Basic Survey (Radiation Dose Estimates) reported on June 5, 2013

1. Response Rates and Radiation Dose Estimates
1.1 Response Rates of Residents

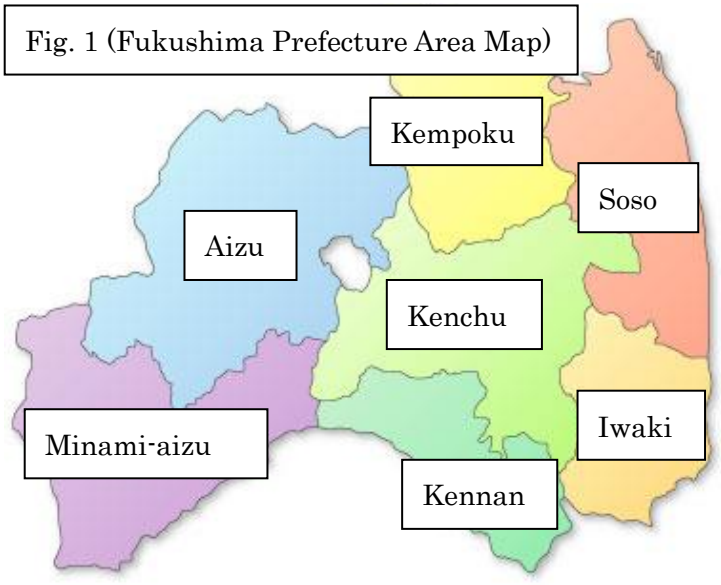
The overall effective response rate to the Basic Survey (radiation dose estimates), which targeted the entire population of Fukushima Prefecture, was 23.4% (481,423/2,056,994) as of 31 March 2013. Although the response rate was higher (58.2%) in the preceding survey of high-priority areas (Yamakiya of Kawamata, Namie and Iitate), the response rate of the full-scale survey was 22.9% (Table 1). Regional variations in the response rates were also observed, ranging from 13%–15% in Aizu and Minami-aizu to 42% in Soso area (Table 1 and Fig. 1).

Table 1 Response rates to the Basic Survey

As of 31 March 2013

		Target population a	Response b	Response rate c = b/a	Completed dose estimation d	Proportion e = d/b	Returned results f	Proportion g = f/b
Preceding survey	Yamakiya of Kawamata, Namie and Iitate	29,044	16,905	58.2%	16,208	95.9%	15,957	94.4%
Full-scale survey	Kempoku	504,291	132,702	26.3%	120,537	90.8%	117,432	88.5%
	Kenchu	560,116	116,076	20.7%	101,702	87.6%	100,335	86.4%
	Kennan	152,776	26,830	17.6%	23,485	87.5%	23,019	85.8%
	Aizu	267,696	40,272	15.0%	34,460	85.6%	33,458	83.1%
	Minami-aizu	30,831	4,128	13.4%	3,589	86.9%	3,521	85.3%
	Soso	168,409	70,762	42.0%	58,460	82.6%	55,406	78.3%
	Iwaki	343,831	73,748	21.4%	62,102	84.2%	61,411	83.3%
	Sub total	2,027,950	464,518	22.9%	404,335	87.0%	394,582	84.9%
Total		2,056,994	481,423	23.4%	420,543	87.4%	410,539	85.3%

Fig. 1 (Fukushima Prefecture Area Map)



1.2Response Rates of Visitors

The survey questionnaire was distributed upon request to non-residents who were visiting or staying in Fukushima Prefecture at the time of the accident. Of 2,064 responses, doses have been estimated for 1,589 respondents (77.0%), and the results shall be returned accordingly (Table 2).

Table 2 Response rates to the Basic Survey (visitors) As of 31 March 2013

Number of request a	Response b	Response rates c = b/a	Completed dose estimation d	Proportion e = d/b	Returned results f	Proportion g = f/b
3,789	2,064	54.5%	1,589	77.0%	1,478	71.6%

2. Radiation Dose Estimates (Preceding Survey and Full-Scale Survey)

Recorded movements of respondents are converted to digital data, and effective external cumulative doses were calculated using the dose calculation system developed by the National Institute of Radiological Sciences. Doses have been estimated for 420,543/481,423 respondents (87.4%) as of 31 March 2013 (Table 1), and the results have been returned to 410,539 respondents.

Among the 420,543 dose estimates, radiation workers were excluded, and the results of 411,922 respondents suggested that more than 90% of the respondents received <2 mSv in Kempoku and Kenchu areas. The doses for approximately 91% of the respondents in Kennan area and more than 99% of those in Aizu and Minami-aizu were <1 mSv. Doses for 78% of respondents in Soso area and more than 99% of respondents in Iwaki were also <1 mSv (Table 3).

Table 3 Estimated external radiation doses in the first four months (preceding survey and full-scale survey)

As of 31 March 2013

Effective Dose (mSv)	Total	Excluding radiation workers				By region (excluding radiation workers)													
						Kempoku *		Kenchu		Kennan		Aizu		Minami-aizu		Soso **		Iwaki	
<1	277,350	271,822	66.0%	94.9%		38,556	32.2%	59,863	59.5%	21,252	91.5%	33,953	99.6%	3,536	99.4%	54,214	77.8%	60,466	99.2%
1-2	121,165	119,018	28.9%			69,710	58.2%	35,168	35.0%	1,974	8.5%	146	0.4%	22	0.6%	11,562	16.6%	436	0.7%
2-3	18,589	18,260	4.4%	4.7%	99.8%	11,101	9.3%	5,332	5.3%	10	0.0%	3	-	0	-	1,795	2.6%	19	0.0%
3-4	1,349	1,283	0.3%			388	0.3%	244	0.2%	0	-	1	0.0%	0	-	647	0.9%	3	0.0%
4-5	584	549	0.1%	0.2%		35	0.0%	5	0.0%	0	-	0	-	0	-	509	0.7%	0	-
5-6	458	408	0.1%			18	0.0%	2	0.0%	0	-	0	-	0	-	388	0.6%	0	-
6-7	258	228	0.1%	0.1%		5	0.0%	0	-	0	-	0	-	0	-	223	0.3%	0	-
7-8	147	116	0.0%		0.2%	1	0.0%	0	-	0	-	0	-	0	-	115	0.2%	0	-
8-9	112	78	0.0%	0.0%		0	-	0	-	0	-	0	-	0	-	78	0.1%	0	-
9-10	64	40	0.0%			0	-	0	-	0	-	0	-	0	-	40	0.1%	0	-
10-11	70	42	0.0%	0.0%		0	-	0	-	0	-	0	-	0	-	42	0.1%	0	-
11-12	42	29	0.0%			1	0.0%	0	-	0	-	0	-	0	-	28	0.0%	0	-
12-13	37	16	0.0%	0.0%	0.0%	0	-	0	-	0	-	0	-	0	-	16	0.0%	0	-
13-14	33	11	0.0%			0	-	0	-	0	-	0	-	0	-	11	0.0%	0	-
14-15	29	10	0.0%	0.0%		0	-	0	-	0	-	0	-	0	-	10	0.0%	0	-
>15	256	12	0.0%		0.0%	0	-	0	-	0	-	0	-	0	-	12	0.0%	0	-
Total	420,543	411,922	100.0%	100.0%	100.0%	119,815	100%	100,614	100%	21,963	100%	34,085	100%	3,558	100%	69,690	100%	60,924	100%
Max	66.0mSv	25.0mSv				11.0mSv		5.9mSv		2.6mSv		3.6mSv		1.6mSv		25.0mSv		3.9mSv	

* Including Yamakiya of Kawamata

** Including Namie and Iitate

3. Evaluation of the results

The latest radiation dose estimates showed similar trends to those observed so far. Based on such doses, we expect it difficult to observe significant adverse effects of radiation among Fukushima residents, since previous epidemiological studies of the general public indicate no significant health effects at doses <100 mSv.

Appendix 1

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

As of 31 Mrach 2013

Area	District	Target population a	Response b	Response rates c = b/a	Completed dose d	Proportion e = d/b	Returned results f	Proportion g = f/b
Kempoku	Fukushima	296,421	82,895	28.0%	76,459	92.2%	74,215	89.5%
	Nihonmatsu	60,967	14,489	23.8%	12,856	88.7%	12,751	88.0%
	Date	67,854	15,830	23.3%	13,839	87.4%	13,557	85.6%
	Motomiya	31,874	7,467	23.4%	6,528	87.4%	6,408	85.8%
	Kori	13,293	3,554	26.7%	3,252	91.5%	3,161	88.9%
	Kunimi	10,342	2,687	26.0%	2,435	90.6%	2,355	87.6%
	Kawamata	15,916	4,965	31.2%	4,486	90.4%	4,364	87.9%
	Otama	8,872	1,606	18.1%	1,411	87.9%	1,337	83.3%
	Subtotal	505,539	133,493	26.4%	121,266	90.8%	118,148	88.5%
Kenchu	Koriyama	341,841	74,159	21.7%	65,417	88.2%	64,532	87.0%
	Sukagawa	80,425	13,409	16.7%	11,763	87.7%	11,652	86.9%
	Tamura	41,805	10,087	24.1%	8,396	83.2%	8,303	82.3%
	Kagamiishi	13,172	2,431	18.5%	2,088	85.9%	2,053	84.5%
	Tenei	6,481	944	14.6%	739	78.3%	716	75.8%
	Ishikawa	17,518	3,645	20.8%	2,993	82.1%	2,926	80.3%
	Tamakawa	7,385	1,275	17.3%	1,109	87.0%	1,068	83.8%
	Hirata	7,088	1,388	19.6%	1,234	88.9%	1,221	88.0%
	Asakawa	7,200	1,228	17.1%	1,100	89.6%	1,081	88.0%
	Furudono	6,349	1,091	17.2%	970	88.9%	968	88.7%
	Miharu	19,086	4,269	22.4%	3,880	90.9%	3,809	89.2%
	Ono	11,766	2,150	18.3%	2,013	93.6%	2,006	93.3%
	Subtotal	560,116	116,076	20.7%	101,702	87.6%	100,335	86.4%
Kennan	Shirakawa	65,542	11,667	17.8%	10,004	85.7%	9,817	84.1%
	Nishigo	20,137	4,107	20.4%	3,660	89.1%	3,565	86.8%
	Izumizaki	7,025	1,139	16.2%	970	85.2%	910	79.9%
	Nakajima	5,316	724	13.6%	641	88.5%	638	88.1%
	Yabuki	18,509	3,339	18.0%	2,941	88.1%	2,901	86.9%
	Tanagura	15,416	2,306	15.0%	2,084	90.4%	2,052	89.0%
	Yamatsuri	6,494	1,169	18.0%	1,058	90.5%	1,018	87.1%
	Hanawa	10,125	1,714	16.9%	1,547	90.3%	1,541	89.9%
	Samekawa	4,212	665	15.8%	580	87.2%	577	86.8%
	Subtotal	152,776	26,830	17.6%	23,485	87.5%	23,019	85.8%
Aizu	Aizuwakamatsu	128,052	20,982	16.4%	18,395	87.7%	17,733	84.5%
	Kitakata	53,270	6,674	12.5%	5,752	86.2%	5,597	83.9%
	Kitashiobara	3,283	414	12.6%	346	83.6%	344	83.1%
	Nishiaizu	7,732	1,158	15.0%	952	82.2%	938	81.0%
	Bandai	3,897	556	14.3%	464	83.5%	455	81.8%
	Inawashiro	16,328	2,786	17.1%	2,341	84.0%	2,299	82.5%
	Aizubange	17,914	2,263	12.6%	1,726	76.3%	1,694	74.9%
	Yukawa	3,524	426	12.1%	346	81.2%	315	73.9%
	Yanaizu	4,081	527	12.9%	419	79.5%	415	78.7%
	Mishima	2,048	313	15.3%	235	75.1%	235	75.1%
	Kaneyama	2,549	530	20.8%	445	84.0%	437	82.5%
	Showa	1,570	316	20.1%	237	75.0%	229	72.5%
	Aizumisato	23,448	3,327	14.2%	2,802	84.2%	2,767	83.2%
	Subtotal	267,696	40,272	15.0%	34,460	85.6%	33,458	83.1%
Minami-aizu	Shimogo	6,656	895	13.4%	794	88.7%	785	87.7%
	Hinoemata	618	97	15.7%	83	85.6%	81	83.5%
	Tadami	5,038	788	15.6%	676	85.8%	673	85.4%
	Minami-aizu	18,519	2,348	12.7%	2,036	86.7%	1,982	84.4%
	Subtotal	30,831	4,128	13.4%	3,589	86.9%	3,521	85.3%
Soso	Soma	37,511	12,228	32.6%	10,412	85.1%	10,195	83.4%
	Minami-soma	70,326	29,365	41.8%	24,175	82.3%	22,566	76.8%
	Hirono	5,141	2,163	42.1%	1,484	68.6%	1,433	66.3%
	Naraha	8,052	4,071	50.6%	3,039	74.6%	2,969	72.9%
	Tomioka	15,794	8,462	53.6%	7,455	88.1%	7,275	86.0%
	Kawauchi	3,039	1,499	49.3%	1,255	83.7%	1,233	82.3%
	Okuma	11,500	5,871	51.1%	4,665	79.5%	4,150	70.7%
	Futaba	7,140	3,874	54.3%	3,405	87.9%	3,205	82.7%
	Namie	21,249	12,754	60.0%	12,274	96.2%	12,087	94.8%
	Katsurao	1,545	797	51.6%	532	66.8%	512	64.2%
	Shinchi	8,361	2,432	29.1%	2,038	83.8%	1,868	76.8%
	Iitate	6,547	3,360	51.3%	3,205	95.4%	3,154	93.9%
	Subtotal	196,205	86,876	44.3%	73,939	85.1%	70,647	81.3%
Iwaki	Iwaki	343,831	73,748	21.4%	62,102	84.2%	61,411	83.3%
Total		2,056,994	481,423	23.4%	420,543	87.4%	410,539	85.3%

