

Report on the Results of the FY2018 Pregnancy and Birth Survey (PBS)

1 Outline

(1) Purpose

To properly ascertain the mental and physical health conditions of pregnant women intending to give birth and raise children in Fukushima, alleviate their worries and provide them with necessary care, as well as to ensure a safe and secure life and further enhance reproductive care and perinatal care in Fukushima

(2) Coverage

12,838 women falling under the following:

- (i) Women who obtained a maternity handbook from municipalities in Fukushima between August 1, 2017 and July 31, 2018
- (ii) Women who obtained a maternity handbook somewhere else during the aforementioned period but received prenatal checkups and gave birth in Fukushima

[Reference]	Survey year	Survey population
	FY2011	16,001
	FY2012	14,516
	FY2013	15,218
	FY2014	15,125
	FY2015	14,572
	FY2016	14,154
	FY2017	13,552
	FY2018	12,838

(3) Survey method

A Survey sheet: self-administered questionnaire

B Dates of sending survey sheets:

[Eligible persons (i)] Nov. 1, 2018, Jan. 11, 2019, and Mar. 8, 2019

[Eligible persons (ii)] As required with cooperation of obstetrics medical institutions in Fukushima

* For eligible persons (i), survey sheets were distributed separately on three occasions depending on their estimated delivery dates based on data of pregnancy notification obtained from 59 municipalities in Fukushima.

FY2017 survey onward: At the time of asking for information regarding eligible persons of the survey, the Radiation Medical Science Center (RMSC) requested all municipalities to exclude mothers who had a miscarriage or a stillbirth and mothers for whom it could not be confirmed whether their newborns were alive or not while requesting them to report only the number for such cases.

FY2016 survey: When having received any information from municipalities regarding mothers who had a miscarriage or a stillbirth or mothers for whom it could not be confirmed whether their newborns were alive or not, the RMSC excluded those mothers from the eligible persons of the survey and distributed survey sheets only to the others.

Until FY2015 survey: The RMSC distributed survey sheets to all pregnant women in the prefecture.

C Response methods: by post or online

* Online responses were accepted from November 1, 2018, to April 30, 2019.

(4) Survey items

Major survey items are as follows.

- A Pregnant women's mental health conditions
- B Present living conditions (circumstances of life as a refugee or forced separation from family members)
- C Situation during delivery and pregnant women's physical health conditions
- D Confidence in raising children
- E Attitude toward the next pregnancy

(5) Data tabulation period

Responses returned from November 1, 2018, to December 20, 2019

2 Summary of Survey Results

Survey results are as shown below in "5 Tabulated Results of the FY2018 Pregnancy and Birth Survey (1), (2), and (3)." Note that the total may not match the sum of valid responses due to missing values in each question item.

(1) Number of responses and response rate (See Table 1-1.)

For the FY2018 Pregnancy and Birth Survey (PBS), the number of respondents (response rate) was 6,649 (51.8%). The number of valid responses that were tabulated was 6,580, while there were 69 invalid responses.

[Reference]	Survey year	Number of responses (response rate)
	FY2011	9,316 (58.2%)
	FY2012	7,181 (49.5%)
	FY2013	7,260 (47.7%)
	FY2014	7,132 (47.2%)
	FY2015	7,031 (48.3%)
	FY2016	7,326 (51.8%)
	FY2017	6,449 (47.6%)
	FY2018	6,649 (51.8%)

(2) Number of respondents by area of residence (See Table 1-1 and Table 1-2.) The number of respondents (response rate) to the FY2018 PBS by area of residence was as follows: 1,702 (56.5%) in the Kenpoku Region; 2,006 (51.1%) in the Kenchu Region; 504 (50.0%) in the Kennan Region; 424 (42.3%) in the Soso Region; 1,034 (49.1%) in the Iwaki Region; 815 (51.6%) in the Aizu Region; 56 (57.7%) in the Minamiaizu Region; and 108 from outside Fukushima. Respondents aged 30 to 34 were the largest in number, followed by those aged 25 to 29 and those aged 35 to 39.

(3) Results of responses**A Pregnancy outcome** (See Table 9-2, Table 13-3, Table 14-8, and Tables 14-21 to 14-24.)

- A) The percentages of miscarriage and abortion that had not been ascertained at the time of information provision by municipalities or those that occurred thereafter were 0.43% and 0.02%, respectively. (Q.9)

[Reference]	Survey year	Miscarriage	Abortion	Reference (covered population to send survey sheets)
	FY2011	0.77%	0.06%	The Radiation Medical Science Center (RMSC) distributed survey sheets to all pregnant women in the prefecture.
	FY2012	0.81%	0.08%	
	FY2013	0.78%	0.04%	
	FY2014	0.62%	0.07%	
	FY2015	0.81%	0.16%	
	FY2016	0.85%	0.16%	When having received any information from municipalities regarding mothers who had a miscarriage or a stillbirth or mothers for whom it could not be confirmed whether their newborns were alive or not, the RMSC excluded those mothers from the survey population and distributed survey sheets only to the others.
	FY2017	0.34%	0.06%	At the time of asking for information regarding eligible persons of the survey, the RMSC requested all municipalities to exclude mothers who had a miscarriage or a stillbirth and mothers for whom it could not be confirmed whether their newborns were alive or not while requesting them to report only the number for such cases.
	FY2018	0.43%	0.02%	

* Since FY2017, eligible mothers to whom survey sheets are sent have been changed. Accordingly, data for FY2017 onward cannot be compared with those for FY2016 or before.

- B) The percentage of preterm births was 5.3%. (Q.13)

[Reference]	Survey year	Preterm births
	FY2011	4.8%
	FY2012	5.7%
	FY2013	5.4%
	FY2014	5.4%
	FY2015	5.8%
	FY2016	5.4%
	FY2017	5.4%
	FY2018	5.3%

Reference value: According to the 2017 Vital Statistics, the percentage of preterm births among newborns nationwide was 5.7%.

- C) Among newborns, the percentage of low birth-weight babies (less than 2,500 g) was 9.2%. (Q.14)

[Reference]	Survey year	Low birth-weight babies
	FY2011	8.9%
	FY2012	9.6%
	FY2013	9.9%
	FY2014	10.1%
	FY2015	9.8%
	FY2016	9.5%
	FY2017	9.4%
	FY2018	9.2%

Reference value: According to the 2017 Vital Statistics, the percentage of low birth-weight babies among newborns nationwide was 9.4%.

- D) The incidence of congenital anomalies (single births) was 2.19%. Cardiovascular deformity was observed most frequently (0.92%). (Q.14)

[Reference]	Survey year	Congenital anomalies (single births)	Cardiovascular deformity
	FY2011	2.85%	0.89%
	FY2012	2.39%	0.79%
	FY2013	2.35%	0.91%
	FY2014	2.30%	0.74%
	FY2015	2.24%	0.75%
	FY2016	2.55%	0.91%
	FY2017	2.38%	0.62%
	FY2018	2.19%	0.92%

Reference value: It is generally said that the incidence of congenital anomalies is 3% to 5%, and the spontaneous incidence of cardiovascular deformity is around 1%.

B Maternal mental health (See Tables 4-1 to 4-3.)

The percentage of mothers considered as having depressive tendencies was 18.4%.

As a reference, according to "Sukoyaka Oyako (Healthy Parents and Children) 21" (a national campaign to promote the improvement of health standards of mothers and children), the percentage of postnatal depression evaluated using the Edinburgh Postnatal Depression Scale was 9.0% in 2013 (the value was reviewed under the second "Sukoyaka Oyako 21," and the percentage of postnatal depression in 2013 was revised to 8.4%).

Based on the results of this survey, the percentage of postnatal depression using the Edinburgh Postnatal Depression Scale is estimated to be 10.2% (reference materials used for the calculation: Mishina H, et al. *Pediatr Int.* 2009; 51: 48.)

[Reference]	Survey year	Mothers with depressive tendencies
	FY2011	27.1%
	FY2012	25.5%
	FY2013	24.5%
	FY2014	23.4%
	FY2015	22.0%
	FY2016	21.1%
	FY2017	20.7%
	FY2018	18.4%

C Care for pregnancy and delivery (See Table 3.)

Regarding the question "Do you think that you received care sufficiently for the latest pregnancy and delivery as a whole?", the percentage of mothers who responded "Do not think so" or "Do not think so at all" was 1.7% in total. (Q.3)

[Reference]	Survey year	Mothers who responded "Do not think so" or "Do not think so at all"
	FY2011	The relevant question was not included.
	FY2012	3.5%
	FY2013	2.3%
	FY2014	2.7%
	FY2015	2.4%
	FY2016	2.1%
	FY2017	1.7%
	FY2018	1.7%

D Status of family life and child-rearing (See Table 5-1 and Table 15.)

- The percentage of mothers who responded that they are living as refugees (both in temporary housing and other types of housing) has been decreasing and was 1.8% throughout the prefecture. (Q.5)

[Reference]	Survey year	Mothers living as a refugee at present (both in temporary housing and other types of housing)
	FY2011	The relevant question was not included.
	FY2012	7.7%
	FY2013	5.5%
	FY2014	4.9%
	FY2015	3.8%
	FY2016	3.4%
	FY2017	2.3%
	FY2018	1.8%

- The percentage of mothers who responded that they sometimes feel a lack of confidence concerning child rearing was 17.7%. (Q.15)

[Reference]	Survey year	Mothers who responded that they sometimes feel a lack of confidence concerning child-rearing
	FY2011	The relevant question was not included.
	FY2012	15.4%
	FY2013	17.5%
	FY2014	16.6%
	FY2015	17.7%
	FY2016	16.6%
	FY2017	18.1%
	FY2018	17.7%

Reference value: According to the FY2013 MHLW-subsidized research, "Final Evaluation and Problem Analysis of 'Sukoyaka Oyako 21' and Study on the Promotion of a Next National Health Campaign" (YAMAGATA Zentaro Team), the percentage of mothers feeling a lack of confidence concerning child rearing as ascertained through medical checkups for children aged 3-4 months was 19.3%.

E Intention and request concerning next pregnancy and delivery (See Tables 17-1 to 17-3.)

- The percentage of mothers wishing to have another child was 52.2%.
- Services most requested by mothers wishing to have another child were "Enhancement of childcare centers and childcare services, such as extended day-care and day-care for sick children" (78.4%) and "Enhancement of maternal leave and childcare leave systems" (67.9%).
- As reasons for not wishing to have another child, the percentage of mothers who responded "Do not wish" was the highest at 54.2%, followed by those who responded "Due to age or health reasons" (37.0%). The percentage of mothers who cited "Anxieties about radiation effects" was 0.5%.

[Reference]	Survey year	Mothers wishing to have another child	Mothers who cited "Anxieties about radiation effects" as a reason for not wishing to have another child
	FY2011	The relevant question was not included.	The relevant question was not included.
	FY2012	52.9%	14.8%
	FY2013	52.8%	5.6%
	FY2014	57.1%	3.9%
	FY2015	53.3%	1.6%
	FY2016	54.6%	1.2%
	FY2017	52.4%	0.8%
	FY2018	52.2%	0.5%

Reference value: According to the 14th Basic Survey on Childbirth Trends (2010), the percentage of couples married for less than 10 years who intend to have a child is 58% (or 51% among couples already with a child).

F Content of free comments (See Table 18.)

- The number (percentage) of mothers who entered free comments was 881 (13.4%).
- Most frequently entered comments were "Requests for enhancing child-rearing support services" (25.1%), followed by "Childcare consultations" (23.7%).
- The percentage of comments regarding "Anxieties about radiation effects on fetus/child" was 1.8%.

[Reference]	Survey year	Number (percentage) of mothers who entered free comments	Comments regarding "Anxieties about radiation effects on fetus/child"
	FY2011	3,722 (42.2%)	29.6%
	FY2012	1,481 (20.7%)	26.4%
	FY2013	867 (12.0%)	12.9%
	FY2014	745 (10.5%)	9.5%
	FY2015	1,101 (15.7%)	5.2%
	FY2016	965 (13.3%)	6.1%
	FY2017	799 (12.4%)	4.8%
	FY2018	881 (13.4%)	1.8%

(4) Conclusion**A Pregnancy outcome**

The percentages of preterm births and low birth-weight babies were almost the same as those in surveys up to FY2017. The incidence of congenital anomalies (single births) also remained almost the same and was not high in comparison with the relevant incidence in general.

B Maternal mental health

The percentage of mothers considered as having depressive tendencies has been decreasing year by year (the percentage of suspected postnatal depression in FY2013 across Japan evaluated using the Edinburgh Postnatal Depression Scale was 8.4%, while the estimated percentage of suspected postnatal depression in FY2018 based on the results of this survey was 10.2%).

C Content of free comments

"Requests for enhancing child-rearing support services" were most frequently entered as free comments, followed by "Childcare consultations." Comments regarding "Anxieties about radiation effects on fetus/child," which were the largest in number in FY2011 and FY2012, have been decreasing.

3 Outline of Post-Survey Support**(1) Purpose**

For mothers considered as needing consultations and/or support, out of the respondents to the FY2018 PBS, midwives, and public health nurses provided consultations and/or support by phone or by email to alleviate their worries.

(2) Mothers in need of support (See Table 19.)

Out of the respondents to the FY2018 PBS (those who responded to the survey between November 1, 2018, and December 20, 2019), mothers who were considered as needing consultations and/or support by phone ("mothers in need of support")

(3) Criteria for selecting eligible mothers (See Table 20.)

Respondents falling under either A or B below

A Mothers falling under two survey items relating to depression (Q.4-1 and Q.4-2)

B Mothers considered to need support based on the content of free comments

Examples: A mother who entered a depressive comment; a mother in need of child-rearing support; a mother worrying about figures of radiation doses; a mother complaining of feeling ill; a mother directly making a request or seeking concrete answers; a mother requesting support

(4) Method

Consultations and/or support by phone or by email

4 Summary of Results of Post-Survey Support

The results of the provided support are as shown below in "5 Tabulated Results of the FY2018 Pregnancy and Birth Survey (4) Status of post-survey support."

(1) Number of mothers in need of support (See Table 19.)

