58.8	40.6	0.6	0.0	0.6	0.5	0.0	40.6
Motomiya	5,187	5,170	2,929	2,213	28	0	26	24	1	2,217
		99.7	56.7	42.8	0.5	0.0	0.5	0.5	0.0	42.9
Otama	1,359	1,358	810	541	7	0	7	8	0	541
		99.9	59.6	39.8	0.5	0.0	0.5	0.6	0.0	39.8
Koriyama	53,838	52,165	26,841	24,866	458	0	454	314	3	24,958
		96.9	51.5	47.7	0.9	0.0	0.9	0.6	0.0	47.8
Kori	1,806	1,805	995	798	12	0	12	9	0	799
		99.9	55.1	44.2	0.7	0.0	0.7	0.5	0.0	44.3
Kunimi	1,372	1,370	727	628	15	0	14	8	1	632
		99.9	53.1	45.8	1.1	0.0	1.0	0.6	0.1	46.1
Tenei	862	860	529	325	6	0	6	3	0	329
		99.8	61.5	37.8	0.7	0.0	0.7	0.3	0.0	38.3
Shirakawa	11,081	11,039	6,266	4,710	63	0	63	58	0	4,704
		99.6	56.8	42.7	0.6	0.0	0.6	0.5	0.0	42.6
Nishigo	3,627	3,623	2,102	1,491	30	0	30	20	0	1,492
		99.9	58.0	41.2	0.8	0.0	0.8	0.6	0.0	41.2
Izumizaki	1,153	1,150	520	625	5	0	5	10	0	622
		99.7	45.2	54.3	0.4	0.0	0.4	0.9	0.0	54.1
Miharu	2,500	2,472	1,171	1,285	16	0	16	14	0	1,284
		98.9	47.4	52.0	0.6	0.0	0.6	0.6	0.0	51.9
Iwaki	341	341	140	198	3	0	3	1	0	198
		100.0	41.1	58.1	0.9	0.0	0.9	0.3	0.0	58.1
Total	138,865	136,936	74,920	61,045	970	1	956	701	9	61,158
		98.6	54.7	44.6	0.7	0.0	0.7	0.5	0.0	44.7

Target municipalities in FY 2013

as of 30 September 2013

	Participants a	Number of confirmed tests b/a	Number by test result				Nodules		Cysts	
			Proportion (%) by test result				Proportion (%)		Proportion (%)	
			A		B	C				
			A1	A2			≥ 5.1 mm	≤ 5.0 mm	≥ 20.1 mm	≤ 20.0 mm
Iwaki	40,480	31,944	13,536	18,145	263	0	262	163	1	18,212
		78.9	42.4	56.8	0.8	0.0	0.8	0.5	0.0	57.0
Sukagawa	10,391	7,830	3,377	4,399	54	0	54	26	0	4,412
		75.4	43.1	56.2	0.7	0.0	0.7	0.3	0.0	56.3
Soma	4,770	4,758	2,252	2,465	41	0	41	43	0	2,474
		99.7	47.3	51.8	0.9	0.0	0.9	0.9	0.0	52.0
Kagamishi	1,748	1,692	787	898	7	0	7	5	0	899
		96.8	46.5	53.1	0.4	0.0	0.4	0.3	0.0	53.1
Shinchi	1,038	1,038	466	565	7	0	7	4	0	569
		100.0	44.9	54.4	0.7	0.0	0.7	0.4	0.0	54.8
Subtotal	58,427	47,262	20,418	26,472	372	0	371	241	1	26,566
		80.9	43.2	56.0	0.8	0.0	0.8	0.5	0.0	56.2
Total	238,785	225,537	121,525	102,453	1,558	1	1,541	1,169	11	102,583
		94.5	53.9	45.4	0.7	0.0	0.7	0.5	0.0	45.5