* Including Yamakiya of Kawamata, Namie and Iitate

Appendix 2

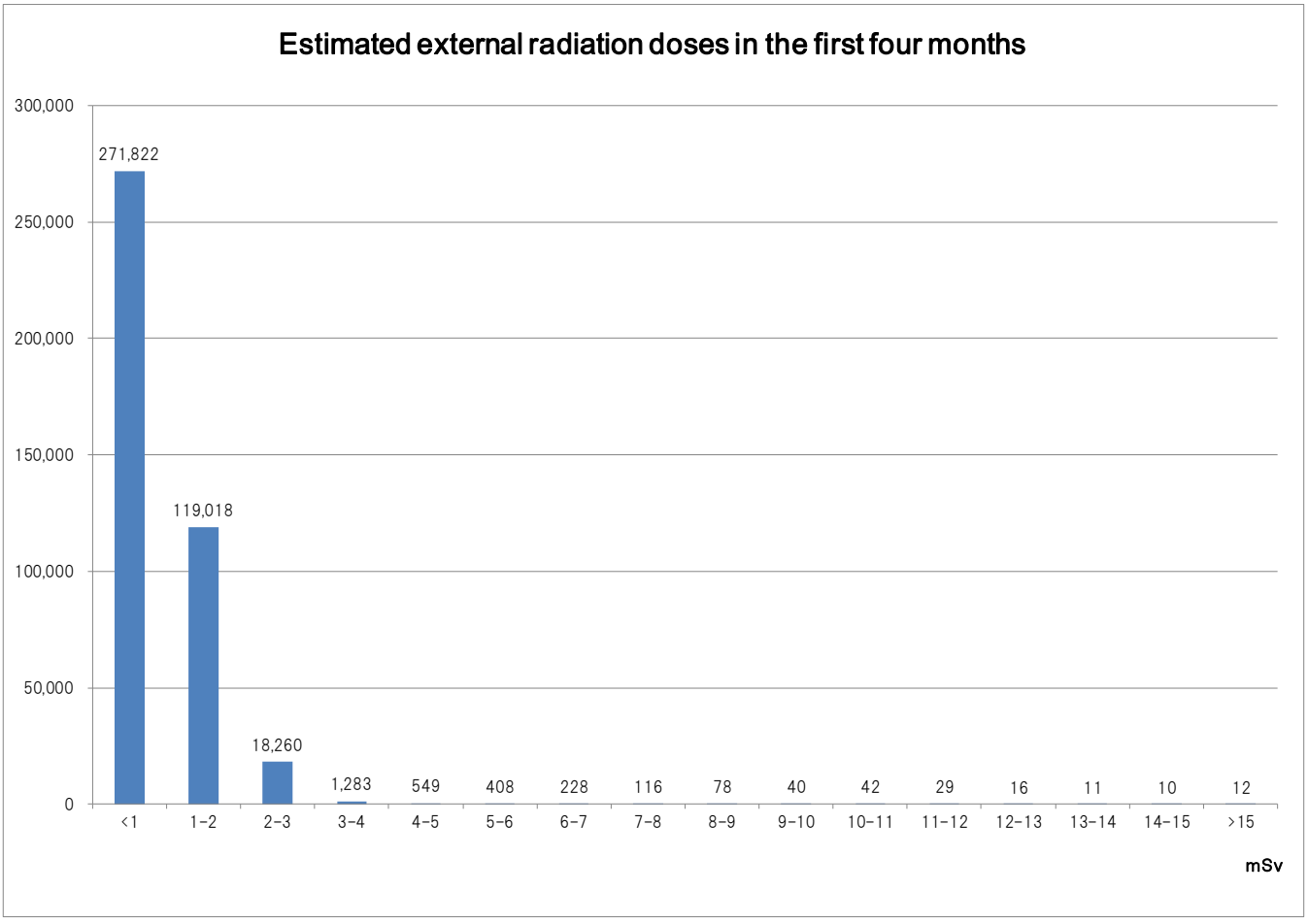
Basic Survey, Fukushima Health Management Survey

Estimated external radiation doses

Preceding survey and full-scale survey

Estimated external radiation doses by region in the first four months

Effective Dose (mSv)	Total	Excluding radiation workers	By region							Proportion (%) excluding radiation workers		
			Kempoku	Kenchu	Kennan	Aizu	Minami-aizu	Soso	Iwaki			
<1	277,350	271,822	38,556	59,863	21,252	33,935	3,536	54,214	60,466	66.0	94.9	99.8
1-2	121,165	119,018	69,710	35,168	1,974	146	22	11,562	436	28.9		
2-3	18,589	18,260	11,101	5,332	10	3	0	1,795	19	4.4	4.7	
3-4	1,349	1,283	388	244	0	1	0	647	3	0.3		
4-5	584	549	35	5	0	0	0	509	0	0.1	0.2	
5-6	458	408	18	2	0	0	0	388	0	0.1		0.2
6-7	258	228	5	0	0	0	0	223	0	0.1	0.1	
7-8	147	116	1	0	0	0	0	115	0	0.0		
8-9	112	78	0	0	0	0	0	78	0	0.0	0.0	
9-10	64	40	0	0	0	0	0	40	0	0.0		
10-11	70	42	0	0	0	0	0	42	0	0.0	0.0	0.0
11-12	42	29	1	0	0	0	0	28	0	0.0		
12-13	37	16	0	0	0	0	0	16	0	0.0	0.0	
13-14	33	11	0	0	0	0	0	11	0	0.0		
14-15	29	10	0	0	0	0	0	10	0	0.0	0.0	
>15	256	12	0	0	0	0	0	12	0	0.0	0.0	0.0
Total	420,543	411,922	119,815	100,614	23,236	34,085	3,558	69,690	60,924	100.0	100.0	100.0
Max	66.0	25.0	11.0	5.9	2.6	3.6	1.6	25.0	3.9			



Appendix 3

As of 31 March 2013

Estimated external radiation dose by age group in the first four months (excluding radiation workers)

Effective Dose (mSv)	Age at the time of the disaster									Total
	0 - 9	10 - 19	20 - 29	30 - 39	40 - 49	50 - 59	60 - 69	70 - 79	80 -	
<1	30,392	25,392	19,734	31,053	26,450	33,712	44,690	35,809	24,590	271,822
1-2	14,001	12,225	8,490	15,618	14,582	16,703	18,504	11,999	6,896	119,018
2-3	3,431	1,912	907	1,950	1,874	2,548	3,012	1,810	816	18,260
3-4	153	113	77	134	136	224	213	160	73	1,283
4-5	23	53	36	42	77	107	88	76	47	549
5-6	17	18	24	33	47	95	81	65	28	408
6-7	4	7	11	18	27	44	57	39	21	228
7-8	2	7	7	7	14	32	20	18	9	116
8-9	1	6	3	6	8	17	15	10	12	78
9-10	0	0	1	2	4	11	11	7	4	40
10-11	1	1	1	1	10	12	6	7	3	42
11-12	0	0	0	2	0	8	10	8	1	29
12-13	0	0	0	0	1	6	5	3	1	16
13-14	0	0	1	1	0	6	3	0	0	11
14-15	0	0	0	0	0	5	4	1	0	10
>15	0	1	0	0	2	2	6	0	1	12
Total	48,025	39,735	29,292	48,867	43,232	53,532	66,725	50,012	32,502	411,922

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

Effective Dose (mSv)	By sex				Total	Proportion (%)
	Male	Proportion (%)	Female	Proportion (%)		
<1	118,741	64.4	153,081	67.3	271,822	66.0
1-2	54,303	29.4	64,715	28.5	119,018	28.9
2-3	9,828	5.3	8,432	3.7	18,260	4.4
3-4	783	0.4	500	0.2	1,283	0.3
4-5	295	0.2	254	0.1	549	0.1
5-6	209	0.1	199	0.1	408	0.1
6-7	130	0.1	98	0.0	228	0.1
7-8	65	0.0	51	0.0	116	0.0
8-9	42	0.0	36	0.0	78	0.0
9-10	24	0.0	16	0.0	40	0.0
10-11	29	0.0	13	0.0	42	0.0
11-12	17	0.0	12	0.0	29	0.0
12-13	8	0.0	8	0.0	16	0.0
13-14	8	0.0	3	0.0	11	0.0
14-15	6	0.0	4	0.0	10	0.0
>15	10	0.0	2	0.0	12	0.0
Total	184,498	100.0	227,424	100.0	411,922	100.0

Basic Survey, Fukushima Health Management Survey
Estimated external radiation doses (preceding and full-scale surveys)