- Out of 6,649 respondents who made responses between November 1, 2018, and December 20, 2019, the number of mothers considered as needing consultations and/or support by phone ("mothers in need of support") was 711 and the percentage of mothers in need of support was 10.7%.
- As the breakdown, the percentage of mothers in need of support identified based on their responses to questions regarding depressive tendencies was 6.4%, while that of mothers in need of support identified based on the content of their free comments was 4.3%. Since FY2012, the coverage of mothers in need of support identified based on the content of their free comments has been expanded so that support would be provided to a larger number of mothers.

[Reference]

Survey year	Number of respondents	The number (percentage) of mothers in need of support was identified based on their responses to questions regarding depressive tendencies	Number (percentage) of mothers in need of support identified based on the content of their free comments	Total number (percentage) of mothers in need of support
FY2011	9,316	1,224 (13.1%)	177 (1.9%)	1,401 (15.0%)
FY2012	7,181	751 (10.5%)	353 (4.9%)	1,104 (15.4%)
FY2013	7,260	744 (10.2%)	357 (4.9%)	1,101 (15.2%)
FY2014	7,132	645 (9.0%)	185 (2.6%)	830 (11.6%)
FY2015	7,031	549 (7.8%)	364 (5.2%)	913 (13.0%)
FY2016	7,326	573 (7.8%)	378 (5.2%)	951 (13.0%)
FY2017	6,449	449 (7.0%)	350 (5.4%)	799 (12.4%)
FY2018	6,649	424 (6.4%)	287 (4.3%)	711 (10.7%)

* Mothers in need of support identified both based on their responses to questions regarding depressive tendencies and on their free comments are included in the category of those identified based on their responses to questions regarding depressive tendencies.

(2) Topics of consultations (See Table 21.)

- The most frequent topic of consultations of mothers in need of support was "Mothers' mental and/or physical health" (53.2%), followed by "Matters concerning child rearing (daily life)" (41.4%), and "Children's mental and/or physical health" (16.0%) (specifically, matters concerning child rearing include the amount of breastfeeding, baby food, growth and development, interactions with children, etc.).
- Consultations on "Anxieties about radiation and its effects" accounted for 3.4%.

[Reference]	Survey year	Topics			Consultations on anxieties about radiation and its effects
		1st	2nd	3rd	
	FY2011	Anxieties about radiation and its effects 29.2%	Mothers' mental and/or physical health 20.2%	Matters concerning child rearing (daily life) 14.0%	29.2%
	FY2012	Mothers' mental and/or physical health 33.4%	Matters concerning child rearing (daily life) 26.7%	Anxieties about radiation and its effects 23.7%	23.7%
	FY2013	Mothers' mental and/or physical health 42.5%	Matters concerning child rearing (daily life) 38.7%	Children's mental and/or physical health 20.3%	17.1%
	FY2014	Mothers' mental and/or physical health 49.5%	Matters concerning child rearing (daily life) 36.1%	Matters concerning family life 20.5%	9.5%
	FY2015	Mothers' mental and/or physical health 53.1%	Matters concerning child rearing (daily life) 40.9%	Matters concerning family life 21.8%	5.9%
	FY2016	Mothers' mental and/or physical health 59.8%	Matters concerning child rearing (daily life) 43.4%	Matters concerning family life 19.5%	5.0%
	FY2017	Mothers' mental and/or physical health 55.6%	Matters concerning child rearing (daily life) 51.8%	Matters concerning family life 16.4%	4.1%
	FY2018	Mothers' mental and/or physical health 53.2%	Matters concerning child rearing (daily life) 41.4%	Children's mental and/or physical health 16.0%	3.4%

(3) Reasons for ending support (See Table 22.)

Support was ended through "Carefully listening to participants' statements (by sorting out problems through carefully listening to participants' statements)" for 515 mothers (72.4%), through "Confirming consultation availability" for 151 mothers (21.2%), and through "Providing information and introducing administrative service offices" for 140 mothers (19.7%). (Multiple responses are allowed. The denominator for calculating percentages is the number of mothers in need of support.).

(4) Conclusion

- The percentage of support provided based on responses to questions regarding depressive tendencies has been decreasing since FY2011 up to FY2018.
- The most frequent topic of consultations has been "Mothers' mental and/or physical health" from FY2012 up to FY2018. The percentage of consultations on "Anxieties about radiation and its effects" has been decreasing year by year.

5 Tabulated Results of the FY2018 Pregnancy and Birth Survey

"Outside Fukushima" refers to respondents to whom survey sheets were distributed with the cooperation of obstetrics medical institutions in Fukushima (respondents who returned to their parents' home in Fukushima to give birth to their babies).

(1) Number of survey sheets distributed and status of responses

[Table 1-1] Number of survey sheets distributed and status of responses

Region	Number of survey sheets distributed		Number of responses (response rate)		Of which, online responses (response rate)	
Kenpoku	3,015	23.5%	1,702	56.5%	320	18.8%
Kenchu	3,923	30.6%	2,006	51.1%	391	19.5%
Kennan	1,008	7.9%	504	50.0%	83	16.5%
Soso	1,003	7.8%	424	42.3%	63	14.9%
Iwaki	2,105	16.4%	1,034	49.1%	192	18.6%
Aizu	1,579	12.3%	815	51.6%	148	18.2%
Minamiaizu	97	0.8%	56	57.7%	7	12.5%
Outside Fukushima	108	0.8%	108	100.0%	16	14.8%
Total	12,838	100.0%	6,649	51.8%	1,220	18.3%

[Table 1-2] Respondents' ages (as of the time of the pregnancy outcome (live birth, stillbirth, etc.))

Data for 6,580 respondents after excluding 69 respondents who made invalid responses from the total (6,649 respondents) were tabulated.

Each item contains no responses and invalid responses. As percentages are rounded, the sum of percentages for each item may not become 100%.

Region	Aged 15-19		Aged 20-24		Aged 25-29		Aged 30-34		Aged 35-39		Aged 40-44		Aged 45-49		No or invalid responses ¹⁾		Total
Kenpoku	7	0.4 %	11 5	6.8%	475	28.1%	648	38.3%	350	20.7%	70	4.1%	8	0.5%	18	1.1%	1,691
Kenchu	11	0.6 %	16 2	8.1%	533	26.8%	745	37.5%	421	21.2%	90	4.5%	1	0.1%	25	1.3%	1,988
Kennan	3	0.6 %	50	10.1 %	129	26.1%	183	37.0%	89	18.0%	20	4.0%	2	0.4%	19	3.8%	495
Soso	4	0.9 %	37	8.8%	125	29.6%	153	36.3%	75	17.8%	18	4.3%	2	0.5%	8	1.9%	422
Iwaki	5	0.5 %	12 5	12.2 %	265	25.8%	357	34.7%	210	20.4%	46	4.5%	1	0.1%	19	1.8%	1,028
Aizu	4	0.5 %	71	8.8%	222	27.4%	298	36.7%	167	20.6%	37	4.6%	1	0.1%	11	1.4%	811
Minamiaizu	0	0.0 %	6	10.7 %	13	23.2%	17	30.4%	17	30.4%	1	1.8%	0	0.0%	2	3.6%	56
Outside Fukushima	0	0.0 %	4	4.5%	35	39.3%	33	37.1%	12	13.5%	4	4.5%	0	0.0%	1	1.1%	89
Total	34	0.5 %	57 0	8.7%	1,797	27.3%	2,434	37.0%	1,341	20.4%	286	4.3%	15	0.2%	103	1.6%	6,580

¹⁾ No or invalid responses: Respondents who did not enter the date of their pregnancy outcome (live birth, stillbirth, etc.)

(2) Tabulation by survey item

[Table 2] Do you usually consider yourself healthy? (Q.2)

Region	Very healthy		Rather healthy		Not so healthy		Not healthy		No or invalid responses		Total
Kenpoku	444	26.3%	1,177	69.6%	61	3.6%	6	0.4%	3	0.2%	1,691
Kenchu	565	28.4%	1,342	67.5%	68	3.4%	7	0.4%	6	0.3%	1,988
Kennan	125	25.3%	346	69.9%	19	3.8%	2	0.4%	3	0.6%	495
Soso	117	27.7%	284	67.3%	15	3.6%	4	0.9%	2	0.5%	422
Iwaki	277	26.9%	710	69.1%	34	3.3%	4	0.4%	3	0.3%	1,028
Aizu	202	24.9%	572	70.5%	32	3.9%	3	0.4%	2	0.2%	811
Minamiaizu	9	16.1%	45	80.4%	1	1.8%	0	0.0%	1	1.8%	56
Outside Fukushima	25	28.1%	64	71.9%	0	0.0%	0	0.0%	0	0.0%	89
Total	1,764	26.8%	4,540	69.0%	230	3.5%	26	0.4%	20	0.3%	6,580

[Table 3] Do you think that you received care sufficiently for the latest pregnancy and delivery as a whole? (Q.3)

Region	Strongly think so		Think so		Not sure		I do not think so		I do not think so at all		No or invalid responses		Total
Kenpoku	577	34.1%	954	56.4%	128	7.6%	24	1.4%	6	0.4%	2	0.1%	1,691
Kenchu	685	34.5%	1,081	54.4%	184	9.3%	26	1.3%	7	0.4%	5	0.3%	1,988
Kennan	143	28.9%	305	61.6%	36	7.3%	6	1.2%	3	0.6%	2	0.4%	495
Soso	144	34.1%	228	54.0%	39	9.2%	7	1.7%	0	0.0%	4	0.9%	422
Iwaki	359	34.9%	555	54.0%	87	8.5%	16	1.6%	4	0.4%	7	0.7%	1,028
Aizu	263	32.4%	464	57.2%	70	8.6%	13	1.6%	0	0.0%	1	0.1%	811
Minamiaizu	17	30.4%	32	57.1%	6	10.7%	0	0.0%	0	0.0%	1	1.8%	56
Outside Fukushima	25	28.1%	60	67.4%	4	4.5%	0	0.0%	0	0.0%	0	0.0%	89
Total	2,213	33.6%	3,679	55.9%	554	8.4%	92	1.4%	20	0.3%	22	0.3%	6,580

[Table 4-1] Have you often felt down or depressed during the past month? (Q.4-1)

Region	Yes		No		No or invalid responses		Total
Kenpoku	298	17.6%	1,389	82.1%	4	0.2%	1,691
Kenchu	359	18.1%	1,614	81.2%	15	0.8%	1,988
Kennan	87	17.6%	405	81.8%	3	0.6%	495
Soso	75	17.8%	344	81.5%	3	0.7%	422
Iwaki	158	15.4%	863	83.9%	7	0.7%	1,028
Aizu	143	17.6%	666	82.1%	2	0.2%	811
Minamiaizu	7	12.5%	48	85.7%	1	1.8%	56
Outside Fukushima	21	23.6%	67	75.3%	1	1.1%	89
Total	1,148	17.4%	5,396	82.0%	36	0.5%	6,580

[Table 4-2] During the past month, have you often felt uninterested in or unable to truly enjoy things?

(Q.4-2)

Region	Yes		No		No or invalid responses		Total
Kenpoku	131	7.7%	1,556	92.0%	4	0.2%	1,691
Kenchu	149	7.5%	1,824	91.8%	15	0.8%	1,988
Kennan	32	6.5%	460	92.9%	3	0.6%	495
Soso	31	7.3%	388	91.9%	3	0.7%	422
Iwaki	71	6.9%	950	92.4%	7	0.7%	1,028
Aizu	61	7.5%	748	92.2%	2	0.2%	811
Minamiaizu	3	5.4%	52	92.9%	1	1.8%	56
Outside Fukushima	7	7.9%	81	91.0%	1	1.1%	89
Total	485	7.4%	6,059	92.1%	36	0.5%	6,580

[Table 4-3] Depressive tendencies

Regarding the respondents who responded "Yes" to both or either of Q.4-1 and Q.4-2

Region	"Yes" to both		"Yes" to either		"No" to both		No or invalid responses		Total
Kenpoku	115	6.8%	199	11.8%	1,373	81.2%	4	0.2%	1,691
Kenchu	130	6.5%	248	12.5%	1,595	80.2%	15	0.8%	1,988
Kennan	30	6.1%	59	11.9%	403	81.4%	3	0.6%	495
Soso	27	6.4%	52	12.3%	340	80.6%	3	0.7%	422
Iwaki	60	5.8%	109	10.6%	852	82.9%	7	0.7%	1,028
Aizu	51	6.3%	102	12.6%	656	80.9%	2	0.2%	811
Minamiaizu	2	3.6%	6	10.7%	47	83.9%	1	1.8%	56
Outside Fukushima	7	7.9%	14	15.7%	67	75.3%	1	1.1%	89
Total	422	6.4%	789	12.0%	5,333	81.0%	36	0.5%	6,580

*Depressive tendencies: 18.4% [("Yes" to both (422) + "Yes" to either (789)) / Total (6,580)]

[Table 5-1] Are you living as a refugee at present? (Q.5)

Region	Living as a refugee in temporary housing		Living as a refugee in other types of housing		Used to live as a refugee but living in their own home at present		I have never lived as a refugee		No or invalid responses		Total
Kenpoku	0	0.0%	3	0.2%	114	6.7%	1,548	91.5%	26	1.5%	1,691
Kenchu	0	0.0%	3	0.2%	160	8.0%	1,784	89.7%	41	2.1%	1,988
Kennan	0	0.0%	2	0.4%	12	2.4%	470	94.9%	11	2.2%	495
Soso	2	0.5%	97	23.0%	122	28.9%	192	45.5%	9	2.1%	422
Iwaki	2	0.2%	8	0.8%	304	29.6%	694	67.5%	20	1.9%	1,028
Aizu	0	0.0%	1	0.1%	14	1.7%	776	95.7%	20	2.5%	811
Minamiaizu	0	0.0%	0	0.0%	0	0.0%	55	98.2%	1	1.8%	56
Outside Fukushima	0	0.0%	1	1.1%	4	4.5%	84	94.4%	0	0.0%	89
Total	4	0.1%	115	1.7%	730	11.1%	5,603	85.2%	128	1.9%	6,580

[Table 5-2] Are you living as a refugee separately from your family members with whom you had lived together? (Q.5)

(Only regarding 119 respondents who responded that they are living as a refugee at present in temporary housing or other types of housing)

Region	Yes		No		No or invalid responses		Total
Kenpoku	3	100.0%	0	0.0%	0	0.0%	3
Kenchu	2	66.7%	1	33.3%	0	0.0%	3
Kennan	2	100.0%	0	0.0%	0	0.0%	2
Soso	49	49.5%	50	50.5%	0	0.0%	99
Iwaki	7	70.0%	3	30.0%	0	0.0%	10
Aizu	0	0.0%	1	100.0%	0	0.0%	1
Minamiaizu	0	0.0%	0	0.0%	0	0.0%	0
Outside Fukushima	1	100.0%	0	0.0%	0	0.0%	1
Total	64	53.8%	55	46.2%	0	0.0%	119

[Table 5-3] Are you able to have good communication with your family members? (Q.5)

(Only regarding 64 respondents who responded "Yes" to the question, "Are you living as a refugee separately from your family members with whom you had lived together?")

