Report on the Results of the Second Follow-up Survey Covering FY2013 Pregnancy and Birth Survey Respondents

1 Overview

1-1 Purpose

To provide continuous support to those who were pregnant or nursing around the time of the 3.11 disaster, by assessing their health conditions through the second follow-up survey of respondents to the FY2013 Pregnancy and Birth Survey (PBS).

1-2 Background

The PBS found that a particularly high percentage of post-disaster survey respondents tended to be depressed, so the first follow-up survey was conducted from FY2015 (for FY2011 survey respondents) to FY2018 (for FY2014 survey respondents), four years after childbirth, when the number of mothers feeling unconfident about child rearing tended to increase.

Respondents to the FY2011 and FY2012 PBS showed strong concerns about radiation effects and a high tendency toward depression, with the same tendency observed in the first follow-up survey. Therefore, instead of conducting a first follow-up survey for the respondents of the FY2015 and FY2016 surveys, we conducted a second follow-up survey (with support) for respondents of the FY2011 and FY2012 surveys, to provide continuous support for those who were pregnant or nursing at the time of the earthquake.

The results of the second follow-up survey conducted in FY2019 and FY2020 showed that the percentage of those with depression decreased in the FY2019 survey compare to the first follow-up survey , but increased in the FY2020 survey, while radiation anxiety decreased in both fiscal years.
From the content of telephone consultations, the percentage with "concerns about radiation effects" (high immediately after the earthquake) decreased, and "the mothers' mental and physical condition" and "child-rearing-related (daily life) issues" emerged as top concerns, consistent with a trend away from radiation-related concerns to mothers' mental health in general.

However, results from the first follow-up survey of FY2013 and FY2014 respondents showed a certain number of respondents with a low subjective sense of health, depressive tendencies, and those who have radiation anxiety; these findings warrant close attention. In light of such findings, we conducted the second follow-up (with support) for respondents of the FY2013 survey in FY2021

1-3 Covered population

Of FY2012 PBS respondents (excluding miscarriage, abortion, and stillbirth), 5,402 persons were identified through municipal records to be living with children in their respective municipalities**.**

[For reference]

Survey Year	Survey	Covered Respondents	Covered participants
FY2015	First Follow-up	FY2011 PBS respondents	7,252
FY2016		FY2012 PBS respondents	5,602
FY2017		FY2013 PBS respondents	5,734
FY2018		FY2014 PBS respondents	5,856
FY2019	Second Follow-up	FY2011 PBS respondents	6,643
FY2020		FY2012 PBS respondents	5,152
FY2021		FY2013 PBS respondents	5,402

1-4 Survey Method

A. Survey sheet: self-completed questionnaire (postcard)
B. Date of distribution: January 12, 2022
C. Response methods: returning postcard or online
*Online response period: January 12, 2022 to April 30, 2022

1-5 Questionnaire items

Questionnaire items are as follows, with a comment section available to fill in freely.

How many children do you have? ( )

How old is your youngest child? ( ) years and ( ) months

Q1. Do you usually consider yourself healthy?

□Yes, I think I am very healthy. □Yes, I think I am healthy. □ No, I don't think I am so healthy. □No, I don't think I am healthy.

Q2. Have you often felt down or depressed during the past month?

□Yes □No

Q3. During the past month, have you often felt uninterested in or unable to truly enjoy things?

□Yes □No

Q4. Do you sometimes feel unconfident about child rearing?

□Yes □No □Neither yes nor no

Q5. Please check all the boxes that describe what you are worried about regarding radiation effects.

□Water □Food □Your child's outdoor activities □Your child's health □Prejudice □Genetic effects □Other

Q6. Has your child ever had a disease that required hospitalization?

□Yes (disease name:) □No

Q7. Please check all the boxes that describe what you are anxious about in regard to your child.

□Mental and physical development □Diseases □Lifestyle habits □School life □Other

1-6 Data tabulation period for the survey items

Tabulation period for this report is from January 12, 2022 to August 31, 2022

[For reference]

Year	Survey	Data tabulation period (Period for accepting online responses)
FY2015	Follow-up Survey Covering FY2011 Survey Respondents (“First Follow-up for FY2011”)	September 14, 2015–May 31, 2016 (Online response was not available)
FY2016	Follow-up Survey Covering FY2012 Survey Respondents (“First Follow-up for FY2012”)	November 22, 2016–June 30, 2017 (November 22, 2016–June 30, 2017)
FY2017	Follow-up Survey Covering FY2013 Survey Respondents (“First Follow-up for FY2013”)	January 12–August 31, 2018 (January 12–April 30, 2018)
FY2018	Follow-up Survey Covering FY2014 Survey Respondents (“First Follow-up for FY2014”)	January 11–August 31, 2019 (January 11–April 30, 2019)
FY2019	Second Follow-up Survey Covering FY2015 Survey Respondents (“Second Follow-up for FY2011”)	January 10–August 31, 2020 (January 10–April 30, 2020)
FY2020	Second Follow-up Survey Covering FY2016 Survey Respondents (“Second Follow-up for FY2012”)	January 15–June 30, 2021 (January 15–April 30, 2021)
FY2021	Second Follow-up Survey Covering FY2017 Survey Respondents (“Second Follow-up for FY2013”)	January 12–August 31, 2022 (January 12–April 30, 2022) .

2. Interim summary of survey results

5.1 through 5.3, under “5. Tabulated Results of the Second Follow-up for FY2013” shows the survey results. Note that the total may not match the sum of valid responses due to missing values in each question item.

2-1 Number of responses and response rate (see Table 1)

The number of responses (response rate) in the Second Follow-up for FY2013 was 2,492 (46.1%) and the number of valid responses was 2,492 (no invalid responses). Among them, the number of online responses (response rate) was 1,245 (50.0%).

[For reference]

Year	Survey	Total	Details by response method		
		Number of responses (Response rate)	By postal	Online	Online responses rate
FY2015	First Follow-up for FY2011	2,554 (35.2%)	2,554	-	-
FY2016	First Follow-up for FY2012	2,021 (36.1%)	1,719	302	14.9%
FY2017	First Follow-up for FY2013	2,706 (47.2%)	2,062	644	23.8%
FY2018	First Follow-up for FY2014	2,719 (46.4%)	1,951	768	28.2%
FY2019	Second Follow-up for FY2011	2,354 (35.4%)	1,641	713	30.3%
FY2020	Second Follow-up for FY2012	2,178 (42.3%)	1,277	901	41.4%
FY2021	Second Follow-up for FY2013	2,492 (46.1%)	1,247	1,245	50.0%

2-2 Number of responses, by region (see Table 1)

The number of responses (with response rates in parentheses) by the area of residence in the Second Follow-up for FY2013 was as follows: 733 (49.8%) in Kenpoku, 677 (47.4%) in Kenchu, 198 (45.2%) in Kennan, 140 (36.6%) in Soso, 424 (43.7%) in Iwaki, 292 (45.2%) in Aizu, and 28 (44.4%) in Minamiaizu.

[For reference]

, Year	Survey	Number of responses, by area of residence (%)						
		Kenpoku	Kenchu	Kennan	Soso	Iwaki	Aizu	Minamiaizu
FY2015	First Follow-up for FY2011	679 (38.7)	721 (32.7)	168 (34.1)	256 (34.9)	434 (35.9)	271 (34.5)	25 (34.7)
FY2016	First Follow-up for FY2012	675 (45.3)	508 (32.2)	165 (36.4)	113 (30.5)	330 (32.5)	212 (33.4)	18 (29.0)
FY2017	First Follow-up for FY2013	770 (49.4)	716 (47.1)	204 (44.0)	192 (46.6)	479 (46.0)	315 (46.9)	30 (44.1)
FY2018	First Follow-up for FY2014	753 (51.5)	815 (45.8)	194 (45.9)	175 (41.8)	480 (46.7)	281 (40.5)	21 (38.9)
FY2019	Second Follow-up for FY2011	655 (40.4)	639 (31.2)	125 (28.7)	181 (30.4)	447 (38.9)	281 (38.7)	26 (37.7)
FY2020	Second Follow-up for FY2012	713 (51.7)	579 (39.7)	154 (38.6)	106 (34.0)	352 (36.8)	248 (42.0)	26 (48.1)
FY2021	Second Follow-up for FY2013	733 (49.8)	677 (47.4)	198 (45.2)	140 (36.6)	424 (43.7)	292 (45.2)	28 (44.4)

2-3 Maternal mental health conditions (See Table 4–7)

A. The proportion of mothers who responded that their subjective health condition was poor ("Not so healthy" or "Not healthy") was 8.7%. The proportion was 7.9% in the First Follow-up for FY2013, four years prior (Q1).

Question 1 (For reference)

Survey	Second Follow-up	First Follow-up	Main Survey
FY2011 survey respondents	9.8%	9.6%	Not included
FY2012 survey respondents	9.4%	9.3%	3.8%
FY2013 survey respondents	8.7%	7.9%	3.7%
FY2014 survey respondents	-	7.9%	3.9%

B. The proportion of mothers who were deemed as having depressive symptoms was 24.9%. The proportion was 23.5% in the First Follow-up for FY2013, four years prior (Q2, Q3)

(For reference)

Survey	Second Follow-up	First Follow-up	Main Survey
FY2011 survey respondents	24.3%	25.6%	27.1%
FY2012 survey respondents	27.1%	25.7%	25.5%
FY2013 survey respondents	24.9%	23.5%	24.5%
FY2014 survey respondents	-	22.5%	23.4%

Reference: According to the 2010 national survey to assess toddlers' health status (conducted by the Japanese Society of Child Health), 21.8% of mothers with children aged 1 to 6 years (pre-school) responded that they cannot say they are in good mental condition.

2-4 Family life and child rearing (See Table 8)

The proportion of mothers who responded that they sometimes feel unconfident about child rearing was 20.3%. The proportion was 16.7% in the First Follow-up for FY2013, four years prior (Q4)

(For reference)

Survey	Second Follow-up	First Follow-up	Main Survey
FY2011 survey respondents	19.1%	15.8%	Not included
FY2012 survey respondents	18.8%	18.2%	15.4%
FY2013 survey respondents	20.3%	16.7%	17.5%
FY2014 survey respondents	-	17.7%	16.6%

Reference: According to the 2010 national survey to assess toddlers' health status (conducted by the Japanese Society of Child Health), 23.0% of mothers with children aged 1 to 6 (pre-school children) responded that they sometimes feel unconfident about child rearing.

2-5 Anxiety about radiation effects (See Table 9)

The proportion of mothers who checked at least one box in the list of anxieties about radiation effects was 83.5%. Among them, the proportion of those who checked the box for the child's health was 60.6% (Q5, multiple answers are allowed).

(For reference)

Survey	Those who checked at least one box for anxiety about radiation effects		Those who checked the box for child's health	
	Second Follow-up	First Follow-up	Second Follow-up	First Follow-up
FY2011 survey respondents	87.2%	94.2%	68.1%	79.5%
FY2012 survey respondents	84.0%	90.9%	62.8%	68.7%
FY2013 survey respondents	83.5%	87.5%	60.6%	66.3%
FY2014 survey respondents	-	85.4%	-	63.3%

2-6 Children's health conditions and mothers' anxiety (See Tables 10-1, 10-2, and 11)

A. The proportion of mothers who responded that hospitalization had been required for a child's disease was 25.3%. Major diseases for hospitalization included pneumonia, RS virus infection, Kawasaki disease, and/or bronchitis (Q6).

(For reference)

Survey	Second Follow-up	First Follow-up
FY2011 survey respondents	26.5%	24.7%
FY2012 survey respondents	27.2%	24.4%
FY2013 survey respondents	25.3%	23.7%
FY2014 survey respondents	-	25.3%

B. The proportion of mothers who checked at least one box in the list of anxieties about their children was 73.9% (Q7, multiple answers are allowed).

(For reference)

Survey	Those who checked at least one box for anxiety about their children		Those who checked the box for anxiety about physical and mental development		Those who checked the box for anxiety about diseases	
	Second Follow-up	First Follow-up	Second Follow-up	First Follow-up	Second Follow-up	First Follow-up
FY2011 survey respondents	68.8%	70.8%	50.8%	56.1%	34.3%	57.6%
FY2012 survey respondents	72.5%	66.9%	52.2%	56.9%	26.6%	45.5%
FY2013 survey respondents	73.9%	61.2%	51.4%	57.4%	23.2%	40.4%
FY2014 survey respondents	-	63.4%	-	56.9%	-	38.7%

2-7 Content of free comments (see Tables 12-1 and 12-2)

A total of 300 respondents (12.0%) wrote comments in the free comment section. The most frequently raised topics were those related with the child rearing, COVID-19 pandemic, and mental health. (Q7, multiple answers are allowed)

(For reference)

Year	Survey	Those who wrote comments (%)	The most concerning topic(s)				
			No. 1 topic	No. 2 topic	No. 3 topic	No. 4 topic	No. 5 topic
FY 2015	First Follow-up for FY2011	383 (15.0%)	Anxiety about radiation effects on fetus/child 53(13.8%)	Positive comments about this survey 47(12.3%)	Opinions/com-plaints about this survey 44(11.5%)	Request for information on radiation and survey results 37(9.7%)	Request regarding thyroid examination 23(6.0%)
FY 2016	First Follow-up for FY2012	186 (9.2%)	Positive comments about this survey 33(17.7%)	Opinions/com-plaints about this survey 24(12.9%)	Anxiety about radiation effects on fetus/child 23(12.4%)	Consultation about child rearing 17(9.1%)	Request for improved parenting support 14(7.5%)
FY 2017	First Follow-up for FY2013	208 (7.7%)	Positive comments about this survey 36(17.3%)	Opinions/com-plaints about this survey 25(12.0%)	Anxiety about radiation effects on fetus/child 24(11.5%)	Mother's own poor mental health 16(7.7%)	Request for improved parenting support 15(7.5%)
FY 2018	First Follow-up for FY2014	198 (7.3%)	Positive comments about this survey 42(21.2%)	Opinions/com-plaints about this survey 26(13.1%)	Consultation about child rearing 17(8.6%)	Anxiety about radiation effects on fetus/child 14(7.1%)	Request for improved parenting support 14(7.1%)
FY 2019	Second Follow-up for FY2011	304 (12.9%)	Consultation about child rearing 82(27.0%)	Anxiety about radiation effects on fetus/child 53(17.4%)	Mother's own poor physical health 36(11.8%)	Positive comments about this survey 28(9.2%)	Mother's own poor mental health 26(8.6%)
FY 2020	Second Follow-up for FY2012	248 (11.4%)	COVID-19 pandemic* 54(21.8%)	Positive comments about this survey 47(19.0%)	Consultation about child rearing 44(17.7%)	Anxiety about radiation effects on fetus/child 37(14.9%)	Mother's own poor mental health 30(12.1%)
FY 2021	Second Follow-up for FY2013	300 (12.0%)	Consultation about child rearing 130(43.3%)	COVID-19 pandemic related* 57(19.0%)	Mother's own poor Mental health 54(18.0%)	Mother's own poor physical health 39(13.0%)	Anxiety about radiation effects on fetus/child 27(9.0%)

*There was no COVID-19-related free comment space at the second follow-up survey for FY2011 respondents; it was added with the FY2020 Second Follow-up survey for FY2012 respondents.

2-8 Conclusion

The proportion of mothers with poor subjective health and depressive symptoms in the Second Follow-up for FY2013 Survey Respondents showed a temporal increase, compared with the FY2013 Main Survey eight years prior and the First Follow-up for FY2013 four years prior.

There was also an increase in the proportion of mothers with anxieties about their children while the proportion of mothers with anxieties about radiation effects showed a decline.

A. The response rate was 46.1%, which is lower than the First Follow-up for FY2013, four years prior, but higher than the Second Follow-up for FY2012 responders. Of all responses, online responses comprised 50.0%, and have shown an increasing trend over time since their introduction.
B. 8.7% of respondents had poor subjective health (those who responded “not so healthy” or “not healthy”). This was higher than the First Follow-up for FY2013, four years prior.
C. 24.9% of the respondents had depressive symptoms, and a temporal increase was shown compared with the First Follow-up survey for FY2013, but the result showed the rate was lower than the Second Follow-up survey for FY2012 conducted last fiscal year.
D. 83.5% of the respondents checked at least one box in the list of anxieties about radiation effects. This was a decrease from the First Follow-up for FY2013 four years prior and the Second Follow-up for FY2012 last year.
E. 73.9% of the respondents checked at least one box in the list of anxieties about their children. This was higher than the First Follow-up for FY2013 four years prior and the Second Follow-up for FY2012 last year. The most common anxiety was about physical and mental development of their children (51.4%).
F. There were 12.0% of the respondents who wrote in the free comment section. The most frequently raised topic was consultation about child rearing followed by the COVID-19 pandemic, and mental health-related anxiety.

3. Summary of Post Survey Support

3-1 Purpose of the support

To address anxieties of the Second Follow-up of FY2013 Survey, respondents who were deemed to be in need were offered telephone/online counselling and support from midwives and public health nurses.

3-2 Support eligible respondents (See Table 13)

Among respondents to the Second Follow-up for the FY2013 Survey, those who were judged to be in need of telephone counselling or support (“respondents requiring support”)

3-3 Selection criteria for providing support (See Table 14)

Respondents who fall under either one of the following:

A: Those who responded “yes” to two questions regarding depressive symptoms (Q2, Q3)
B: Those who wrote comments implying the need for support (in the free comment section or other parts of the questionnaire)
e.g., any comments indicative of severe depression, need of support in child rearing, anxieties about radiation levels, poor health conditions, desire for direct response or counseling, or desire for support.

3-4 Methods

Telephone and email counselling and support

4. Summary of Results of Post-Survey Support

Detailed results of post-survey support are as shown below in 5. Interim Results of the Second Follow-up for the FY2013 Survey Respondents, subpart (4) Implementation status of post-survey support,

4-1 Number of respondents requiring support (see Tables 13 and 14)

Of 2,492 respondents from January 12 to August 31, 2022, there were 469 who were judged to be in need of telephone counselling and support.

Since the FY2017 Survey, we started to include as candidates for support those who expressed specific anxieties in places other than the questionnaire's free comment section. As a result, the proportion of respondents requiring support was 18.8% in total, with 12.0% based on Criteria A and 6.8% based on Criteria B

(For Reference)

Survey Year	Survey	Respondents	Support required respondents based on Criteria A (%)	Respondents requiring support based on Criteria B (%)		Total respondents requiring support (%)
				Based on comments in the free comment section	Based on comments in other parts in the questionnaire	
FY 2015	First Follow-up for FY2011	2,554人	299 (11.7%)	76 (3.0%)	-	375 (14.7%)
FY 2016	First Follow-up for FY2012	2,021	209 (10.3%)	47 (2.3%)	-	256 (12.7%)
FY 2017	First Follow-up for FY2013	2,706	277 (10.2%)	51 (1.9%)	65 (2.4%)	393 (14.5%)
FY 2018	First Follow-up for FY2014	2,719	265 (9.7%)	31 (1.1%)	84 (3.1%)	380 (14.0%)
FY 2019	Second Follow-up for FY2011	2,354	295 (12.5%)	92 (3.9%)	34 (1.4%)	421 (17.9%)
FY 2020	Second Follow-up for FY2012	2,178	287 (13.2%)	70 (3.2%)	29 (1.3%)	386 (17.7%)
FY 2021	Second Follow-up for FY2013	2,492	299 (12.0%)	125 (5.0%)	45 (1.8%)	469 (18.8%)

* If a respondent falls under both Criteria A and B, the person was counted as a support candidate based on Criteria A.