Appendix 4

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

As of 31March 2013

Area/region		Effective Dose (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	23,953	44,633	6,726	117	6	2	0	0	0	0	0	0	0	0	0	0	75,437
	Nihonmatsu	3,138	7,153	2,365	64	0	0	0	0	0	0	0	0	0	0	0	0	12,720
	Date	5,775	6,941	876	118	6	2	0	0	0	0	0	0	0	0	0	0	13,718
	Motomiya	1,580	4,107	763	16	0	0	0	0	0	0	0	0	0	0	0	0	6,466
	Kori	782	2,394	55	1	0	0	0	0	0	0	0	0	0	0	0	0	3,232
	Kunimi	1,307	1,101	11	0	0	0	0	0	0	0	0	0	0	0	0	0	2,419
	Kawamata	1,508	2,587	217	72	23	14	5	1	0	0	0	1	0	0	0	0	4,428
	Otama	513	794	88	0	0	0	0	0	0	0	0	0	0	0	0	0	1,395
Subtotal		38,556	69,710	11,101	388	35	18	5	1	0	0	0	1	0	0	0	0	119,815
Kenchu	Koriyama	28,030	31,324	5,089	235	5	2	0	0	0	0	0	0	0	0	0	0	64,685
	Sukagawa	9,315	2,169	179	4	0	0	0	0	0	0	0	0	0	0	0	0	11,667
	Tamura	7,714	531	19	2	0	0	0	0	0	0	0	0	0	0	0	0	8,266
	Kagamiishi	2,022	44	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,066
	Tenei	354	357	23	1	0	0	0	0	0	0	0	0	0	0	0	0	735
	Ishikawa	2,942	29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,971
	Tamakawa	1,085	12	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1,098
	Hirata	1,197	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,225
	Asakawa	1,083	12	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1,096
	Furudono	953	8	1	0	0	0	0	0	0	0	0	0	0	0	0	0	962
	Miharu	3,224	603	18	2	0	0	0	0	0	0	0	0	0	0	0	0	3,847
	Ono	1,944	51	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1,996
Subtotal		59,863	35,168	5,332	244	5	2	0	0	0	0	0	0	0	0	0	0	100,614
Kennan	Shirakawa	9,204	657	4	0	0	0	0	0	0	0	0	0	0	0	0	0	9,865
	Nishigo	2,437	1,192	2	0	0	0	0	0	0	0	0	0	0	0	0	0	3,631
	Izumizaki	948	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	964
	Nakajima	630	7	1	0	0	0	0	0	0	0	0	0	0	0	0	0	638
	Yabuki	2,862	51	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,913
	Tanagura	2,035	25	3	0	0	0	0	0	0	0	0	0	0	0	0	0	2,063
	Yamatsuri	1,046	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,052
	Hanawa	1,518	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,535
	Samekawa	572	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	575
Subtotal		21,252	1,974	10	0	0	0	0	0	0	0	0	0	0	0	0	0	23,236
Aizu	Aizuwakamatsu	18,092	82	1	0	0	0	0	0	0	0	0	0	0	0	0	0	18,175
	Kitakata	5,652	26	0	1	0	0	0	0	0	0	0	0	0	0	0	0	5,679
	Kitashiobara	342	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	344
	Nishiaizu	946	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	946
	Bandai	450	9	1	0	0	0	0	0	0	0	0	0	0	0	0	0	460
	Inawashiro	2,309	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,322
	Aizubange	1,709	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,711
	Yukawa	344	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	345
	Yanaizu	416	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	418
	Mishima	234	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	234
	Kaneyama	439	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	440
	Showa	236	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	236
	Aizumisato	2,766	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,775
Subtotal		33,935	146	3	1	0	0	0	0	0	0	0	0	0	0	0	0	34,085
Minami-aizu	Shimogo	789	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	791
	Hinoemata	82	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	82
	Tadami	669	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	672
	Minami-aizu	1,996	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,013
Subtotal		3,536	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3,558
Soso	Soma	9,834	354	73	11	4	0	0	0	0	0	0	0	0	0	0	0	10,276
	Minami-soma	17,775	5,174	403	66	28	3	4	4	1	0	0	0	0	0	0	0	23,458
	Hirono	1,363	34	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1,398
	Naraha	2,686	109	12	1	0	1	0	0	0	0	0	0	0	0	0	0	2,809
	Tomioka	5,500	1,002	86	13	2	1	0	3	1	0	0	0	0	0	0	0	6,608
	Kawauchi	882	286	16	0	0	0	0	1	0	0	0	0	0	0	0	0	1,185
	Okuma	2,863	1,084	90	12	8	4	4	1	0	2	2	0	0	1	0	0	4,071
	Futaba	2,521	415	64	16	3	3	1	4	2	1	0	0	0	0	0	0	3,030
	Namie	8,046	2,366	482	106	50	30	27	18	12	6	13	8	5	4	4	9	11,186
	Katsurao	384	115	17	3	0	0	0	0	0	0	0	0	0	0	0	0	519
	Shinchi	1,992	16	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2,009
	Iitate	368	607	551	419	414	346	186	84	62	31	27	20	11	6	6	3	3,141
Subtotal		54,214	11,562	1,795	647	509	388	223	115	78	40	42	28	16	11	10	12	69,690
Iwaki	Iwaki	60,466	436	19	3	0	0	0	0	0	0	0	0	0	0	0	0	60,924
Total		271,822	119,018	18,260	1,283	549	408	228	116	78	40	42	29	16	11	10	12	411,922
Proportion (%)		66.0	28.9	4.4	0.3	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
		94.9		4.7		0.2		0.1		0.0		0.0		0.0		0.0		100.0
		99.8					0.2						0.0				0.0	100.0
Visitors		1,319	232	17	2	1	0	0	1	0	0	0	0	0	0	0	0	1,572
Total + Visitors		273,141	119,250	18,277	1,285	550	408	228	117	78	40	42	29	16	11	10	12	413,494

Fukushima Health Management Survey
Results of Thyroid Ultrasound Examination

1. Primary Examination (carried out within Fukushima Prefecture)

Thyroid Ultrasound Examination (Thyroid Screening) started on 22 April 2013. The examination will continue until 31 March 2014 targeting 158,783 in 34 municipalities.

Target municipalities (nationally designated evacuation zones)
2011/2012

As of 31 March 2013

	Target Population	Number of participants	Participation rates (%)	Number of Participants by age [1] (%) [2] (%) [3]				Participants from outside Fukushima	Proportion (%)
	a	b	b/a	0-5	6-10	11-15	16-18	C [4]	c/b
Kawamata	2,403	2,203	91.7	545	613	689	356	32	1.5
				93.0	97.0	95.7	76.6		
				24.7	27.8	31.3	16.2		
Namie	3,645	3,016	82.7	844	793	855	524	1,018	33.8
				83.5	86.1	82.8	76.9		
				28.0	26.3	28.3	17.4		
Iitate	1,090	926	85.0	244	263	259	160	57	6.2
				87.8	87.4	85.5	76.9		
				26.3	28.4	28.0	17.3		
Minami-soma	12,530	9,737	77.7	2,805	2,722	2,707	1,503	2,624	26.9
				76.4	79.7	82.1	70.1		
				28.8	28.0	27.8	15.4		
Date	11,357	10,481	92.3	2,502	2,966	3,287	1,726	163	1.6
				91.2	98.0	97.4	78.1		
				23.9	28.3	31.4	16.4		
Tamura	7,081	6,307	89.1	1,520	1,786	1,993	1,008	27	0.4
				88.4	98.6	96.0	68.3		
				24.1	28.3	31.6	16.0		
Hirono	1,077	707	65.6	174	172	248	113	114	16.1
				68.2	68.8	71.3	50.4		
				24.6	24.3	35.1	16.0		
Naraha	1,429	982	68.7	226	278	301	177	144	14.7
				65.3	76.8	72.7	57.7		
				23.0	28.3	30.7	18.0		
Tomioka	2,940	1,881	64.0	478	508	593	302	420	22.3
				62.2	69.2	66.9	54.8		
				25.4	27.0	31.5	16.1		
Kawauchi	357	253	70.9	64	80	64	45	41	16.2
				71.1	80.8	71.9	57.0		
				25.3	31.6	25.3	17.8		
Okuma	2,386	1,708	71.6	550	496	468	194	274	16.0
				70.7	78.1	75.6	54.8		
				32.2	29.0	27.4	11.4		
Futaba	1,204	782	65.0	230	198	236	118	362	46.3
				62.7	66.9	70.4	57.3		
				29.4	25.3	30.2	15.1		
Katsurao	233	176	75.5	43	52	54	27	12	6.8
				76.8	83.9	80.6	56.3		
				24.4	29.6	30.7	15.3		
Other	34	34	100.0	0	6	10	18	2	5.9
				0.0	100.0	100.0	100.0		
				0.0	17.7	29.4	52.9		
Subtotal	47,766	39,193	82.1	10,225	10,933	11,764	6,271	5,290	13.5
				80.7	87.1	86.7	69.9		
				26.1	27.9	30.0	16.0		

1) Age at the time of the disaster on 11 March 2011
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 from other prefecture visited Fukushima for screening

Target municipalities
2012/2013

As of 31 March 2013

	Target Population	Number of Participants	Participation Rates (%)	Number of Participants by age [1] (%)[2] (%)[3]				Participants from outside Fukushima	Proportion (%)
	a	b	b/a	0-5	6-10	11-15	16-18	C [4]	c/b
Fukushima	53,852	45,801	85.0	12,538	13,294	13,546	6,423	1,695	3.7
				81.9	93.8	90.5	68.3		
				27.4	29.0	29.6	14.0		
Nihonmatsu	10,243	8,540	83.4	2,409	2,540	2,604	987	94	1.1
				86.5	95.8	88.8	52.6		
				28.2	29.7	30.5	11.6		
Motomiya	6,147	5,077	82.6	1,476	1,532	1,481	588	51	1.0
				83.0	95.9	87.5	54.5		
				29.0	30.2	29.2	11.6		
Otama	1,620	1,341	82.8	442	389	377	133	10	0.7
				90.6	97.7	87.7	43.8		
				33.0	29.0	28.1	9.9		
Koriyama	65,586	50,805	77.5	14,121	15,403	15,544	5,737	1,160	2.3
				73.3	90.5	85.3	51.8		
				27.8	30.3	30.6	11.3		
Kori	2,058	1,777	86.3	469	523	545	240	18	1.0
				89.0	96.5	92.1	60.5		
				26.4	29.4	30.7	13.5		
Kunimi	1,557	1,344	86.3	336	384	437	187	10	0.7
				88.7	96.7	92.6	60.5		
				25.0	28.6	32.5	13.9		
Tenei	1,070	845	79.0	278	280	216	71	11	1.3
				90.8	97.6	77.1	36.0		
				32.9	33.1	25.6	8.4		
Shirakawa	12,590	10,795	85.7	2,947	3,138	3,434	1,276	71	0.7
				87.4	95.5	91.5	58.5		
				27.3	29.1	31.8	11.8		
Nishigo	4,021	3,541	88.1	1,060	1,044	1,016	421	26	0.7
				92.0	95.9	92.4	61.9		
				29.9	29.5	28.7	11.9		
Izumizaki	1,299	1,140	87.8	345	339	307	149	5	0.4
				95.0	96.0	91.1	60.6		
				30.3	29.7	26.9	13.1		
Miharu	2,879	2,440	84.8	661	714	721	344	20	0.8
				88.1	96.4	88.1	60.4		
				27.1	29.3	29.5	14.1		
Hisanohama of Iwaki	342	341	99.7	32	179	130	0	0	0.0
				100.0	99.4	100.0	0.0		
				9.4	52.5	38.1	0.0		
Subtotal	163,264	133,787	81.9	37,114	39,759	40,358	16,556	3,171	2.4
				79.1	92.5	87.6	57.8		
				27.7	29.7	30.2	12.4		
Total	211,030	172,980	82.0	47,339	50,692	52,122	22,827	8,461	4.9
				80.0	91.7	87.9	61.2		
				27.4	29.3	30.1	13.2		

Target municipalities (2013/2014)

As of 10 May 2013

Total	5,694	4,720	82.9	1,228	2,429	965	98	4	0.1
	158,783		3.0	26.0	51.5	20.4	2.1		

1) Age at the time of the disaster on 11 March 2011
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 from other prefecture visited Fukushima for screening

2. Primary Examination （carried out outside Fukushima Prefecture）

- Thyroid Ultrasound Examination (Thyroid Screening) was carried out from 1 November 2012 at the medical institutes outside Fukushima prefecture.
- To those who could not undergo the screening in 2011/2012 , and 2012/2013 except for Koriyama and Miharu, the notification of the primary examination outside Fukushima was distributed.
- For non-participants in Koriyama and Miharu the notification was sent on 29 May 2013.
- After the screening in Fukushima, non-participants were determined to be sent the notification in order the municipality is ready. Refer to the Appendix No.1 for target municipalities by year.

Target municipalities
2011/2012

As of 31 March 2013

	Number of non -participants in screening within Fukushima [1] a	Number of request b	Number of Participants c	Participation Rates (%) c/b	Number of Participants by age [2] (%) 0-5	6-10	11-15	16-18
Kawamata	221	37	26	70.3	13	9	1	3
					50.0	34.6	3.9	11.5
Namie	678	201	145	72.1	48	42	39	16
					33.1	29.0	26.9	11.0
Iitate	166	14	11	78.6	2	5	4	0
					18.2	45.4	36.4	0.0
Minami-soma	2,861	922	699	75.8	269	214	155	61
					38.5	30.6	22.2	8.7
Date	1,134	176	118	67.0	44	31	9	34
					37.3	26.3	7.6	28.8
Tamura	960	64	51	79.7	18	11	9	13
					35.3	21.6	17.6	25.5
Hirono	383	56	27	48.2	11	8	4	4
					40.8	29.6	14.8	14.8
Naraha	483	94	56	59.6	19	15	14	8
					33.9	26.8	25.0	14.3
Tomioka	1,234	252	191	75.8	69	47	46	29
					36.1	24.6	24.1	15.2
Kawauchi	125	26	9	34.6	3	4	1	1
					33.3	44.5	11.1	11.1
Okuma	828	191	136	71.2	54	42	31	9
					39.7	30.9	22.8	6.6
Futaba	477	119	99	83.2	35	22	28	14
					35.4	22.2	28.3	14.1
Katsurao	85	3	3	100.0	0	1	2	0
					0.0	33.3	66.7	0.0
Subtotal	9,635	2,155	1,571	72.9	585	451	343	192
					37.2	28.7	21.9	12.2

1) The number of the notification sent to those who did not undergo the screening in target municipalities
2) Age at the time of the disaster on 11 March 2011
- Those who requested but did not undergo the screening will choose a medical institute either outside or inside Fukushima.