Region	Yes		No		Not sure		No or invalid responses		Total
Kenpoku	3	100.0%	0	0.0%	0	0.0%	0	0.0%	3
Kenchu	2	100.0%	0	0.0%	0	0.0%	0	0.0%	2
Kennan	2	100.0%	0	0.0%	0	0.0%	0	0.0%	2
Soso	45	91.8%	1	2.0%	3	6.1%	0	0.0%	49
Iwaki	6	85.7%	0	0.0%	1	14.3%	0	0.0%	7
Aizu	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
Minamiaizu	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
Outside Fukushima	1	100.0%	0	0.0%	0	0.0%	0	0.0%	1
Total	59	92.2%	1	1.6%	4	6.3%	0	0.0%	64

[Table 6] Who are you living with at present? Enter all applicable. (Q.6)

(Multiple responses are allowed.)

Region	Alone		With husband or partner		With children		With parents		Other		Valid responses
Kenpoku	0	0.0%	1,590	94.3%	1,524	90.3%	421	25.0%	117	6.9%	1,687
Kenchu	2	0.1%	1,892	95.4%	1,786	90.1%	475	24.0%	98	4.9%	1,983
Kennan	0	0.0%	462	93.9%	441	89.6%	157	31.9%	36	7.3%	492
Soso	1	0.2%	396	94.3%	386	91.9%	110	26.2%	34	8.1%	420
Iwaki	0	0.0%	967	94.5%	901	88.1%	236	23.1%	48	4.7%	1,023
Aizu	0	0.0%	761	94.0%	721	89.0%	292	36.0%	80	9.9%	810
Minamiaizu	0	0.0%	54	98.2%	49	89.1%	21	38.2%	4	7.3%	55
Outside Fukushima	0	0.0%	85	95.5%	67	75.3%	6	6.7%	1	1.1%	89
Total	3	0.0%	6,207	94.6%	5,875	89.6%	1,718	26.2%	418	6.4%	6,559

* The denominator for calculating percentages is the number of valid responses (respondents who responded to Question 6). As multiple responses are allowed, the percentages may not be 100.0%.

[Table 7-1] Did you habitually smoke when you filed a pregnancy notification this time? (Q.7-1)

Region	Have never smoked		Had stopped smoking before noticing the pregnancy		Stopped smoking when noticing the pregnancy		Habitually smoked		No or invalid responses		Total
Kenpoku	1,278	75.6%	208	12.3%	126	7.5%	74	4.4%	5	0.3%	1,691
Kenchu	1,449	72.9%	223	11.2%	231	11.6%	79	4.0%	6	0.3%	1,988
Kennan	349	70.5%	62	12.5%	49	9.9%	32	6.5%	3	0.6%	495
Soso	290	68.7%	52	12.3%	42	10.0%	36	8.5%	2	0.5%	422
Iwaki	706	68.7%	125	12.2%	134	13.0%	58	5.6%	5	0.5%	1,028
Aizu	612	75.5%	82	10.1%	82	10.1%	34	4.2%	1	0.1%	811
Minamiaizu	45	80.4%	3	5.4%	7	12.5%	0	0.0%	1	1.8%	56
Outside Fukushima	71	79.8%	10	11.2%	6	6.7%	2	2.2%	0	0.0%	89
Total	4,800	72.9%	765	11.6%	677	10.3%	315	4.8%	23	0.3%	6,580

[Table 7-2] Did you continue smoking during the pregnancy? (Q.7-2)

Region	Stopped smoking		Continued smoking		No or invalid responses		Total
Kenpoku	1,649	97.5%	33	2.0%	9	0.5%	1,691
Kenchu	1,933	97.2%	46	2.3%	9	0.5%	1,988
Kennan	479	96.8%	13	2.6%	3	0.6%	495
Soso	400	94.8%	18	4.3%	4	0.9%	422
Iwaki	985	95.8%	35	3.4%	8	0.8%	1,028
Aizu	794	97.9%	16	2.0%	1	0.1%	811
Minamiaizu	55	98.2%	0	0.0%	1	1.8%	56
Outside Fukushima	89	100.0%	0	0.0%	0	0.0%	89
Total	6,384	97.0%	161	2.4%	35	0.5%	6,580

[Table 7-3] Do you habitually smoke at present? (Q.7-3)

Region	Do not smoke		Smoking		No or invalid responses		Total
Kenpoku	1,628	96.3%	57	3.4%	6	0.4%	1,691
Kenchu	1,885	94.8%	94	4.7%	9	0.5%	1,988
Kennan	465	93.9%	26	5.3%	4	0.8%	495
Soso	391	92.7%	28	6.6%	3	0.7%	422
Iwaki	971	94.5%	51	5.0%	6	0.6%	1,028
Aizu	776	95.7%	33	4.1%	2	0.2%	811
Minamiaizu	54	96.4%	1	1.8%	1	1.8%	56
Outside Fukushima	89	100.0%	0	0.0%	0	0.0%	89
Total	6,259	95.1%	290	4.4%	31	0.5%	6,580

[Table 8] Did you have a single birth or a twin birth (including a stillbirth)? (Q.8)

Region	Single births		Twin births		No or invalid responses		Total
Kenpoku	1,675	99.1%	16	0.9%	0	0.0%	1,691
Kenchu	1,970	99.1%	18	0.9%	0	0.0%	1,988
Kennan	488	98.6%	7	1.4%	0	0.0%	495
Soso	420	99.5%	1	0.2%	1	0.2%	422
Iwaki	1,019	99.1%	8	0.8%	1	0.1%	1,028
Aizu	801	98.8%	10	1.2%	0	0.0%	811
Minamiaizu	55	98.2%	1	1.8%	0	0.0%	56
Outside Fukushima	89	100.0%	0	0.0%	0	0.0%	89
Total	6,517	99.0%	61	0.9%	2	0.0%	6,580

* Data were tabulated excluding one mother who gave birth to triplets.

[Table 9-1] Mode of pregnancy (Q.9)

Region	Natural conception		Ovulation induction		Artificial insemination		In-vitro fertilization		Ovulation induction & artificial insemination		Ovulation induction & in-vitro fertilization		No or invalid responses		Total
Kenpoku	1,524	90.1%	52	3.1%	20	1.2%	78	4.6%	4	0.2%	9	0.5%	4	0.2%	1,691
Kenchu	1,828	92.0%	41	2.1%	28	1.4%	66	3.3%	5	0.3%	11	0.6%	9	0.5%	1,988
Kennan	461	93.1%	7	1.4%	5	1.0%	15	3.0%	3	0.6%	2	0.4%	2	0.4%	495
Soso	383	90.8%	8	1.9%	5	1.2%	20	4.7%	0	0.0%	2	0.5%	4	0.9%	422
Iwaki	932	90.7%	28	2.7%	24	2.3%	34	3.3%	3	0.3%	4	0.4%	3	0.3%	1,028
Aizu	744	91.7%	18	2.2%	11	1.4%	31	3.8%	2	0.2%	3	0.4%	2	0.2%	811
Minamiaizu	49	87.5%	2	3.6%	2	3.6%	0	0.0%	1	1.8%	0	0.0%	2	3.6%	56
Outside Fukushima	80	89.9%	6	6.7%	1	1.1%	2	2.2%	0	0.0%	0	0.0%	0	0.0%	89
Total	6,001	91.2%	162	2.5%	96	1.5%	246	3.7%	18	0.3%	31	0.5%	26	0.4%	6,580

[Table 9-2] Pregnancy outcome (Q.9)

Region	Live birth		Miscarriage		Abortion		Stillbirth		Total
Kenpoku	1,682	99.47%	9	0.53%	0	0.00%	0	0.00%	1,691
Kenchu	1,977	99.45%	9	0.45%	0	0.00%	2	0.10%	1,988
Kennan	493	99.40%	1	0.20%	0	0.00%	2	0.40%	496
Soso	418	99.29%	2	0.48%	0	0.00%	1	0.24%	421
Iwaki	1,018	99.03%	4	0.39%	1	0.10%	5	0.49%	1,028
Aizu	808	99.38%	3	0.37%	0	0.00%	2	0.25%	813
Minamiaizu	56	100.00%	0	0.00%	0	0.00%	0	0.00%	56
Outside Fukushima	89	100.00%	0	0.00%	0	0.00%	0	0.00%	89
Total	6,541	99.38%	28	0.43%	1	0.02%	12	0.18%	6,582

* Data were tabulated excluding one mother who gave birth to triplets.

* Basically, a delivery of twins was counted once as a live birth. However, for three mothers who gave birth to twins with different outcomes, each outcome was counted separately. For example, when a mother gave a live birth to the first baby but lost the second baby by miscarriage, each was counted separately as a live birth and a miscarriage.

[Table 10-1] Have you ever experienced a miscarriage? (Q.10-1)

Region	Yes		No		No or invalid responses		Total
Kenpoku	333	19.7%	1,342	79.4%	16	0.9%	1,691
Kenchu	391	19.7%	1,578	79.4%	19	1.0%	1,988
Kennan	95	19.2%	397	80.2%	3	0.6%	495
Soso	92	21.8%	326	77.3%	4	0.9%	422
Iwaki	238	23.2%	778	75.7%	12	1.2%	1,028
Aizu	170	21.0%	631	77.8%	10	1.2%	811
Minamiaizu	18	32.1%	37	66.1%	1	1.8%	56
Outside Fukushima	8	9.0%	79	88.8%	2	2.2%	89
Total	1,345	20.4%	5,168	78.5%	67	1.0%	6,580

[Table 10-2] Have you ever experienced an abortion? (Q.10-2)

Region	Yes		No		No or invalid responses		Total
Kenpoku	209	12.4%	1,427	84.4%	55	3.3%	1,691
Kenchu	272	13.7%	1,653	83.1%	63	3.2%	1,988
Kennan	70	14.1%	414	83.6%	11	2.2%	495
Soso	47	11.1%	354	83.9%	21	5.0%	422
Iwaki	162	15.8%	830	80.7%	36	3.5%	1,028
Aizu	109	13.4%	674	83.1%	28	3.5%	811
Minamiaizu	5	8.9%	48	85.7%	3	5.4%	56
Outside Fukushima	12	13.5%	71	79.8%	6	6.7%	89
Total	886	13.5%	5,471	83.1%	223	3.4%	6,580

[Table 10-3] Have you ever experienced a stillbirth? (Q.10-3)

Region	Yes		No		No or invalid responses		Total
Kenpoku	17	1.0%	1,656	97.9%	18	1.1%	1,691
Kenchu	25	1.3%	1,935	97.3%	28	1.4%	1,988
Kennan	7	1.4%	485	98.0%	3	0.6%	495
Soso	6	1.4%	412	97.6%	4	0.9%	422
Iwaki	12	1.2%	1,001	97.4%	15	1.5%	1,028
Aizu	10	1.2%	790	97.4%	11	1.4%	811
Minamiaizu	0	0.0%	55	98.2%	1	1.8%	56
Outside Fukushima	0	0.0%	87	97.8%	2	2.2%	89
Total	77	1.2%	6,421	97.6%	82	1.2%	6,580

[Table 10-4] Have you had experience of childbirth? (Q.10-4)

Region	Yes		No		No or invalid responses		Total
Kenpoku	893	52.8%	742	43.9%	56	3.3%	1,691
Kenchu	965	48.5%	957	48.1%	66	3.3%	1,988
Kennan	264	53.3%	220	44.4%	11	2.2%	495
Soso	229	54.3%	175	41.5%	18	4.3%	422
Iwaki	511	49.7%	488	47.5%	29	2.8%	1,028
Aizu	430	53.0%	354	43.6%	27	3.3%	811
Minamiaizu	27	48.2%	26	46.4%	3	5.4%	56
Outside Fukushima	33	37.1%	50	56.2%	6	6.7%	89
Total	3,352	50.9%	3,012	45.8%	216	3.3%	6,580

[Table 10-5] Have you ever had a twin birth? (Q.10-5)

Region	Yes		No		No or invalid responses		Total
Kenpoku	14	0.8%	1,651	97.6%	26	1.5%	1,691
Kenchu	11	0.6%	1,949	98.0%	28	1.4%	1,988
Kennan	5	1.0%	487	98.4%	3	0.6%	495
Soso	4	0.9%	415	98.3%	3	0.7%	422
Iwaki	2	0.2%	1,011	98.3%	15	1.5%	1,028
Aizu	7	0.9%	792	97.7%	12	1.5%	811
Minamiaizu	1	1.8%	53	94.6%	2	3.6%	56
Outside Fukushima	0	0.0%	87	97.8%	2	2.2%	89
Total	44	0.7%	6,445	97.9%	91	1.4%	6,580

[Table 11-1] Have you had any diseases before becoming pregnant this time? (Q.11)

Region	Yes		No		No or invalid responses		Total
Kenpoku	504	29.8%	1,182	69.9%	5	0.3%	1,691
Kenchu	581	29.2%	1,403	70.6%	4	0.2%	1,988
Kennan	128	25.9%	366	73.9%	1	0.2%	495
Soso	132	31.3%	290	68.7%	0	0.0%	422
Iwaki	335	32.6%	690	67.1%	3	0.3%	1,028
Aizu	247	30.5%	563	69.4%	1	0.1%	811
Minamiaizu	10	17.9%	46	82.1%	0	0.0%	56
Outside Fukushima	22	24.7%	67	75.3%	0	0.0%	89
Total	1,959	29.8%	4,607	70.0%	14	0.2%	6,580

[Table 11-2] Percentages of specific diseases suffered by the respondents who responded "Yes" to Question 11 among the total number of responses

(Valid responses: 1,955; No or invalid responses: 4)