4-2 Topics mentioned during support provision (see Table 15)

The most common topics mentioned by respondents were "mother's own physical and mental health conditions" (35.6%), followed by "child rearing (daily life)" (28.1%), based on the same support criteria as those in the previous follow-up surveys.

The proportion of "questions and anxiety about radiation effects" was 7.5%.

(Note: Multiple answers are allowed)

(For Reference)

Survey Year	Survey	Most frequently raised topics (%)					Support candidates	
		No. 1	No. 2	No. 3	No. 4	No. 5		
FY2015	First Follow-up for FY2011 (based on the depression questions+free comment section)	Mother's own physical and/or mental health 129 (34.4%)	Questions and anxiety about radiation effects 96 (25.6%)	Child rearing (daily life) 81 (21.6%)	Child's physical and/or mental health 68 (18.1%)	Family life 52 (13.9%)	375	
FY2016	First Follow-up for FY2012 (based on the depression questions+free comment section)	Mother's own physical and/or mental health 115 (44.9%)	Child rearing (daily life) 59 (23.0%)	Child's physical and/or mental health 58 (22.7%)	Questions and anxiety about radiation effects 34 (13.3%)	Family life 27 (10.5%)	256	
FY2017 *1	First Follow-up for FY2013 (based on the depression questions+free comment section)	Mother's own physical and/or mental health 118 (36.0%)	Child rearing (daily life) 91 (27.7%)	Family life 48 (14.6%)	Questions and anxiety about radiation effects 43 (13.1%)	Child's physical and/or mental health 32 (9.8%)	328	393
	*(based on comments in other parts of the questionnaire) *2*	*Child rearing (daily life)* *30 (46.2%)*	*Questions and anxiety about radiation effects* *17 (26.2%)*	*Child's physical and/or mental health* *6 (9.2%)*	*Mother's own physical and/or mental health* *4 (6.2%)*	*Family life* *2 (3.1%)*	*65*	
FY2018 *1	First Follow-up for FY2014 (based on the depression questions+free comment section)	Mother's own physical and/or mental health 78 (26.4%)	Child rearing (daily life) 36 (12.2%)	Family life 19 (6.4%)	Questions and anxiety about radiation effects 17 (5.7%)	Child's physical and/or mental health 16 (5.4%)	296	380
	(based on comments in other parts of the questionnaire)	*Questions and anxiety about radiation effects* *19 (22.6%)*	*Child rearing (daily life)* *9 (10.7%)*	*Child's physical and/or mental health* *8 (9.5%)*	*Mother's own physical and/or mental health* *4 (4.8%)*	*Family life* *3 (3.6%)*	*84*	
FY2019 *1	Second Follow-up for FY2011 (based on the depression questions+free comment section)	Mother's own physical and/or mental health 113 (29.2%)	Child rearing (daily life) 69 (17.8%)	Child's physical and/or mental health 39 (10.1%)	Questions and anxiety about radiation effects 25 (6.5%)	Family life 20 (5.2%)	387	421
	(based on comments in other parts of the questionnaire)	*Child's physical and/or mental health* *8 (23.5%)*	*Child rearing (daily life)* *6 (17.6%)*	*Mother's own physical and/or mental health* *4 (11.8%)*	*Questions and anxiety about radiation effects* *3 (8.8%)*	*Family life/ evacuation life* *1 (2.9%)*	*34*	
FY2020 *1	Second Follow-up for FY2012 (based on the depression questions+free comment section)	Mother's own physical and/or mental health 121 (33.9%)	Child rearing (daily life) 68 (19.0%)	Child's physical and/or mental health 46 (12.9%)	Questions and anxiety about radiation effects 27 (7.6%)	Family life 20 (5.6%)	357	386
	(based on comments in other parts of the questionnaire)	*Mother's own physical and/or mental health* *6 (20.7%)*	*Child rearing (daily life)* *5 (17.2%)*	*Questions and anxiety about radiation effects* *5 (17.2%)*	*Child's physical and/or mental health* *4 (13.8%)*	*Family life/ evacuation life34* *0 (0.0%)*	*29*	
FY2021 *1	Second Follow-up for FY2013 (based on the depression questions+free comment section)	Mother's own physical and/or mental health 160(37.7%)	Child rearing (daily life) 118(27.8%)	Child's physical and/or mental health 61(14.4%)	COVID-19 Related concerns *3 42(9.9%)	Family life 32(7.5%)	424	469
	(based on comments in other parts of the questionnaire)	*Child rearing (daily life)* *14(31.1%)*	*Child's physical and/or mental health* *10(22.2%)*	*Mother's own physical and/or mental health* *7(15.6%)*	*Questions and anxiety about radiation effects* *5(11.1%)*	*COVID-19 Related concerns *3* *1(2.2%)*	*45*	

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*1 The support criteria and data entry method (questionnaire format, data entry staff, etc.) were changed in the First Follow-up for FY2013 and those that followed.

*2 This criterion was added in the First Follow-up for FY2013 and those that followed.

*3 This criterion was added in the Second Follow-up for FY2013 and those that followed.

4-3 Reasons for ending support (See Table 16)

The most common reasons for ending support were: “listened carefully” (supporters listened carefully and helped to sort out the respondent’s problems) in 286 cases (61.0%), followed by “provided information” (supporters provided information on relevant municipal contact points and other useful information) in 201 cases (42.9%). Support ended because respondents requiring support were “absent” at the time of phone call in 106 cases (22.6%). (Note: Multiple answers allowed.)

[For Reference]

Survey year	Survey	Most common reasons for ending support (%)			
		No. 1	No. 2	No. 3	Absent
FY2015	First Follow-up for FY2011	Listened carefully*1 197(52.5%)	Provided information *2 105(28.0%)	Confirmed consultation availability *3 29(7.7%)	131 (34.9%)
FY2016	First Follow-up for FY2012	Listened carefully*1 159(62.1%)	Provided information *2 53(20.7%)	Confirmed consultation availability *3 26(10.2%)	70 (27.3%)
FY2017	First Follow-up for FY2013	Listened carefully*1 245(62.3%)	Provided information *2 133(33.8%)	Confirmed consultation availability *3 66(16.8%)	119(30.3%)
FY2018	First Follow-up for FY2014	Listened carefully*1 229(60.3%)	Provided information *2 90(23.7%)	Confirmed consultation availability *3 55(14.5%)	124(32.6%)
FY2019	Second Follow-up for FY2011	Listened carefully*1 217(51.5%)	Provided information *2 98(23.3%)	Confirmed consultation availability *3 37(8.8%)	98(23.3%)
FY2020	Second Follow-up for FY2012	Listened carefully*1 217(56.2%)	Provided information *2 107(27.7%)	Confirmed consultation availability *3 32(8.3%)	73(18.9%)
FY2021	Second Follow-up for FY2013	Listened carefully*1 286(61.0%)	Provided information *2 201(42.9%)	Confirmed consultation availability *3 62(13.2%)	106(22.6%)

*1 Support ended after listening carefully and helping the mother sort out her problems.
*2 Support ended after providing information on relevant municipal departments and other useful information.
*3 Support ended after confirming that the mother had already seen a doctor or had someone to consult with.

4-4 Conclusion

A. The proportion of those deemed to be in need of support based on the questions asking about depressive symptoms was 12.0%. This is a decrease from last year’s Second Follow-up for FY2012.
B. The most frequently mentioned topics during support was “mother’s physical and/or mental health” according to the same criteria for support that were used in the previous follow-up surveys. “Questions and anxieties about radiation effects” was 7.1%, well below the most frequent topics for consultation, and it decreased from both the First Follow-up for FY2013 (Survey in FY2017) four years prior and the Second Follow-up for FY2012 (surveyed in FY2020) .
C. The most common reason for ending support was “listened carefully” (supporters listened carefully and helped the mother sort out her problems).

5. Results of the Second Follow-up for FY2013

Covered population: 5,402 respondents of the FY2013 Pregnancy and Birth Survey, who gave a birth and were confirmed to be living with their children as of September 2021.

Tabulated responses: 2,492 responses received from January 12 to August 31, 2022. Survey sheets were sent out by post on January 12, 2022.

* The sum of individual percentages for each question item may not add up to 100%, due to rounding.

5-1 Number of Survey sheets sent out and response status

(Table 1)

Region	No. of survey sheets sent		No. of responses					
			Total responses (response rate)		Breakdown by response method			
					by post		online	
Kenpoku	1,473	27.3%	733	(49.8%)	332	45.3%	401	54.7%
Kenchu	1,429	26.5%	677	(47.4%)	375	55.4%	302	44.6%
Kennan	438	8.1%	198	(45.2%)	110	55.6%	88	44.4%
Soso	382	7.1%	140	(36.6%)	84	60.0%	56	40.0%
Iwaki	971	18.0%	424	(43.7%)	173	40.8%	251	59.2%
Aizu	646	12.0%	292	(45.2%)	158	54.1%	134	45.9%
Minamiaizu	63	1.2%	28	(44.4%)	15	53.6%	13	46.4%
Total	5,402	100.0%	2,492	(46.1%)	1,247	50.0%	1,245	50.0%

5-2 Tabulated results by question item

Responses from 2,492 respondents were tabulated (invalid responses: 0). Individual question items may contain non-responses or invalid responses.

(Table 2) How many children do you have?

Region	Total	Minimum	Maximum	Valid responses
Kenpoku	2.4 ±0.8	1	8	717
Kenchu	2.3 ±0.9	1	8	650
Kennan	2.4 ±0.8	1	5	187
Soso	2.5 ±0.8	1	5	131
Iwaki	2.4 ±0.9	1	7	411
Aizu	2.5 ±0.9	1	6	283
Minamiaizu	2.4 ±0.9	1	4	27
Total	2.4 ±0.9	1	8	2,406

(Table 3) How old is your youngest child (in months)?

Region	Total	Minimum	Maximum	Valid responses
Kenpoku	77.0 ± 29.6	0	112	704
Kenchu	80.3 ± 26.6	3	110	631
Kennan	76.8 ± 29.5	0	111	182
Soso	77.1 ± 27.7	6	107	132
Iwaki	77.0 ± 29.0	0	117	404
Aizu	76.2 ± 29.1	0	111	275
Minamiaizu	77.4 ± 30.5	1	107	24
Total	77.8 ± 28.5	0	117	2,352

(Table 4) Do you usually consider yourself healthy? (Q1)
The proportion of mothers who responded that their subjective health was poor ("Not so healthy" or "Not healthy") was 8.7%

Region	Very healthy		Healthy		Not so healthy		Not healthy		Non-response/ invalid responses		Total
Kenpoku	108	14.7%	563	76.8%	58	7.9%	3	0.4%	1	0.1%	733
Kenchu	119	17.6%	500	73.9%	51	7.5%	7	1.0%	0	0.0%	677
Kennan	28	14.1%	150	75.8%	17	8.6%	3	1.5%	0	0.0%	198
Soso	18	12.9%	102	72.9%	19	13.6%	1	0.7%	0	0.0%	140
Iwaki	89	21.0%	298	70.3%	34	8.0%	2	0.5%	1	0.2%	424
Aizu	49	16.8%	222	76.0%	19	6.5%	2	0.7%	0	0.0%	292
Minamiaizu	6	21.4%	21	75.0%	1	3.6%	0	0.0%	0	0.0%	28
Total	417	16.7%	1,856	74.5%	199	8.0%	18	0.7%	2	0.1%	2,492

(Table 5) Have you often felt down or depressed during the past month? (Q2)

Region	Yes		No		Non-response/ invalid responses		Total
Kenpoku	170	23.2%	563	76.8%	0	0.0%	733
Kenchu	156	23.0%	516	76.2%	5	0.7%	677
Kennan	38	19.2%	158	79.8%	2	1.0%	198
Soso	34	24.3%	106	75.7%	0	0.0%	140
Iwaki	88	20.8%	334	78.8%	2	0.5%	424
Aizu	76	26.0%	214	73.3%	2	0.7%	292
Minamiaizu	6	21.4%	22	78.6%	0	0.0%	28
Total	568	22.8%	1,913	76.9%	11	0.4%	2,492

(Table 6) During the past month, have you often felt uninterested in or unable to truly enjoy things? (Q3)

Region	Yes		No		Non-response/ invalid responses		Total
Kenpoku	102	13.9%	631	86.1%	0	0.0%	733
Kenchu	96	14.2%	576	85.1%	5	0.7%	677
Kennan	28	14.1%	168	84.8%	2	1.0%	198
Soso	27	19.3%	113	80.7%	0	0.0%	140
Iwaki	55	13.0%	367	86.6%	2	0.5%	424
Aizu	40	13.7%	250	85.6%	2	0.7%	292
Minamiaizu	4	14.3%	24	85.7%	0	0.0%	28
Total	352	14.1%	2,129	85.4%	11	0.4%	2,492

(Table 7) Mothers with depressive symptoms (Those who responded "Yes" to Q2 and/or Q3)

Region	Yes to both questions		Yes to one question		No to both questions		Non-response/ invalid response		Total
Kenpoku	89	12.1%	94	12.8%	550	75.0%	0	0.0%	733
Kenchu	77	11.4%	98	14.5%	497	73.4%	5	0.7%	677
Kennan	25	12.6%	16	8.1%	155	78.3%	2	1.0%	198
Soso	23	16.4%	15	10.7%	102	72.9%	0	0.0%	140
Iwaki	44	10.4%	55	13.0%	323	76.2%	2	0.5%	424
Aizu	37	12.7%	42	14.4%	211	72.3%	2	0.7%	292
Minamiaizu	4	14.3%	2	7.1%	22	78.6%	0	0.0%	28
Total	299	12.0%	322	12.9%	1,860	74.6%	11	0.4%	2,492

*Depressive tendency : 24.9 % 621 persons (yes to both question & yes to one question)/ Total 2,492 persons

(Table 8) Do you sometimes feel unconfident about child rearing? (Q4)

Region	Yes		No		Neither yes nor no		Non-response/ invalid response		Total
Kenpoku	150	20.5%	244	33.3%	335	45.7%	4	0.5%	733
Kenchu	151	22.3%	247	36.5%	275	40.6%	4	0.6%	677
Kennan	43	21.7%	78	39.4%	75	37.9%	2	1.0%	198
Soso	29	20.7%	60	42.9%	49	35.0%	2	1.4%	140
Iwaki	82	19.3%	190	44.8%	152	35.8%	0	0.0%	424
Aizu	46	15.8%	131	44.9%	114	39.0%	1	0.3%	292
Minamiaizu	6	21.4%	12	42.9%	10	35.7%	0	0.0%	28
Total	507	20.3%	962	38.6%	1,010	40.5%	13	0.5%	2,498

(Table 9) Please check all the boxed that describe what you are worried about regarding radiation effects. (Q5)

Region	Child's health		Genetic effects		Prejudice		Food		Water		Outdoor activities		Other		Valid responses
Kenpoku	367	60.1%	245	40.1%	209	34.2%	160	26.2%	112	18.3%	70	11.5%	5	0.8%	611
Kenchu	373	64.9%	249	43.3%	226	39.3%	154	26.8%	139	24.2%	85	14.8%	6	1.0%	575
Kennan	107	64.1%	61	36.5%	61	36.5%	55	32.9%	36	21.6%	19	11.4%	3	1.8%	167
Soso	48	45.7%	47	44.8%	33	31.4%	29	27.6%	32	30.5%	11	10.5%	0	0.0%	105
Iwaki	211	59.6%	130	36.7%	137	38.7%	116	32.8%	116	32.8%	58	16.4%	2	0.6%	354
Aizu	143	58.1%	93	37.8%	87	35.4%	82	33.3%	65	26.4%	39	15.9%	1	0.4%	246
Minamiaizu	12	50.0%	8	33.3%	6	25.0%	8	33.3%	6	25.0%	0	0.0%	0	0.0%	24
Total	1,261	60.6%	833	40.0%	759	36.5%	604	29.0%	506	24.3%	282	13.5%	17	0.8%	2,082

* The denominator of percentages is the number of valid responses (those who checked at least one box). The sum of individual percentages for each question item may not add up to 100% because multiple answers were allowed

* 83.5% of the respondents checked at least one box (2,082 out of 2,492 respondents).

Questions 6 and 7 pertain to children born from August 1, 2012 to April 23, 2014.

(Table 10-1) Has your child ever had a disease that required hospitalization? (Q6)

Region	Yes		No		Non-response/ invalid response		Total
Kenpoku	194	26.5%	531	72.4%	8	1.1%	733
Kenchu	172	25.4%	498	73.6%	7	1.0%	677
Kennan	44	22.2%	150	75.8%	4	2.0%	198
Soso	31	22.1%	107	76.4%	2	1.4%	140
Iwaki	95	22.4%	322	75.9%	7	1.7%	424
Aizu	83	28.4%	205	70.2%	4	1.4%	292
Minamiaizu	12	42.9%	15	53.6%	1	3.6%	28
Total	631	25.3%	1,828	73.4%	33	1.3%	2,492

(Table 10-2) Diseases that caused hospitalization mentioned in Q6 (Has your child ever had a disease that required hospitalization?) (Multiple answers were allowed.)