Target municipalities
2012/2013

As of 31 March 2013

	Number of non- participants in screening within Fukushima [1]	Number of request	Number of Participants	Participation rates (%)	Number of Participants by age [2] (%)			
	a	b	c	c/b	0-5	6--10	11-15	16-18
Fukushima	8,521	1,261	566	44.9	266	132	68	100
					47.0	23.3	12.0	17.7
Nihonmatsu	1,883	176	79	44.9	31	18	8	22
					39.2	22.8	10.1	27.9
Motomiya	1,292	114	58	50.9	27	15	3	13
					46.5	25.9	5.2	22.4
Otama	326	18	13	72.2	2	4	4	3
					15.4	30.8	30.8	23.0
Koriyama	14,781	-	-	-	-	-	-	-
					-	-	-	-
Kori	309	37	11	29.7	3	3	0	5
					27.3	27.3	0.0	45.4
Kunimi	236	27	20	74.1	7	3	2	8
					35.0	15.0	10.0	40.0
Tenei	270	17	5	29.4	3	0	0	2
					60.0	0.0	0.0	40.0
Shirakawa	2,071	297	147	49.5	61	33	15	38
					41.5	22.4	10.2	25.9
Nishigo	572	89	44	49.4	16	11	4	13
					36.4	25.0	9.1	29.5
Izumizaki	196	17	5	29.4	0	4	0	1
					0.0	0.0	0.0	0.0
Miharu	439	-	-	-	-	-	-	-
					-	-	-	-
Subtotal	30,896	2,053	948	46.2	416	223	104	205
					43.9	23.5	11.0	21.6

2011-2013

As of 31March 2013

Total	40,531	4,208	2,519	59.9	1,001	674	447	397
					39.7	26.8	17.7	15.8

Number of Primary Examination carried out outside Fukushima Prefecture
From 1 April 2013 to 16 May 2013

Total	-	-	190	-	88	46	28	28
					46.4	24.2	14.7	14.7

1) The number of the notification sent to those who could not undergo the screening in target municipalities
2) Age at the time of the disaster on 11 March 2011
● Those requested but did not undergo the screening will choose a medical institute either outside or inside Fukushima.

3. Thyroid Screening Results

（Refer to the Appendix No. 3 and No. 4 for the results by municipalities）

Results (2011/2012, 2012/2013) As of 31 March 2013

Number of confirmed test results [1]	Target municipalities (2011/2012) [2]	Target municipalities (2012/2013)
	40,302	134,074

1) The total number of participants underwent the screening at medical institutes within or outside Fukushima prefecture and had the results confirmed.
2) Including 2,188 participants with confirmed results from the screening in 2012-2013.

Results		Number	%		Number	%	
A	A1	25,670	63.7	99.5	73,393	54.7	99.3
	A2	14,427	35.8		59,746	44.6	
B		205	0.5		934	0.7	
C		0	0.0		1	0.001	

Test results		April 2011-March 2012		
		Number	%	Total
Nodules	≥5.1㎜	203	0.50	421 1.04%
	≤ 5.0㎜	218	0.54	
Cysts	≥20.1㎜	1	0.002	14,351 35.61%
	≤20.0㎜	14,350	35.61	

Test results		April 2012-March 2013		
		Number	%	Total
Nodules	≥5.1㎜	922	0.69	1,593 1.19%
	≤5.0㎜	671	0.50	
Cysts	≥20.1㎜	8	0.006	59,865 44.65%
	≤20.0㎜	59,857	44.64	

Status of the results

A1: No nodules/cysts
A2: Nodules ≤5.0 mm or cysts ≤20.0 mm
B ：Nodules ≥5.1 mm or cysts ≥20.1 mm
C ：Immediate need for secondary examination

Outline of the results

- Those with A1 and A2 screening test results needs a follow-up till next screening in April 2014 and after.
- Those with B and C screening test results will undergo a secondary examination.
- Some A2 test results may be classified as B results when clinically indicated.

Test results by age group and sex (2012/2013)

As of March 2013

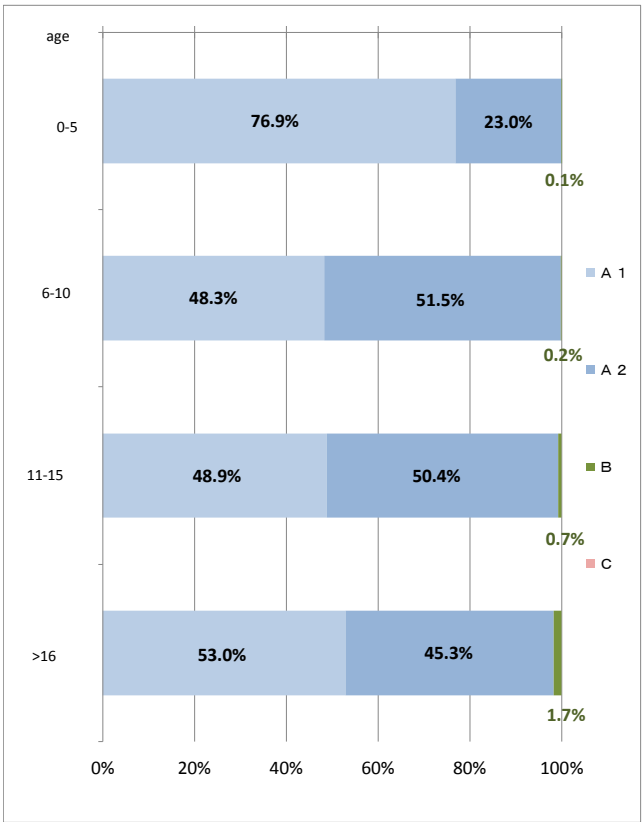
Class / Sex / Age 1)	A						B			C			Total		
	A1			A2											
	Male	Female	Subtotal	Male	Female	Subtotal	Male	Female	Subtotal	Male	Female	Subtotal	Male	Female	Subtotal
0-5	14,733	13,260	27,993	4,417	4,798	9,215	14	14	28	0	0	0	19,164	18,072	37,236
6 - 10	9,937	8,427	18,364	10,611	10,730	21,341	39	88	127	0	0	0	20,587	19,245	39,832
11 - 15	9,959	8,614	18,573	10,287	11,130	21,417	135	262	397	0	0	0	20,381	20,006	40,387
≥16	4,185	4,278	8,463	3,582	4,191	7,773	132	250	382	0	1	1	7,899	8,720	16,619
Total	38,814	34,579	73,393	28,897	30,849	59,746	320	614	934	0	1	1	68,031	66,043	134,074

1) Age at the time of the disaster on 11 March 2011

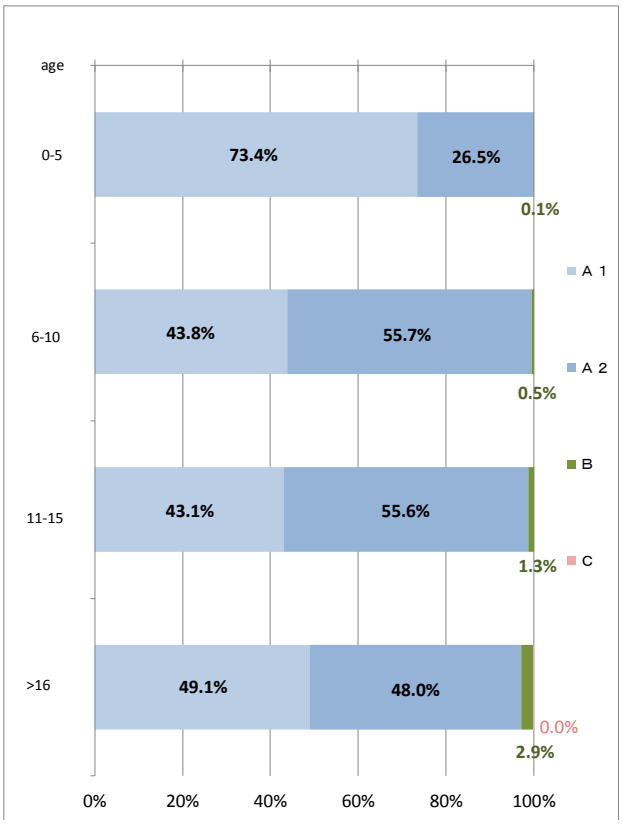
● For details of the 2011/2012 test results see Appendix No.5

Test results by age group and sex

Male



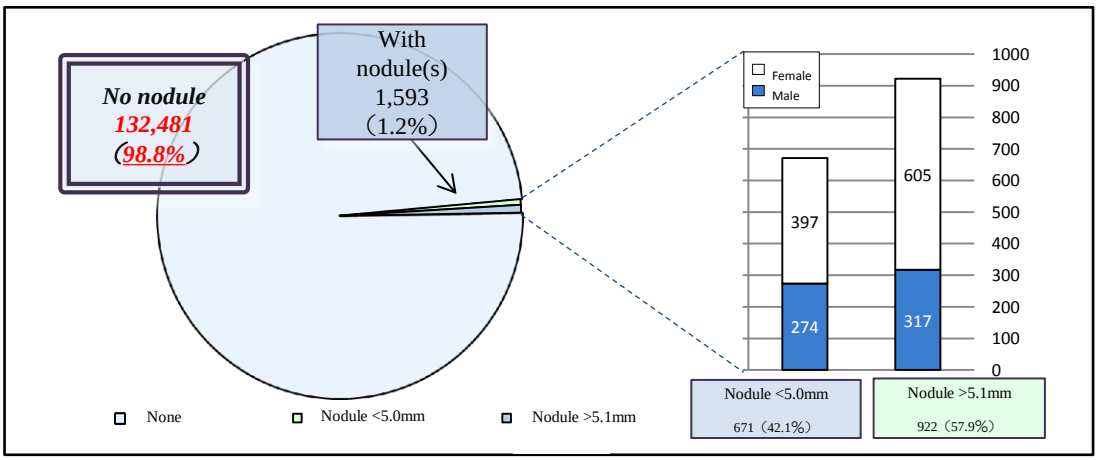
Female



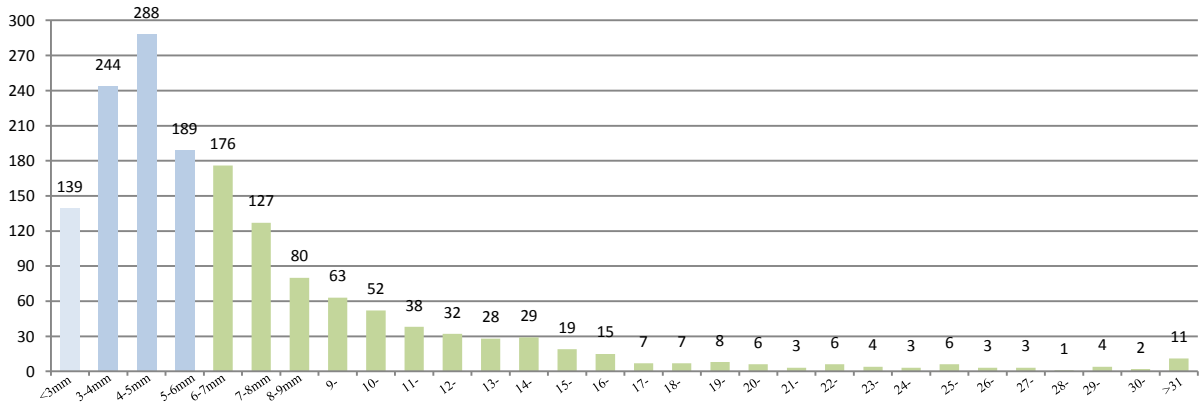
Thyroid Screening Results: Nodules (April 2012–March 2013)

Nodules found during thyroid screening

Nodule size	Total	Male	Female	Class	%
None	132,481	67,440	65,041	A1	98.8%
<3.0mm	139	68	71	A2	0.5%
3.1-5.0mm	532	206	326		
5.1-10.0mm	635	229	406	B	0.7%
10.1-15.0mm	179	53	126		
15.1-20.0mm	56	17	39		
20.1-25.0mm	22	8	14		
25.1mm<	30	10	20		
Total	134,074	68,031	66,043		



Number of people with thyroid nodule by nodule size



Nodule size

Thyroid Screening Results

Nodules were observed in 1,593 (1.2%) of 134,074 who had been screened between April 2012 and March 2013 (the proportion was 1.0% in 2011/2012).