Region	Other allergic diseases ¹⁾		Respiratory diseases ²⁾		Mental diseases ³⁾		Thyroid diseases		Intestinal disorders		Brain diseases ⁴⁾		Cardiac diseases ⁵⁾		Cancer		Hypertension	
Kenpoku	254	40.2%	89	14.1%	75	11.9%	41	6.5%	24	3.8%	20	3.2%	15	2.4%	9	1.4%	4	0.6%
Kenchu	322	42.2%	125	16.4%	66	8.7%	35	4.6%	33	4.3%	17	2.2%	15	2.0%	12	1.6%	6	0.8%
Kennan	70	40.9%	25	14.6%	23	13.5%	8	4.7%	6	3.5%	3	1.8%	3	1.8%	4	2.3%	4	2.3%
Soso	69	38.3%	28	15.6%	15	8.3%	11	6.1%	4	2.2%	8	4.4%	4	2.2%	8	4.4%	3	1.7%
Iwaki	182	39.1%	95	20.4%	42	9.0%	21	4.5%	18	3.9%	12	2.6%	11	2.4%	8	1.7%	3	0.6%
Aizu	132	39.5%	66	19.8%	29	8.7%	32	9.6%	5	1.5%	4	1.2%	7	2.1%	4	1.2%	7	2.1%
Minamiaizu	5	31.3%	4	25.0%	2	12.5%	0	0.0%	2	12.5%	1	6.3%	0	0.0%	1	6.3%	0	0.0%
Outside Fukushima	9	36.0%	9	36.0%	1	4.0%	0	0.0%	0	0.0%	1	4.0%	0	0.0%	0	0.0%	0	0.0%
Total	1,043	40.3%	441	17.0%	253	9.8%	148	5.7%	92	3.6%	66	2.6%	55	2.1%	46	1.8%	27	1.0%

PBS(EN) 37th Report on the Results of FY2018 Pregnancy and Birth Survey

Region	Infectious diseases ⁸⁾		Diabetes		Connective tissue diseases ⁶⁾		Blood diseases ⁷⁾		Hyperlipemia		Hepatic diseases ⁹⁾		Nerve/muscle diseases ¹⁰⁾		Other		Total
Kenpoku	11	1.7%	3	0.5%	3	0.5%	6	0.9%	4	0.6%	5	0.8%	1	0.2%	68	10.8%	632
Kenchu	4	0.5%	11	1.4%	11	1.4%	4	0.5%	7	0.9%	2	0.3%	2	0.3%	91	11.9%	763
Kennan	0	0.0%	4	2.3%	2	1.2%	2	1.2%	0	0.0%	0	0.0%	0	0.0%	17	9.9%	171
Soso	2	1.1%	2	1.1%	1	0.6%	0	0.0%	2	1.1%	0	0.0%	0	0.0%	23	12.8%	180
Iwaki	1	0.2%	2	0.4%	1	0.2%	4	0.9%	3	0.6%	4	0.9%	3	0.6%	56	12.0%	466
Aizu	5	1.5%	2	0.6%	5	1.5%	2	0.6%	2	0.6%	1	0.3%	0	0.0%	31	9.3%	334
Minamiaizu	0	0.0%	0	0.0%	0	0.0%	1	6.3%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	16
Outside Fukushima	1	4.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	4.0%	0	0.0%	3	12.0%	25
Total	24	0.9%	24	0.9%	23	0.9%	19	0.7%	18	0.7%	13	0.5%	6	0.2%	289	11.2%	2,587

1) Atopic dermatitis, allergic rhinitis, etc.; 2) Pneumonia, asthma, etc.; 3) Depression, schizophrenia, etc.; 4) Stroke, epilepsy, etc.; 5) Myocardial infarction, angina, irregular heartbeat, congenital cardiac diseases, etc.; 6) SLE, erythematosis, etc.; 7) Idiopathic thrombocytopenia, etc.; 8) Tuberculosis, etc.; 9) Chronic hepatitis, etc.; 10) Myasthenia gravis, etc.

* Multiple responses are allowed.

[Table 11-3] Breakdown of specific diseases included in "Other" for the respondents who responded "Yes" to Question 11

(Multiple responses are allowed.)

Ovarian tumor	70	Tonsillitis	2	Intraductal papillomatosis	1	Purpura nephritis	1
Endometriosis	34	Hydrosalpinx	2	Spina bifida	1	Glomerular nephritis	1
Uterine fibroid	31	Rachioscoliosis	2	Achondrogenesis	1	Endometrial polyp	1
Polycystic ovarian syndrome	10	Ureterolithiasis	2	Aneurysm	1	Uterine diverticulum	1
Cervical intraepithelial neoplasm	9	Hearing loss	2	Intracranial hypotension	1	Omarthritis	1
Glaucoma	8	Otitis media	1	Intervertebral disc hernia	1	Hematuria	1
Cholelithiasis	8	Vocal cord polyp	1	Uterus bicornis	1	Hemangioma	1
Kawasaki disease	8	Endocervical polyp	1	Fibromyalgia	1	Cervical disc hernia	1
Pyelonephritis	7	Lumbar spine hernia	1	Epidermolysis bullosa hereditarian	1	Muscle-contraction headache	1
Meniere's disease	7	Frog tongue	1	Congenital biliary dilatation	1	Thoracolumbar arachnoid cyst	1
IgA nephropathy	7	Allergic purpura	1	Vocal cord nodule	1	Psoriasis	1
Hydatidiform mole	6	Neck lower gland tumor	1	Kidney injury	1	Synovial osteochondromatosis	1
Sinusitis	5	Pancreatitis	1	Nephritis	1	Corneal dystrophy	1
Sudden deafness	5	Vesicoureteric reflux	1	Upper arm soft tissue tumor	1	Pharyngeal tonsil hyperplasia	1
Kidney disease	4	Splenic cyst	1	Maxillary sinusitis	1	Livedoid vasculitis	1
Uterine adenomyosis	4	Enlarged tonsil	1	Mediastinal tumor	1	Morton's disease	1
Ectopic pregnancy	4	Ovarian hemorrhage	1	Wrist fracture	1	Protein someone deficiency	1
Developmental disorder	3	Yolk sac tumor	1	Strabismus	1	Narcolepsy	1
Hydronephrosis	3	Retinal detachment	1	Otosclerosis	1	de Quervain's disease	1
Nephrolithiasis	3	Nasal septum deviation	1	Aural fistula	1	Pruritic urticaria-like papules	1
Lumbar disc hernia	3	Alveolar proteinosis	1	Piles	1	Anaphylactic shock	1
Hyperprolactinemia	3	Fibroadenoma of breast	1	Hemorrhoid	1	Vogt-Koyanagi-Harada disease	1

[Table 12-1] Were you diagnosed with any disease or symptoms during the latest pregnancy? (Q.12)

Region	Yes		No		No or invalid responses		Total
Kenpoku	477	28.2%	1,207	71.4%	7	0.4%	1,691
Kenchu	592	29.8%	1,387	69.8%	9	0.5%	1,988
Kennan	124	25.1%	367	74.1%	4	0.8%	495
Soso	116	27.5%	305	72.3%	1	0.2%	422
Iwaki	262	25.5%	760	73.9%	6	0.6%	1,028
Aizu	273	33.7%	536	66.1%	2	0.2%	811
Minamiaizu	22	39.3%	34	60.7%	0	0.0%	56
Outside Fukushima	26	29.2%	63	70.8%	0	0.0%	89
Total	1,892	28.8%	4,659	70.8%	29	0.4%	6,580

Region	Incidence of all diseases ¹⁾		Valid responses
Kenpoku	477	28.3%	1,684
Kenchu	592	29.9%	1,979
Kennan	124	25.3%	491
Soso	116	27.6%	421
Iwaki	262	25.6%	1,022
Aizu	273	33.7%	809
Minamiaizu	22	39.3%	56
Outside Fukushima	26	29.2%	89
Total	1,892	28.9%	6,551

1) The denominator for calculating incidences is the number of valid responses (total number of responses of "Yes" and "No").

[Table 12-2] Incidence of each disease

(Multiple responses are allowed.)

Region	Threatened premature delivery		Threatened miscarriage		Gestational diabetes		Gestational hypertension		Infectious diseases ¹⁾		Oligohydramnios		Premature delivery	
Kenpoku	216	12.8%	129	7.7%	67	4.0%	59	3.5%	41	2.4%	21	1.2%	19	1.1%
Kenchu	237	12.0%	124	6.3%	87	4.4%	71	3.6%	61	3.1%	57	2.9%	19	1.0%
Kennan	45	9.2%	23	4.7%	15	3.1%	20	4.1%	14	2.9%	5	1.0%	8	1.6%
Soso	47	11.2%	26	6.2%	17	4.0%	19	4.5%	8	1.9%	4	1.0%	2	0.5%
Iwaki	104	10.2%	65	6.4%	24	2.3%	49	4.8%	19	1.9%	26	2.5%	12	1.2%
Aizu	119	14.7%	89	11.0%	41	5.1%	23	2.8%	38	4.7%	8	1.0%	13	1.6%
Minamiaizu	9	16.1%	13	23.2%	2	3.6%	2	3.6%	3	5.4%	1	1.8%	3	5.4%
Outside Fukushima	15	16.9%	3	3.4%	3	3.4%	2	2.2%	1	1.1%	1	1.1%	0	0.0%
Total	792	12.1%	472	7.2%	256	3.9%	245	3.7%	185	2.8%	123	1.9%	76	1.2%

Region	Placenta previa		Hydramnios		Insomnia, anxiety, and other mental problems		Miscarriage		Injury		Thrombosis ²⁾		Other		Valid responses
Kenpoku	20	1.2%	4	0.2%	10	0.6%	2	0.1%	0	0.0%	1	0.1%	50	3.0%	1,684
Kenchu	24	1.2%	19	1.0%	8	0.4%	1	0.1%	3	0.2%	1	0.1%	49	2.5%	1,979
Kennan	6	1.2%	2	0.4%	5	1.0%	0	0.0%	0	0.0%	0	0.0%	16	3.3%	491
Soso	5	1.2%	2	0.5%	2	0.5%	1	0.2%	0	0.0%	0	0.0%	8	1.9%	421
Iwaki	10	1.0%	4	0.4%	5	0.5%	1	0.1%	0	0.0%	0	0.0%	26	2.5%	1,022
Aizu	10	1.2%	4	0.5%	4	0.5%	0	0.0%	0	0.0%	1	0.1%	24	3.0%	809
Minamiaizu	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	1.8%	56
Outside Fukushima	0	0.0%	1	1.1%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	1.1%	89
Total	75	1.1%	36	0.5%	34	0.5%	5	0.1%	3	0.0%	3	0.0%	175	2.7%	6,551

1) Pneumonia, influenza, tetanus, etc.; 2) Thrombosis (economy-class syndrome) and pulmonic embolism;

The denominator for calculating incidences is the number of respondents who responded "Yes" or "No" to Question 12 (6,551).

As multiple responses are allowed, the incidences may not be 100.0%.

[Table 12-3] Breakdown of specific diseases and symptoms included in "Other" for the respondents who responded "Yes" to Question 12

(Multiple responses are allowed.)

Uterine fibroid	28	Ulcerative colitis	3	Protein someone deficiency	1	Threatened rupture of the uterus	1
Asthma	19	Bronchitis	2	Bell's palsy	1	Sacroiliitis	1
Ovarian tumor	12	Blood type incompatible pregnancy	2	Meniere's disease	1	Cholestasis	1
Endocervical polyp	9	Hypothyroidism	2	Sensorineural hearing loss	1	Iliopsoas muscle abscess	1
Prurigo gestationis	8	Uterine ptosis	2	Rheumatoid arthritis	1	Infectious mononucleosis	1
Sinusitis	8	Endometriosis	2	Facial paralysis	1	Pregestational diabetes mellitus	1
Varicose vein	6	Pyelonephritis	2	Acute cholecystitis	1	Hearing loss	1
Cervical intraepithelial neoplasm	4	Twin-to-twin transfusion syndrome	2	Ischemic enteritis	1	Gestational thrombocytopenia	1
Premature separation of the normally implanted placenta	4	Appendicitis	2	Thyroid disease	1	Brain tumor	1
Shingles	4	Idiopathic thrombocytopenic purpura	2	Thyroid gland enlargement	1	Septicemia	1
Irregular heartbeat	4	Ureterolithiasis	2	Uterine adenomyosis	1	Abdominal wall hernia	1
Condyloma	3	Hives	2	Uterine prolapse	1	Choroiditis	1
Graves' disease	3	IgA nephropathy	1	Patulous Eustachian tube	1	Placenta accreta	1
Cervical incompetence	3	Viral gastroenteritis	1	Nephrolithiasis	1	Ovarian hyperstimulation syndrome	1
Cervical cancer	3	Bartholin's gland cyst	1	Hydronephrosis	1	Wart	1

[Table 12-4] Mothers who gave birth after 12 weeks (4 months) of pregnancy or later

Region	Single births		Twin births		No or invalid responses		Total
Kenpoku	1,669	99.1%	15	0.9%	0	0.0%	1,684
Kenchu	1,964	99.1%	17	0.9%	0	0.0%	1,981
Kennan	487	98.6%	7	1.4%	0	0.0%	494
Soso	418	99.8%	1	0.2%	0	0.0%	419
Iwaki	1,015	99.2%	8	0.8%	0	0.0%	1,023
Aizu	799	98.8%	10	1.2%	0	0.0%	809
Minamiaizu	55	98.2%	1	1.8%	0	0.0%	56
Outside Fukushima	89	100.0%	0	0.0%	0	0.0%	89
Total	6,496	99.1%	59	0.9%	0	0.0%	6,555

[Table 13-1] How many weeks pregnant were you when you gave birth? (Single births) (Q.13)

Region	12 to 21 weeks		22 to 23 weeks		24 to 27 weeks		28 to 31 weeks		32 to 36 weeks		37 to 41 weeks		42 weeks or longer		Total
Kenpoku	5	0.3%	0	0.0%	6	0.4%	8	0.5%	61	3.7%	1,586	95.0%	3	0.2%	1,669
Kenchu	3	0.2%	2	0.1%	4	0.2%	14	0.7%	75	3.8%	1,864	94.9%	2	0.1%	1,964
Kennan	0	0.0%	0	0.0%	1	0.2%	5	1.0%	20	4.1%	459	94.3%	2	0.4%	487
Soso	2	0.5%	0	0.0%	0	0.0%	0	0.0%	7	1.7%	408	97.6%	1	0.2%	418
Iwaki	3	0.3%	1	0.1%	3	0.3%	8	0.8%	37	3.6%	959	94.5%	4	0.4%	1,015
Aizu	0	0.0%	1	0.1%	2	0.3%	4	0.5%	29	3.6%	762	95.4%	1	0.1%	799
Minamiaizu	0	0.0%	1	1.8%	1	1.8%	1	1.8%	4	7.3%	48	87.3%	0	0.0%	55
Outside Fukushima	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	89	100.0%	0	0.0%	89
Total	13	0.2%	5	0.1%	17	0.3%	40	0.6%	233	3.6%	6,175	95.1%	13	0.2%	6,496

Among Tables 13-2 to 14-28, in those where the first babies and second babies of twins were separately tabulated, data include miscarriages of second babies after 12 weeks of pregnancy or later. Accordingly, the number of weeks does not double between that for first babies and that for second babies.