Pneumonia	123	COVID-19 infection	2	Hemophagocytic syndrome	1
RS virus infection	77	Hernia	2	Cleft lip	1
Kawasaki disease	47	Mycoplasma infection	2	Neutropenia	1
Bronchitis	46	Lymphadenitis	2	Osteomyelitis	1
Febrile seizure	41	Entropion	2	Triatrial heart	1
Inguinal hernia	30	Cleft lip and palate	2	Uterine fibroid	1
Gastroenteritis	28	Self-poisoning	2	Autoimmune neutropenia	1
Asthma	28	Strabismus	2	hand, foot and mouth disease	1
Bronchial asthma	17	Periodic fever syndrome	2	Cyclic vomiting syndrome	1
RS virus pneumonia	16	Artrial septal defect	2	Maxillary cyst	1
Influenza	16	Meningitis	2	Neonatal asphyxia	1
Tonsillar hypertrophy	13	Median cervical cyst	2	Nephroblastoma	1
Mycoplasma pneumonia	12	Calcified epithelioma	2	Chickenpox	1
Bronchial pneumonia	12	Extremely low birth weight	2	Sleep apnea syndrome	1
Cryptorchidism	12	Hypertrophic pyloric stenosis	2	Lingual frenula shortening	1
Otitis media	8	Pertussis	2	congenital hip dislocation	1
Exanthem subitum	8	Atrioventricular septal defect	2	Congenital osteogenesis imperfecta	1
Adenovirus infection	7	Apnea syndrome	2	Congenital heart disease	1
Rotavirus infection	7	Yolk sac tumor	2	Congenital chylothorax	1
Allergic purpura	6	Navel hernia	2	Congenital pulmonary airway malformations	1
Croup syndrome	6	Hoffer's disease	1	Epidermoid cysyt	1
Norovirus infection	6	Adenovirus pneumonia	1	Total pulmonary venous return abnormality	1
Fracture	6	Adenovirus tonsillitis	1	Polysyndactyly (Foot)	1
Appendicitis	6	Yersinia enteritis	1	Polysplenia syndrome	1
Streptococcal infection	6	Cornelia de Lange syndrome	1	Colorectal polyp	1
Tonsillitis	6	Compartment syndrome	1	Aortic coarctation complex	1
RSV bronchitis	5	Sutton birthmark	1	Aortic valve stenosis	1
Hitometanew virus pneumonia	5	Gianotti-Clostie syndrome	1	Enterohemorrhagic Escherichia coli infection	1
Pharyngitis	5	Stahl ears	1	Hyponatremia	1
Dehydration	5	Norovirus gastroenteritis	1	Hypothermia	1
Urinary tract infection	5	Spring finger	1	Cephalocele	1
Common cold syndrome	5	Hirschsprung disease	1	Idiopathic thrombocytopenic purpura	1
Asthmatic bronchitis	5	Staphylococcal scalded skin syndrome	1	Esotropia	1
RS virus bronchiolitis	4	Metachondromatosis	1	Intractable intestinal disease	1
Rotavirus gastroenteritis	4	lymphangioma	1	Hearing loss	1
Supernumerary tooth	4	Consciousness disorder	1	Brain tumor	1
Pyelonephritis	4	Migratory testis	1	pulmonary hypertension	1
Anaphylactic shock	3	Gastric mucositis	1	Pulmonary artery atresia	1
Seizure	3	Pharyngoconjunctival fever	1	Pulmonary valve stenosis	1
Epilepsy	3	Pharyngopharyngeal tonsillitis	1	Anemia	1
Tetralogy of Fallot	3	Hydrocele testis	1	Adrenocortical carcinoma	1
Herpangina	3	Jaundice	1	Supernumerary breast	1
Syndactyly	3	Purulent lymphadenitis	1	Hemihypertrophy	1
Upper respiratory inflammation	3	Purulent tonsillitis	1	cellulitis	1
Food allergy	3	Traumatic brain contusion	1	Afebrile convulsions	1
Polydactyly	3	Interstitial pneumonia	1	Night terrors	1
Enteritis	3	Ptosis	1	Mumps	1
Intestinal obstruction	3	Eyelid mass	1	Double outlet right ventricle	1
Hypoglycemia	3	Acute laryngitis	1	Costal cartilage tumor	1
Patent ductus arteriosus	3	bacteremia	1	Dizziness	1
EB virus infection	2	Fulminant hepatitis	1	Buttocks soft tissue tumor	1
Ketotic hypoglycemia	2	Hemangioma	1		

(Table 11) Please check all the boxes that describe what you are anxious about regarding your child. (Q7)

Region	Mental and physical development		School life		Lifestyle habits		Deseases		Others		Valid responses
Kenpoku	286	50.3%	261	45.9%	259	45.5%	130	22.8%	14	2.5%	569
Kenchu	269	51.9%	254	49.0%	235	45.4%	123	23.7%	17	3.3%	518
Kennan	87	59.2%	68	46.3%	47	32.0%	38	25.9%	1	0.7%	147
Soso	46	53.5%	32	37.2%	36	41.9%	19	22.1%	2	2.3%	86
Iwaki	153	50.8%	149	49.5%	126	41.9%	70	23.3%	7	2.3%	301
Aizu	95	48.0%	95	48.0%	87	43.9%	45	22.7%	6	3.0%	198
Minamiaizu	11	47.8%	7	30.4%	10	43.5%	3	13.0%	0	0.0%	23
Total	947	51.4%	866	47.0%	800	43.4%	428	23.2%	47	2.6%	1,842

* The denominator of percentages is the number of valid responses (those who checked at least one box). The sum of individual percentages for each question item may not add up to 100% because multiple answers were allowed

* 73.9% of the respondents checked at least one box (1,842 out of 2,492 respondents).

5-3 Free comment section

(Table 12-1) Proportion of those who wrote in the free comment section

Region	Those who wrote comments		Those who didn't write comments		Total
Kenpoku	104	14.2%	629	85.8%	733
Kenchu	81	12.0%	596	88.0%	677
Kennan	16	8.1%	182	91.9%	198
Soso	8	5.7%	132	94.3%	140
Iwaki	60	14.2%	364	85.8%	424
Aizu	28	9.6%	264	90.4%	292
Minamiaizu	3	10.7%	25	89.3%	28
Total	300	12.0%	2,192	88.0%	2,492

(Table 12-2) Contents of free comments

Contents	Number	Proportion
Consultation about child rearing	130	43.3%
COVID-19 pandemic	57	19.0%
Mother's own poor mental health	54	18.0%
Mother's own poor physical health	39	13.0%
Anxiety about radiation effects on fetus and child health	27	9.0%
Positive comments about this survey	27	9.0%
Opinions/complaints about this survey	16	5.3%
Request for improved parenting support services	9	3.0%
Comments regarding financial anxiety and/or burden	7	2.3%
Personal relationship(s)	7	2.3%
Anxiety about radiation exposure of the children when playing outside	6	2.0%
Anxiety about radiation effects on baby and/or general foods	5	1.7%
Request regarding thyroid examination	5	1.7%
Anxiety and/or dissatisfaction about reliability or lack of information	4	1.3%
Request for financial support	4	1.3%
Request for improved mental health care support system	4	1.3%
Request regarding information dissemination and publication of survey results	3	1.0%
Request for improved medical services and physical care	2	0.7%
Request for improved medical services and physical care	1	0.3%
Anxiety related with the outcome of the latest pregnancy	1	0.3%
Request regarding Fukushima Health Management Survey	1	0.3%
Comments regarding external dose exposure (distribution of personal or environmental dosimeters, etc.)	1	0.3%
Comments regarding other examinations and surveys	1	0.3%
Request for decontamination and provision of safe playgrounds	1	0.3%
Others	59	19.7%

*Multiple answers are allowed. The denominator of percentages is 300 (those who wrote comment is the free comment section).

*COVID-19 related section had added from the Second Follow-up Survey of 2012 survey respondents.

5-4 Status of post-survey support

Number of respondents requiring support in the Second Follow-up for FY2013 was 469 (18.8% of 2,492 respondents)

Tabulation of data regarding post-survey support is based on 2,492 responses returned between January 12 and August 31, 2022

(Table 13) Number and proportion of support candidates

Region	Respondents	Support candidates	
Kenpoku	733	146	19.9%
Kenchu	677	116	17.1%
Kennan	198	32	16.2%
Soso	140	32	22.9%
Iwaki	424	80	18.9%
Aizu	292	59	20.2%
Minamiaizu	28	4	14.3%
Total	2,492	469	18.8%

*The denominator for percentage calculations is the number of respondents.

(Table 14) Breakdown of support candidates, by region

Region	Support based on depression symptoms		Support based on the content of free comments		Total
Kenpoku	89	61.0%	57	39.0%	146
Kenchu	77	66.4%	39	33.6%	116
Kennan	25	78.1%	7	21.9%	32
Soso	23	71.9%	9	28.1%	32
Iwaki	44	55.0%	36	45.0%	80
Aizu	37	62.7%	22	37.3%	59
Minamiaizu	4	100.0%	0	0.0%	4
Total	299	63.8%	170	36.2%	469

*The sum of individual percentages for each question item may not add up to 100% due to rounding

(Table 15) Topics mentioned during support, by region

Region	Mother's own physical and/or mental health		Child rearing (daily life)		Child's physical and/or mental health		COVID-19 Pandemic		Questions and anxiety about radiation effects		Family life		Evacuation life		Other		Suport Canditates
Kenpoku	52	35.6%	45	30.8%	18	12.3%	13	8.9%	9	6.2%	9	6.2%	0	0.0%	65	44.5%	146
Kenchu	31	26.7%	24	20.7%	21	18.1%	10	8.6%	4	3.4%	7	6.0%	0	0.0%	59	50.9%	116
Kennan	16	50.0%	6	18.8%	5	15.6%	1	3.1%	1	3.1%	2	6.3%	0	0.0%	14	43.8%	32
Soso	11	34.4%	6	18.8%	6	18.8%	4	12.5%	2	6.3%	1	3.1%	1	3.1%	16	50.0%	32
Iwaki	35	43.8%	27	33.8%	14	17.5%	9	11.3%	14	17.5%	6	7.5%	0	0.0%	25	31.3%	80
Aizu	19	32.2%	22	37.3%	7	11.9%	5	8.5%	5	8.5%	6	10.2%	0	0.0%	27	45.8%	59
Minamiaizu	3	75.0%	2	50.0%	0	0.0%	1	25.0%	0	0.0%	1	25.0%	0	0.0%	1	25.0%	4
Total	167	35.6%	132	28.1%	71	15.1%	43	9.2%	35	7.5%	32	6.8%	1	0.2%	207	44.1%	469

*The denominator for percentage calculations is the number of respondents requiring support. The sum of individual percentages may be other than 100% because multiple answers were allowed.

*COVID-19 related section had added from the Second Follow-up Survey of 2013 survey respondents.

(Table 16) Reasons for ending support

Region	Listened carefully[1)]		Provided information[2)]		Confirmed consultation availability[3)]		Answered questions[4)]		Recommended medical care[5)]		Referred to Mental Health Support Team[6)]		Referred to municipalities[7)]	
Kenpoku	88	60.3%	59	40.4%	20	13.7%	9	6.2%	3	2.1%	1	0.7%	0	0.0%
Kenchu	61	52.6%	39	33.6%	7	6.0%	4	3.4%	0	0.0%	0	0.0%	0	0.0%
Kennan	19	59.4%	13	40.6%	6	18.8%	3	9.4%	0	0.0%	0	0.0%	0	0.0%
Soso	19	59.4%	13	40.6%	5	15.6%	2	6.3%	0	0.0%	0	0.0%	0	0.0%
Iwaki	56	70.0%	46	57.5%	13	16.3%	6	7.5%	4	5.0%	0	0.0%	0	0.0%
Aizu	39	66.1%	27	45.8%	10	16.9%	3	5.1%	0	0.0%	0	0.0%	0	0.0%
Minamiaizu	4	100.0%	4	100.0%	1	25.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Total	286	61.0%	201	42.9%	62	13.2%	27	5.8%	7	1.5%	1	0.2%	0	0.0%

Region	Referred to radiation consultation[8)]		Referred to medical specialists[9)]		Absent		Contact number remained unknown		Support declined		Other reasons		Support candidates
Kenpoku	0	0.0%	0	0.0%	34	23.3%	19	13.0%	1	0.7%	0	0.0%	146
Kenchu	0	0.0%	0	0.0%	35	30.2%	18	15.5%	0	0.0%	0	0.0%	116
Kennan	0	0.0%	0	0.0%	7	21.9%	5	15.6%	0	0.0%	0	0.0%	32
Soso	0	0.0%	0	0.0%	3	9.4%	9	28.1%	0	0.0%	0	0.0%	32
Iwaki	0	0.0%	0	0.0%	15	18.8%	7	8.8%	0	0.0%	0	0.0%	80
Aizu	1	1.7%	0	0.0%	12	20.3%	8	13.6%	0	0.0%	0	0.0%	59
Minamiaizu	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	4
Total	1	0.2%	0	0.0%	106	22.6%	66	14.1%	1	0.2%	0	0.0%	469

*The denominator for percentage calculations is the number of respondents requiring support. The numbers are cumulative totals. The sum of individual percentages may be other than 100% because multiple answers were allowed.

1) Support ended after listening carefully and helping to sort out the mother's problems.

2) Support ended after providing information on relevant municipal service contact points and other useful information.

3) Support ended after confirming that the mother has already consulted doctors or other specialists.

4) Support ended after recommending that the mother seek medical consultation.

5) Support ended after answering questions from the mother.

6) Support ended after forwarding the mother's information to FMU's Mental Health Support Team (with consent).

7) Support ended after forwarding the mother's information to relevant sections of the municipality of residence (with consent).

8) Support ended after forwarding the mother's information to FMU's radiation consultation desk (with consent).

9) Support ended after forwarding the mother's information to medical specialists at FMU.

Report on the Thyroid Ultrasound Examination (TUE)
Full-Scale Survey (the fifth-round survey)

As of September 30, 2022

1. Summary

1.1 Purpose

In order to monitor the long-term health of children, we continued the Full-Scale Survey (fifth-round survey), following the Preliminary Baseline Survey for background assessment of thyroid glands, and three Full-Scale Surveys (second-, third-, and fourth-round surveys) to continuously assess the status of thyroid glands.

1.2 Eligible Persons

All Fukushima residents approximately 18 years old or younger at the time of earthquake (those born between April 2, 1992 and April 1, 2012).

1.3 Implementation Period

From FY2020 to FY2022, starting in April 2020.

1.3-1 For those 18 years old or younger

The examination implementation period is 3 years from FY2020 through FY2022.

1.3-2 For those 19 years old or older

The examination has been carried out on an age group basis (i.e., school grade).

FY2020: those born in FY1998 and FY2000
FY2021: those born in FY1999 and FY2001
FY2022: N/A

1.3-3 For those 25 years old or older

Those who are older than 20 are recommended to receive the examination every 5 years.

FY2020: those born in FY1995
FY2021: those born in FY1996
FY2022: those born in FY1997

Results of the survey for those 25 years old will be reported separately.

1.4 Implementing organizations (number of medical facilities and institutions with agreements for implementation of thyroid examinations as of September 30, 2022)

Fukushima Prefecture commissioned Fukushima Medical University (FMU) to conduct the survey in cooperation with organizations inside and outside Fukushima for the convenience of participants (the number of medical facilities shown below is as of September 30, 2022).

1.4-1 Primary examination facilities

Inside Fukushima Prefecture	84
Outside Fukushima Prefecture	134

1.4-2 Confirmatory examination facilities

Inside Fukushima Prefecture	5 including FMU
Outside Fukushima Prefecture	37

1.5 Methods

1.5-1 Primary examination

Ultrasonography of the thyroid gland.

Assessments are made by specialists on the basis of the following criteria:

- Grade A
  A1: No nodules/cysts
  A2: Nodules ≤ 5.0 mm or cysts ≤ 20.0 mm

- Grade B

B: Nodules ≥ 5.1 mm or cysts ≥ 20.1 mm

Some A2 results may be re-classified as Grade B for confirmatory examination.

-Grade C

C: Urge immediate attention for confirmatory examination, based on the condition of the thyroid gland.

1.5-2 Confirmatory examination

Ultrasonography of the thyroid gland, blood and urine tests, and fine needle aspiration cytology (FNAC) if needed for those with B or C test results.

Priority is given to those in urgent clinical need. A medical follow-up may be recommended based on confirmatory exam results.

1.5-3 Examination flow chart

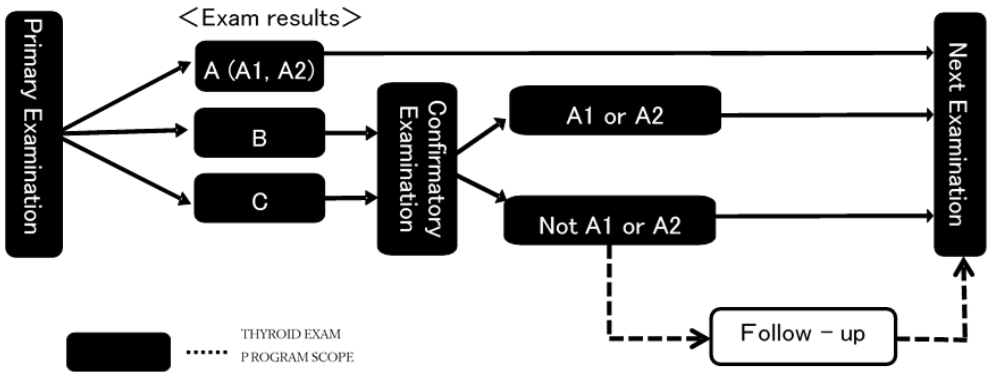


Fig. 1 Flow Chart

1.6 Municipalities by examination fiscal year

The municipalities by examination (for those 18 years old or younger) were carried out in FY2020 to FY2022 are as follows:

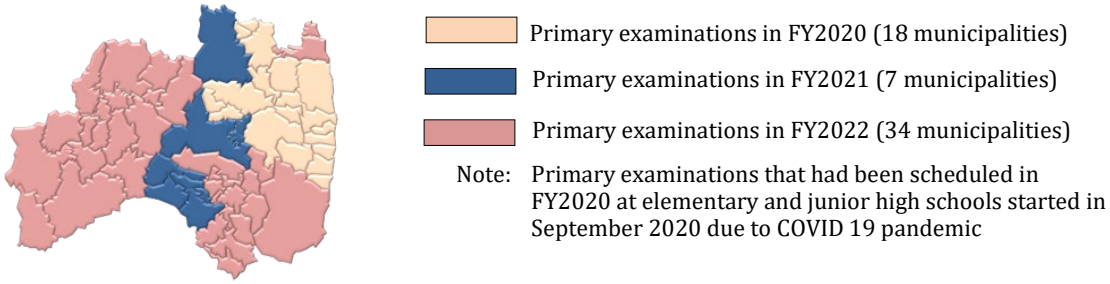


Fig. 2 Municipalities covered for primary examinations at elementary and junior high schools

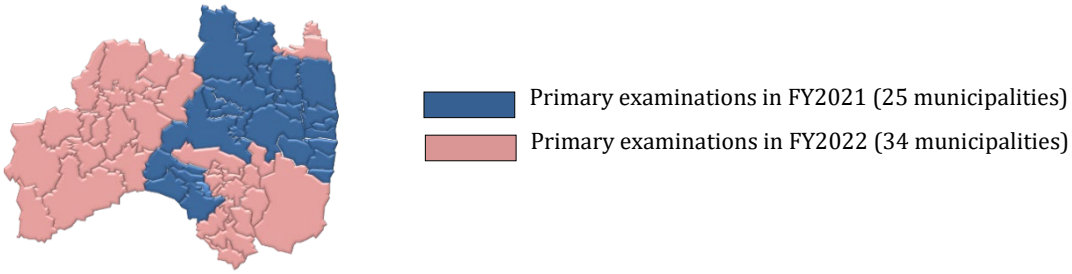


Fig. 3 Municipalities covered for primary examinations at high schools and other facilities

Results of these surveys were aggregated based on the year when examinations were originally scheduled, which may differ from the year in which some examinations were actually conducted.

2. Results as of September 30, 2022

2.1 Results of the Primary Examination

2.1-1 Implementation status

The primary examination was carried out for 89,094 participants (35.2%) by September 30, 2022. (Refer to Appendix 1 and 2 for the primary survey implementation status by municipalities and venues outside Fukushima.)