Among 1,593 with thyroid nodules, 922 (0.7%) had nodules >5.1 mm (the proportion was 0.5% in 2011/2012). Nodules between 5.1 mm and 10.0 mm were found in 635 (68.9%) of 922 who required a secondary examination (the proportion was 67.0% in 2011/2012).

Nodules >10.0 mm were found in 287, which was 0.21% of the total number screened (the proportion was 0.17% in 2011/2012).

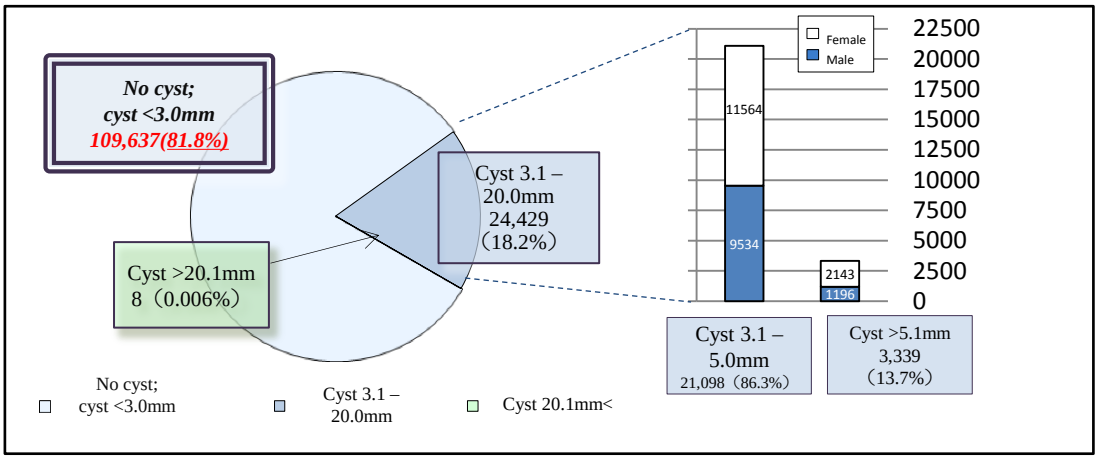
Thyroid Screening Results: Cysts (April 2012–March 2013)

Cysts found during thyroid screening

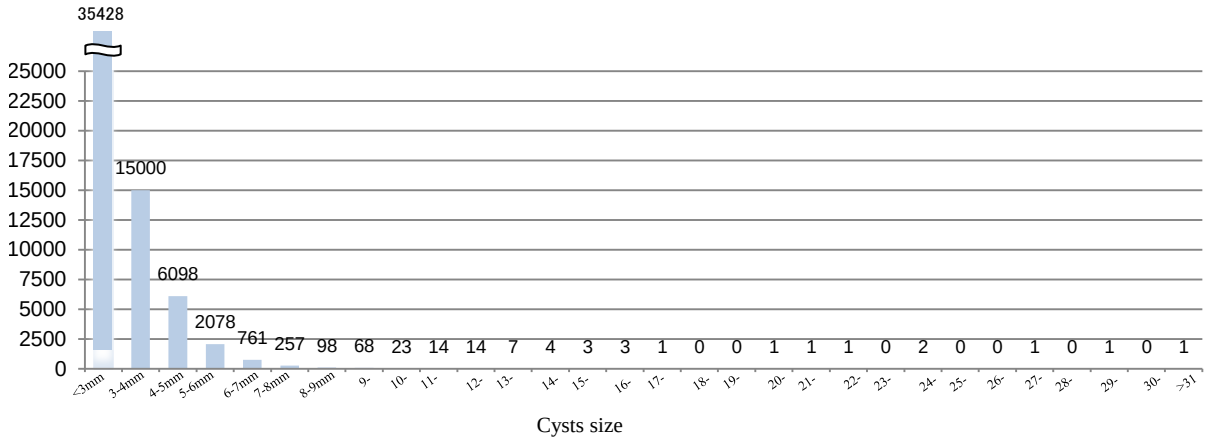
Cysts size	Total	Male	Female	Class 1)	% 2)
none	74,209	39,126	35,083	A1(55.3%)	81.8%
<3.0mm	35,428	18,175	17,253	A2(44.6%)	18.2%
3.1-5.0mm	21,098	9,534	11,564		
5.1-10.0mm	3,262	1,173	2,089		
10.1-15.0mm	62	22	40		
15.1-20.0mm	7	0	7		
20.1-25.0mm	5	0	5	B	0.006%
25.1mm<	3	1	2		
Total	134,074	68,031	66,043		

1) Classification based solely on cycts size

2) Cysts <3.0mm are included in 'None' according to the generally accepted classification



Number of people with thyroid cysts by cysts size



Cysts size

Thyroid Screening Results

Cysts were found in 59,865 (44.6%) of 134,074 who underwent the thyroid screening between April 2012 and March 2013 (the proportion was 35.6% in 2011/2012).
Those with cysts ≤3.0 mm accounted for 35,428.

Those with cysts ≥3.1 mm accounted for 24,437, which is 18.2% of the total number screened (the proportion was 16.8% in 2011/2012).

Cysts ≥3.1 mm were more frequently found in females. The proportion of those with cysts ≥3.1 mm was 43.9% in males and 56.1% in females (the proportion was 43.2 in males and 56.8 in females in 2011/2012).

4. Secondary Examination

Status of secondary examination

The primary examination found that there were a certain number of people requiring the secondary examination. In response to that, the secondary examination was carried out promptly.

Target municipalities (2011/2012)

As of 27 May 2013

	Number of participants in primary examination (a)	Number who required secondary examination (b)	Participants in secondary examination: Total (c)	Age 0-5 (d)	Age 6-10 (e)	Age 11-15 (f)	Age 16-18 (g)	Number of people whose secondary examination was completed: Total (h)	Requiring further examination: A1 (i)	Requiring further examination: A2 (j)	Advised to be monitored (k)	with aspiration biopsy cytology (l)	Total of participants in secondary examination
		(b)/(a)%	(c)/(b)%	(d)/(c)%	(e)/(c)%	(f)/(c)%	(g)/(c)%	(h)/(b)%	(i)/(h)%	(j)/(h)%	(k)/(h)%	(l)/(k)%	
Kawamata	2,229	8	8	0	1	3	4	8	1	0	7	6	24
		0.4%	100.0%	0.0%	12.5%	37.5%	50.0%	100.0%	12.5%	0.0%	87.5%	85.7%	
Namie	3,161	24	20	1	3	6	10	20	1	3	16	10	50
		0.8%	83.3%	5.0%	15.0%	30.0%	50.0%	83.3%	5.0%	15.0%	80.0%	62.5%	
Iitate	937	6	5	0	2	1	2	5	1	2	2	2	12
		0.6%	83.3%	0.0%	40.0%	20.0%	40.0%	83.3%	20.0%	40.0%	40.0%	100.0%	
Minami-soma	10,436	50	44	6	2	15	21	44	4	4	36	21	104
		0.5%	88.0%	13.6%	4.6%	34.1%	47.7%	88.0%	9.1%	9.1%	81.8%	58.3%	
Date	10,599	50	44	0	3	16	25	42	4	8	30	23	117
		0.5%	88.0%	0.0%	6.8%	36.4%	56.8%	84.0%	9.6%	19.0%	71.4%	76.7%	
Tamura	6,358	33	23	1	3	13	6	21	0	2	19	9	57
		0.5%	69.7%	4.3%	13.0%	56.6%	26.1%	63.6%	0.0%	9.5%	90.5%	47.4%	
Hirono	734	3	1	0	0	0	1	1	0	0	1	1	2
		0.4%	33.3%	0.0%	0.0%	0.0%	100.0%	33.3%	0.0%	0.0%	100.0%	100.0%	
Naraha	1,038	4	4	1	0	0	3	3	0	1	2	1	9
		0.4%	100.0%	25.0%	0.0%	0.0%	75.0%	75.0%	0.0%	33.3%	66.7%	33.3%	
Tomioka	2,072	9	7	0	1	2	4	7	0	0	7	5	18
		0.4%	77.8%	0.0%	14.3%	28.6%	57.1%	77.8%	0.0%	0.0%	100.0%	71.4%	
Kawauchi	262	4	3	0	1	0	2	3	0	1	2	1	8
		1.5%	75.0%	0.0%	33.3%	0.0%	66.7%	75.0%	0.0%	33.3%	66.7%	33.3%	
Okuma	1,844	10	6	0	0	3	3	5	0	1	4	3	10
		0.5%	60.0%	0.0%	0.0%	50.0%	50.0%	50.0%	0.0%	20.0%	80.0%	75.0%	
Futaba	881	3	0	0	0	0	0	0	0	0	0	0	0
		0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Katsurao	179	1	1	0	1	0	0	1	0	1	-	-	2
		0.6%	100.0%	0.0%	100.0%	0.0%	0.0%	100.0%	0.0%	100.0%	-	-	
Other	34	-	-	-	-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-	-	-	
Subtotal	40,764	205	166	9	17	59	81	160	11	23	126	82	413
		0.5%	81.0%	5.4%	10.2%	35.6%	48.8%	78.0%	6.9%	14.3%	78.8%	65.1%	

Target municipalities (2012/2013)

As of 27 May 2013

	Number of participants in primary examination (a)	Number who required secondary examination (b)	Participants in secondary examination: Total (c)	Age 0-5 (d)	Age 6-10 (e)	Age 11-15 (f)	Age 16-18 (g)	Number of people whose secondary examination was completed: Total (h)	Requiring further examination: A1 (i)	Requiring further examination: A2 (j)	Advised to be monitored (k)	with aspiration biopsy cytology (l)	Total of participants in secondary examination
		(b)/(a)%	(c)/(b)%	(d)/(c)%	(e)/(c)%	(f)/(c)%	(g)/(c)%	(h)/(b)%	(i)/(h)%	(j)/(h)%	(k)/(h)%	(l)/(k)%	
Fukushima	46,367	263	228	4	27	88	109	210	1	57	152	56	531
		0.6%	86.7%	1.8%	11.8%	38.6%	47.8%	79.8%	0.5%	27.1%	72.4%	36.8%	
Nihonmatsu	8,619	51	20	0	4	9	7	9	0	1	8	4	33
		0.6%	39.2%	0.0%	20.0%	45.0%	35.0%	17.6%	0.0%	11.1%	88.9%	50.0%	
Motomiya	5,135	27	1	0	0	1	0	1	0	0	1	1	3
		0.5%	3.7%	0.0%	0.0%	100.0%	0.0%	3.7%	0.0%	0.0%	100.0%	100.0%	
Otama	1,354	7	0	0	0	0	0	0	0	0	0	0	0
		0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Koriyama	50,805	442	5	0	1	3	1	3	0	0	3	2	14
		0.9%	1.1%	0.0%	20.0%	60.0%	20.0%	0.7%	0.0%	0.0%	100.0%	66.7%	
Kori	1,788	12	0	0	0	0	0	0	0	0	0	0	0
		0.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Kunimi	1,364	15	0	0	0	0	0	0	0	0	0	0	0
		1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Tenei	850	6	1	0	0	0	1	0	0	0	0	0	1
		0.7%	16.7%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Shirakawa	10,942	61	0	0	0	0	0	0	0	0	0	0	0
		0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Nishigo	3,585	28	0	0	0	0	0	0	0	0	0	0	0
		0.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Izumizaki	1,145	5	0	0	0	0	0	0	0	0	0	0	0
		0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Miharu	2,440	15	0	0	0	0	0	0	0	0	0	0	0
		0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Iwaki	341	3	0	0	0	0	0	0	0	0	0	0	1
		0.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Subtotal	134,735	935	255	4	32	101	118	223	1	58	164	63	583
		0.7%	27.3%	1.6%	12.5%	39.6%	46.3%	23.9%	0.4%	26.0%	73.6%	38.4%	
Total	175,499	1,140	421	13	49	160	199	383	12	81	290	145	996
		0.6%	36.9%	3.1%	11.6%	38.0%	47.3%	33.6%	3.1%	21.2%	75.7%	50.0%	

(a) Number of participants underwent the examination within and outside Fukushima prefecture

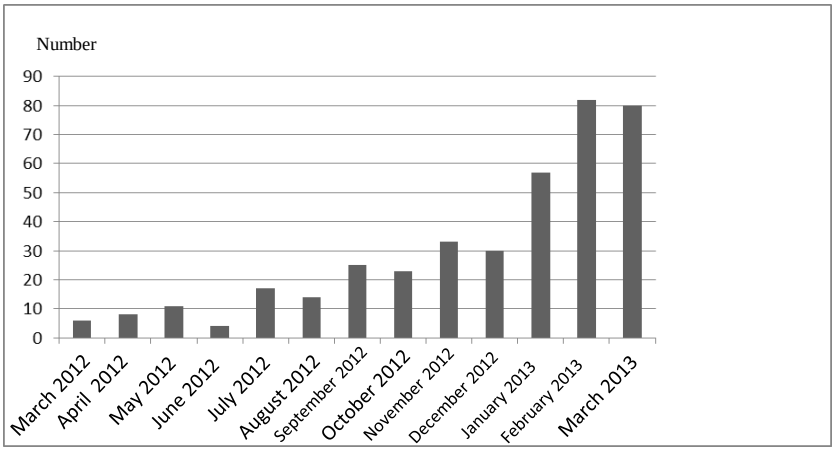
(h) Excluding participants who has not been informed of the results of the blood test, the urine test and cytodiagnosis

(i), (j) Targets for further examination in April 2014

(k) Those requiring examination after six month to 1 year

● In secondary examination, participants are required to come back another day for the results of the blood test and the urine test

Number of first examination per month (2011/2012, 2012/2013）



Procedure of the examination

- When nodular lesions were found in primary examination, secondary examination was conducted at Fukushima Medical University (FMU) Hospital including advanced ultrasound examination, blood test, urine test, and aspiration biopsy cytology if necessary.
- Those with A2 test results but classified as B were advised to undergo the secondary examination as clinically indicated.
- Priority for secondary examination is given to those in urgent clinical need.
- Results of the secondary examination were provided directly to the participants and their guardians with detailed explanation.