[Table 13-2] How many weeks pregnant were you when you gave birth? (Twin births) (Q.13)

Region	12 to 21 weeks		22 to 23 weeks		24 to 27 weeks		28 to 31 weeks		32 to 36 weeks		37 to 41 weeks		42 weeks or longer		Total
Kenpoku	0	0.0%	0	0.0%	2	6.7%	0	0.0%	12	40.0%	14	46.7%	2	6.7%	30
Kenchu	0	0.0%	0	0.0%	0	0.0%	0	0.0%	14	41.2%	20	58.8%	0	0.0%	34
Kennan	1	7.1%	0	0.0%	0	0.0%	2	14.3%	2	14.3%	9	64.3%	0	0.0%	14
Soso	0	0.0%	0	0.0%	0	0.0%	0	0.0%	2	100.0%	0	0.0%	0	0.0%	2
Iwaki	0	0.0%	0	0.0%	2	12.5%	2	12.5%	6	37.5%	6	37.5%	0	0.0%	16
Aizu	1	5.0%	0	0.0%	0	0.0%	0	0.0%	6	30.0%	13	65.0%	0	0.0%	20
Minamiaizu	0	0.0%	0	0.0%	0	0.0%	0	0.0%	2	100.0%	0	0.0%	0	0.0%	2
Outside Fukushima	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
Total	2	1.7%	0	0.0%	4	3.4%	4	3.4%	44	37.3%	62	52.5%	2	1.7%	118

[Table 13-3] Pregnancy duration and preterm birthrate: Single births and twin births

Region	Pregnancy duration (single births and twin births)							Total	22 to 36 weeks (Total)	Preterm birthrate ¹⁾	
	12 to 21 weeks	22 to 23 weeks	24 to 27 weeks	28 to 31 weeks	32 to 36 weeks	37 to 41 weeks	42 weeks or longer			(22 to 36 weeks)	(Total-12 to 21 weeks)
Kenpoku	5	0	8	8	73	1,600	5	1,699	89		5.3%
Kenchu	3	2	4	14	89	1,884	2	1,998	109		5.5%
Kennan	1	0	1	7	22	468	2	501	30		6.0%
Soso	2	0	0	0	9	408	1	420	9		2.2%
Iwaki	3	1	5	10	43	965	4	1,031	59		5.7%
Aizu	1	1	2	4	35	775	1	819	42		5.1%
Minamiaizu	0	1	1	1	6	48	0	57	9		15.8%
Outside Fukushima	0	0	0	0	0	89	0	89	0		0.0%
Total	15	5	21	44	277	6,237	15	6,614	347		5.3%

* A preterm birth refers to a case where a baby is born between 22 and 36 weeks gestational age.

1) The denominator for calculating preterm birthrates is the number obtained by subtracting the number of births at less than 22 weeks gestational age (15) from the total number of births (6,614), which excludes cases where the number of fetuses was unknown, where pregnancy duration was unknown or where a baby was born at less than 12 weeks gestational age.

[Table 13-4] Mode of delivery: Single births (Q. 13)

PBS(EN) 37th Report on the Results of FY2018 Pregnancy and Birth Survey

Region	Natural delivery		Vacuum extraction/Forceps delivery		Delivery by Caesarean section		No or invalid responses		Total
Kenpoku	1,159	69.4%	197	11.8%	304	18.2%	9	0.5%	1,669
Kenchu	1,273	64.8%	218	11.1%	459	23.4%	14	0.7%	1,964
Kennan	316	64.9%	74	15.2%	96	19.7%	1	0.2%	487
Soso	230	55.0%	90	21.5%	95	22.7%	3	0.7%	418
Iwaki	642	63.3%	138	13.6%	227	22.4%	8	0.8%	1,015
Aizu	495	62.0%	99	12.4%	201	25.2%	4	0.5%	799
Minamiaizu	28	50.9%	9	16.4%	18	32.7%	0	0.0%	55
Outside Fukushima	55	61.8%	17	19.1%	16	18.0%	1	1.1%	89
Total	4,198	64.6%	842	13.0%	1,416	21.8%	40	0.6%	6,496

[Table 13-5] Mode of delivery: Twin births; First babies (Q. 13)

Region	Natural delivery		Vacuum extraction/Forceps delivery		Delivery by Caesarean section		No or invalid responses		Total
Kenpoku	0	0.0%	1	6.7%	14	93.3%	0	0.0%	15
Kenchu	2	11.8%	0	0.0%	15	88.2%	0	0.0%	17
Kennan	1	14.3%	1	14.3%	5	71.4%	0	0.0%	7
Soso	0	0.0%	0	0.0%	1	100.0%	0	0.0%	1
Iwaki	1	12.5%	0	0.0%	7	87.5%	0	0.0%	8
Aizu	1	10.0%	0	0.0%	9	90.0%	0	0.0%	10
Minamiaizu	0	0.0%	0	0.0%	1	100.0%	0	0.0%	1
Outside Fukushima	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
Total	5	8.5%	2	3.4%	52	88.1%	0	0.0%	59

[Table 13-6] Mode of delivery: Twin births; Second babies (Q. 13)

Region	Natural delivery		Vacuum extraction/Forceps delivery		Delivery by Caesarean section		No or invalid responses		Total
Kenpoku	0	0.0%	1	6.7%	14	93.3%	0	0.0%	15
Kenchu	2	11.8%	0	0.0%	15	88.2%	0	0.0%	17
Kennan	0	0.0%	1	14.3%	5	71.4%	1	14.3%	7
Soso	0	0.0%	0	0.0%	1	100.0%	0	0.0%	1
Iwaki	1	12.5%	0	0.0%	7	87.5%	0	0.0%	8
Aizu	0	0.0%	0	0.0%	9	90.0%	1	10.0%	10
Minamiaizu	0	0.0%	0	0.0%	1	100.0%	0	0.0%	1
Outside Fukushima	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
Total	3	5.1%	2	3.4%	52	88.1%	2	3.4%	59

For Tables 14-1 to 14-14, as the gender is unknown for some babies, the sum of boys and girls may not match the overall total.

[Table 14-1] (Status of births) Babies' gender (Single births and twin births (first and second babies)) (Q.14)

Region	Boys		Girls		No or invalid responses		Total
Kenpoku	874	51.4%	794	46.7%	31	1.8%	1,699
Kenchu	983	49.2%	969	48.5%	46	2.3%	1,998
Kennan	252	50.3%	235	46.9%	14	2.8%	501
Soso	195	46.4%	219	52.1%	6	1.4%	420
Iwaki	502	48.7%	509	49.4%	20	1.9%	1,031
Aizu	410	50.1%	389	47.5%	20	2.4%	819
Minamiaizu	28	49.1%	29	50.9%	0	0.0%	57
Outside Fukushima	44	49.4%	44	49.4%	1	1.1%	89
Total	3,288	49.7%	3,188	48.2%	138	2.1%	6,614

[Table 14-2] (Babies' weight) Single births; Overall (Q.14)

Region	Less than 1.0kg		1.0kg to less than 1.5kg		1.5kg to less than 2.0kg		2.0 kg to less than 2.5kg		2.5kg to less than 3.0kg	
Kenpoku	9	0.5%	5	0.3%	7	0.4%	107	6.4%	657	39.4%
Kenchu	7	0.4%	13	0.7%	15	0.8%	120	6.1%	766	39.0%
Kennan	1	0.2%	2	0.4%	7	1.4%	28	5.7%	190	39.0%
Soso	1	0.2%	0	0.0%	1	0.2%	31	7.4%	148	35.4%
Iwaki	8	0.8%	3	0.3%	6	0.6%	72	7.1%	383	37.7%
Aizu	2	0.3%	4	0.5%	4	0.5%	55	6.9%	300	37.5%
Minamiaizu	2	3.6%	0	0.0%	2	3.6%	4	7.3%	21	38.2%
Outside Fukushima	0	0.0%	0	0.0%	0	0.0%	3	3.4%	39	43.8%
Total	30	0.5%	27	0.4%	42	0.6%	420	6.5%	2,504	38.5%

Region	3.0kg to less than 3.5kg		3.5kg to less than 4.0kg		4.0kg to less than 4.5kg		4.5kg or more		No or invalid responses		Total
Kenpoku	701	42.0%	165	9.9%	11	0.7%	1	0.1%	6	0.4%	1,669
Kenchu	834	42.5%	187	9.5%	13	0.7%	2	0.1%	7	0.4%	1,964
Kennan	205	42.1%	48	9.9%	4	0.8%	1	0.2%	1	0.2%	487
Soso	198	47.4%	35	8.4%	3	0.7%	0	0.0%	1	0.2%	418
Iwaki	430	42.4%	100	9.9%	9	0.9%	2	0.2%	2	0.2%	1,015
Aizu	347	43.4%	78	9.8%	8	1.0%	0	0.0%	1	0.1%	799
Minamiaizu	23	41.8%	3	5.5%	0	0.0%	0	0.0%	0	0.0%	55
Outside Fukushima	36	40.4%	11	12.4%	0	0.0%	0	0.0%	0	0.0%	89
Total	2,774	42.7%	627	9.7%	48	0.7%	6	0.1%	18	0.3%	6,496

[Table 14-3] (Babies' weight) Single births; Boys (Q.14)

Region	Less than 1.0kg		1.0kg to less than 1.5kg		1.5kg to less than 2.0kg		2.0 kg to less than 2.5kg		2.5kg to less than 3.0kg	
Kenpoku	2	0.2%	4	0.5%	3	0.4%	48	5.6%	322	37.7%
Kenchu	4	0.4%	4	0.4%	9	0.9%	59	6.1%	342	35.5%
Kennan	0	0.0%	0	0.0%	5	2.0%	16	6.5%	88	35.9%
Soso	0	0.0%	0	0.0%	0	0.0%	14	7.3%	57	29.5%
Iwaki	1	0.2%	2	0.4%	2	0.4%	30	6.1%	160	32.6%
Aizu	1	0.3%	3	0.8%	4	1.0%	25	6.3%	130	32.6%
Minamiaizu	0	0.0%	0	0.0%	0	0.0%	1	3.7%	12	44.4%
Outside Fukushima	0	0.0%	0	0.0%	0	0.0%	0	0.0%	18	40.9%
Total	8	0.2%	13	0.4%	23	0.7%	193	6.0%	1,129	35.1%

Region	3.0kg to less than 3.5kg		3.5kg to less than 4.0kg		4.0kg to less than 4.5kg		4.5kg or more		No or invalid responses		Total
Kenpoku	372	43.6%	94	11.0%	6	0.7%	1	0.1%	2	0.2%	854
Kenchu	415	43.0%	120	12.4%	7	0.7%	0	0.0%	4	0.4%	964
Kennan	103	42.0%	31	12.7%	2	0.8%	0	0.0%	0	0.0%	245
Soso	104	53.9%	16	8.3%	2	1.0%	0	0.0%	0	0.0%	193
Iwaki	227	46.2%	61	12.4%	6	1.2%	1	0.2%	1	0.2%	491
Aizu	191	47.9%	40	10.0%	5	1.3%	0	0.0%	0	0.0%	399
Minamiaizu	12	44.4%	2	7.4%	0	0.0%	0	0.0%	0	0.0%	27
Outside Fukushima	19	43.2%	7	15.9%	0	0.0%	0	0.0%	0	0.0%	44
Total	1,443	44.9%	371	11.5%	28	0.9%	2	0.1%	7	0.2%	3,217

[Table 14-4] (Babies' weight) Single births; Girls (Q.14)

Region	Less than 1.0kg		1.0kg to less than 1.5kg		1.5kg to less than 2.0kg		2.0 kg to less than 2.5kg		2.5kg to less than 3.0kg	
Kenpoku	7	0.9%	1	0.1%	4	0.5%	59	7.5%	327	41.7%
Kenchu	3	0.3%	9	0.9%	6	0.6%	59	6.2%	411	43.0%
Kennan	1	0.4%	2	0.9%	2	0.9%	11	4.8%	98	42.6%
Soso	1	0.5%	0	0.0%	1	0.5%	17	7.8%	89	40.6%
Iwaki	7	1.4%	1	0.2%	4	0.8%	42	8.3%	217	43.1%
Aizu	1	0.3%	1	0.3%	0	0.0%	28	7.3%	163	42.8%
Minamiaizu	2	7.1%	0	0.0%	2	7.1%	3	10.7%	9	32.1%
Outside Fukushima	0	0.0%	0	0.0%	0	0.0%	3	6.8%	20	45.5%
Total	22	0.7%	14	0.4%	19	0.6%	222	7.1%	1,334	42.4%

Region	3.0kg to less than 3.5kg		3.5kg to less than 4.0kg		4.0kg to less than 4.5kg		4.5kg or more		No or invalid responses		Total
Kenpoku	311	39.6%	69	8.8%	5	0.6%	0	0.0%	2	0.3%	785
Kenchu	398	41.7%	61	6.4%	6	0.6%	2	0.2%	0	0.0%	955
Kennan	96	41.7%	16	7.0%	2	0.9%	1	0.4%	1	0.4%	230
Soso	92	42.0%	18	8.2%	1	0.5%	0	0.0%	0	0.0%	219
Iwaki	193	38.3%	37	7.3%	2	0.4%	1	0.2%	0	0.0%	504
Aizu	149	39.1%	36	9.4%	3	0.8%	0	0.0%	0	0.0%	381
Minamiaizu	11	39.3%	1	3.6%	0	0.0%	0	0.0%	0	0.0%	28
Outside Fukushima	17	38.6%	4	9.1%	0	0.0%	0	0.0%	0	0.0%	44
Total	1,267	40.3%	242	7.7%	19	0.6%	4	0.1%	3	0.1%	3,146