Results of 82,368 participants (92.5%) have been finalized and individual result reports were sent out. Of these, 23,865 (29.0%) had Grade A1 results; 57,502 (69.8%) had Grade A2; 1.001 (1.2%) had Grade B; and none had Grade C

Table 1 Progress and results of the primary examination

	Eligible persons	Participants			Participants with finalized results									
				Examined outside Fukushima prefecture			A				Those referred to Confirmatory exam			
			(%)			(%)	A1		A2		B		C	
	a	b	b/a		c	c/b	d	d/c	e	e/c	f	f/c	g	g/c
FY2020	144,904	67,092	(46.3)	5,347	65,890	(98.2)	19,044	(28.9)	46,139	(70.0)	707	(1.1)	0	(0.0)
FY2021	108,011	22,002	(20.4)	2,380	16,478	(74.9)	4,821	(29.3)	11,363	(69.0)	294	(1.8)	0	(0.0)
Total	252,915	89,094	(35.2)	7,727	82,368	(92.5)	23,865	(29.0)	57,502	(69.8)	1,001	(1.2)	0	(0.0)

Table 2 Number and percentage of participants with nodules/cysts (see Appendix 4 for details)

Respective fiscal year	Participants with finalized results	Nodules				Cysts			
		≥5.1mm		≤5.0mm		≥20.1mm		≤20.0mm	
	a	b	b/a	c	c/a	d	d/a	e	e/a
FY2020	65,890	707	(1.1)	359	(0.5)	1	(0.0)	46,536	(70.6)
FY2021	16,478	294	(1.8)	128	(0.8)	0	(0.0)	11,531	(70.0)
Total	82,368	1,001	(1.2)	487	(0.6)	1	(0.0)	58,067	(70.5)

Proportions are rounded to a lower decimal place. This applies to other tables as well.

- Those who receive the examination at 5-year intervals (born between FY1992 and FY1997) are excluded and the results will be reported separately (i.e., Examination for age 25+).
- Examination schedule – respective year of birth and examination fiscal year is as follows:
  FY1995 birth year (approx. 21,000) – Examination in FY2020
  FY1996 birth year (approx. 21,000) – Examination in FY2021
  FY1997 birth year (approx. 20,000) – Examination in FY2022

2.1-2 Participation rate by age group

Table 3 shows the participation rate for the age group as of April 1 each year

Table 3 Participation rate by age groups

			Total	8 - 11	12-17	18-24
FY2020	Eligible participants	a	144,904	37,105	61,913	45,886
	Examinees	b	67,092	26,921	35,213	4,958
	Examination rate	b/a	46.3%	72.6%	56.9%	10.8%
FY2021				9 - 11	12-17	18-24
	Eligible participants	a	108,011	19,749	45,058	43,204
	Examinees	b	22,002	6,259	11,092	4,651
	Examination rate	b/a	20.4%	31.7%	24.6%	10.8%
Total	Eligible participants	a	252,915	56,854	106,971	89,090
	Examinees	b	89,094	33,180	46,305	9,609
	Examination rate	b/a	35.2%	58.4%	43.3%	10.8%

2.1-3 Comparison of the fourth- and the fifth-round survey results

Table 4 shows the comparison of two Full-Scale Surveys (fourth- and fifth-round surveys).

Among 76,715 participants with Grade A1 or A2 results in the fourth-round survey, 76,168 (99.3%) had Grade A1 or A2 results and 547 (0.7%) had Grade B results in the fifth-round survey.

Among 412 participants with Grade B results in the fourth-round survey, 76 (18.4%) had Grade A1 or A2 results and 336 (81.6%) had Grade B results in the fifth-round survey.

Table 4 Comparison of the fourth- and fifth-round surveys (abbreviated 4th and 5th)

			Results of the 4th round survey*	Results of the 5th round survey**			
				A		B	C
				A1	A2		
			a %	b b/a	c c/a	d d/a	e e/a
Results of the 4th round survey	A	A1	25,501 (100.0)	17,609 (69.1)	7,791 (30.6)	101 (0.4)	0 (0.0)
		A2	51,214 (100.0)	4,446 (8.7)	46,322 (90.4)	446 (0.9)	0 (0.0)
	B		412 (100.0)	6 (1.5)	70 (17.0)	336 (81.6)	0 (0.0)
	C		0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
	No medical examination		5,241 (100.0)	1,804 (34.4)	3,319 (63.3)	118 (2.3)	0 (0.0)
Total			82,368 (100.0)	23,865 (29.0)	57,502 (69.8)	1,001 (1.2)	0 (0.0)

*Results of the fourth-round survey are from fifth-round survey participants with finalized results, not the breakdown of all fourth-round survey participants.

**Results of the fifth-round survey participants who were diagnosed with each grade in the fourth-round survey.

2.2 Results of the Confirmatory Examination

2.2-1 Implementation status

By September 30, 2022, 684 (68.3%) out of 1,001 eligible persons had participated in the confirmatory examination, and 615 (89.9%) of them had completed the entire procedure of the examination.

Of the aforementioned 615 participants, 58 (A1: 4, A2: 54) (9.4%) were confirmed to meet A1 or A2 diagnostic criteria by the primary examination standards (including those with other thyroid conditions) after detailed examination; 557 (90.6%) were confirmed to be outside of A1/A2 criteria

Table 5 Progress and results of the confirmatory examination

	Those referred to confirmatory exams (Persons)	Participants (Persons) Participation Rate (%)		Total		Those with finalized results (Persons)							
						A1		A2		Not A1 nor A2			
												FNAC	
	a	b	b/a	c	c/b	d	d/c	e	e/c	f	f/c	g	g/f
FY2020	707	516	(73.0)	468	(90.7)	4	(0.9)	47	(10.0)	417	(89.1)	45	(10.8)
FY2021	294	168	(57.1)	147	(87.5)	0	(0.0)	7	(4.8)	140	(95.2)	9	(6.4)
Total	1001	684	(68.3)	615	(89.9)	4	(0.7)	54	(8.8)	557	(90.6)	54	(9.7)

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

Among those who underwent FNAC, 26 participants had nodules classified as malignant or suspicious for malignancy, of whom 5 were male and 21 were female. The mean age for those participants was 17.0±2.9 years old, with an age distribution of 12 to 23 years old. The tumor size was ranged 7.0 - 46.7mm, and the mean size was 13.6±8.3mm.

As to the previous survey (the fourth-round survey), of these 26 participants, 20 had Grade A (8 A1; 12 A2), 4 had Grade B, and remaining 2 participants did not take the examination.

Table 6 Results of FNAC

A. Municipality surveyed in FY2020
- ·Malignant or suspicious for malignancy: 21*
- ·Male to female ratio: 3:18
- ·Mean age (min-max): 16.7±3.1 years old (12-23)
  5.9±3.2(1-12) at the time of the Earthquake
- ·Mean size of the tumor: 12.0±5.2mm(7.0 – 30.1mm)

B. Municipalities surveyed in FY2021
- ·Malignant or suspicious for malignancy: 5*
- ·Male to female ratio: 2:3
- ·Mean age (min-max): 18.6±1.1 years old (17-20)
  8.2±1.8(6-10) at the time of the Earthquake
- ·Mean size of the tumor: 20.4±15.1mm(8.9 - 46.7mm)

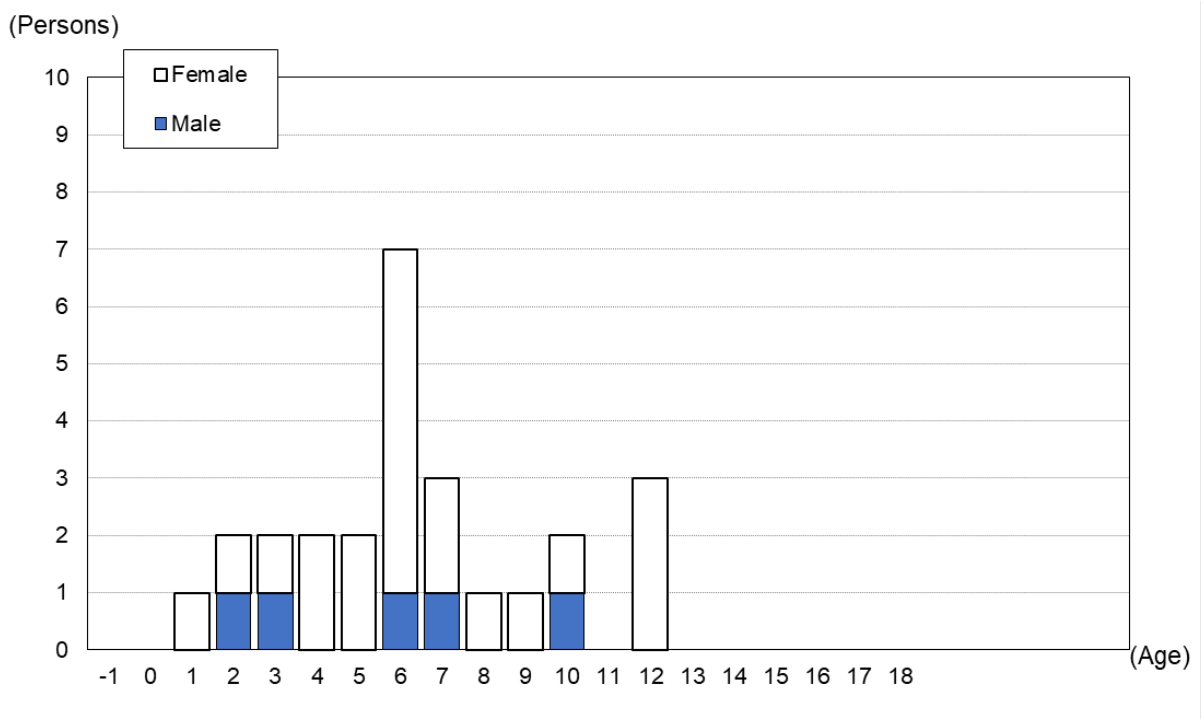
C. Total
- ·Malignant or suspicious for malignancy: 26*
- ·Male to female ratio: 5:21
- ·Mean age (min-max): 17.0±2.9 years old (12-23)
  6.3± 3.1 (1-12) at the time of the Earthquake
- ·Mean size of the tumor: 13.6±8.3mm(7.0 - 46.7mm)

* Appendix 5 shows surgery cases.

2.2-3 Age distribution of malignant or suspicious-for-malignancy cases diagnosed by FNAC

Figure 4 shows the age distributions of 26 people with malignant or suspicious nodules based on their age as of March 11, 2011, and Figure 5 shows their age distribution at the time of confirmatory examination.

Figure 4 The age as of March 11, 2011



Note: Those between 13 to 18 years old at the time of disaster are not included in the fifth-round survey.
The horizontal axis begins at -1 to include Fukushima Prefecture residents born between April 2, 2011 and April 1, 2012.
Those born between March 12 and April 1, 2011 are included in age 0.

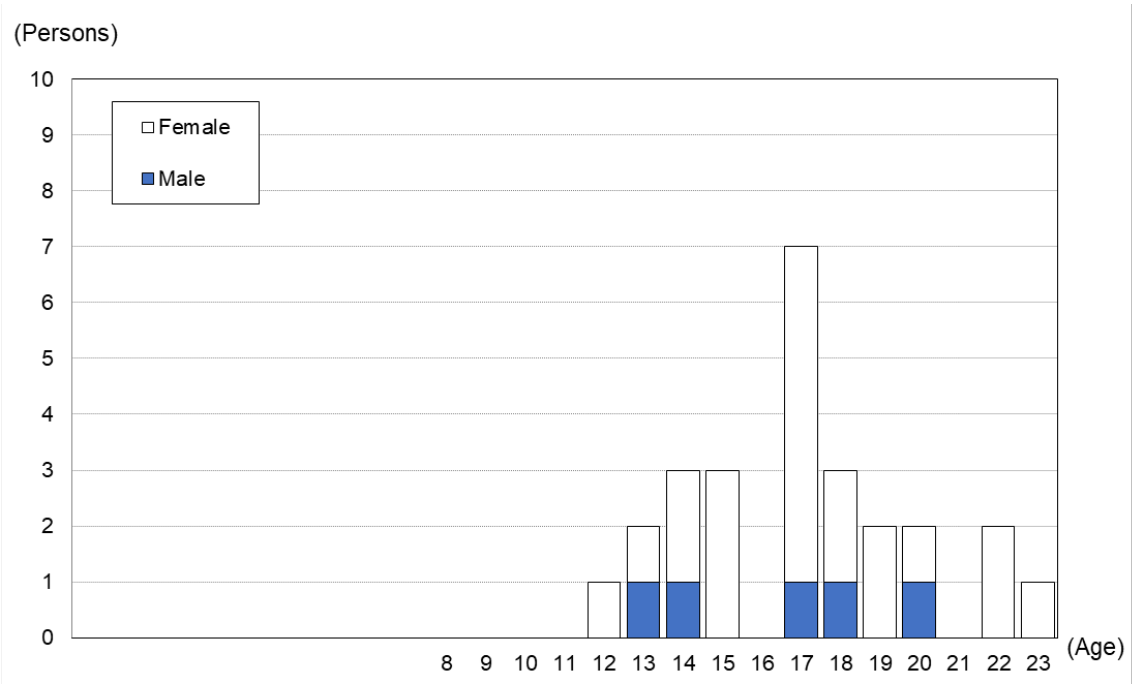


Figure 5 Age as of the date of confirmatory examination

2.2-4 Basic Survey results of those with malignant or suspicious nodules by FNAC

Of those 26 people with malignant or suspicious nodules, 16 people (61.5%) had participated in the Basic Survey (for external radiation dose estimation), and all 16 received their results. The highest effective dose documented was 2.1 mSv

Table 7 Dose estimate details for Basic Survey participants (persons)

Effective dose (mSv)	Age at the time of the disaster (as of March 11, 2011)									
	0-5		6-10		11-15		16-18		Total	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
<1.0	0	3	2	4	0	2	0	0	2	9
1.0-1.9	1	1	0	1	0	0	0	0	1	2
2.0-4.9	0	2	0	0	0	0	0	0	0	2
5.0-9.9	0	0	0	0	0	0	0	0	0	0
10.0-19.9	0	0	0	0	0	0	0	0	0	0
≥20.0		0	0	0	0	0	0	0	0	0
Total	1	6	2	5	0	2	0	0	3	13

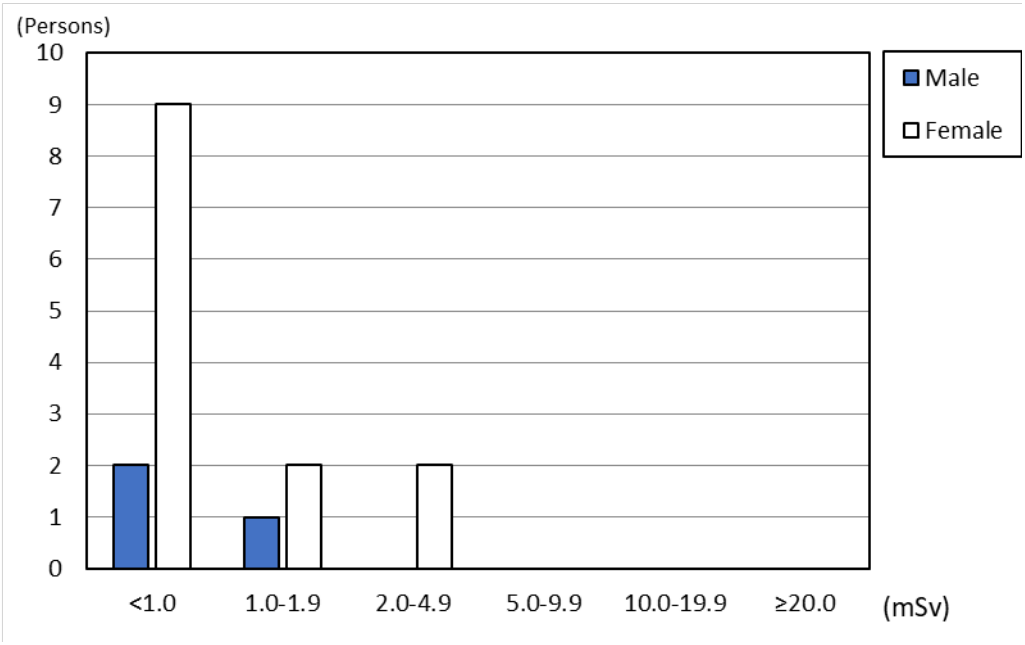


Figure 6 Effective doses of Basic Survey participants

2.2-5 Blood and urinary iodine test results

Table 8 Blood test result

(μg/day)

	FT4 [1] (ng/dL)	FT3 [2] (pg/mL)	TSH [3] (μlU/mL)	Tg [4] (ng/mL)	TgAb [5] (IU/mL)	TPOAb [6] (IU/mL)
Reference Range	0.95-1.74 [7]	2.13-4.07 [7]	0.34-3.88 [7]	≤33.7	< 28.0	< 16.0
Malignant or suspicious : 26 persons	1.2±0.2 (7.7%)	3.4±0.4 (3.8%)	1.3±0.8 (11.5%)	101.8±414.2 (19.2%)	15.4%	19.2%
Other : 541 persons	1.2±0.2 (4.4%)	3.5±0.5 (5.4%)	1.3±1.3 (8.5%)	31.7±91.5 (15.9%)	8.5%	7.4%

Table 9 Urinary iodine test results

(μg/day)

	Minimum	25th percentile	Median	75th percentile	Maximum
Malignant or suspicious : 25 persons	36	115	219	673	1,311
Other : 542 persons	21	109	187	327	12,670

1) FT4: free thyroxine; thyroid hormone binding 4 iodines; higher among patients with thyrotoxicosis (such as Graves' disease) and lower with hypothyroidism (such as Hashimoto's thyroiditis).
2) FT3: free triiodothyronine; thyroid hormone binding 3 iodines; higher among patients with thyrotoxicosis (such as Graves' disease) and lower with hypothyroidism (such as Hashimoto's thyroiditis).
3) TSH: thyroid-stimulating hormone; higher among patients with Hashimoto's disease and lower with Graves' disease.
4) Tg: thyroglobulin; the form that thyroid hormone takes when stored in the cells of the thyroid; higher when thyroid tissue is destroyed or when neoplastic tissue produces thyroglobulin.
5) TgAb: anti-thyroglobulin antibody; higher among patients with Hashimoto's disease and Graves' disease.
6) TPOAb: anti-thyroid peroxidase antibody; higher among patients with Hashimoto's disease or Graves' disease.
7) Reference interval varies according to age.

3. Mental Health Care

We provide the following support for thyroid examination participants.

3.1 Support for Primary Examination Participants

After the examination, medical doctors offer person-to-person explanation on examination results, showing ultrasound images in private consultation booths at examination venues set up in public facilities.

Consultation booths were set up at all venues for examinations conducted in and after April 2020. As of September 30, 2022, all 2,306 participants (100%) have visited these consultation booths.

3.2 On-location Lectures and Information Sessions

To help participants and their parents/guardians to improve their understanding of the thyroid examination, we have conducted on-location lectures and information sessions since April 2018.

By September 30, 2022, a total of 546 people participated in these sessions offered at 10 locations.
Since the start of these sessions, 15,632 people have participated.

3.3 Support for Confirmatory Examination Participants

A support team has been set up within Fukushima Medical University to offer psychological support to address anxieties and concerns of confirmatory examination participants during examination. The team also answers questions and offers counseling via our website.
Since the start of the fifth-round survey, 328 participants (107 males and 221 females) have received support as of September 30, 2022. The number of support sessions provided was 573 in total. Of these, 326 (56.9%) received support at the participants' first examination and 247 (43.1%) at subsequent examinations.