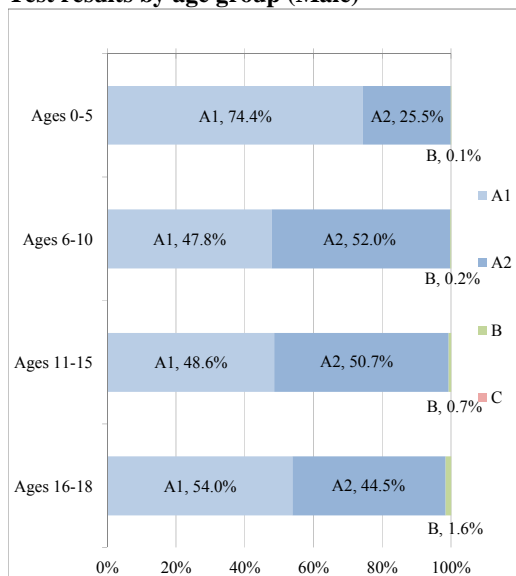
Appendix 4

4.1 Thyroid Ultrasound Examination (TUE) results by age and sex

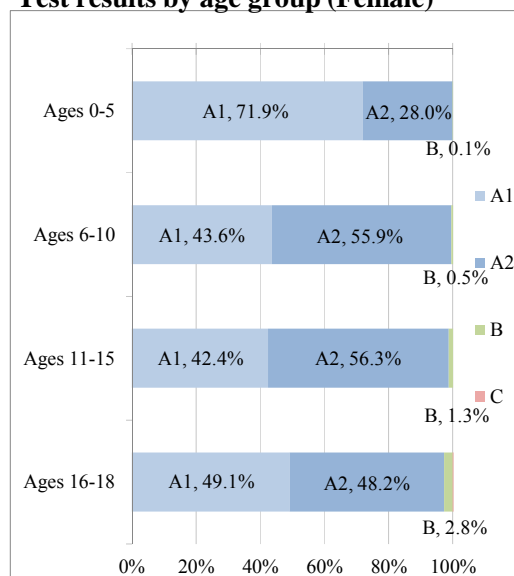
As of 30 September 2013 (last test on 23 August 2013)

	A						B			C			Total		
	A1			A2			Male	Female	Total	Male	Female	Total	Male	Female	Total
	Male	Female	Total	Male	Female	Total									
Ages 0-5	23,639	21,729	45,368	8,095	8,476	16,571	27	35	62	0	0	0	31,761	30,240	62,001
Ages 6-10	17,393	15,027	32,420	18,914	19,268	38,182	85	159	244	0	0	0	36,392	34,454	70,846
Ages 11-15	16,195	13,874	30,069	16,910	18,442	35,352	226	441	667	0	0	0	33,331	32,757	66,088
Ages 16-18	6,787	6,881	13,668	5,595	6,753	12,348	198	387	585	0	1	1	12,580	14,022	26,602
Total	64,014	57,511	121,525	49,514	52,939	102,453	536	1,022	1,558	0	1	1	114,064	111,473	225,537

Test results by age group (Male)



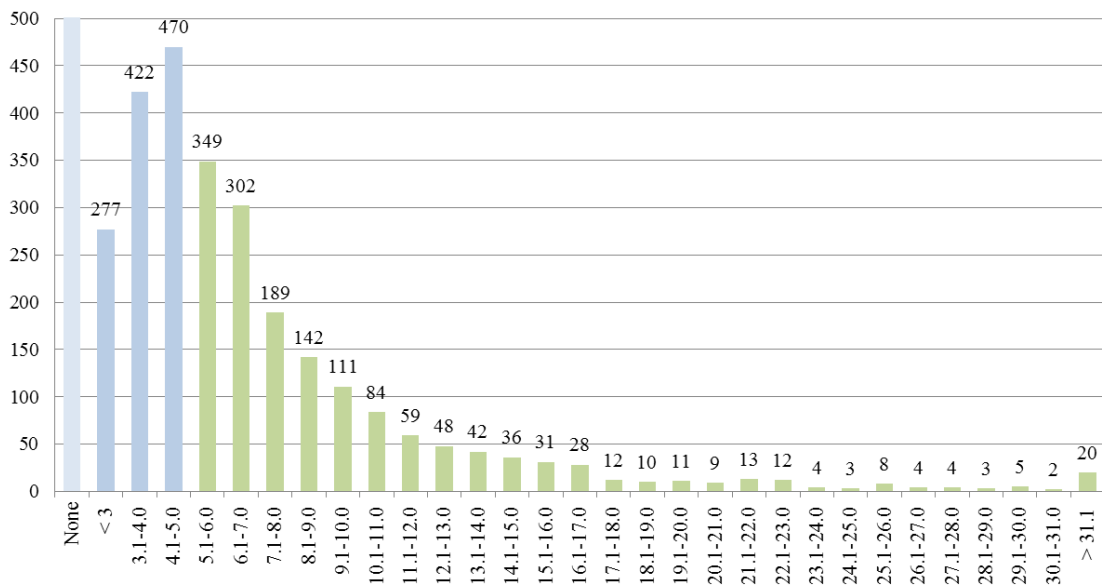
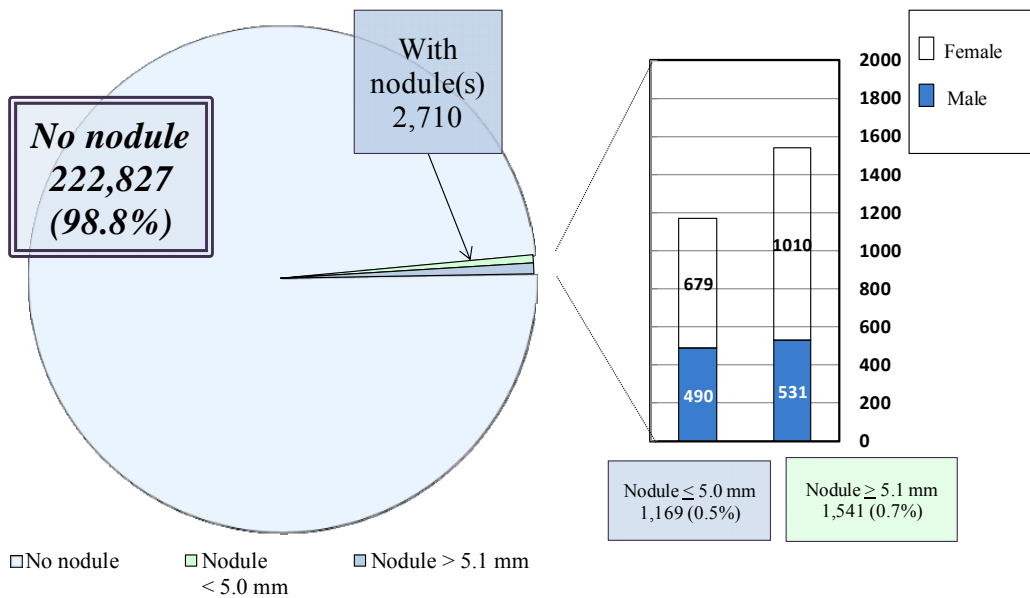
Test results by age group (Female)