Results of aspiration biopsy cytology

（ｉ）(2011/2012)

As of 27 May 2013

- Malignant or suspicious for malignancy
  12 cases (8 of surgery：1 benign thyroid nodules, 7 of papillary carcinoma)
- Male：Female　5 cases：7 cases
- Mean age　17.2 ±1.9 (13-19, 11-18 at the time of the disaster)
- Mean size　14.1±7.6 mm (6.0-33.0 mm)

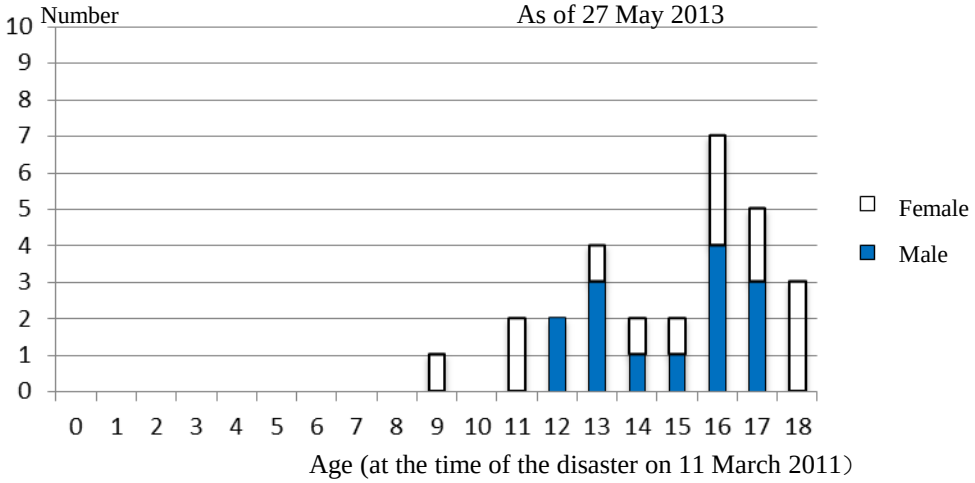
（ii）(2012/2013)

As of 27 May 2013

- Malignant or suspicious for malignancy　16 cases(5 of surgery：5 of papillary carcinoma)
- Male：Female　9 cases：7 cases
- Mean age　16.1±2.8 (11-20, 9-18 at the time of the disaster)
- Mean size　18.1±9.2 mm (8.4-34.1 mm)

Total cases of malignant or suspicious for malignancy in 2011/2012 and 2012/2013 were 28 including 13 of surgery, 1 benign thyroid nodules, 12 of papillary carcinoma.

Number of malignant or suspicious for malignancy by age and sex



The results of secondary examination by municipalities (2011/2012, 2012/2013)

（As of 27 May 2013）

Target municipalities (2011/2012)

	(a)Number of participants in primary examination 1)	Number who required secondary examination	Participants in secondary examination	Participation rates (%)	(b)Number of malignant or suspicious for malignancy 2)	(b)/(a)(%)
Kawamata	2,229	8	8	0.4	2	0.09
Namie	3,161	24	20	0.8	1	0.03
Iitate	937	6	5	0.6	0	0.00
Minami-soma	10,436	50	44	0.5	2	0.02
Date	10,599	50	44	0.5	2	0.02
Tamura	6,358	33	23	0.5	2	0.03
Hirono	734	3	1	0.4	0	0.00
Naraha	1,038	4	4	0.4	0	0.00
Tomioka	2,072	9	7	0.4	1	0.05
Kawauchi	262	4	3	1.5	1	0.38
Okuma	1,844	10	6	0.5	0	0.00
Futaba	881	3	0	0.3	0	0.00
Katsusrao	179	1	1	0.6	0	0.00
Other 3)	34	0	-	-	-	-
Total	40,764	205	166	0.5	11	0.03

1) Total number of participants within and outside Fukushima
2) Excluding the case of suspected malignancy turned benign diagnosis in aspiration biopsy cytology after surgery
3) Number who underwent thyroid examination outside nationally designated evacuation zones

Target Municipalities (2012/2013)

	(a)Number of participants in primary examination 1)	Number who required secondary examination	Participants in secondary examination	Participation rates (%)	(b)Number of malignant or suspicious for malignancy 2)	(b)/(a)(%)
Fukushima	46,367	263	228	0.6	9	0.02
Nihonmatsu	8,619	51	20	0.6	4	-
Motomiya	5,135	27	1	0.5	1	-
Otama	1,354	7	0	0.5	0	-
Koriyama	50,805	442	5	0.9	2	-
Kori	1,788	12	0	0.7	0	-
Kunimi	1,364	15	0	1.1	0	-
Tenei	850	6	1	0.7	0	-
Shirakawa	10,942	61	0	0.6	0	-
Nishigo	3,585	28	0	0.8	0	-
Izumizaki	1,145	5	0	0.4	0	-
Miharu	2,440	15	0	0.6	0	-
Iwaki	341	3	0	0.9	0	-
Total	134,735	935	255	0.7	16	-

1) Total number of participants within and outside Fukushima
2) The rates are not shown except for Fukushima since the participation rates are premature.
● Priority for secondary examination is given to those in urgent clinical need.

（Appendix No. 1）

Year on year target municipalities for thyroid examination

13 municipalities (2011/2012)

12municipalities (2012/2013)

34municipalities(2013/2014)

（Appendix No. 3）

Results of Thyroid Ultrasound Examination (2011/2012)

As of 31 March 2013

	Number of participants 1) (a)	Number of confirmed test results(b)	(b)Number by class				(b)Number of those with nodules or cysts			
			(b)Proportion (%)				Nodules		Cysts	
		Rates (%) (b)/(a)	A		B	C	Proportion (%)		Proportion (%)	
			A1	A2			>5.1mm	<5.0mm	>20.1mm	<20.0mm
Kawamata	2,229	2,220	1,523	689	8	0	8	15	0	679
		99.6	68.6	31.0	0.4	0.0	0.4	0.7	0.0	30.6
Namie	3,161	3,111	2,059	1,028	24	0	24	40	0	1,012
		98.4	66.2	33.0	0.8	0.0	0.8	1.3	0.0	32.5
Iitate	937	928	685	237	6	0	6	15	0	226
		99.0	73.8	25.6	0.6	0.0	0.6	1.6	0.0	24.4
Minami-soma	10,436	10,257	6,542	3,665	50	0	50	84	0	3,623
		98.3	63.8	35.7	0.5	0.0	0.5	0.8	0.0	35.3
Date	10,599	10,567	6,730	3,787	50	0	48	29	1	3,788
		99.7	63.7	35.8	0.5	0.0	0.5	0.3	0.0	35.8
Tamura	6,358	6,344	4,015	2,296	33	0	33	11	0	2,302
		99.8	63.3	36.2	0.5	0.0	0.5	0.2	0.0	36.3
Hirono	734	722	465	254	3	0	3	2	0	254
		98.4	64.4	35.2	0.4	0.0	0.4	0.3	0.0	35.2
Naraha	1,038	1,021	587	430	4	0	4	3	0	431
		98.4	57.5	42.1	0.4	0.0	0.4	0.3	0.0	42.2
Tomioka	2,072	2,006	1,204	793	9	0	9	6	0	791
		96.8	60.0	39.6	0.4	0.0	0.4	0.3	0.0	39.4
Kawauchi	262	261	147	110	4	0	4	1	0	110
		99.6	56.3	42.2	1.5	0.0	1.5	0.4	0.0	42.1
Okuma	1,844	1,803	1,059	734	10	0	10	6	0	732
		97.8	58.7	40.7	0.6	0.0	0.6	0.3	0.0	40.6
Futaba	881	849	524	322	3	0	3	3	0	321
		96.4	61.7	37.9	0.4	0.0	0.4	0.4	0.0	37.8
Katsurao	179	179	113	65	1	0	1	3	0	64
		100.0	63.1	36.3	0.6	0.0	0.6	1.7	0.0	35.8
Other 2)	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	40,764	40,302	25,670	14,427	205	0	203	218	1	14,350
		98.9	63.7	35.8	0.5	0.0	0.5	0.5	0.0	35.6

1) Number of participants underwent the examination within and outside Fukushima

2) Number of targets not from nationally designated evacuation zones who underwent the thyroid screening at schools

● Since the numbers and ages of participants differ in municipalities, comparison among municipalities is not available.

（Appendix No. 4）

Results of Thyroid Ultrasound Examination (2012/2013)

As of 31 March 2013

	Number of participants 1)	Number of confirmed test results(b)	(b)Number by class				(b)Number of those with nodules or cysts			
			(b)Proportion (%)				Nodules		Cysts	
		Rates (%)	A		B	C	Proportion (%)		Proportion (%)	
	(a)	(b)/(a)	A1	A2			>5.1mm	<5.0mm	>20.1mm	<20.0mm
Fukushima	46,367	45,980	26,286	19,431	263	0	256	181	3	19,445
		99.2	57.2	42.2	0.6	0.0	0.6	0.4	0.0	42.3
Nihonmatsu	8,619	8,571	5,055	3,465	50	1	50	42	1	3,466
		99.4	59.0	40.4	0.6	0.0	0.6	0.5	0.0	40.4
Motomiya	5,135	5,097	2,894	2,176	27	0	25	24	1	2,179
		99.3	56.8	42.7	0.5	0.0	0.5	0.5	0.0	42.8
Otama	1,354	1,343	802	534	7	0	7	8	0	534
		99.2	59.7	39.8	0.5	0.0	0.5	0.6	0.0	39.8
Koriyama	50,805	50,805	26,091	24,272	442	0	440	300	2	24,365
		100.0	51.3	47.8	0.9	0.0	0.9	0.6	0.0	48.0
Kori	1,788	1,780	978	790	12	0	12	9	0	791
		99.6	54.9	44.4	0.7	0.0	0.7	0.5	0.0	44.4
Kunimi	1,364	1,350	717	618	15	0	14	8	1	622
		99.0	53.1	45.8	1.1	0.0	1.0	0.6	0.1	46.1
Tenei	850	849	525	318	6	0	6	3	0	322
		99.9	61.8	37.5	0.7	0.0	0.7	0.4	0.0	37.9
Shirakawa	10,942	10,822	6,161	4,600	61	0	61	55	0	4,593
		98.9	56.9	42.5	0.6	0.0	0.6	0.5	0.0	42.4
Nishigo	3,585	3,556	2,072	1,456	28	0	28	17	0	1,457
		99.2	58.3	40.9	0.8	0.0	0.8	0.5	0.0	41.0
Izumizaki	1,145	1,140	516	619	5	0	5	9	0	617
		99.6	45.3	54.3	0.4	0.0	0.4	0.8	0.0	54.1
Miharu	2,440	2,440	1,156	1,269	15	0	15	14	0	1,268
		100.0	47.4	52.0	0.6	0.0	0.6	0.6	0.0	52.0
Iwaki	341	341	140	198	3	0	3	1	0	198
		100.0	41.0	58.1	0.9	0.0	0.9	0.3	0.0	58.1
Subtotal	134,735	134,074	73,393	59,746	934	1	922	671	8	59,857
		99.5	54.7	44.6	0.7	0.0	0.7	0.5	0.0	44.6
Total	175,499	174,376	99,063	74,173	1,139	1	1,125	889	9	74,207
		99.4	56.8	42.5	0.7	0.0	0.6	0.5	0.0	42.6

1) Number of participants underwent the examination within and outside Fukushima

● Since the numbers and ages of participants differ in municipalities, comparison among municipalities is not available.