For those who proceeded to regular insured medical care, the support team continues to provide support in cooperation with teams of medical staff at hospitals

Appendix 1

Implementation status of the TUE primary examination by municipality

As of September 30, 2022

	Number of eligible persons	Participants		Participation %	Number of participants and participation rate by age group [2]			Participants residing outside Fukushima	%
	a	b	Participation outside Fukushima [1]	b/a	8-11	12-17	18-24	c [3]	c/b
Municipalities surveyed in FY2020									
Kawamata	1,567	738	14	47.1	237	431	70	22	3.0
					32.1	58.4	9.5		
Namie	2,478	773	228	31.2	187	417	169	226	29.2
					24.2	53.9	21.9		
Iitate	731	337	16	46.1	88	197	52	18	5.3
					26.1	58.5	15.4		
Minamisoma	8,850	3,803	554	43.0	1,174	2,141	488	560	14.7
					30.9	56.3	12.8		
Date	7,412	4,022	161	54.3	1,142	2,274	606	148	3.7
					28.4	56.5	15.1		
Tamura	4,577	2,257	51	49.3	799	1,215	243	60	2.7
					35.4	53.8	10.8		
Hirono	647	198	28	30.6	55	105	38	25	12.6
					27.8	53.0	19.2		
Naraha	916	186	40	20.3	48	85	53	40	21.5
					25.8	45.7	28.5		
Tomioka	1,980	435	117	22.0	108	209	118	118	27.1
					24.8	48.0	27.1		
Kawauchi	225	88	7	39.1	18	54	16	5	5.7
					20.5	61.4	18.2		
Okuma	1,771	409	115	23.1	106	191	112	110	26.9
					25.9	46.7	27.4		
Futaba	839	172	45	20.5	45	97	30	46	26.7
					26.2	56.4	17.4		
Katsurao	148	63	3	42.6	14	37	12	3	4.8
					22.2	58.7	19.0		
Fukushima	37,320	18,337	1,370	49.1	4,828	10,883	2,626	1,300	7.1
					26.3	59.3	14.3		
Nihonmatsu	6,920	3,691	155	53.3	1,122	2,148	421	139	3.8
					30.4	58.2	11.4		
Motomiya	4,232	2,193	78	51.8	661	1,292	240	69	3.1
					30.1	58.9	10.9		
Otama	1,122	677	18	60.3	213	381	83	13	1.9
					31.5	56.3	12.3		
Koriyama	45,739	20,253	1,916	44.3	4,677	12,645	2,931	1,823	9.0
					23.1	62.4	14.5		
Koori	1,375	789	25	57.4	224	467	98	25	3.2
					28.4	59.2	12.4		
Kunimi	1,022	554	20	54.2	126	344	84	22	4.0
					22.7	62.1	15.2		
Tenei	728	323	19	44.4	95	172	56	11	3.4
					29.4	53.3	17.3		
Shirakawa	8,567	4,180	255	48.8	1,220	2,327	633	232	5.6
					29.2	55.7	15.1		
Nishigo	2,856	1,329	76	46.5	398	730	201	62	4.7
					29.9	54.9	15.1		
Izumizaki	893	391	7	43.8	105	242	44	7	1.8
					26.9	61.9	11.3		
Miharu	1,989	894	29	44.9	218	519	157	28	3.1
					24.4	58.1	17.6		
Subtotal	144,904	67,092	5,347	46.3	17,908	39,603	9,581	5,112	7.6
					26.7	59.0	14.3		

1) Those who took TUE at medical facilities outside of Fukushima Prefecture (as of August 31, 2022).
2) Upper row indicates the numbers of participants, and lower row indicates participation rate by age group.
3) Number of participants whose resident registration is not in Fukushima.
"Age" refers to the actual age at the time of the examination.

	Number of eligible persons	Participants		Participation %	Number of participants and participation rate by age group [2]			Participants residing outside Fukushima	%
	a	b	Participation outside Fukushima [1]	b/a	8-11	12-17	18-24	c [3]	c/b
Municipalities surveyed in FY2021									
Iwaki	42,507	4,428	1,326	10.4	376 8.5	1,434 32.4	2,618 59.1	1,142	25.8
Sukagawa	10,705	3,746	177	35.0	705 18.8	2,309 61.6	732 19.5	158	4.2
Soma	4,771	1,740	162	36.5	320 18.4	1,175 67.5	245 14.1	174	10.0
Kagamiishi	1,835	755	27	41.1	111 14.7	521 69.0	123 16.3	18	2.4
Shinchi	983	410	29	41.7	60 14.6	268 65.4	82 20.0	28	6.8
Nakajima	706	261	9	37.0	54 20.7	167 64.0	40 15.3	6	2.3
Yabuki	2,326	956	22	41.1	217 22.7	622 65.1	117 12.2	19	2.0
Ishikawa	1,860	764	23	41.1	161 21.1	471 61.6	132 17.3	19	2.5
Yamatsuri	685	297	12	43.4	66 22.2	199 67.0	32 10.8	6	2.0
Asakawa	913	393	20	43.0	73 18.6	256 65.1	64 16.3	14	3.6
Hirata	838	352	9	42.0	86 24.4	207 58.8	59 16.8	6	1.7
Tanagura	2,049	829	32	40.5	177 21.4	546 65.9	106 12.8	31	3.7
Hanawa	1,070	402	5	37.6	83 20.6	252 62.7	67 16.7	10	2.5
Samegawa	457	190	4	41.6	42 22.1	129 67.9	19 10.0	3	1.6
Ono	1,252	482	6	38.5	107 22.2	322 66.8	53 11.0	5	1.0
Tamakawa	920	378	9	41.1	68 18.0	251 66.4	59 15.6	5	1.3
Furudono	692	327	17	47.3	70 21.4	193 59.0	64 19.6	7	2.1
Hinoemata	75	12	1	16.0	3 25.0	7 58.3	2 16.7	0	0.0
Minamiaizu	1,788	557	19	31.2	143 25.7	356 63.9	58 10.4	17	3.1
Kaneyama	114	33	0	28.9	6 18.2	22 66.7	5 15.2	0	0.0
Showa	101	27	3	26.7	7 25.9	18 66.7	2 7.4	3	11.1
Mishima	131	29	0	22.1	11 37.9	14 48.3	4 13.8	0	0.0
Shimogo	646	164	3	25.4	41 25.0	97 59.1	26 15.9	2	1.2
Kitakata	5,939	455	64	7.7	98 21.5	164 36.0	193 42.4	54	11.9
Nishiaizu	618	132	4	21.4	38 28.8	78 59.1	16 12.1	4	3.0
Tadami	475	202	5	42.5	37 18.3	144 71.3	21 10.4	7	3.5
Inawashiro	1,760	550	21	31.3	127 23.1	345 62.7	78 14.2	18	3.3
Bandai	415	100	9	24.1	32 32.0	57 57.0	11 11.0	8	8.0
Kitashiobara	385	95	5	24.7	25 26.3	61 64.2	9 9.5	5	5.3
Aizumisato	2,370	706	25	29.8	164 23.2	416 58.9	126 17.8	24	3.4
Aizubange	2,012	535	24	26.6	125 23.4	321 60.0	89 16.6	23	4.3
Yanaizu	393	113	3	28.8	30 26.5	73 64.6	10 8.8	0	0.0
Aizuwakamatsu	15,769	1,453	301	9.2	207 14.2	579 39.8	667 45.9	272	18.7
Yugawa	451	129	4	28.6	37 28.7	68 52.7	24 18.6	5	3.9
Subtotal	108,011	22,002	2,380	20.4	3,907 17.8	12,142 55.2	5,953 27.1	2,093	9.5
Total	252,915	89,094	7,727	35.2	21,815 24.5	51,745 58.1	15,534 17.4	7,205	8.1

Appendix 2

Implementation status of the TUE examination conducted outside Fukushima, by prefecture

As of August 31, 2022

Prefecture	Number of medical facilities	Participants
Hokkaido	7	**187**
Aomori	2	**93**
Iwate	3	**174**
Miyagi	2	**1,690**
Akita	1	**128**
Yamagata	3	**350**
Ibaraki	4	**465**
Tochigi	8	**525**
Gunma	2	**151**
Saitama	4	**436**
Chiba	5	**347**
Tokyo	19	**1,313**
Kanagawa	7	**513**
Niigata	3	**337**
Toyama	2	**21**
Ishikawa	1	**24**

Prefecture	Number of medical facilities	Participants
Fukui	1	**11**
Yamanashi	2	**64**
Nagano	3	**103**
Gifu	2	**13**
Shizuoka	3	**72**
Aichi	5	**141**
Mie	1	**17**
shiga	1	**15**
Kyoto	3	**49**
Osaka	9	**105**
Hyogo	2	**97**
Nara	2	**16**
Wakayama	1	**4**
Tottori	1	**2**
Shimane	1	**11**
Okayama	3	**35**

Prefecture	Number of medical facilities	Participants
Hiroshima	2	**17**
Yamaguchi	1	**13**
Tokushima	1	**4**
Kagawa	1	**13**
Ehime	3	**13**
Kochi	1	**8**
Fukuoka	3	**56**
Saga	1	**6**
Nagasaki	3	**18**
Kumamoto	1	**19**
Oita	1	**12**
Miyazaki	1	**12**
Kagoshima	1	**5**
Okinawa	1	**22**
Total	134	**7,727**

Appendix 3

TUE primary examination results by municipality and grade

As of September 30, 2022

	Number of participants	Those with finalized results b	Number of participants by grade				Number of participants with nodules		Number of participants with cysts	
			%				%		%	
		%	A1		B	C				
	a	b/a	A1	A2			≥5.1mm	≤ 5.0mm	≥20.1mm	≤ 20.0mm
Municipalities surveyed in FY2020										
Kawamata	738	737	227	504	6	0	6	5	0	506
		99.9	30.8	68.4	0.8	0.0	0.8	0.7	0.0	68.7
Namie	773	734	241	478	15	0	15	5	0	487
		95.0	32.8	65.1	2.0	0.0	2.0	0.7	0.0	66.3
Iitate	337	325	99	216	10	0	10	0	0	225
		96.4	30.5	66.5	3.1	0.0	3.1	0.0	0.0	69.2
Minamisoma	3,803	3,630	1,136	2,457	37	0	37	11	0	2,478
		95.5	31.3	67.7	1.0	0.0	1.0	0.3	0.0	68.3
Date	4,022	4,014	1,154	2,827	33	0	33	23	0	2,839
		99.8	28.7	70.4	0.8	0.0	0.8	0.6	0.0	70.7
Tamura	2,257	2,231	702	1,508	21	0	21	10	0	1,515
		98.8	31.5	67.6	0.9	0.0	0.9	0.4	0.0	67.9
Hirono	198	197	66	127	4	0	4	1	0	127
		99.5	33.5	64.5	2.0	0.0	2.0	0.5	0.0	64.5
Naraha	186	179	64	113	2	0	2	0	0	114
		96.2	35.8	63.1	1.1	0.0	1.1	0.0	0.0	63.7
Tomioka	435	423	122	296	5	0	5	1	0	299
		97.2	28.8	70.0	1.2	0.0	1.2	0.2	0.0	70.7
Kawauchi	88	84	27	56	1	0	1	0	0	57
		95.5	32.1	66.7	1.2	0.0	1.2	0.0	0.0	67.9
Okuma	409	394	114	274	6	0	6	6	0	274
		96.3	28.9	69.5	1.5	0.0	1.5	1.5	0.0	69.5
Futaba	172	162	48	113	1	0	1	0	0	114
		94.2	29.6	69.8	0.6	0.0	0.6	0.0	0.0	70.4
Katsurao	63	57	28	29	0	0	0	0	0	29
		90.5	49.1	50.9	0.0	0.0	0.0	0.0	0.0	50.9
Fukushima	18,337	18,285	5,315	12,788	182	0	182	95	0	12,884
		99.7	29.1	69.9	1.0	0.0	1.0	0.5	0.0	70.5
Nihonmatsu	3,691	3,678	1,150	2,479	49	0	49	26	0	2,509
		99.6	31.3	67.4	1.3	0.0	1.3	0.7	0.0	68.2
Motomiya	2,193	2,182	664	1,497	21	0	21	9	0	1,508
		99.5	30.4	68.6	1.0	0.0	1.0	0.4	0.0	69.1
Otama	677	677	196	470	11	0	11	3	0	477
		100.0	29.0	69.4	1.6	0.0	1.6	0.4	0.0	70.5
Koriyama	20,253	19,771	5,338	14,220	213	0	213	124	0	14,352
		97.6	27.0	71.9	1.1	0.0	1.1	0.6	0.0	72.6
Koori	789	787	244	534	9	0	9	2	0	541
		99.7	31.0	67.9	1.1	0.0	1.1	0.3	0.0	68.7
Kunimi	554	553	180	366	7	0	7	2	0	372
		99.8	32.5	66.2	1.3	0.0	1.3	0.4	0.0	67.3
Tenei	323	272	76	191	5	0	5	0	1	194
		84.2	27.9	70.2	1.8	0.0	1.8	0.0	0.4	71.3
Shirakawa	4,180	4,006	1,127	2,840	39	0	39	23	0	2,861
		95.8	28.1	70.9	1.0	0.0	1.0	0.6	0.0	71.4
Nishigo	1,329	1,268	378	873	17	0	17	5	0	884
		95.4	29.8	68.8	1.3	0.0	1.3	0.4	0.0	69.7
Izumizaki	391	362	107	251	4	0	4	2	0	252
		92.6	29.6	69.3	1.1	0.0	1.1	0.6	0.0	69.6
Miharu	894	882	241	632	9	0	9	6	0	638
		98.7	27.3	71.7	1.0	0.0	1.0	0.7	0.0	72.3
Subtotal	67,092	65,890	19,044	46,139	707	0	707	359	1	46,536
		98.2	28.9	70.0	1.1	0.0	1.1	0.5	0.0	70.6

	Number of participants	Those with finalized results b	Number of participants by grade				Number of participants with nodules		Number of participants with cysts	
			%				%		%	
		%	A1		B	C				
	a	b/a	A1	A2			≥5.1mm	≤ 5.0mm	≥20.1mm	≤ 20.0mm
Municipalities surveyed in FY2021										
Iwaki	4,428	4,207	1,322	2,788	97	0	97	37	0	2,828
		95.0	31.4	66.3	2.3	0.0	2.3	0.9	0.0	67.2
Sukagawa	3,746	1,483	438	1,016	29	0	29	21	0	1,030
		39.6	29.5	68.5	2.0	0.0	2.0	1.4	0.0	69.5
Soma	1,740	729	243	470	16	0	16	2	0	484
		41.9	33.3	64.5	2.2	0.0	2.2	0.3	0.0	66.4
Kagamiishi	755	245	63	175	7	0	7	1	0	179
		32.5	25.7	71.4	2.9	0.0	2.9	0.4	0.0	73.1
Shinchi	410	177	54	119	4	0	4	2	0	121
		43.2	30.5	67.2	2.3	0.0	2.3	1.1	0.0	68.4
Nakajima	261	221	68	152	1	0	1	2	0	153
		84.7	30.8	68.8	0.5	0.0	0.5	0.9	0.0	69.2
Yabuki	956	814	235	576	3	0	3	2	0	577
		85.1	28.9	70.8	0.4	0.0	0.4	0.2	0.0	70.9
Ishikawa	764	599	156	439	4	0	4	3	0	442
		78.4	26.0	73.3	0.7	0.0	0.7	0.5	0.0	73.8
Yamatsuri	297	248	51	192	5	0	5	3	0	196
		83.5	20.6	77.4	2.0	0.0	2.0	1.2	0.0	79.0
Asakawa	393	318	80	235	3	0	3	4	0	237
		80.9	25.2	73.9	0.9	0.0	0.9	1.3	0.0	74.5
Hirata	352	293	89	199	5	0	5	1	0	203
		83.2	30.4	67.9	1.7	0.0	1.7	0.3	0.0	69.3
Tanagura	829	680	173	497	10	0	10	2	0	502
		82.0	25.4	73.1	1.5	0.0	1.5	0.3	0.0	73.8
Hanawa	402	321	74	238	9	0	9	0	0	243
		79.9	23.1	74.1	2.8	0.0	2.8	0.0	0.0	75.7
Samegawa	190	158	40	117	1	0	1	1	0	118
		83.2	25.3	74.1	0.6	0.0	0.6	0.6	0.0	74.7
Ono	482	443	124	315	4	0	4	3	0	319
		91.9	28.0	71.1	0.9	0.0	0.9	0.7	0.0	72.0
Tamagawa	378	270	79	186	5	0	5	1	0	190
		71.4	29.3	68.9	1.9	0.0	1.9	0.4	0.0	70.4
Furudono	327	261	64	195	2	0	2	3	0	197
		79.8	24.5	74.7	0.8	0.0	0.8	1.1	0.0	75.5
Hinoemata	12	12	3	9	0	0	0	0	0	9
		100.0	25.0	75.0	0.0	0.0	0.0	0.0	0.0	75.0
Minamiaizu	557	550	172	372	6	0	6	2	0	376
		98.7	31.3	67.6	1.1	0.0	1.1	0.4	0.0	68.4
Kaneyama	33	30	8	22	0	0	0	0	0	22
		90.9	26.7	73.3	0.0	0.0	0.0	0.0	0.0	73.3
Showa	27	13	6	7	0	0	0	0	0	7
		48.1	46.2	53.8	0.0	0.0	0.0	0.0	0.0	53.8
Mishima	29	29	5	23	1	0	1	0	0	24
		100.0	17.2	79.3	3.4	0.0	3.4	0.0	0.0	82.8
Shimogo	164	160	48	108	4	0	4	1	0	110
		97.6	30.0	67.5	2.5	0.0	2.5	0.6	0.0	68.8
Kitakata	455	369	115	239	15	0	15	5	0	250
		81.1	31.2	64.8	4.1	0.0	4.1	1.4	0.0	67.8
Nishiaizu	132	129	29	99	1	0	1	1	0	100
		97.7	22.5	76.7	0.8	0.0	0.8	0.8	0.0	77.5
Tadami	202	200	49	150	1	0	1	3	0	150
		99.0	24.5	75.0	0.5	0.0	0.5	1.5	0.0	75.0
Inawashiro	550	504	150	345	9	0	9	2	0	351
		91.6	29.8	68.5	1.8	0.0	1.8	0.4	0.0	69.6
Bandai	100	98	22	75	1	0	1	1	0	75
		98.0	22.4	76.5	1.0	0.0	1.0	1.0	0.0	76.5
Kitashiobara	95	87	28	58	1	0	1	0	0	58
		91.6	32.2	66.7	1.1	0.0	1.1	0.0	0.0	66.7
Aizumisato	706	700	196	498	6	0	6	3	0	501
		99.2	28.0	71.1	0.9	0.0	0.9	0.4	0.0	71.6
Aizubange	535	525	132	385	8	0	8	5	0	391
		98.1	25.1	73.3	1.5	0.0	1.5	1.0	0.0	74.5
Yanaizu	113	111	32	79	0	0	0	0	0	79
		98.2	28.8	71.2	0.0	0.0	0.0	0.0	0.0	71.2
Aizuwakamatu	1,453	1,369	429	906	34	0	34	16	0	928
		94.2	31.3	66.2	2.5	0.0	2.5	1.2	0.0	67.8
Yugawa	129	125	44	79	2	0	2	1	0	81
		96.9	35.2	63.2	1.6	0.0	1.6	0.8	0.0	64.8
Subtotal	22,002	16,478	4,821	11,363	294	0	294	128	0	11,531
		74.9	29.3	69.0	1.8	0.0	1.8	0.8	0.0	70.0
Total	89,094	82,368	23,865	57,502	1,001	0	1,001	487	1	58,067
		92.5	29.0	69.8	1.2	0.0	1.2	0.6	0.0	70.5