4.2 Nodule size

As of 30 September 2013 (last test on 23 August 2013)

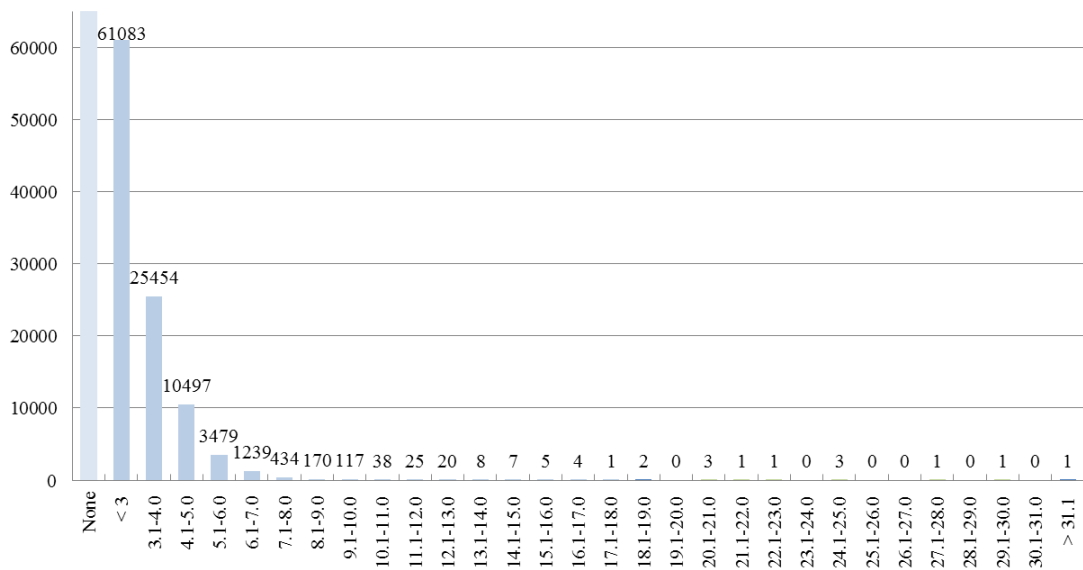
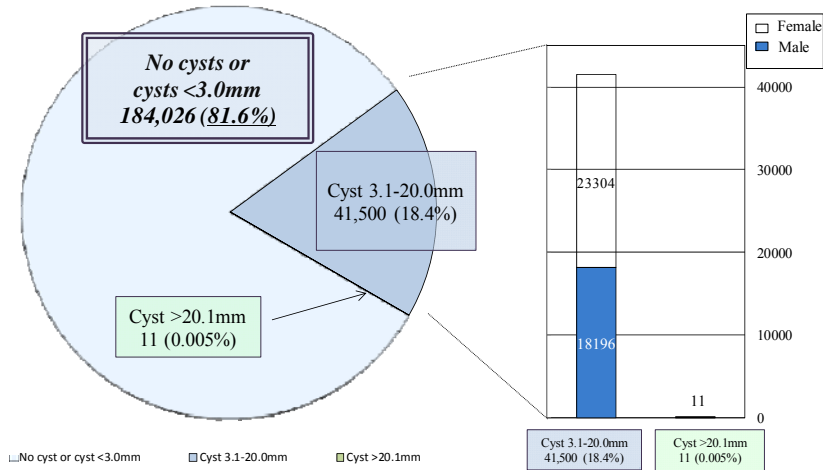
Nodule size	Total	Gender		Test result	Proportion
		Male	Female		
None	222,827	113,043	109,784	A1	98.8%
< 3.0 mm	277	130	147	A2	0.5%
3.1-5.0 mm	892	360	532		
5.1-10.0 mm	1,093	394	699	B	0.7%
10.1-15.0 mm	269	81	188		
15.1-20.0 mm	92	28	64		
20.1-25.0 mm	41	13	28		
> 25.1 mm	46	15	31		
Total	225,537	114,064	111,473		