[Table 14-5] (Babies' weight) Twin births; Overall (Q.14)

Region	Less than 1.0kg		1.0kg to less than 1.5kg		1.5kg to less than 2.0kg		2.0kg to less than 2.5kg		2.5kg to less than 3.0kg		3.0kg to less than 3.5kg		No or invalid responses		Total
Kenpoku	2	6.7%	1	3.3%	4	13.3%	13	43.3%	10	33.3%	0	0.0%	0	0.0%	30
Kenchu	0	0.0%	0	0.0%	1	2.9%	25	73.5%	7	20.6%	1	2.9%	0	0.0%	34
Kennan	1	7.1%	1	7.1%	0	0.0%	7	50.0%	4	28.6%	0	0.0%	1	7.1%	14
Soso	0	0.0%	0	0.0%	1	50.0%	1	50.0%	0	0.0%	0	0.0%	0	0.0%	2
Iwaki	2	12.5%	0	0.0%	8	50.0%	5	31.3%	1	6.3%	0	0.0%	0	0.0%	16
Aizu	1	5.0%	0	0.0%	2	10.0%	8	40.0%	8	40.0%	0	0.0%	1	5.0%	20
Minamiaizu	0	0.0%	0	0.0%	0	0.0%	2	100.0%	0	0.0%	0	0.0%	0	0.0%	2
Outside Fukushima	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
Total	6	5.1%	2	1.7%	16	13.6%	61	51.7%	30	25.4%	1	0.8%	2	1.7%	118

[Table 14-6] (Babies' weight) Twin births; Boys (Q.14)

Region	Less than 1.0kg		1.0kg to less than 1.5kg		1.5kg to less than 2.0kg		2.0kg to less than 2.5kg		2.5kg to less than 3.0kg		3.0kg to less than 3.5kg		No or invalid responses		Total
Kenpoku	2	10.0%	1	5.0%	3	15.0%	8	40.0%	6	30.0%	0	0.0%	0	0.0%	20
Kenchu	0	0.0%	0	0.0%	1	5.3%	14	73.7%	3	15.8%	1	5.3%	0	0.0%	19
Kennan	1	14.3%	1	14.3%	0	0.0%	2	28.6%	3	42.9%	0	0.0%	0	0.0%	7
Soso	0	0.0%	0	0.0%	1	50.0%	1	50.0%	0	0.0%	0	0.0%	0	0.0%	2
Iwaki	0	0.0%	0	0.0%	7	63.6%	4	36.4%	0	0.0%	0	0.0%	0	0.0%	11
Aizu	1	9.1%	0	0.0%	0	0.0%	4	36.4%	6	54.5%	0	0.0%	0	0.0%	11
Minamiaizu	0	0.0%	0	0.0%	0	0.0%	1	100.0%	0	0.0%	0	0.0%	0	0.0%	1
Outside Fukushima	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
Total	4	5.6%	2	2.8%	12	16.9%	34	47.9%	18	25.4%	1	1.4%	0	0.0%	71

[Table 14-7] (Babies' weight) Twin births; Girls (Q.14)

Region	Less than 1.0kg		1.0kg to less than 1.5kg		1.5kg to less than 2.0kg		2.0kg to less than 2.5kg		2.5kg to less than 3.0kg		3.0kg to less than 3.5kg		No or invalid responses		Total
Kenpoku	0	0.0%	0	0.0%	0	0.0%	5	55.6%	4	44.4%	0	0.0%	0	0.0%	9
Kenchu	0	0.0%	0	0.0%	0	0.0%	10	71.4%	4	28.6%	0	0.0%	0	0.0%	14
Kennan	0	0.0%	0	0.0%	0	0.0%	4	80.0%	1	20.0%	0	0.0%	0	0.0%	5
Soso	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
Iwaki	2	40.0%	0	0.0%	1	20.0%	1	20.0%	1	20.0%	0	0.0%	0	0.0%	5
Aizu	0	0.0%	0	0.0%	2	25.0%	4	50.0%	2	25.0%	0	0.0%	0	0.0%	8
Minamiaizu	0	0.0%	0	0.0%	0	0.0%	1	100.0%	0	0.0%	0	0.0%	0	0.0%	1
Outside Fukushima	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
Total	2	4.8%	0	0.0%	3	7.1%	25	59.5%	12	28.6%	0	0.0%	0	0.0%	42

[Table 14-8] Babies' weight: Single births/Twin births (Q.14)

Excluding 20 respondents who made no or invalid responses regarding whether they had a single birth or twin birth

Region	Less than 1.0kg	1.0kg to less than 1.5kg	1.5kg to less than 2.0kg	2.0 kg to less than 2.5kg	2.5kg to less than 3.0kg	3.0kg to less than 3.5kg	3.5kg to less than 4.0kg	4.0kg to less than 4.5kg	4.5kg or more	Total	Low birth-weight babies	Percentage of low birth-weight babies
Kenpoku	11	6	11	120	667	701	165	11	1	1,693	148	8.7%
Kenchu	7	13	16	145	773	835	187	13	2	1,991	181	9.1%
Kennan	2	3	7	35	194	205	48	4	1	499	47	9.4%
Soso	1	0	2	32	148	198	35	3	0	419	35	8.4%
Iwaki	10	3	14	77	384	430	100	9	2	1,029	104	10.1%
Aizu	3	4	6	63	308	347	78	8	0	817	76	9.3%
Minamiaizu	2	0	2	6	21	23	3	0	0	57	10	17.5%
Outside Fukushima	0	0	0	3	39	36	11	0	0	89	3	3.4%
Total	36	29	58	481	2,534	2,775	627	48	6	6,594	604	9.2%

* A low birthweight baby refers to a newborn whose weight is 2.5kg or less.

[Table 14-9] (Babies' height) Single births; Overall (Q.14)

Region	Shorter than 47cm		47cm to shorter than 48cm		48cm to shorter than 49cm		49cm to shorter than 50cm		50cm to shorter than 51cm	
Kenpoku	186	11.1%	177	10.6%	272	16.3%	336	20.1%	360	21.6%
Kenchu	221	11.3%	180	9.2%	295	15.0%	397	20.2%	462	23.5%
Kennan	39	8.0%	29	6.0%	68	14.0%	101	20.7%	117	24.0%
Soso	46	11.0%	37	8.9%	71	17.0%	85	20.3%	97	23.2%
Iwaki	103	10.1%	98	9.7%	156	15.4%	210	20.7%	200	19.7%
Aizu	108	13.5%	86	10.8%	127	15.9%	197	24.7%	156	19.5%
Minamiaizu	10	18.2%	5	9.1%	14	25.5%	9	16.4%	8	14.5%
Outside Fukushima	7	7.9%	3	3.4%	12	13.5%	19	21.3%	24	27.0%
Total	720	11.1%	615	9.5%	1,015	15.6%	1,354	20.8%	1,424	21.9%

Region	51cm to shorter than 52cm		52cm or more		No or invalid responses		Total
Kenpoku	207	12.4%	122	7.3%	9	0.5%	1,669
Kenchu	250	12.7%	151	7.7%	8	0.4%	1,964
Kennan	79	16.2%	53	10.9%	1	0.2%	487
Soso	45	10.8%	34	8.1%	3	0.7%	418
Iwaki	135	13.3%	104	10.2%	9	0.9%	1,015
Aizu	77	9.6%	44	5.5%	4	0.5%	799
Minamiaizu	6	10.9%	3	5.5%	0	0.0%	55
Outside Fukushima	14	15.7%	10	11.2%	0	0.0%	89
Total	813	12.5%	521	8.0%	34	0.5%	6,496

[Table 14-10] (Babies' height) Single births; Boys (Q.14)

Region	Shorter than 47cm		47cm to shorter than 48cm		48cm to shorter than 49cm		49cm to shorter than 50cm		50cm to shorter than 51cm	
Kenpoku	79	9.3%	73	8.5%	126	14.8%	174	20.4%	201	23.5%
Kenchu	90	9.3%	69	7.2%	147	15.2%	195	20.2%	229	23.8%
Kennan	19	7.8%	12	4.9%	40	16.3%	35	14.3%	62	25.3%
Soso	18	9.3%	12	6.2%	32	16.6%	38	19.7%	51	26.4%
Iwaki	34	6.9%	34	6.9%	66	13.4%	101	20.6%	112	22.8%
Aizu	49	12.3%	36	9.0%	56	14.0%	96	24.1%	92	23.1%
Minamiaizu	1	3.7%	2	7.4%	7	25.9%	6	22.2%	6	22.2%
Outside Fukushima	2	4.5%	1	2.3%	4	9.1%	7	15.9%	14	31.8%
Total	292	9.1%	239	7.4%	478	14.9%	652	20.3%	767	23.8%

Region	51cm to shorter than 52cm		52cm or more		No or invalid responses		Total
Kenpoku	118	13.8%	79	9.3%	4	0.5%	854
Kenchu	136	14.1%	95	9.9%	3	0.3%	964
Kennan	45	18.4%	32	13.1%	0	0.0%	245
Soso	20	10.4%	20	10.4%	2	1.0%	193
Iwaki	70	14.3%	68	13.8%	6	1.2%	491
Aizu	40	10.0%	27	6.8%	3	0.8%	399
Minamiaizu	4	14.8%	1	3.7%	0	0.0%	27
Outside Fukushima	9	20.5%	7	15.9%	0	0.0%	44
Total	442	13.7%	329	10.2%	18	0.6%	3,217

[Table 14-11] (Babies' height) Single births; Girls (Q.14)

Region	Shorter than 47cm		47cm to shorter than 48cm		48cm to shorter than 49cm		49cm to shorter than 50cm		50cm to shorter than 51cm	
Kenpoku	104	13.2%	101	12.9%	140	17.8%	159	20.3%	153	19.5%
Kenchu	129	13.5%	109	11.4%	142	14.9%	193	20.2%	225	23.6%
Kennan	18	7.8%	17	7.4%	27	11.7%	63	27.4%	50	21.7%
Soso	27	12.3%	25	11.4%	38	17.4%	47	21.5%	44	20.1%
Iwaki	68	13.5%	64	12.7%	89	17.7%	103	20.4%	86	17.1%
Aizu	55	14.4%	48	12.6%	69	18.1%	98	25.7%	59	15.5%
Minamiaizu	9	32.1%	3	10.7%	7	25.0%	3	10.7%	2	7.1%
Outside Fukushima	5	11.4%	2	4.5%	7	15.9%	12	27.3%	10	22.7%
Total	415	13.2%	369	11.7%	519	16.5%	678	21.6%	629	20.0%

Region	51cm to shorter than 52cm		52cm or more		No or invalid responses		Total
Kenpoku	85	10.8%	40	5.1%	3	0.4%	785
Kenchu	105	11.0%	51	5.3%	1	0.1%	955
Kennan	33	14.3%	21	9.1%	1	0.4%	230
Soso	24	11.0%	14	6.4%	0	0.0%	219
Iwaki	59	11.7%	33	6.5%	2	0.4%	504
Aizu	36	9.4%	16	4.2%	0	0.0%	381
Minamiaizu	2	7.1%	2	7.1%	0	0.0%	28
Outside Fukushima	5	11.4%	3	6.8%	0	0.0%	44
Total	349	11.1%	180	5.7%	7	0.2%	3,146

[Table 14-12] (Babies' height) Twin births; Overall (Q.14)

Region	Shorter than 44cm		44cm to shorter than 45cm		45cm to shorter than 46cm		46cm to shorter than 47cm		47cm to shorter than 48cm		48cm to shorter than 49cm		49cm or more		No or invalid responses		Total
Kenpoku	7	23.3%	3	10.0%	4	13.3%	5	16.7%	3	10.0%	5	16.7%	3	10.0%	0	0.0%	30
Kenchu	4	11.8%	7	20.6%	9	26.5%	7	20.6%	2	5.9%	1	2.9%	4	11.8%	0	0.0%	34
Kennan	2	14.3%	0	0.0%	1	7.1%	5	35.7%	2	14.3%	2	14.3%	1	7.1%	1	7.1%	14
Soso	2	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	2
Iwaki	10	62.5%	1	6.3%	2	12.5%	1	6.3%	1	6.3%	0	0.0%	1	6.3%	0	0.0%	16
Aizu	3	15.0%	0	0.0%	1	5.0%	3	15.0%	4	20.0%	2	10.0%	5	25.0%	2	10.0%	20
Minamiaizu	0	0.0%	0	0.0%	2	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	2
Outside Fukushima	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
Total	28	23.7%	11	9.3%	19	16.1%	21	17.8%	12	10.2%	10	8.5%	14	11.9%	3	2.5%	118

[Table 14-13] (Babies' height) Twin births; Boys (Q.14)

Region	Shorter than 44cm		44cm to shorter than 45cm		45cm to shorter than 46cm		46cm to shorter than 47cm		47cm to shorter than 48cm		48cm to shorter than 49cm		49cm or more		No or invalid responses		Total
Kenpoku	6	30.0%	3	15.0%	2	10.0%	3	15.0%	0	0.0%	4	20.0%	2	10.0%	0	0.0%	20
Kenchu	2	10.5%	4	21.1%	6	31.6%	3	15.8%	2	10.5%	0	0.0%	2	10.5%	0	0.0%	19
Kennan	2	28.6%	0	0.0%	0	0.0%	2	28.6%	1	14.3%	1	14.3%	1	14.3%	0	0.0%	7
Soso	2	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	2
Iwaki	7	63.6%	1	9.1%	1	9.1%	1	9.1%	1	9.1%	0	0.0%	0	0.0%	0	0.0%	11
Aizu	1	9.1%	0	0.0%	1	9.1%	2	18.2%	1	9.1%	2	18.2%	3	27.3%	1	9.1%	11
Minamiaizu	0	0.0%	0	0.0%	1	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1
Outside Fukushima	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
Total	20	28.2%	8	11.3%	11	15.5%	11	15.5%	5	7.0%	7	9.9%	8	11.3%	1	1.4%	71