Appendix 4

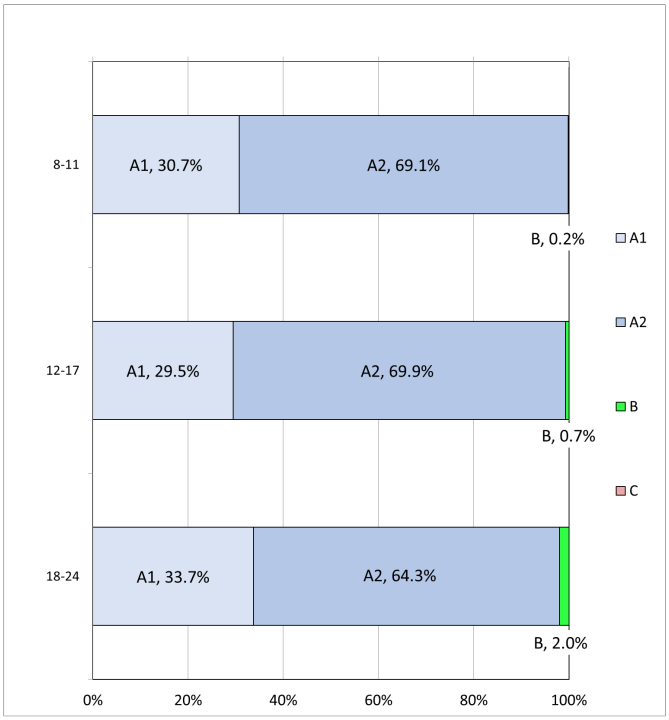
1 TUE primary examination results by age and sex

As of September 30, 2022

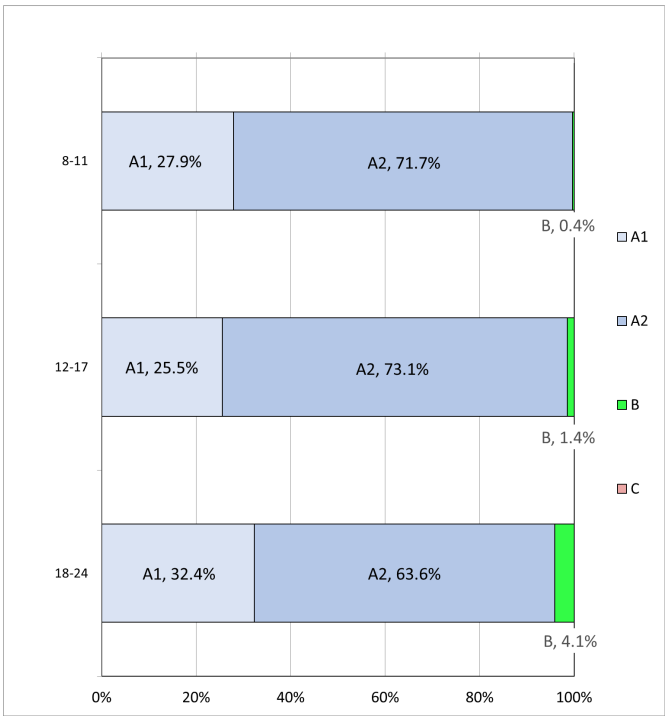
(Persons)

Grade / Sex / Age group	A						B			C			Total		
	A1			A2											
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
8-11	3,262	2,807	6,069	7,330	7,204	14,534	19	36	55	0	0	0	10,611	10,047	20,658
12-17	6,980	5,912	12,892	16,547	16,917	33,464	156	323	479	0	0	0	23,683	23,152	46,835
18-24	2,260	2,644	4,904	4,309	5,195	9,504	133	334	467	0	0	0	6,702	8,173	14,875
Total	12,502	11,363	23,865	28,186	29,316	57,502	308	693	1,001	0	0	0	40,996	41,372	82,368

Results by age group (Male)



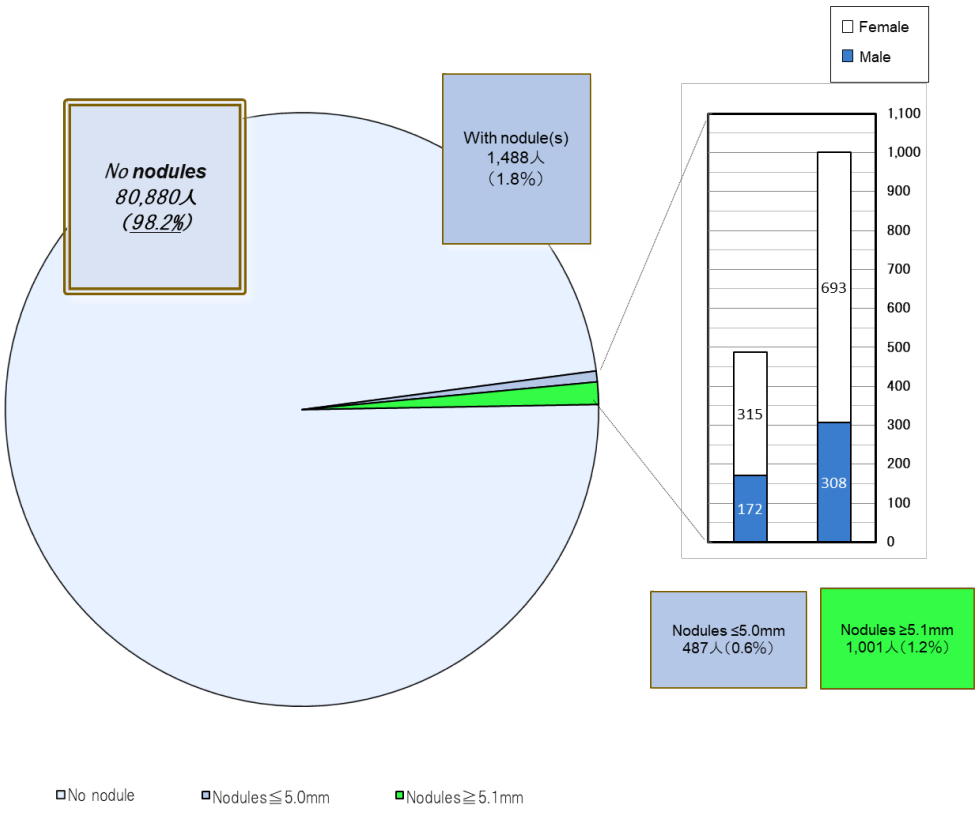
Results by age group (Female)

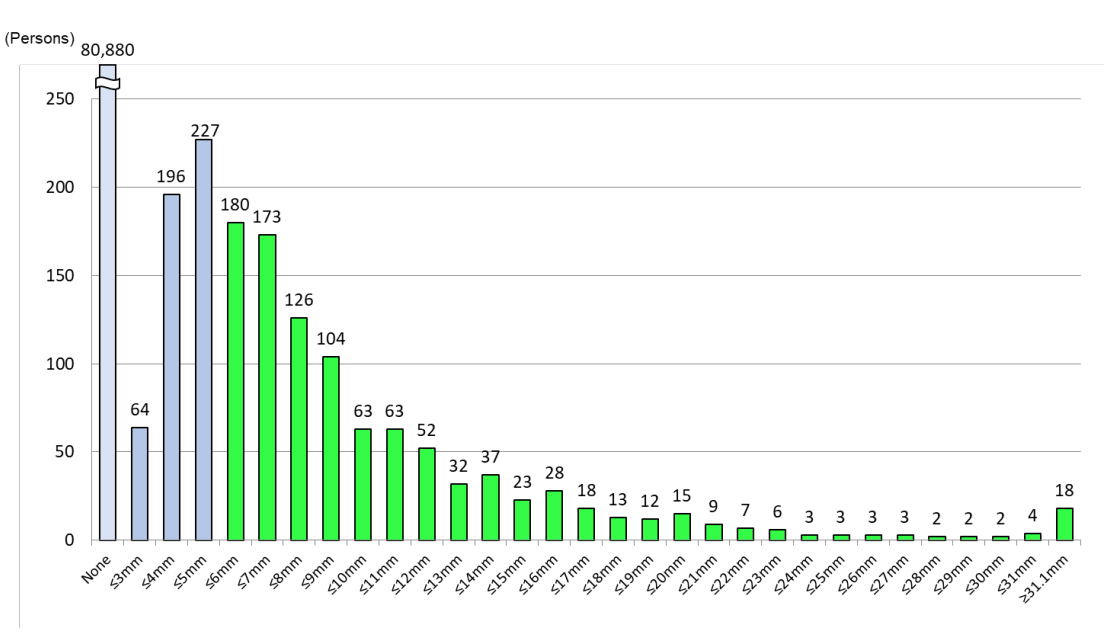


2. Nodule characteristics

As of September 30, 2022
(Persons)

Nodule size	Total	Male	Female	Grade	
None	80,880	40,516	40,364	A1	98.2%
≦3.0mm	64	18	46	A2	0.6%
3.1-5.0mm	423	154	269		
5.1-10.0mm	646	205	441	B	1.2%
10.1-15.0mm	207	55	152		
15.1-20.0mm	86	31	55		
20.1-25.0mm	28	7	21		
≧25.1mm	34	10	24		
Total	82,368	40,996	41,372		

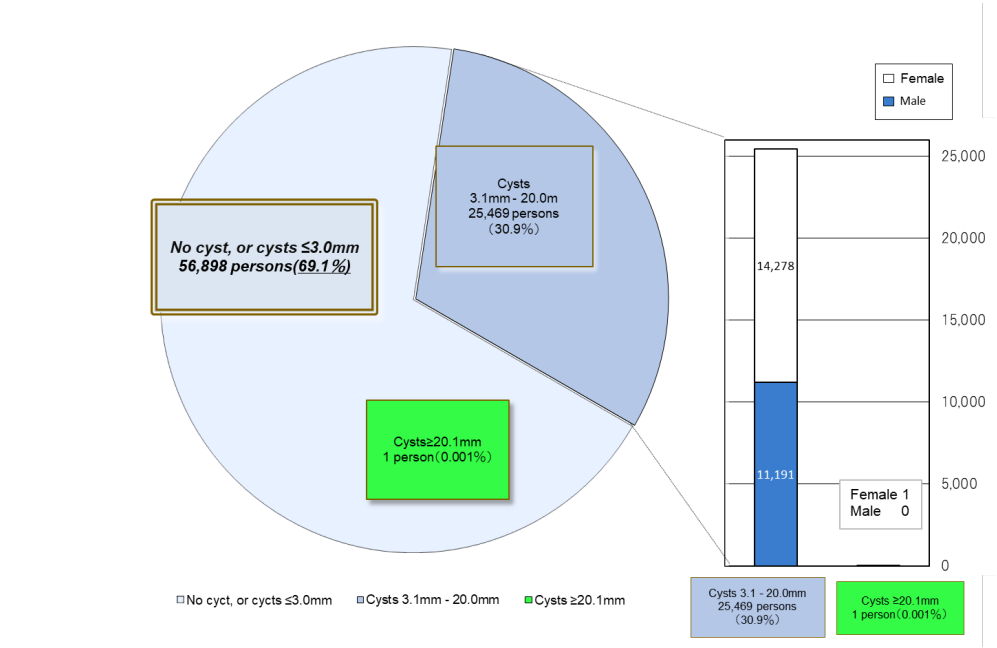


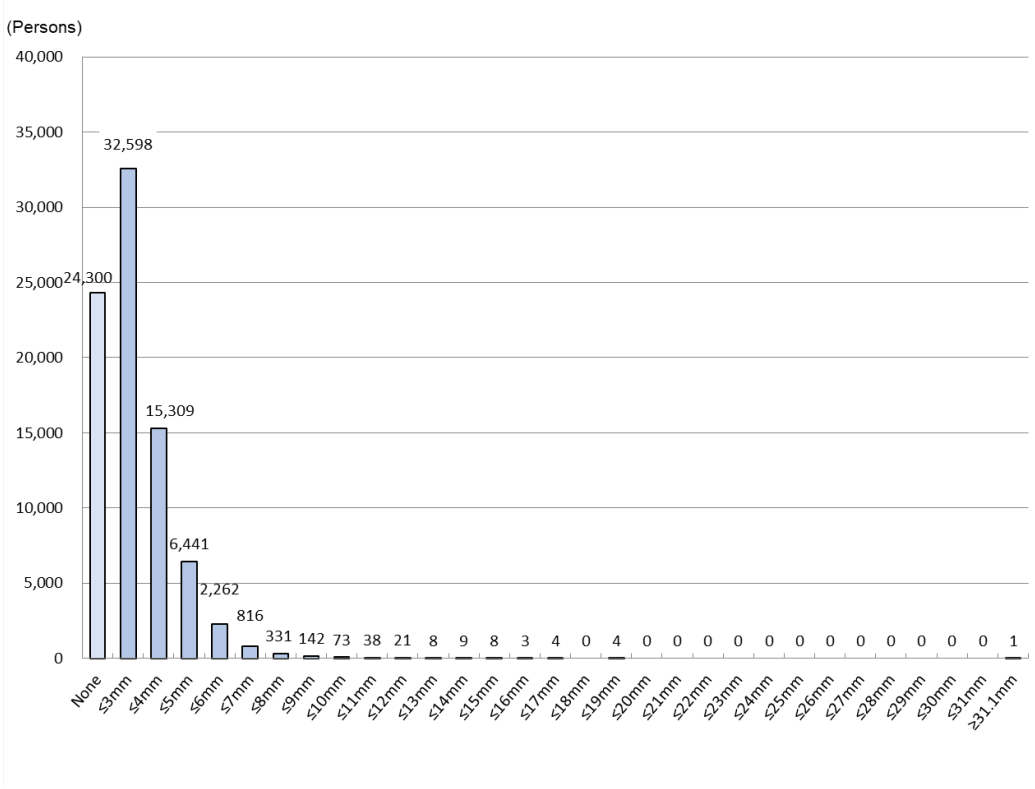


3 Cyst characteristics

As of September 30, 2022
(Persons)

Cyst size	Total	Male	Female	Grade	
None	24,300	12,657	11,643	A1	69.1%
≤3.0mm	32,598	17,148	15,450	A2	30.9%
3.1 - 5.0mm	21,750	9,887	11,863		
5.1 - 10.0mm	3,624	1,282	2,342		
10.1 - 15.0mm	84	21	63		
15.1 - 20.0mm	11	1	10		
20.1 - 25.0mm	0	0	0	B	0.001%
≥25.1mm	1	0	1		
Total	82,368	40,996	41,372		





Appendix 5

Surgical cases for malignancy or suspicion of malignancy.

1. Municipalities surveyed in FY2020
   Malignant or suspicious for malignancy: 21 (12 surgical cases: 12 papillary thyroid carcinomas)

2. Municipalities surveyed in FY2021
   Malignant or suspicious for malignancy: 5 (4 surgical cases: 4 papillary thyroid carcinomas)
3. Total
   Malignant or suspicious for malignancy: 26 (16 surgical cases: 16 papillary thyroid carcinomas)

Report on the TUE Full-Scale Survey (Survey for Age 25+)

As of September 30, 2022

1. Summary

1.1 Eligible Persons

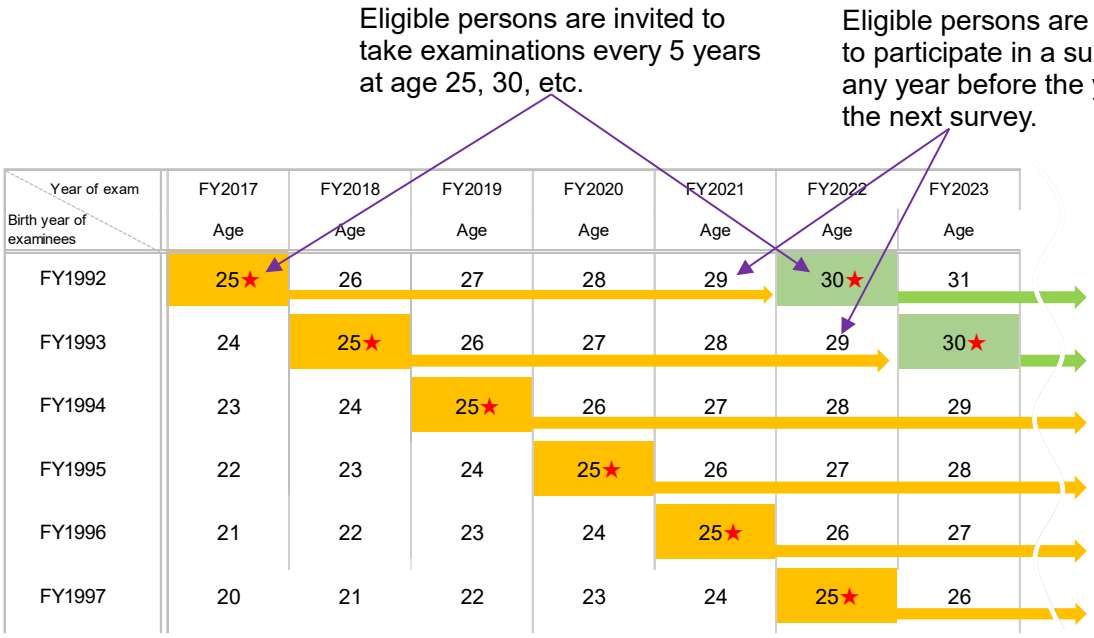
Among Fukushima residents 18 years old or younger at the time of disaster (born between April 2, 1992 and April 1, 2012), those who turn 25 years old during each fiscal year, including those who moved out of the prefecture, are invited to receive a thyroid ultrasound examination (TUE).

This report includes the status of the following groups:

- Those born in FY1992 (between April 2, 1992 and April 1, 1993)
- Those born in FY1993 (between April 2, 1993 and April 1, 1994)
- Those born in FY1994 (between April 2, 1994 and April 1, 1995)
- Those born in FY1995 (between April 2, 1995 and April 1, 1996)
- Those born in FY1996 (between April 2, 1996 and April 1, 1997)

1.2 Implementation Period

The Survey for Age 25+ (hereinafter “Age 25+ Survey”) started in FY2017 for those who turn 25 years old during each fiscal year. If residents cannot receive the examination in the year they turn 25, they are entitled to one any time through the fiscal year prior to the year they turn 30 (see Figure 1 for the implementation schedule of the Age 25+ Survey).



- Beginning in FY2017, examinations are offered to those who turn age 25 in each fiscal year.
- Invitations for the examination will be sent to those who turn age 25 in the fiscal year marked with ★.

Figure 1 Implementation schedule for the Age 25+ Survey

2. Results as of September 30, 2022

2.1 Results of the Primary Examination

2.1-1 Implementation status

Primary examinations for the Age 25 Survey started in May 2017 for those who turned 25 years old in FY2017 (those born between FY1992 and FY1996), of whom 10,240 (9.4%) participated. (Refer to Appendix 1 and Appendix 2 for the implementation status by area and implementation status outside Fukushima Prefecture respectively.)

Results of 10,201 (99.6%) participants have been finalized and individual results reports have already been sent to them. (Refer to Appendix 3 for results by region.)

Of these, 4,340 (42.5%) had Grade A1 results; 5,311 (52.1%) were Grade A2; 550 (5.4%) were Grade B; and none were Grade C.