4.3 Cyst size

As of 30 September 2013 (last test on 23 August 2013)

Cyst size	Total	Gender		Class	%
		Male	Female		
None	122,943	64,569	58,374	A1 (54.5%)	81.6%
< 3.0 mm	61,083	31,297	29,786	A2 (45.5%)	
3.1-5.0 mm	35,951	16,220	19,731		
5.1-10.0 mm	5,439	1,942	3,497		
10.1-15.0 mm	98	34	64		
15.1-20.0 mm	12	0	12	B (0.005%)	0.005%
20.1-25.0 mm	8	1	7		
> 25.1 mm	3	1	2		
Total	225,537	114,064	111,473		



Appendix 5. Confirmatory test results by municipality

as of 30 September 2013

	Number of children screened a	Number who required Confirmatory test b	Number of children who underwent confirmatory test by age				Number of confirmed results					Cumulative numbers of confirmed results	
			Total c	Ages 0-5 d	Ages 6-10 e	Ages 11-15 f	Ages 16-18 g	Total h	Next screening advised		Follow-up advised		
									A1 i	A2 j	k		Aspiration biopsy cytology l
			Proportion (%)	Proportion (%)	Proportion (%)	Proportion (%)	Proportion (%)	Proportion (%)	Proportion (%)	Proportion (%)	Proportion (%)		Proportion (%)
Target municipalities for Confirmatory test in FY 2011 (13 municipalities in the nationally designated evacuation zones)													
Kawamata	2,236	8 0.4	8 100.0	0 0.0	1 12.5	3 37.5	4 50.0	7 87.5	1 14.3	0 0.0	6 85.7	5 83.3	24
Namie	3,222	25 0.8	23 92.0	1 4.3	3 13.0	7 30.4	12 52.2	20 87.0	1 5.0	4 20.0	15 75.0	10 66.7	53
Iitate	941	6 0.6	6 100.0	0 0.0	2 33.3	1 16.7	3 50.0	6 100.0	0 0.0	3 50.0	3 50.0	3 100.0	16
Minami-soma	10,638	52 0.5	48 92.3	6 12.5	5 10.4	16 33.3	21 43.8	47 97.9	4 8.5	10 21.3	33 70.2	19 57.6	111
Date	10,636	50 0.5	45 90.0	0 0.0	3 6.7	16 35.6	26 57.8	45 100.0	4 8.9	8 17.8	33 73.3	24 72.7	119
Tamura	6,368	33 0.5	26 78.8	1 3.8	3 11.5	14 53.8	8 30.8	23 88.5	0 0.0	3 13.0	20 87.0	12 60.0	63
Hirono	808	4 0.5	3 75.0	0 0.0	1 33.3	0 0.0	2 66.7	3 100.0	1 33.3	2 66.7	0 0.0	0 0.0	6
Naraha	1,103	6 0.5	4 66.7	1 25.0	0 0.0	0 0.0	3 75.0	4 100.0	0 0.0	2 50.0	2 50.0	1 50.0	9
Tomioka	2,204	11 0.5	9 81.8	0 0.0	1 11.1	3 33.3	5 55.6	7 77.8	0 0.0	1 14.3	6 85.7	6 100.0	21
Kawauchi	272	4 1.5	4 100.0	0 0.0	1 25.0	0 0.0	3 75.0	4 100.0	0 0.0	1 25.0	3 75.0	2 66.7	11
Okuma	1,929	13 0.7	9 69.2	0 0.0	0 0.0	5 55.6	4 44.4	7 77.8	0 0.0	4 57.1	3 42.9	1 33.3	18
Futaba	922	3 0.3	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	2 100.0	4
Katsurao	180	1 0.6	1 100.0	0 0.0	1 100.0	0 0.0	0 0.0	1 100.0	0 0.0	1 100.0	0 0.0	0 0.0	2
Other areas	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%	0 0.0%	0