[Table 14-14] (Babies' height) Twin births; Girls (Q.14)

Region	Shorter than 44cm		44cm to shorter than 45cm		45cm to shorter than 46cm		46cm to shorter than 47cm		47cm to shorter than 48cm		48cm to shorter than 49cm		49cm or more		Total
Kenpoku	0	0.0%	0	0.0%	2	22.2%	2	22.2%	3	33.3%	1	11.1%	1	11.1%	9
Kenchu	2	14.3%	3	21.4%	3	21.4%	4	28.6%	0	0.0%	0	0.0%	2	14.3%	14
Kennan	0	0.0%	0	0.0%	1	20.0%	2	40.0%	1	20.0%	1	20.0%	0	0.0%	5
Soso	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
Iwaki	3	60.0%	0	0.0%	1	20.0%	0	0.0%	0	0.0%	0	0.0%	1	20.0%	5
Aizu	2	25.0%	0	0.0%	0	0.0%	1	12.5%	3	37.5%	0	0.0%	2	25.0%	8
Minamiaizu	0	0.0%	0	0.0%	1	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1
Outside Fukushima	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
Total	7	16.7%	3	7.1%	8	19.0%	9	21.4%	7	16.7%	2	4.8%	6	14.3%	42

[Table 14-15] Babies born in a state of apparent death: Single births (Q.14)

Region	Yes		No		No or invalid responses		Total
Kenpoku	19	1.1%	1,632	97.8%	18	1.1%	1,669
Kenchu	22	1.1%	1,929	98.2%	13	0.7%	1,964
Kennan	7	1.4%	478	98.2%	2	0.4%	487
Soso	3	0.7%	413	98.8%	2	0.5%	418
Iwaki	2	0.2%	997	98.2%	16	1.6%	1,015
Aizu	11	1.4%	779	97.5%	9	1.1%	799
Minamiaizu	0	0.0%	55	100.0%	0	0.0%	55
Outside Fukushima	1	1.1%	87	97.8%	1	1.1%	89
Total	65	1.0%	6,370	98.1%	61	0.9%	6,496

[Table 14-16] Whether resuscitation was attempted: Single births

Only 65 respondents whose babies were born in a state of apparent death

Region	Attempted		Not Attempted		Don't know		No or invalid responses		Total
Kenpoku	17	89.5%	0	0.0%	1	5.3%	1	5.3%	19
Kenchu	19	86.4%	3	13.6%	0	0.0%	0	0.0%	22
Kennan	3	42.9%	1	14.3%	2	28.6%	1	14.3%	7
Soso	2	66.7%	1	33.3%	0	0.0%	0	0.0%	3
Iwaki	1	50.0%	0	0.0%	1	50.0%	0	0.0%	2
Aizu	7	63.6%	1	9.1%	3	27.3%	0	0.0%	11
Minamiaizu	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
Outside Fukushima	1	100.0%	0	0.0%	0	0.0%	0	0.0%	1
Total	50	76.9%	6	9.2%	7	10.8%	2	3.1%	65

[Table 14-17] Babies born in a state of apparent death: Twin births; First babies

Region	Yes	No	No or invalid responses	Total
Kenpoku	1	14	0	15
Kenchu	1	16	0	17
Kennan	0	7	0	7
Soso	0	1	0	1
Iwaki	0	8	0	8
Aizu	0	10	0	10
Minamiaizu	0	1	0	1
Outside Fukushima	0	0	0	0
Total	2	57	0	59

[Table 14-18] Whether resuscitation was attempted: Twin births; First babies

Only regarding 2 respondents whose babies were born in a state of apparent death

Region	Attempted	Not Attempted	Don't know	Total
Kenpoku	1	0	0	1
Kenchu	0	0	1	1
Kennan	0	0	0	0
Soso	0	0	0	0
Iwaki	0	0	0	0
Aizu	0	0	0	0
Minamiaizu	0	0	0	0
Outside Fukushima	0	0	0	0
Total	1	0	1	2

[Table 14-19] Babies born in a state of apparent death: Twin births; Second babies

Region	Yes	No	No or invalid responses	Total
Kenpoku	0	15	0	15
Kenchu	1	15	1	17
Kennan	0	6	1	7
Soso	0	1	0	1
Iwaki	0	8	0	8
Aizu	1	8	1	10
Minamiaizu	0	1	0	1
Outside Fukushima	0	0	0	0
Total	2	54	3	59

[Table 14-20] Whether resuscitation was attempted: Twin births; Second babies

Only regarding 2 respondents whose babies were born in a state of apparent death

Region	Attempted	Not Attempted	Don't know	Total
Kenpoku	0	0	0	0
Kenchu	0	0	1	1
Kennan	0	0	0	0
Soso	0	0	0	0
Iwaki	0	0	0	0
Aizu	0	1	0	1
Minamiaizu	0	0	0	0
Outside Fukushima	0	0	0	0
Total	0	1	1	2

[Table 14-21] Babies born with congenital anomalies: Single births

Regarding 6,496 respondents who gave birth after 12 weeks of pregnancy or later (Table 13-1)

Region	Yes		No		No or invalid responses		Total
Kenpoku	40	2.4%	1,604	96.1%	25	1.5%	1,669
Kenchu	37	1.9%	1,911	97.3%	16	0.8%	1,964
Kennan	9	1.8%	475	97.5%	3	0.6%	487
Soso	11	2.6%	403	96.4%	4	1.0%	418
Iwaki	21	2.1%	986	97.1%	8	0.8%	1,015
Aizu	21	2.6%	766	95.9%	12	1.5%	799
Minamiaizu	1	1.8%	54	98.2%	0	0.0%	55
Outside Fukushima	1	1.1%	87	97.8%	1	1.1%	89
Total	141	2.2%	6,286	96.8%	69	1.1%	6,496

[Table 14-22] Incidence of congenital abnormalities and anomalies: Single births

Region	Incidence ¹⁾		Valid responses
Kenpoku	40	2.43%	1,644
Kenchu	37	1.90%	1,948
Kennan	9	1.86%	484
Soso	11	2.66%	414
Iwaki	21	2.09%	1,007
Aizu	21	2.67%	787
Minamiaizu	1	1.82%	55
Outside Fukushima	1	1.14%	88
Total	141	2.19%	6,427

1) The denominator for calculating incidences is the number of valid responses (Respondents who had a single birth and responded "Yes" or "No" to the question regarding babies' congenital anomalies).

* In the report for the results of the FY2011 survey, the denominator was the total number of responses including invalid ones. Accordingly, incidences differ from those in this report.

[Table 14-23] Incidence of each disease¹⁾: Single birthsRegarding 141 respondents who responded "Yes" to the question regarding babies' congenital anomalies
(Multiple responses are allowed.)

Region	Cataract	Cardiovascular deformity	Renal/urinary tract anomaly	Spina bifida	Hydrocephalus	Cleft lip/palate	Digestive tract closure ²⁾	Imperforate anus	Polydactyl/Syndactyl	Other
Kenpoku	1	16	4	1	1	1	0	2	5	17
Kenchu	0	14	3	1	0	1	4	2	2	13
Kennan	1	6	0	0	0	0	0	0	0	3
Soso	0	3	1	0	0	1	0	0	1	5
Iwaki	0	8	2	0	0	3	0	0	3	10
Aizu	0	12	4	1	0	0	0	0	1	4
Minamiaizu	0	0	0	0	0	1	0	0	0	0
Outside Fukushima	0	0	0	0	0	0	0	0	0	1
Total	2	59	14	3	1	7	4	4	12	53
Incidence	0.03%	0.92%	0.22%	0.05%	0.02%	0.11%	0.06%	0.06%	0.19%	0.82%

1) The denominator for calculating incidences is the number of valid responses (Respondents who had a single birth and responded "Yes" or "No" to the question regarding babies' congenital anomalies (6,427)).

2) Closure of the digestive tract (esophagus, duodenum, jejunum, and ileum)

[Table 14-24] Breakdown of specific abnormalities or anomalies included in "Other" for the respondents who had a single birth and responded "Yes" to the question regarding babies' congenital anomalies
(Multiple responses are allowed.)

Accessory ear	7	Inguinal hernia	1	Esophageal hiatal hernia	1	Scalp defect	1
Down's syndrome	6	Propionic acidemia	1	Ankyloglossia	1	Linea alba hernia	1
Aural fistula	3	Aural atresia	1	Congenital epulis	1	Adrenal hyperplasia	1
18-trisomy syndrome	2	Megalencephaly	1	Congenital corneal opacity	1	Nevus	1
Hemangioma	2	Cleft lobule	1	Epidermolysis bullosa hereditaria	1	Buried penis	1
Cryptorchidism	2	Mediastinal tumor	1	Femoral lymphangioma	1	Choroid plexus cyst	1
Pigeon-toe	2	Microtia and hearing loss	1	Ohtahara syndrome	1	Asplenia syndrome	1
Hearing loss	2	Subependymal hemorrhage	1	Hemangioma simplex	1	Ovarian cyst	1
West syndrome	1	Incontinentia pigmenti	1	Intestinal malrotation	1	Neck tumor	1

[Table 14-25] Babies born with congenital anomalies: Twin births

PBS(EN)_37th_Report on the Results of FY2018 Pregnancy and Birth Survey
Regarding 118 respondents who gave birth after 12 weeks of pregnancy or later (Table 13-2)

Region	Yes		No		No or invalid responses		Total
Kenpoku	1	3.3%	28	93.3%	1	3.3%	30
Kenchu	0	0.0%	32	94.1%	2	5.9%	34
Kennan	1	7.1%	12	85.7%	1	7.1%	14
Soso	1	50.0%	1	50.0%	0	0.0%	2
Iwaki	0	0.0%	16	100.0%	0	0.0%	16
Aizu	1	5.0%	18	90.0%	1	5.0%	20
Minamiaizu	0	0.0%	2	100.0%	0	0.0%	2
Outside Fukushima	0	0.0%	0	0.0%	0	0.0%	0
Total	4	3.4%	109	92.4%	5	4.2%	118

[Table 14-26] Incidence of congenital abnormalities and anomalies: Twin births

Region	Incidence ¹⁾		Valid responses
Kenpoku	1	3.45%	29
Kenchu	0	0.00%	32
Kennan	1	7.69%	13
Soso	1	50.00%	2
Iwaki	0	0.00%	16
Aizu	1	5.26%	19
Minamiaizu	0	0.00%	2
Outside Fukushima	0	0.00%	0
Total	4	3.54%	113

1) The denominator for calculating incidences is the number of valid responses (Respondents who had a twin birth and responded "Yes" or "No" to the question regarding babies' congenital anomalies).

* When making a comparison with data in the report of the results of the FY2011 survey, it should be noted that incidences were calculated while including invalid responses in the report of the results of the FY2011 and are different from calculated incidences for FY2012 onward.

[Table 14-27] Breakdown of disease: Twin births

Regarding 4 respondents who responded "Yes" to the question regarding babies' congenital anomalies
(Multiple responses are allowed.)

Region	Cataract	Cardiovascular deformity	Renal/urinary tract anomaly	Spina bifida	Microcephaly	Hydrocephalus	Cleft lip palate	Digestive tract closure	Imperforate anus	Polydactyl/Syndactyl	Other
Kenpoku	0	0	0	0	0	0	0	0	0	1	0
Kenchu	0	0	0	0	0	0	0	0	0	0	0
Kennan	0	0	0	0	0	0	0	0	0	0	1
Soso	0	1	0	0	0	0	0	0	0	0	0
Iwaki	0	0	0	0	0	0	0	0	0	0	0
Aizu	0	0	1	0	0	0	0	0	0	0	1
Minamiaizu	0	0	0	0	0	0	0	0	0	0	0
Outside Fukushima	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	1	0	0	0	0	0	0	1	2

[Table 15] Do you sometimes feel a lack of confidence concerning child-rearing? (Q.15)

Only regarding 6,541 respondents who had a live birth

Region	Yes		No		Not sure		No or invalid responses		Total
Kenpoku	315	18.7%	626	37.2%	730	43.4%	11	0.7%	1,682
Kenchu	352	17.8%	747	37.8%	847	42.8%	31	1.6%	1,977
Kennan	86	17.4%	198	40.2%	202	41.0%	7	1.4%	493
Soso	62	14.8%	171	40.9%	180	43.1%	5	1.2%	418
Iwaki	152	14.9%	460	45.2%	396	38.9%	10	1.0%	1,018
Aizu	158	19.6%	312	38.6%	326	40.3%	12	1.5%	808
Minamiaizu	7	12.5%	27	48.2%	21	37.5%	1	1.8%	56
Outside Fukushima	27	30.3%	23	25.8%	39	43.8%	0	0.0%	89
Total	1,159	17.7%	2,564	39.2%	2,741	41.9%	77	1.2%	6,541

Tables 16-1 to 16-5 cover 6,475 respondents who had their babies receive a one-month health checkup within 60 days after birth (single births: 6,365; twin births: 110; unknown: 0).

[Table 16-1] Average number of days after birth for receiving a one-month health checkup

Region	Number of babies	Average number of days after birth
Kenpoku	1,666	34.8
Kenchu	1,966	32.4
Kennan	487	31.7
Soso	411	32.3
Iwaki	1,007	33.0
Aizu	796	32.9
Minamiaizu	57	32.9
Outside Fukushima	85	32.5
Total	6,475	33.1

Tables 16-2 to 16-5 contain data for babies whose gender is unknown, and therefore, the sum of boys and girls may not match the overall total. The number of no or invalid responses is shown in the rightmost column. Figures in the parentheses are numbers of valid responses.