（Appendix No. 5）

Test results by age group and sex (2011/2012)

As of 31 March 2013

Class / Sex / Age 1)	A						B			C			Total		
	A1			A2											
	Male	Female	Subtotal	Male	Female	Subtotal	Male	Female	Subtotal	Male	Female	Subtotal	Male	Female	Subtotal
0-5	4,597	4,452	9,049	787	790	1,577	2	7	9	0	0	0	5,386	5,249	10,635
6 - 10	3,552	3,107	6,659	2,196	2,373	4,569	9	12	21	0	0	0	5,757	5,492	11,249
11 - 15	3,403	2,939	6,342	2,595	3,000	5,595	21	51	72	0	0	0	6,019	5,990	12,009
≥16	1,882	1,738	3,620	1,223	1,463	2,686	34	69	103	0	0	0	3,139	3,270	6,409
Total	13,434	12,236	25,670	6,801	7,626	14,427	66	139	205	0	0	0	20,301	20,001	40,302

1) Age at the time of the disaster on 11 March 2011

●Numbers include 2,188 participants in 2012/2013.

Nodules found during thyroid screening

Nodule size	Total	Male	Female	Class	%
None	39,881	20,126	19,755	A1	99.0%
<3.0mm	72	35	37	A2	0.5%
3.1-5.0mm	146	74	72		
5.1-10.0mm	136	51	85	B	0.5%
10.1-15.0mm	33	5	28		
15.1-20.0mm	19	6	13		
20.1-25.0mm	9	2	7		
25.1mm<	6	2	4		
Total	40,302	20,301	20,001		

● Classification based solely on nodule size

Cysts found during thyroid screening

Cysts size	Total	Male	Female	Class 1)	% 2)
none	25,951	13,553	12,398	A1(64.4%)	83.2%
<3.0mm	7,585	3,825	3,760	A2(35.6%)	16.8%
3.1-5.0mm	5,740	2,556	3,184		
5.1-10.0mm	1,004	362	642		
10.1-15.0mm	19	5	14		
15.1-20.0mm	2	0	2		
20.1-25.0mm	1	0	1	B	0.002%
25.1mm<	0	0	0		
Total	40,302	20,301	20,001		

1) Classification based solely on cycts size

2) Cysts <3.0mm are included in 'None' according to the generally accepted classification

（Reference）

The Ministry of Environment, Japan conducted the thyroid ultrasound examination same as Fukushima's one for sufficient number of children aged 18 years or younger in 3 prefectures, such as Nagasaki, Yamanashi, and Aomori in November 2012 through March 2013.

Total number of participants	**4,365**

Results		Status	Number		Proportion (%)	
A	A1	No nodules/cysts	1,853	4,321	42.5%	99.0%
	A2	Nodules ≤5.0 mm or cysts ≤20.0 mm	2,468		56.5%	
B		Nodules ≥5.1 mm or cysts ≥20.1 mm	44		1.0%	
C		Immediate need for secondary examination	0		0.0%	

Source : The website of Ministry of Environment, Japan
（http://www.env.go.jp/press/press.php?serial=16419）

Mental Health and Lifestyle Survey

Response rates and support after the survey 2012/2013

1. Response Rates

Number of response (as of 30 April 2013)

	Target population	Number of responses	Response rates (%)
Children	27,107	10,968	40.5
Adults	184,507	54,297	29.4
Total	211,614	65,265	30.8

2. Support after the survey

2.1 Telephone counseling

Respondents who required support were identified on the basis of the survey response. Members of the FMU Mental Health Support Team (clinical psychologists and public health nurses et al.) attempted to contact the respondents via telephone, and provided advice and information about mental health issues.

	Respondents who required support [1)]	Proportion [2)] (%)	Support for those who required support [3)]	Proportion (%)	Number of respondents whose support was completed	Proportion (%)
Children	537	5.2	527	98.1	371	69.1
Adults	1,792	4.1	1,770	98.8	1,257	70.1
Total	2,329	4.3	2,297	98.6	1,628	69.9

1), 2) As of 30 April 2013

3) Respondents whom could not be reached for telephone support due to absence or other reasons or who did not provide their phone numbers.

Respondents who required support

Children with SDQ score of ≥20, and those identified on the basis of the content of free-answer questions.

Adults with K6 score of ≥20 or PCL score of ≥70, and those identified on the basis of the content of free-answer questions.

2.2 Written materials

Respondents whom could not be reached for telephone support due to absence or other reasons were sent written materials providing the telephone number of the Mental Health and Lifestyle Survey helpline for consultation. The written materials also include a response card for them to write down the changes of physical condition after filling out the survey form, and whether they wanted telephone support.

2.3 Support with municipal governments

The information of the respondents who were determined to require continuous support is shared with municipal governments which work with the Fukushima Centre for Disaster Mental Health if necessary. Nine respondents were identified as candidates.

2.4 Other support services

We provide over-the-phone support to those who directly make calls to the Mental Health and Lifestyle Survey helpline. Five people received phone support.

Mental Health and Lifestyle Survey (2011/2012)

Purpose

One of the long-term impacts caused by the Chernobyl nuclear power plant accident was the changes in psychological and physical health of people. Similarly, some residents of Fukushima Prefecture are likely to be suffering from anxiety about radiation and life as evacuees, and posttraumatic stress disorder (PTSD) after the traumatic events, loss of family or property to the disaster. We conducted Mental Health and Lifestyle Survey in order to monitor health and daily lives of residents of Fukushima and to provide them proper care.

Subjects

Target population of the survey in 2011/2012 was 210,189 including officially registered residents of the nationally designated evacuation zones—Hirono, Naraha, Tomioka, Kawauchi, Okuma, Futaba, Namie, Katsurao, Iitate, Minami-soma, Tamura, Kawamata, and part of Date (the area with a specific spot recommended for evacuation)—and those identified as candidates for the survey on the basis of the Basic Survey.

Group 1: Children born between 2 April 2004 and 10 March 2011 (non-school age)
11,717

Group 2: Children born between 2 April 1998 and 1 April 2004 (primary school age)
11,791

Group 3: Children born between 2 April 1995 and 1 April 1998 (middle school age)
6,077

Group 4: Adults born before 1 April 1995
180,604

Methods

Survey forms (to be filled out by self or parent/guardian) were sent to the target population.

Implementation Period

From 20 January to 31 October 2012

Results

The numbers of response were 7,824 (66.8%) in Group 1, 7,509 (63.7%) in Group 2, 3,412 (56.1%) in Group 3, and 73,569 (40.7%) in Group 4.

The numbers of valid response were 7,818 (66.7%) in Group 1, 7,464 (63.3%) in Group 2, 3,411 (56.1%) in Group 3, and 73,433 (40.7%) in Group 4. The numbers of response include blank forms which were not counted as valid. When multiple forms were returned by one respondent, only one response was allowed.

Conclusions

1. Group 1 (non-school age)

- Although target population was 11,717, the number of valid response of Strength and Difficulties Questionnaire (SDQ) in Japanese was 3,427 because SDQ administers to the children over 4-year olds. Comparing the total score to that of Group 2 and 3, those scored above cut-off points, ≥16 in the previous study and ≥20 for requiring support, were high (24.4% and 11.3% respectively).
- By sex, females scored lower than males: those with scores ≥16 were 27.1% and ≥20 were 12.7% among males, 21.5% and 9.7 % among females.
- On self-rated state of health (Q1), the results were positive with roughly 98% answered they had no problems (checked ‘Very good’, ‘Good’ or ‘Normal’). However, nearly 2% checked ‘Poor’ or ‘Very poor’.
- The average time of night sleep was 9 h 43 min which is shorter than that of children of the same generations in the Tokyo metropolitan area.[1)] The average time of nap was longer (1 h 47 min).

2. Group 2 (primary school age)

- Target population of Group 2 was 11,791. Compared with Group 1, the number of valid response of SDQ was nearly twice (7,450). The proportions of those with scores ≥16 and ≥20 were intermediate between Group 1 and 3 (22.0% and 10.9% respectively).
- By sex, females scored lower than males: those with scores ≥16 were 24.6% and ≥20 were 12.6% among males, 19.3% and 9.1 % among females.
- On self-rated state of health (Q1), the results were positive with more than 97% answered they had no problems (checked ‘Very good’, ‘Good’ or ‘Normal’). However, approximately 3% answered they had some problems (checked ‘Poor’ or ‘Very poor’).
- The average time of night sleep was 8 h 36 min, slightly shorter than that of children of the same generations nationwide.[2)] More than half of respondents

(53.0%) checked ‘Almost never’ when asked how often their child usually exercises apart from physical education class, showing many children are living an unhealthy lifestyle.

3. Group 3 (middle school age)

- Target population of Group 3 was 6,077. Among 3,332 of valid response, the proportions of those with scores ≥16 and ≥20 were lower than those of Group1 and 2 (16.2% and 7.7% respectively).
- By sex, females scored higher than males: those with scores ≥16 were 15.8% and ≥20 were 7.3% among males, 16.5% and 8.1 % among females.
- On self-rated state of health, the results were relatively positive with 95% answered they had no problems (checked ‘Very good’, ‘Good’ or ‘Normal’). However, 5% answered they had some problems (checked ‘Poor’ or ‘Very poor’).
- The average time of night sleep was 6 h 53 min, slightly shorter than that of children of the same generations nationwide.[2)] Nearly half of respondents (47.0%) checked ‘Almost never’ when asked how often their child usually exercises apart from physical education class, showing many children are living an unhealthy lifestyle.

A summary of Groups 1, 2 and 3

- We administered SDQ for identifying children’s mental health. The proportion of those scored ≥16 (9.5%) was higher in every group comparing to the proportion in the previous research targeting the non-victims.[3)] The older children were more likely than younger children to score low. Consequently, we found a high percentage of those in need of support especially in younger children.
- The average time of night sleep was short in every group, causing concerns about obesity and other lifestyle-related diseases. Nearly half of children didn’t usually exercise apart from physical education class.

4. Group 4 (Adults born before 1 April 1995)

4.1 Mental health

- On a normal basis, 3.0% of adults in Japan met the cut-off score on the K6 (mental illness) of ≥13.[4)] For another study, evaluating the rescue workers of the 9/11 terrorist attacks in New York City for PTSD checklist (PCL), 20.1% and 11.1% of respondents met the cut-off score of ≥44 and ≥50 respectively.[5)] Based on these previous surveys, we set up cut-off scores for requiring support as follows: K6 ≥20; PCL ≥65.

- The proportion of those with K6 score of ≥20 was 3.3%, roughly equivalent to that on a normal basis. The rate for females was higher (3.8%) than males (2.5%). By age group, the proportion was high in those aged ≥70 (3.9%) and low in 10-19 age group (1.9%).
- The proportion of those with PCL score of ≥65 was 4.6%. The rate for females was higher (5.2%) than males (3.9%). By age group, the proportion was high in those aged ≥70 and low in 10-19 age group.

4.2 Lifestyle

- When describing their current state of health, nearly 20% of respondents checked 'Poor' or 'Very poor'. Almost 80% of those who had previously diagnosed with high blood pressure were going to hospital for treatment.
- Approximately 70% had trouble sleeping, resulting in harmful effects on daytime activities.
- When asked if they exercise regularly, 50.9% checked 'Almost never'.
- We found 20.7% of current smoker, 44.1% drinking alcohol regularly, and 9.6% of heavy drinker (two or more flasks a day). While the proportion of alcohol consumer before the disaster on 11 March 2011 was 42.0%, the proportion was higher (44.1%) a year later.