Table 1 Progress and results of the primary examination

Birth Year	Eligible persons	Participants (%)		Participants with finalized results (%)				
					A		Those referred to confirmatory exam	
			Outside of Fukushima		A1	A2	B	C
	a	b (b/a)		c (c/b)	d (d/c)	e (e/c)	f (f/c)	g (g/c)
Born in FY1992	22,651	2,343 (10.3)	770	2,343 (100.0)	980 (41.8)	1,258 (53.7)	105 (4.5)	0 (0.0)
Born in FY1993	21,890	2,316 (10.6)	850	2,310 (99.7)	1,053 (45.6)	1,140 (49.4)	117 (5.1)	0 (0.0)
Born in FY1994	22,094	1,858 (8.4)	710	1,850 (99.6)	775 (41.9)	976 (52.8)	99 (5.4)	0 (0.0)
Born in FY1995	21,056	1,979 (9.4)	746	1,970 (99.5)	811 (41.2)	1,039 (52.7)	120 (6.1)	0 (0.0)
Born in FY1996	21,020	1,744 (8.3)	623	1,728 (99.1)	721 (41.7)	898 (52.0)	109 (6.3)	0 (0.0)
Total	108,711	10,240 (9.4)	3,699	10,201 (99.6)	4,340 (42.5)	5,311 (52.1)	550 (5.4)	0 (0.0)

Table 2 Number and percentage of participants with nodules/cysts
(Detailed results are shown in Appendix 4)

Birth Year	Participants with finalized results	Participants with nodules/cysts (%)			
		Nodules		Cysts	
		≥ 5.1mm	≤ 5.0mm	≥ 20.1mm	≤ 20.0mm
	a	b (b/a)	c (c/a)	d (d/a)	e (e/a)
Born in FY1992	2,343	104 (4.4)	53 (2.3)	1 (0.0)	1,305 (55.7)
Born in FY1993	2,310	117 (5.1)	42 (1.8)	0 (0.0)	1,189 (51.5)
Born in FY1994	1,850	99 (5.4)	38 (2.1)	0 (0.0)	1,032 (55.8)
Born in FY1995	1,970	118 (6.0)	36 (1.8)	2 (0.1)	1,092 (55.4)
Born in FY1996	1,728	108 (6.3)	31 (1.8)	1 (0.1)	945 (54.7)
Total	10,201	546 (5.4)	200 (2.0)	4 (0.0)	5,563 (54.5)

* Percentages are rounded to a lower decimal place. This applies to other tables as well.
** The number and results of the Age 25 Survey participants are, and will be, presented by birth year (fiscal year), not by survey year.

2.1-2 Comparison with previous examination results

Comparison of results of the Age 25 Survey and previous surveys is shown in Table 3.

Among 6,002 participants with Grade A1 or A2 results in the previous survey, 5,838 (97.3%) had Grade A1 or A2 results and 164 (2.7%) had Grade B results in the Age 25 Survey.

Among 202 participants with Grade B results in the previous survey, 51 (25.2%) had Grade A (A1 or A2) results and 151 (74.8%) had Grade B results in the Age 25 Survey.

Table 3 Comparison with the previous survey results

			Results of the previous survey*	Results of the Age 25 survey**			
				A		B	C
				A1	A2		
			a	b	c	d	e
			(%)	(b/a)	(c/a)	(d/a)	(e/a)
Results of the previous survey	A	A1	2,414 (100.0)	1,958 (81.1)	431 (17.9)	25 (1.0)	0 (0.0)
		A2	3,588 (100.0)	576 (16.1)	2,873 (80.1)	139 (3.9)	0 (0.0)
	B		202 (100.0)	4 (2.0)	47 (23.3)	151 (74.8)	0 (0.0)
	C		0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
	Did not participate		3,997 (100.0)	1,802 (45.1)	1,960 (49.0)	235 (5.9)	0 (0.0)
Total			10,201 (100.0)	4,340 (42.5)	5,311 (52.1)	550 (5.4)	0 (0.0)

* Results of the previous survey, just from Age 25 survey participants with finalized results
** Results of the Age 25 Survey participants who were diagnosed with each grade in the previous survey.
Lower figures in parentheses are their proportions (%).

2.2 Results of the Confirmatory Examination

2.2-1 Implementation status

Of 550 eligible persons, 436 (79.3%) participated, of whom 416 (95.4%) have completed the entire process of the confirmatory examination.

Of the aforementioned 416 participants, 33 (7.9%) were confirmed to meet Grade A diagnostic criteria by primary examination standards (4 A1; 29 A2) (including those with other thyroid conditions). The remaining 383 (92.1%) were confirmed to be outside of A1/A2 criteria.

Table 4 Progress of the Confirmatory Examination

	Those referred to confirmatory exams	Participants (persons) / participation Rate (%)	Total	Those with finalized results (%)			
						Not A1 or A2	
	a	b (b/a)	c (c/b)	d (d/c)	e (e/c)	f (f/c)	FNAC g (g/f)
Born in FY1992	105	88 (83.8)	85 (96.6)	0 (0.0)	4 (4.7)	81 (95.3)	8 (9.9)
Born in FY1993	117	97 (82.9)	96 (99.0)	1 (1.0)	9 (9.4)	86 (89.6)	7 (8.1)
Born in FY1994	99	77 (77.8)	76 (98.7)	2 (2.6)	7 (9.2)	67 (88.2)	6 (9.0)
Born in FY1995	120	104 (86.7)	103 (99.0)	0 (0.0)	4 (3.9)	99 (96.1)	11 (11.1)
Born in FY1996	109	70 (64.2)	56 (80.0)	1 (1.8)	5 (8.9)	50 (89.3)	4 (8.0)
Total	550	436 (79.3)	416 (95.4)	4 (1.0)	29 (7.0)	383 (92.1)	36 (9.4)

2.2-2 Results of fine needle aspiration cytology (FNAC)

Among those who underwent FNAC, 19 had nodules classified as malignant or suspicious for malignancy: 4 of them were male and 15 were female.

Participants' age at the time of the confirmatory examination ranged from 24 to 27 years (mean age: 25.4 ± 0.7 years). The minimum and maximum tumor diameters were 5.3 mm and 49.9 mm. Mean tumor diameter was 15.0 ± 11.4 mm.

Of these 19 participants, 5 had Grade A results (1 A1; 4 A2), and 4 had Grade B results in the previous survey. The remaining 10 people did not participate in the previous survey.

Table 5 Results of FNAC

Among those who underwent the Age 25 Survey:	
・Malignant or suspicious for malignancy:	19*
・Male to female ratio:	4:15
・Mean age ± SD (min – max):	25.4 ± 0.7 (24–27), 15.9 ± 1.2 (14–18) at the time of disaster
・Mean tumor size ± SD (min – max):	15.0 ± 11.4 mm (5.3–49.9 mm)

*Appendix 5 shows surgical cases.

2.2-3 Age distribution of malignant or suspected malignant cases diagnosed by FNAC

Age distributions of 19 people with malignant or suspicious nodules based on their age as of March 11, 2011 is per Figure 2. Age distribution based on their age at the time of confirmatory examination is per Figure 3.

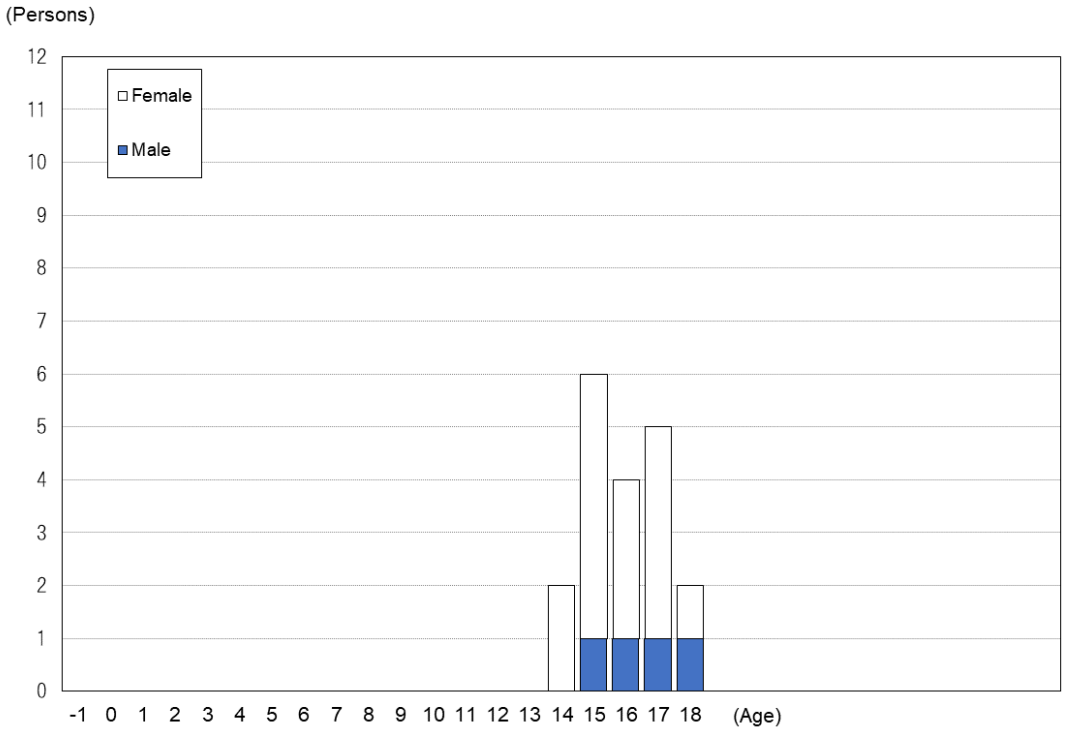


Figure 2. Age as of March 11, 2011

Note: Those aged -1 through 12 at the time of disaster are not included in the participants of the Age 25 survey for those born in FY1992 through FY1996.
The horizontal axis begins at -1 to include those born between April 2, 2011, and April 1, 2012.
*Those born between March 12 and April 1, 2011, are included as age 0.

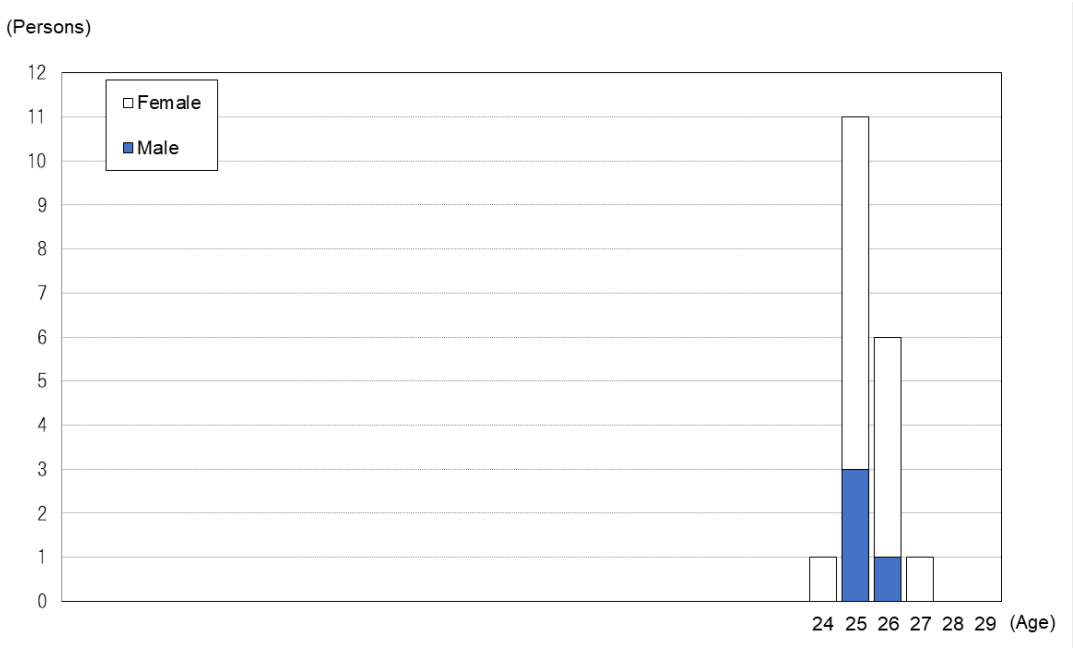


Figure 3. Age as of the date of confirmatory examination

2.2-4 Basic Survey results of those with malignant or suspicious nodules by FNAC

Of the 19 people with malignant or suspicious nodules, 11 people (57.9%) had participated in the Basic Survey (for external radiation dose estimation), and all 11 received their results. The highest effective dose documented was 1.9 mSv.

Table 6 A breakdown of dose estimates for Basic Survey participants

Effective dose (mSv)	Age at the time of the disaster									
	0-5		6-10		11-15		16-18		Total	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
< 1	0	0	0	0	0	3	1	2	1	5
1-1.9	0	0	0	0	1	2	1	1	2	3
2-4.9	0	0	0	0	0	0	0	0	0	0
5-9.9	0	0	0	0	0	0	0	0	0	0
10-19.9	0	0	0	0	0	0	0	0	0	0
≥ 20	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	1	5	2	3	3	8

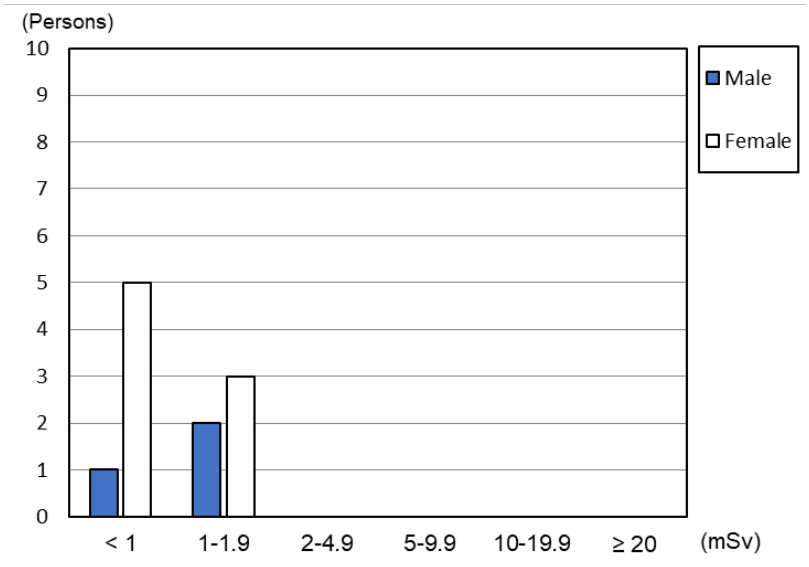


Figure 4 Effective doses of Basic Survey participants

2.2-5 Blood and urinary iodine test results

Table 7 Blood test results

	FT4[1] (ng/dL)	FT3[2] (pg/mL)	TSH[3] (μIU/mL)	Tg[4] (ng/mL)	TgAb[5] (IU/mL)	TPOAb[6] (IU/mL)
Reference Range	0.95–1.74[7]	2.13–4.07[7]	0.340–3.880[7]	≤ 33.7	< 28.0	< 16.0
Malignant or suspicious : 19 persons	1.2±0.1 (5.3%)	3.3±0.4 (10.5%)	1.7±1.7 (21.1%)	38.3±38.0 (47.4%)	10.5%	10.5%
Other : 381 persons	1.2±0.2 (4.7%)	3.2±0.4 (6.3%)	1.2±0.7 (6.6%)	60.2±418.0 (22.6%)	11.0%	9.7%

Table 8 Urinary iodine test results

(μg/day)

	Minimum	25th percentile	Median	75th percentile	Maximum
Malignant or suspicious: 19	66	102	156	284	953
Other: 378	29	116	173	317	11,060

1) FT4: free thyroxine, thyroid hormone binding 4 iodines; higher among patients with thyrotoxicosis (such as Graves' disease) and lower with hypothyroidism (such as Hashimoto's thyroiditis).
2) FT3: free triiodothyronine, thyroid hormone binding 3 iodines; higher among patients with thyrotoxicosis (such as Graves' disease) and lower with hypothyroidism (such as Hashimoto's thyroiditis).
3) TSH: thyroid-stimulating hormone; higher among patients with Hashimoto's disease and lower with Graves' disease.
4) Tg: thyroglobulin; higher when thyroid tissue is destroyed or when neoplastic tissue produces thyroglobulin.
5) TgAb: anti-thyroglobulin antibody; higher among patients with Hashimoto's disease and Graves' disease.
6) TPOAb: anti-thyroid peroxidase antibody; higher among patients with Hashimoto's disease or Graves' disease.
7) Reference interval varies according to age.

3 Mental Health Care

3.1 Support for Primary Examination Participants

Since April 2017, medical doctors offer person-to-person explanations on examination results, showing ultrasound images in private consultation booths at examination venues set up in public facilities. As of September 30, 2022, there were 788 (99.9%) of 789 participants who visited these consultation booths.

3.2 Support for Confirmatory Examination Participants

A support team has been set up within Fukushima Medical University to offer psychological support to address any anxieties and concerns of confirmatory examination participants during examination. The team also answers questions and offers counseling via our website.

Since the start of the Age 25 Survey, 118 participants (25 males and 93 females) have received support as of September 30, 2022. The number of support sessions provided was 227 in total. Of these, 118 sessions (52.0%) were offered at the participants' first examination and 109 (48.0%) at subsequent examinations.

For those who proceeded to regular health insurance medical care, the support team continues to provide support in cooperation with teams of medical staff at hospitals.