Subtotal	41,493	216 0.5	188 87.0	9 4.8	21 11.2	66 35.1	92 48.9	176 93.6	11 6.3	39 22.2	126 71.6	85 67.5	457
Target municipalities for Confirmatory test in FY 2012 (Iwaki not fully covered)													
Fukushima	47,030	275 0.6	253 92.0	5 2.0	27 10.7	101 39.9	120 47.4	236 93.3	11 4.7	56 23.7	169 71.6	84 49.7	599
Nihonmatsu	8,709	53 0.6	47 88.7	0 0.0	4 8.5	25 53.2	18 38.3	40 85.1	1 2.5	5 12.5	34 85.0	20 58.8	112
Motomiya	5,187	28 0.5	26 92.9	1 3.8	2 7.7	14 53.8	9 34.6	24 92.3	0 0.0	7 29.2	17 70.8	7 41.2	60
Otama	1,359	7 0.5	7 100.0	0 0.0	0 0.0	4 57.1	3 42.9	6 85.7	0 0.0	1 16.7	5 83.3	3 60.0	17
Koriyama	53,838	458 0.9	377 82.3	14 3.7	61 16.2	168 44.6	134 35.5	272 72.1	17 6.3	93 34.2	162 59.6	52 32.1	719
Kori	1,806	12 0.7	10 83.3	1 10.0	2 20.0	3 30.0	4 40.0	9 90.0	0 0.0	2 22.2	7 77.8	2 28.6	21
Kunimi	1,372	15 1.1	13 86.7	2 15.4	2 15.4	2 15.4	7 53.8	12 92.3	1 8.3	1 8.3	10 83.3	4 40.0	31
Tenei	862	6 0.7	5 83.3	1 20.0	2 40.0	1 20.0	1 20.0	5 100.0	1 20.0	2 40.0	2 40.0	0 0.0	13
Shirakawa	11,081	63 0.6	57 90.5	2 3.5	10 17.5	28 49.1	17 29.8	54 94.7	6 11.1	12 22.2	36 66.7	13 36.1	157
Nishigo	3,627	30 0.8	24 80.0	1 4.2	5 20.8	9 37.5	9 37.5	23 95.8	2 8.7	7 30.4	14 60.9	3 21.4	55
Izumizaki	1,153	5 0.4	5 100.0	0 0.0	2 40.0	0 0.0	3 60.0	4 80.0	1 25.0	2 50.0	1 25.0	0 0.0	12
Miharu	2,500	16 0.6	13 81.3	0 0.0	0 0.0	8 61.5	5 38.5	11 84.6	3 27.3	2 18.2	6 54.5	1 16.7	26
Iwaki	341	3 0.9	2 66.7	0 0.0	0 0.0	2 100.0	0 0.0	2 100.0	1 50.0	0 0.0	1 50.0	0 0.0	4
Subtotal	138,865	971 0.7	839 86.4	27 3.2	117 13.9	365 43.5	330 39.3	698 83.2	44 6.3	190 27.2	464 66.5	189 40.7	1,826
Target municipalities for Confirmatory test in FY 2013													
Iwaki	40,480	263 0.6	65 24.7	6 9.2	29 44.6	28 43.1	2 3.1	20 30.8	0 0.0	8 40.0	12 60.0	3 25.0	81
Sukagawa	10,391	54 0.5	27 50.0	3 11.1	14 51.9	10 37.0	0 0.0	2 7.4	0 0.0	2 100.0	0 0.0	0 0.0	30
Soma	4,770	41 0.9	20 48.8	0 0.0	8 40.0	8 40.0	0 20.0	1 5.0	0 0.0	1 100.0	0 0.0	0 0.0	20
Kagamiishi	1,748	7 0.4	4 57.1	0 0.0	3 75.0	1 25.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	4
Shinchi	1,038	7 0.7	5 71.4	0 0.0	3 60.0	2 40.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	6
Subtotal	58,427	372 0.6	121 32.5	9 7.4	57 47.1	49 40.5	6 5.0	23 19.0	0 0.0	11 47.8	12 52.2	3 25.0	141
Total	238,785	1,559 0.7	1,148 73.6	45 3.9	195 17.0	480 41.8	428 37.3	897 78.1	55 6.1	240 26.8	602 67.1	277 46.0	2,424