References

1) The fourth report on lifestyle of infants by Benesse Educational Research and Development Institute. http://www.benesse.co.jp/jisedaiken/research/research_13.html#link4
2) The report on school-age children's state of health surveillance (2010/2011) by Japanese Society of School Health. http://www.gakkohoken.jp/modules /books/index.php?fct=photo&p=135
3) Matsuishi T, et al. Scale properties of the Japanese version of the Strengths and Difficulties Questionnaire (SDQ): a study of infant and school children in community samples. Brain Dev. 2..8 30:410-5.
4) Kawakami, N. National survey of mental health measured by K6 and factors affecting mental health status (in Japanese) in Research on Applied Use of Statistics and Information, Health Labour Sciences Research Grant 2006/2007.
5) Stellman, et al. (2008) Enduring mental health morbidity and social function impairment in World Trade Center rescue, recovery, and cleanup workers: the psychological dimension of an environmental health disaster. Environ.

Telephone counselling and other support services

Purpose

In order to provide appropriate care to respondents to the Mental Health and Lifestyle Survey 2011/2012, who were determined to require mental health or lifestyle consultations and support, the FMU Mental Health Support Team consisting of clinical psychologists and public health nurses et al. performed consultations and provided information over the phone and by other means.

Methods

1. Mental health support

Target population

Individuals residing in nationally designated evacuation zones and born before 10 March 2011.

Criteria for support

- High risk
  Children: Checked 'Fair', 'Poor' or 'Very poor' on Question 1 (Self-rated health) with SDQ score (child behaviour) of $\geq$20.
  Adults: Checked 'Fair', 'Poor' or 'Very poor' on Question 1 (Self-rated health) with either K6 score (overall mental health) of $\geq$20 or PCL score (PTSD symptom severity) of $\geq$65.
- Above cut-off point
  Children: Checked 'Fair', 'Poor' or 'Very poor' on Question 1 (Self-rated health) with SDQ score of 16-19.
  Adults: Checked 'Fair', 'Poor' or 'Very poor' on Question 1 (Self-rated health) with K6 score of 13-19 and PCL score of 44-64.

Conclusions

- Children
  The total number of children requiring support was 1,363. Of these, 1,180 (86.6%) received phone support and 183 (13.4%) received support with written materials. Of those received phone support, 684 (50.2%) were confirmed to be in touch with a medical facility or to have someone to advise them close by, and to be properly self-managing their problems. The frequently mentioned issues on the phone were children's physical health problems, emotional problems such as anger and anxiety, and problems related to schools.

- Adults

  The total number of those requiring support was 5,359. Of these, 4,027 (75.1%) received phone support and 1,332 (24.9%) received support with written materials. The numbers of those who were confirmed to be in touch with a medical facility, to have someone to advise them close by, or to be properly self-managing their problems were 1,760 (42.1%) in the high-risk category, and 807 (68.7%) in the above cut-off point category. The frequently mentioned issues on the phone were disrupted sleep, physical health problems and depression.

2. Lifestyle support

2.1 Target population

Individuals residing in nationally designated evacuation zones, who were born before 1 April 1995.

2.2 Criteria for support

- Those with problems sleeping.
- Those who do not receive medical control (blood pressure or blood glucose).
- Those with mental illness.
- Those with subjective symptoms drastically worsened after the disaster.
- Those with problems of excessive smoking or drinking after the disaster.
- Those who wrote something in the margins of the survey form that was determined to reflect emotional distress or difficulties in daily living.

2.3 Conclusions

However the male-female ratio in those requiring support was in favor of the females (55.9%), the proportion of adult female with the valid response of the Mental Health and Lifestyle Survey[1)] was equally higher (56.0%). In short, there was no gender bias. On the other hand, the proportion of those outside Fukushima Prefecture requiring support was high (24.9%) considering the rate of respondents outside Fukushima was 19.1%. Among ‘eligible for support’ category in phone support, sleeping problems were the most discussed issue. 73.9% of respondents were in touch with a medical facility or saw improvement before phone support. For smoking and drinking problems, few respondents saw improvement before phone support. Therefore, continuous support to promote health in cooperation with municipal governments is needed.

Reference

1) Proceedings of the 11th Prefectural Oversight Committee Meeting for Fukushima Health Management Survey

Progress Report of Pregnancy and Birth Survey (reported on Jun. 5, 2013)

1. Purpose

This survey aims to understand the mental and physical health of pregnant women, to gain insight into their opinions and aspirations, to provide necessary care and relief of anxiety, and ultimately to improve obstetric and perinatal care in Fukushima prefecture.

2. Subject

The Survey 2012/2013 (Apr. 2012 ～ Mar.2013)

○ those who received "The Maternal and Child Health Handbook" from a municipality in Fukushima prefecture between Aug. 1, 2011 and Jul. 31, 2012

○ those who received "The Maternal and Child Health Handbook" from a municipality outside Fukushima prefecture and also received prenatal care in Fukushima prefecture

The Survey 2012/2013 (Apr. 2011 ～ Mar.2012)

○ those who received "The Maternal and Child Health Handbook" from a municipality in Fukushima prefecture between Aug. 1, 2010 and Jul. 31, 2011

○ those who received "The Maternal and Child Health Handbook" from a municipality outside Fukushima prefecture and also stayed in or moved to Fukushima prefecture and received prenatal care or made a delivery after Mar. 11, 2011

3. Results (as of Apr.30 2013)

(1) Status of reply

The Survey 2012/2013 (Apr. 2012 ～ Mar.2013)

14,493 questionnaires were sent and 6,794 were responded (response rate 46.9%) .

The Survey 2011/2012 (Apr. 2011 ～ Mar.2012)

16,001 questionnaires were sent and 9,316 were responded (response rate 58.2%).

(2) Status of support

Midwives and public health nurses give supports of counseling by phone on anxiety about the status of child care, status of health and etc. to those who might need assistance according to their answers in questionnaires. In addition to that, they give support of consultation by E-mail as well.

① Phone counseling

The Survey 2012/2013

1,041 cases were judged that the support by midwives or public health nurses was

needed (Rate of support needed: 15.3%). The supports in 1,037 cases were completed.

Contents of phone counseling (Multiple answers allowed)

Contents of Telephone Counseling	Number	%
Issues related to the client's mind & body	339	32.7
Issues related to childcare and life	273	26.3
Issues related to radiation	244	23.5
Issues related to the health of the children	137	13.2
Issues related to family life	112	10.8
Issues related to the evacuation life	20	1.9
Issues related to the survey	12	1.2
Issues related to checkup or examination	7	0.7
Other	327	31.5

The Survey 2011/2012

1,401 cases were judged that the support by midwives or public health nurses was needed (Rate of support needed: 15.0%). The supports in 1,401 cases were completed.

Contents of phone counseling (Multiple answers allowed)

Contents of Telephone Counseling	Number	%
Issues related to radiation	409	29.2
Issues related to the client's mind & body	283	20.2
Issues related to childcare and life	196	14.0
Issues related to the health of the children	147	10.5
Issues related to the evacuation life	130	9.3
Issues related to family life	69	4.9
Other	509	36.3

② E-mail support

The survey 2012/2013

There were 6 cases.

Contents of E-mail counseling

Contents of Email Counseling	Number
Issues related to childcare and life	5
Complaints	1

The Survey 2011/2012

There were 13 cases.

Contents of E-mail counseling

Contents of Email Counseling	Number
Issues related to radiation	7
Issues related to breast milk test	4
Issues related to urine test	1
Issues related to defect of child	1
Other	3

③ Other

"Mental and Physical Health Support Book for parents and children" which describes how to maintain the mental health and how to deal with radiation were presented to all participants. The book was edited and issued by Children and Families Division of the Fukushima prefectural government.

(3) Status of free description column

The Survey 2012/2013

(There were 1,369 free descriptions in 6,473 data entries as of April 30, 2013)

The main contents written in the free description column

Contents of Free Description Column	Number	%
Issues related to the effect of radiation to children's health	359	26.2
Issues related to how to release the survey results	176	12.9
Issues related to food and radiation	133	9.7
Concerns about playing outdoors	107	7.8
Concerns about the effect of radiation to water	105	7.7
Physical disorder	76	5.6
Anxiety and complaint on credibility and shortage of information	58	4.2
Anxiety and complaint on broken family and evacuation	58	4.2
Requests to the Fukushima Medical Management Survey	53	3.9
Requests to the Health Checkup	53	3.9
Issues related to the radiation effect to the breast milk or powdered milk	51	3.7
Issues related to childcare	50	3.7

The Survey 2011/2012

(There were 3,722 free descriptions in 8,812 valid responses to 31 March 2013)

The main contents written in the free description column

Contents of Free Description Column	Number	%
Issues related to the effect of radiation to children's health	1,102	29.6
Issues related to how to release the survey results	725	19.5
Issues related to the radiation effect to the breast milk or powdered milk	668	17.9
Anxiety and complaint on credibility and shortage of information	542	14.6
Anxiety and complaint on broken family and evacuation	506	13.6
Issues related to food and radiation	476	12.8
Concerns about the effect of radiation to water	441	11.8
Request of breast milk examination	425	11.4
Concerns about playing outdoors	382	10.3
Requests to financial support	363	9.8
Anxiety and complaint on shortage of medical service	348	9.3
Requests for internal radiation dose examination	305	8.2

(4) New item which were added from the Survey 2012/2013

valid responses n=6,372　(no answer 101)

Q: Do you plan to have baby?	Number	%
Yes	3,423	53.7
No	2,935	46.1
Neither	14	0.2

For those who answered "yes" in above question,

(Multiple answers allowed)

Q: What kind of service do you want in case of next pregnancy and childbirth?	Number	%
Information on childcare and pediatric care services	2,348	68.6
Nursery care, extended day care and day care for sick children	2,205	64.4
Information on radiation and health risk	2,028	59.2
Maternity leave and parental leave	1,710	50.0
Other	328	9.6

For those who answered "No" in above question,
(Multiple answers allowed)

Q: What is the reason?	Number	%
I don't want to have babies any more.	1,365	46.5
Childcare for present children keep my hands full	1,033	35.2
High age or health problem	871	29.7
Income is unstable	703	24.0
Anxiety about the health effect of radiation	429	14.6
I don't have any cooperator for household and childcare	269	9.2
Shortage of nursery center	206	7.0
Evacuation life	74	2.5
I am away from my family	72	2.5
Other	432	14.7

4. Evaluation of the Survey result

・In terms of the response rate, the response rate declined from 58.2% in the Survey 2011/2012 to 46.9% in the Survey 2012/2013. FMU would like to try to increase or maintain the response rate in conjunction with the Fukushima Association of Obstetricians and Gynecologists and the Fukushima Society of Obstetricians and Gynecologists.

・In terms of the support situation, support requiring rate 15.3% in the Survey 2011/2012 is almost the same as 15.0% in the Survey 2011/2012. However, the main contents changed. Issues related to the client's mind & body and Issues related to childcare and life increased. Issues related to radiation decreased but maintained high percentage, so it is still important.

・In regard to free description column, the described column decreased. “Issues related to the effect of radiation to children's health” and “Issues related to how to release the survey results” still maintain high percentage, so risk communication is still important. On the other hand, “Request of breast milk examination” decreased sharply. One of the main reasons was that the prefectural government implemented free breast milk examination.

・“Do you plan to have baby?” was a newly added question in Survey 2012/2013. “Yes”

accounted for 53.7% of the responses. Of those who answered Yes, as many as 59.2% requested “Information on radiation and health risk” in addition to ordinary requests such as “Information on childcare and pediatric services” and “Nursery care, extended day care and day care for sick children.” Although information is provided in the "Mental and Physical Health Support Booklet for Parents and Children" and by phone counseling, meaningful and effective risk communication will be an ongoing need. Of those who answered “No”, 14.6% cited “the health effect of radiation” as a reason. It will be important to address this anxiety in a constructive way that promotes a more comfortable environment for family planning.

・Aggregate results of Survey 2011/2012 demonstrate that the rate of preterm birth was in a range similar to that of the national average, although slight variations in the rate can be found among different regions of the prefecture. The incidence of congenital malformation or abnormalities among singleton newborns is 2.7% in the whole of Fukushima prefecture, on par with the 3-5% reported for children born anywhere else in Japan. "Heart malformation" ranked highest among reported congenital malformations or abnormalities, at 0.86% (vs. 2.7% total). This was not different from the ~1% incidence of heart malformations reported throughout Japan.