Appendix 1

Implementation status of the Survey for Age 25 by area

As of September 30, 2022

	Eligible persons	Participants		Participation rate (%)	Participants living outside the prefectue	Proportion of participants living outside the prefecture
	a	b	Those participated outside the prefecture[1)]	b/a	c[2)]	c/b
Number of eligible persons (Those born in 1992-1996)						
13 municipalities[3)]	14,664	1,404	535	9.6	524	37.3
Nakadori[4)]	57,570	5,612	1,996	9.7	1,759	31.3
Hamadori[5)]	20,883	2,241	830	10.7	742	33.1
Aizu[6)]	15,594	983	338	6.3	308	31.3
Total	108,711	10,240	3,699	9.4	3,333	32.5

1) The number of those who received examinations at medical facilities outside the prefecture (as of August 31, 2022)
2) The number of those whose place of residence is outside the prefecture
3) Tamura City, Minamisoma City, Date City, Kawamata Town, Hirono Town, Naraha Town, Tomioka Town, Kawauchi Village, Okuma Town, Futaba Town, Namie Town, Katsurao Village, Iitate Village
4) Fukushima City, Koriyama City, Shirakawa City, Sukagawa City, Nihonmatsu City, Motomiya City, Koori Town, Kunimi Town, Otama Village, Kagamiishi Town, Tenei Village, Nishigo Village, Izumizaki Village, Nakajima Village, Yabuki Town, Tanagura Town, Yamatsuri Town, Hanawa Town, Samegawa Village, Ishikawa Town, Tamakawa Village, Hirata Village, Asakawa Town, Furudono Town, Miharu Town, Ono Town
5) Iwaki City, Soma City, Shinchi Town
6) Aizuwakamatsu City, Kitakata City, Shimogo Town, Hinoemata Village, Tadami Town, Minamiaizu Town, Kitashiobara Village, Nishiaizu Town, Bandai Town, Inawashiro Town, Aizubange Town, Yugawa Village, Yanaizu Town, Mishima Town, Kaneyama Town, Showa Village, Aizumisato Town

Appendix 2

Implementation status of the Survey for Age 25 by prefecture

As of August 31, 2022

Prefecture	No. of medical facilities	Participants
Hokkaido	7	51
Aomori	2	18
Iwate	3	48
Miyagi	2	382
Akita	1	16
Yamagata	3	45
Ibaraki	4	179
Tochigi	8	174
Gunma	2	44
Saitama	4	211
Chiba	5	189
Tokyo	19	1,571
Kanagawa	7	355
Niigata	3	66
Toyama	2	5
Ishikawa	1	5

Prefecture	No. of medical facilities	Participants
Fukui	1	4
Yamanashi	2	9
Nagano	3	18
Gifu	2	5
Shizuoka	3	39
Aichi	5	64
Mie	1	3
Shiga	1	6
Kyoto	3	25
Osaka	9	52
Hyogo	2	32
Nara	2	3
Wakayama	1	3
Tottori	1	1
Shimane	1	1
Okayama	3	8

Prefecture	No. of medical facilities	Participants
Hiroshima	2	14
Yamaguchi	1	2
Tokushima	1	3
Kagawa	1	2
Ehime	3	3
Kochi	1	1
Fukuoka	3	19
Saga	1	1
Nagasaki	3	1
Kumamoto	1	6
Oita	1	3
Miyazaki	1	3
Kagoshima	1	2
Okinawa	1	7
Total	**134**	**3,699**

The number of those who received examinations at medical facilities outside the prefecture

Appendix 3

Primary Survey results by region

As of September 30, 2022

	Number of participants	Those with finalized results b	Number of participants by final result (%)				Those with nodules (%)		Those with cysts (%)	
			A		B	C	≥ 5.1mm	≤ 5.0mm	≥ 20.1mm	≤ 20.0mm
	a	(%)	A1	A2						
Number of eligible persons (Those born in 1992-1996)										
13 municipalities[1)]	1,404	1,403	612	717	74	0	73	22	1	753
		99.9	43.6	51.1	5.3	0.0	5.2	1.6	0.1	53.7
Nakadori[2)]	5,612	5,588	2,353	2,946	289	0	287	111	2	3,080
		99.6	42.1	52.7	5.2	0.0	5.1	2.0	0.0	55.1
Hamadori[3)]	2,241	2,231	978	1,143	110	0	110	44	0	1,182
		99.6	43.8	51.2	4.9	0.0	4.9	2.0	0.0	53.0
Aizu[4)]	983	979	397	505	77	0	76	23	1	548
		99.6	40.6	51.6	7.9	0.0	7.8	2.3	0.1	56.0
Total	10,240	10,201	4,340	5,311	550	0	546	200	4	5,563
		99.6	42.5	52.1	5.4	0.0	5.4	2.0	0.0	54.5

1) Tamura City, Minamisoma City, Date City, Kawamata Town, Hirono Town, Naraha Town, Tomioka Town, Kawauchi Village, Okuma Town, Futaba Town, Namie Town, Katsurao Village, Iitate Village

2) Fukushima City, Koriyama City, Shirakawa City, Sukagawa City, Nihonmatsu City, Motomoya City, Koori Town, Kunimi Town, Otama Village, Kagamiishi Town, Tenei Village, Nishigo Village, Izumizaki Village, Nakajima Village, Yabuki Town, Tanagura Town, Yamatsuri Town, Hanawa Town, Samekawa Village, Ishikawa Town, Tamakawa Village, Hirata Village, Asakawa Town, Furudono Town, Miharu Town, Ono Town

3) Iwaki City, Soma City, Shinchi Town

4) Aizuwakamatsu City, Kitakata City, Shimogo Town, Hinoemata Village, Tadami Town, Minamiaizu Town, Kitashiobara Village, Nishiaizu Town, Bandai Town, Inawashiro Town, Aizubange Town, Yugawa Village, Yanaizu Town, Mishima Town, Kaneyama Town, Showa Village, Aizumisato Town

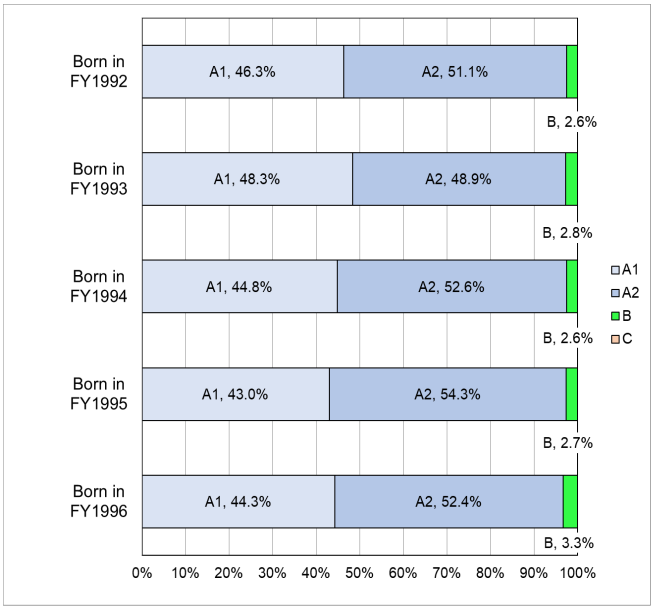
Appendix 4

1.Results by age group

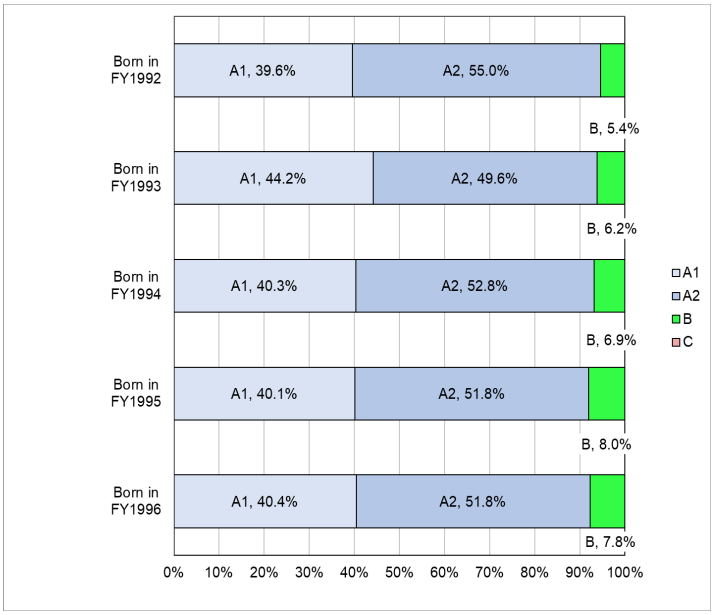
As of September 30, 2022

Grade / Participants	A						B			C			Total		
	A1			A2											
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Those born in FY1992	360	620	980	397	861	1,258	20	85	105	0	0	0	777	1,566	2,343
Those born in FY1993	380	673	1,053	384	756	1,140	22	95	117	0	0	0	786	1,524	2,310
Those born in FY1994	296	479	775	348	628	976	17	82	99	0	0	0	661	1,189	1,850
Those born in FY1995	307	504	811	388	651	1,039	19	101	120	0	0	0	714	1,256	1,970
Those born in FY1996	253	468	721	299	599	898	19	90	109	0	0	0	571	1,157	1,728
Total	1,596	2,744	4,340	1,816	3,495	5,311	97	453	550	0	0	0	3,509	6,692	10,201

Primary examination results by age group (Male)



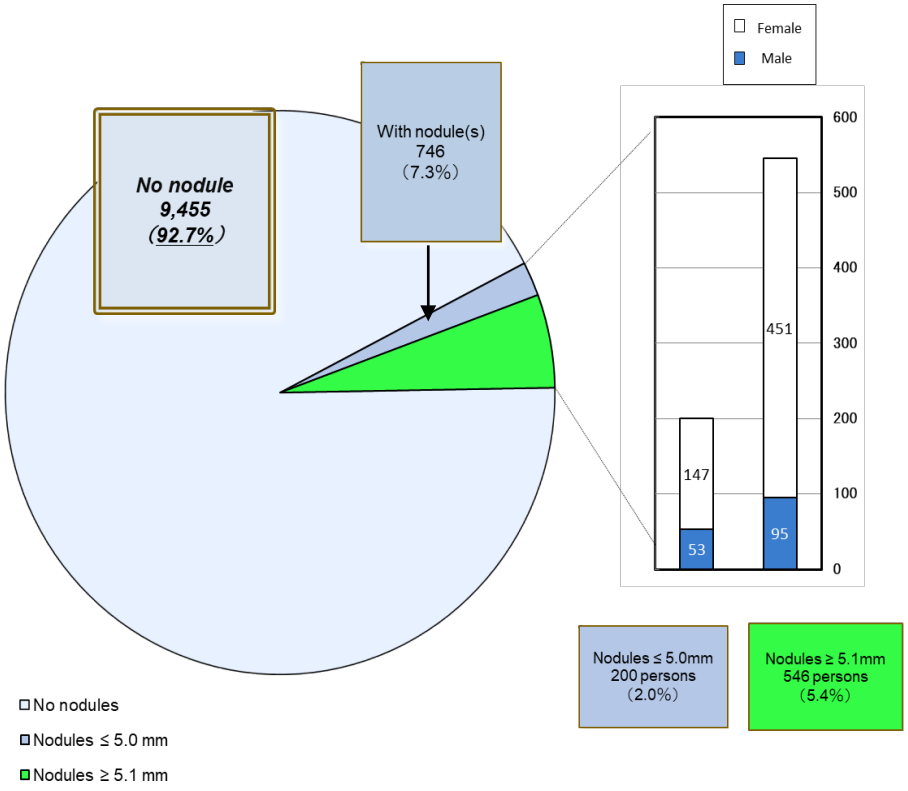
Primary examination results by age group (Female)

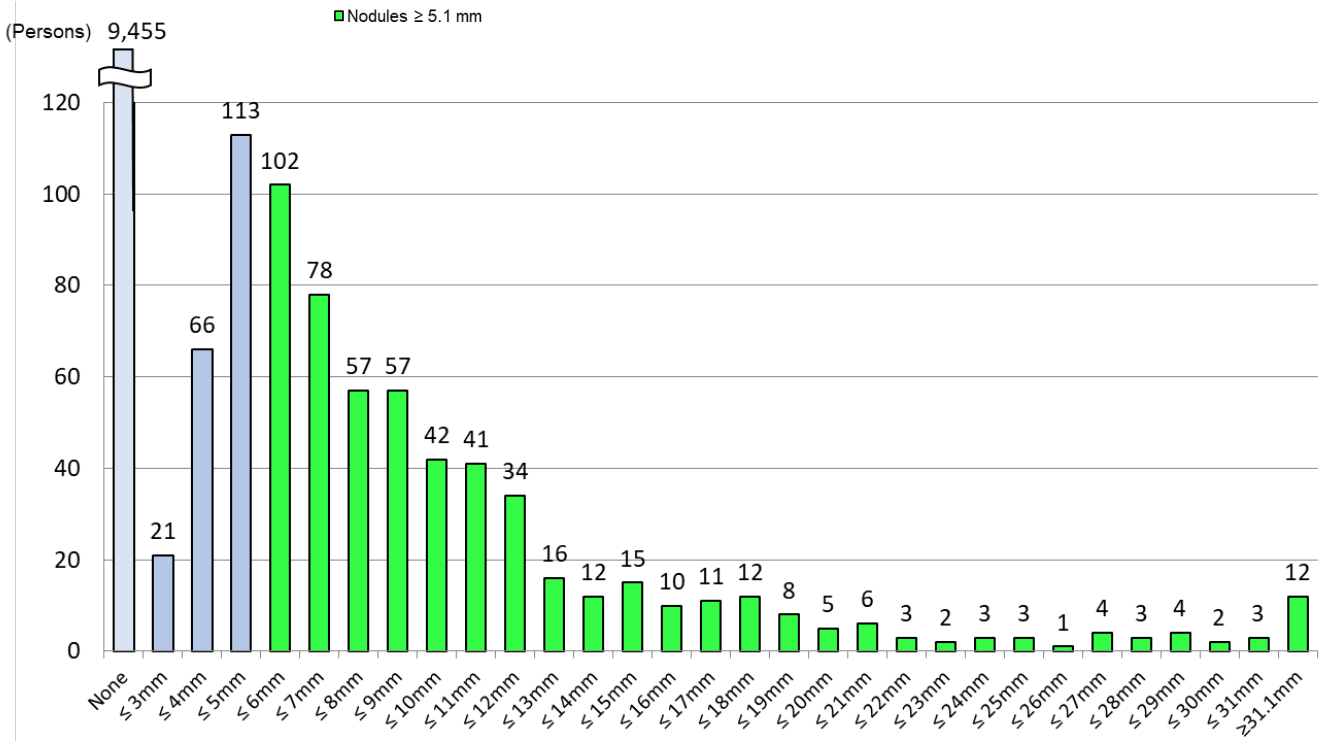


2 Nodule characteristics

As of September 30, 2022
(Persons)

Nodule size	Total	Male	Female	Grade	
None	9,455	3,361	6,094	A1	92.7%
≤ 3.0mm	21	5	16	A2	2.0%
3.1–5.0mm	179	48	131		
5.1–10.0mm	336	59	277	B	5.4%
10.1–15.0mm	118	25	93		
15.1–20.0mm	46	5	41		
20.1–25.0mm	17	3	14		
≥ 25.1mm	29	3	26		
Total	10,201	3,509	6,692		

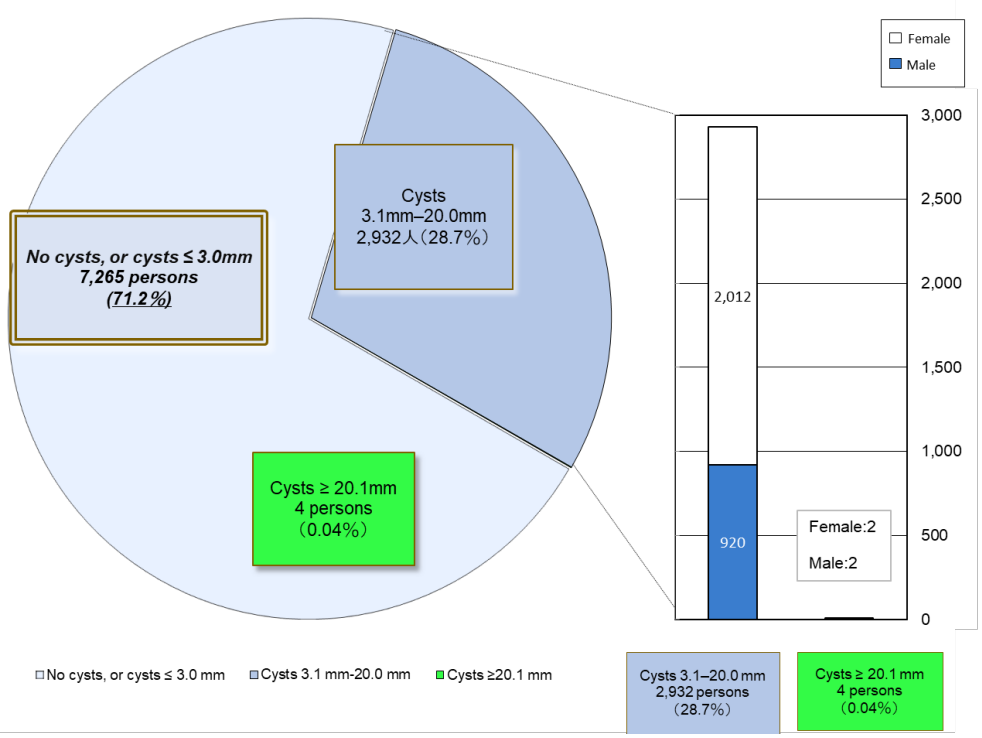


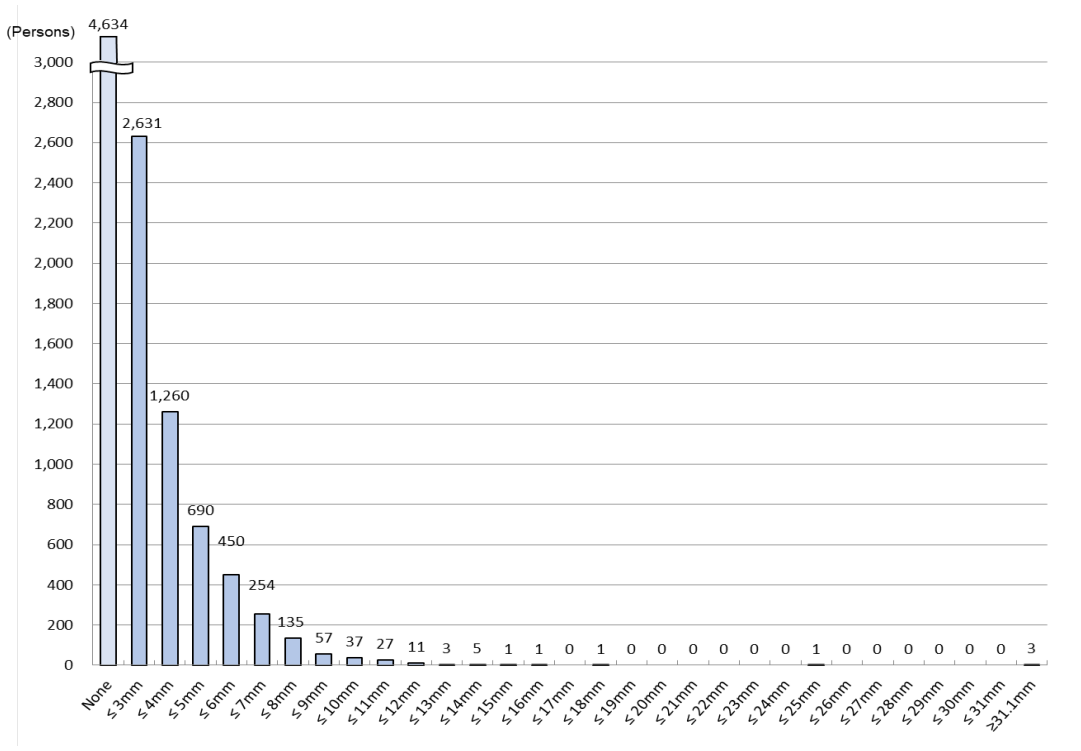


3 Cyst characteristics

As of September 30, 2022

Cyst size	Total	Male	Female	Grade	
None	4,634	1,663	2,971	A1	71.2%
≤ 3.0mm	2,631	924	1,707	A2	28.7%
3.1–5.0mm	1,950	651	1,299		
5.1–10.0mm	933	260	673		
10.1–15.0mm	47	8	39		
15.1–20.0mm	2	1	1		
20.1–25.0mm	1	0	1	B	0.04%
≥ 25.1mm	3	2	1		
Total	10,201	3,509	6,692		





Appendix 5

Surgical cases for malignancy or suspicion of malignancy

Among those who underwent the Age 25 Survey:

- Malignant or suspicious for malignancy: 19

(11 surgical cases: 10 papillary thyroid carcinomas, 1 follicular thyroid carcinoma)