[Table 16-2] Weight: Single births

((Average (g) ± Standard deviation (number of valid responses))

Region	Overall	Boys	Girls	No or invalid responses
Kenpoku	4268.8 ± 605.8 (1,632)	4384.2 ± 607.1 (835)	4144.7 ± 582.0 (769)	6
Kenchu	4152.3 ± 573.0 (1,927)	4248.0 ± 598.1 (945)	4050.7 ± 529.4 (941)	5
Kennan	4100.6 ± 561.2 (472)	4202.6 ± 552.4 (238)	4002.5 ± 553.9 (222)	2
Soso	4169.0 ± 489.9 (409)	4299.0 ± 501.8 (189)	4054.5 ± 446.4 (215)	0
Iwaki	4199.4 ± 594.2 (987)	4340.6 ± 576.1 (482)	4056.5 ± 580.4 (486)	6
Aizu	4182.7 ± 564.3 (779)	4277.1 ± 581.1 (388)	4088.3 ± 526.0 (373)	0
Minamiaizu	3939.4 ± 745.4 (55)	4218.6 ± 446.0 (27)	3670.3 ± 875.6 (28)	0
Outside Fukushima	4253.2 ± 439.8 (85)	4352.6 ± 468.3 (44)	4163.6 ± 373.3 (40)	0
Total	4190.1 ± 580.8 (6,346)	4302.7 ± 586.3 (3,148)	4074.5 ± 552.2 (3,074)	19

[Table 16-3] Weight: Twin births

((Average (g) ± Standard deviation (number of valid responses))

Region	Overall	Boys	Girls	No or invalid responses
Kenpoku	3216.5 ± 908.0 (28)	3126.6 ± 1015.7 (19)	3513.1 ± 584.3 (8)	0
Kenchu	3447.3 ± 451.3 (34)	3548.6 ± 480.5 (19)	3322.4 ± 403.8 (14)	0
Kennan	3074.4 ± 776.5 (13)	2870.4 ± 975.6 (7)	3332.4 ± 469.7 (5)	0
Soso	2103.0 ± 403.1 (2)	2103.0 ± 403.1 (2)	(0)	0
Iwaki	2541.2 ± 442.0 (14)	2447.5 ± 390.1 (11)	2885.0 ± 532.5 (3)	0
Aizu	3466.8 ± 559.1 (17)	3702.9 ± 349.0 (9)	3201.1 ± 650.5 (8)	0
Minamiaizu	3425.0 ± 289.9 (2)	3630.0 (1)	3220.0 (1)	0
Outside Fukushima	(0)	(0)	(0)	0
Total	3207.3 ± 717.3 (110)	3161.9 ± 822.0 (68)	3301.7 ± 510.3 (39)	0

[Table 16-4] Height: Single births

((Average (cm) ± Standard deviation (number of valid responses))

Region	Overall	Boys	Girls	No or invalid responses
Kenpoku	53.3 ± 3.1 (1,624)	53.7 ± 3.1 (832)	52.9 ± 3.1 (766)	14
Kenchu	53.0 ± 3.1 (1,921)	53.3 ± 3.4 (941)	52.6 ± 2.9 (939)	11
Kennan	52.3 ± 2.7 (472)	52.8 ± 2.5 (238)	51.8 ± 2.9 (222)	2
Soso	53.2 ± 2.6 (409)	53.4 ± 3.1 (189)	53.0 ± 2.1 (215)	0
Iwaki	53.0 ± 3.3 (983)	53.6 ± 3.3 (482)	52.5 ± 3.4 (482)	10
Aizu	53.1 ± 2.9 (777)	53.3 ± 3.2 (386)	52.9 ± 2.5 (373)	2
Minamiaizu	52.4 ± 4.2 (55)	53.8 ± 2.0 (27)	51.0 ± 5.3 (28)	0
Outside Fukushima	53.6 ± 1.9 (85)	54.1 ± 1.9 (44)	53.1 ± 1.8 (40)	0
Total	53.1 ± 3.1 (6,326)	53.4 ± 3.2 (3,139)	52.7 ± 3.0 (3,065)	39

[Table 16-5] Height: Twin births

((Average (cm) ± Standard deviation (number of valid responses))

Region	Overall	Boys	Girls	No or invalid responses
Kenpoku	49.2 ± 4.8 (27)	48.5 ± 5.6 (18)	51.0 ± 1.8 (8)	1
Kenchu	50.7 ± 2.1 (34)	51.3 ± 1.9 (19)	49.8 ± 2.2 (14)	0
Kennan	48.5 ± 4.4 (13)	47.9 ± 6.1 (7)	49.3 ± 0.5 (5)	0
Soso	42.7 ± 3.8 (2)	42.7 ± 3.8 (2)	(0)	0
Iwaki	46.7 ± 1.9 (14)	46.4 ± 2.0 (11)	47.7 ± 1.3 (3)	0
Aizu	50.4 ± 1.9 (17)	50.8 ± 1.4 (9)	49.8 ± 2.3 (8)	0
Minamiaizu	50.5 ± 2.1 (2)	52.0 (1)	49.0 (1)	0
Outside Fukushima	(0)	(0)	(0)	0
Total	49.3 ± 3.6 (109)	49.1 ± 4.2 (67)	49.8 ± 2.0 (39)	1

[Table 17-1] Do you wish to have another child? (Q.17)

Region	Yes		No		No or invalid responses		Total
Kenpoku	875	51.7%	796	47.1%	20	1.2%	1,691
Kenchu	1,015	51.1%	957	48.1%	16	0.8%	1,988
Kennan	269	54.3%	219	44.2%	7	1.4%	495
Soso	217	51.4%	196	46.4%	9	2.1%	422
Iwaki	530	51.6%	486	47.3%	12	1.2%	1,028
Aizu	434	53.5%	367	45.3%	10	1.2%	811
Minamiaizu	36	64.3%	19	33.9%	1	1.8%	56
Outside Fukushima	61	68.5%	27	30.3%	1	1.1%	89
Total	3,437	52.2%	3,067	46.6%	76	1.2%	6,580

[Table 17-2] Services requested by mothers wishing to have another child toward the next pregnancy
(Multiple responses are allowed.)

Region	Enhancement of childcare centers and childcare services, such as extended day-care and day-care for sick children		Enhancement of maternal leave and childcare leave systems		Information and services regarding child rearing and pediatric medical care		Information on radiation and health risks		Other		Valid responses
Kenpoku	727	84.8%	591	69.0%	535	62.4%	158	18.4%	71	8.3%	857
Kenchu	778	78.6%	672	67.9%	624	63.0%	207	20.9%	94	9.5%	990
Kennan	192	73.0%	173	65.8%	184	70.0%	46	17.5%	15	5.7%	263
Soso	170	79.8%	142	66.7%	150	70.4%	38	17.8%	17	8.0%	213
Iwaki	393	75.9%	329	63.5%	352	68.0%	112	21.6%	36	6.9%	518
Aizu	300	71.3%	307	72.9%	261	62.0%	86	20.4%	32	7.6%	421
Minamiaizu	21	61.8%	21	61.8%	24	70.6%	5	14.7%	6	17.6%	34
Outside Fukushima	50	83.3%	43	71.7%	44	73.3%	7	11.7%	2	3.3%	60
Total	2,631	78.4%	2,278	67.9%	2,174	64.8%	659	19.6%	273	8.1%	3,356

* The denominator for calculating percentages is the number of valid responses (respondents who responded "Yes" to Question 17 and also entered services they wish to receive toward the next pregnancy). As multiple responses are allowed, the percentages may not be 100.0%.

[Table 17-3] Reasons for not wishing to have another child

(Multiple responses are allowed.)

Region	Do not wish		Due to age or health reasons		Already tied up with existing child(ren)		Due to income insecurity		There is no one to ask for cooperation for housework and child-rearing.		There is nowhere to leave a child(ren).	
Kenpoku	416	52.5%	294	37.1%	267	33.7%	223	28.1%	84	10.6%	97	12.2%
Kenchu	504	52.9%	344	36.1%	346	36.3%	261	27.4%	115	12.1%	83	8.7%
Kennan	138	63.6%	82	37.8%	77	35.5%	42	19.4%	21	9.7%	17	7.8%
Soso	111	57.8%	67	34.9%	65	33.9%	58	30.2%	20	10.4%	19	9.9%
Iwaki	268	55.3%	184	37.9%	163	33.6%	98	20.2%	38	7.8%	33	6.8%
Aizu	192	52.6%	141	38.6%	132	36.2%	87	23.8%	29	7.9%	22	6.0%
Minamiaizu	11	57.9%	7	36.8%	6	31.6%	2	10.5%	3	15.8%	0	0.0%
Outside Fukushima	14	53.8%	8	30.8%	6	23.1%	5	19.2%	6	23.1%	3	11.5%
Total	1,654	54.2%	1,127	37.0%	1,062	34.8%	776	25.5%	316	10.4%	274	9.0%

PBS(EN) 37th Report on the Results of FY2018 Pregnancy and Birth Survey

Region	Due to living separately from family members		Anxieties about radiation effects		Due to living as a refugee		Other		Valid responses
Kenpoku	16	2.0%	2	0.3%	0	0.0%	22	2.8%	793
Kenchu	24	2.5%	9	0.9%	0	0.0%	33	3.5%	952
Kennan	3	1.4%	1	0.5%	0	0.0%	11	5.1%	217
Soso	6	3.1%	1	0.5%	3	1.6%	5	2.6%	192
Iwaki	11	2.3%	3	0.6%	0	0.0%	18	3.7%	485
Aizu	8	2.2%	0	0.0%	0	0.0%	24	6.6%	365
Minamiaizu	0	0.0%	0	0.0%	0	0.0%	1	5.3%	19
Outside Fukushima	6	23.1%	0	0.0%	0	0.0%	2	7.7%	26
Total	74	2.4%	16	0.5%	3	0.1%	116	3.8%	3,049

* The denominator for calculating percentages is the number of valid responses (respondents who responded "No" to Question 17 and also entered reasons for not wishing to have another child). As multiple responses are allowed, the percentages may not be 100.0%.

(3) Free comments

Free comments entered by 881 respondents, out of 6,580 respondents who made valid responses, were tabulated.

[Table 18] Content of free comments

Multiple responses are allowed. The denominator for calculating percentages is 881, the number of respondents who entered free comments.

Content	Number	Percentage
Request for enhancing child-rearing support services	221	25.1%
Childcare consultations ¹⁾	209	23.7%
Mother's physical disorders ¹⁾	101	11.5%
Complaint about mother's mental disorders	100	11.4%
Request for enhancing medical services and request concerning physical health care	99	11.2%
Anxieties and/or dissatisfaction about the shortage of examinations and medical services	69	7.8%
Opinions/complaints about this survey	66	7.5%
Request for financial support	62	7.0%
Interpersonal relations ²⁾	43	4.9%
Positive comments about this survey	32	3.6%
Matters concerning financial anxiety and burden	29	3.3%
Request concerning information provision and publication of survey results	27	3.1%
Request for ensuring decontamination and securing play areas	17	1.9%
Radiation effects on fetuses and children	16	1.8%
Anxieties and/or dissatisfaction about the reliability and shortage of information	5	0.6%
Anxieties about radiation effects on water	3	0.3%
Radiation effects on baby food and other food	3	0.3%
Correlation with the outcome of the latest pregnancy	3	0.3%
Request concerning the Thyroid Ultrasound Examination	3	0.3%
Anxieties about radiation when going out or carrying out outdoor activities	2	0.2%
Request concerning the examinations and health checkups as a whole	2	0.2%
Anxieties and/or dissatisfaction about separation from family members and life as a refugee	1	0.1%
Request concerning the Fukushima Health Management Survey	1	0.1%
Request concerning examinations and health checkups	1	0.1%
Request for internal exposure examinations (whole-body counter measurement, etc.)	1	0.1%
Matters concerning external exposure (distribution of glass badges and dosimeters, etc.)	1	0.1%
Request for support for life as a refugee	1	0.1%
Request for enhancing mental care and consultation services	1	0.1%
Other	157	17.8%

1) There were no such comments in the FY2011 survey.

2) There were no such comments in the FY2012 survey.

(4) Status of post-survey support

The number of mothers in need of support in 2018 was 711 (10.7% of 6,649 respondents).

Tabulation of data regarding post-survey support is based on 6,649 responses returned between November 1, 2018, and December 20, 2019 (including those from respondents not in need of support).

[Table 19] Number of mothers in need of support

Region	Number of respondents	Number of mothers in need of support	
Kenpoku	1,702	191	11.2%
Kenchu	2,006	219	10.9%
Kennan	504	52	10.3%
Soso	424	44	10.4%
Iwaki	1,034	100	9.7%
Aizu	815	87	10.7%
Minamiaizu	56	3	5.4%
Outside Fukushima	108	15	13.9%
Total	6,649	711	10.7%

* The denominator for calculating percentages accounted for by mothers needing support is the number of respondents.

[Table 20] Breakdown of mothers in need of support by region

Region	Mothers in need of support were identified based on their responses to questions regarding depressive tendencies		Mothers in need of support are identified based on the content of their free comments		Total
Kenpoku	115	60.2%	76	39.8%	191
Kenchu	130	59.4%	89	40.6%	219
Kennan	30	57.7%	22	42.3%	52
Soso	27	61.4%	17	38.6%	44
Iwaki	61	61.0%	39	39.0%	100
Aizu	51	58.6%	36	41.4%	87
Minamiaizu	2	66.7%	1	33.3%	3
Outside Fukushima	8	53.3%	7	46.7%	15
Total	424	59.6%	287	40.4%	711

[Table 21] Breakdown of major topics of consultations by region

Region	Mothers' mental and/or physical health		Matters concerning child rearing (daily life)		Children's mental and/or physical health		Matters concerning family life		Anxieties about radiation and its effects		Matters concerning life as a refugee		Other		Number of mothers in need of support
Kenpoku	110	57.6%	89	46.6%	29	15.2%	17	8.9%	5	2.6%	0	0.0%	52	27.2%	191
Kenchu	114	52.1%	81	37.0%	36	16.4%	17	7.8%	6	2.7%	0	0.0%	72	32.9%	219
Kennan	29	55.8%	22	42.3%	11	21.2%	7	13.5%	3	5.8%	0	0.0%	16	30.8%	52
Soso	20	45.5%	17	38.6%	9	20.5%	5	11.4%	1	2.3%	1	2.3%	16	36.4%	44
Iwaki	52	52.0%	44	44.0%	16	16.0%	14	14.0%	9	9.0%	0	0.0%	30	30.0%	100
Aizu	45	51.7%	38	43.7%	11	12.6%	6	6.9%	0	0.0%	0	0.0%	33	37.9%	87
Minamiaizu	1	33.3%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	2	66.7%	3
Outside Fukushima	7	46.7%	3	20.0%	2	13.3%	0	0.0%	0	0.0%	0	0.0%	8	53.3%	15
Aggregated total	378	53.2%	294	41.4%	114	16.0%	66	9.3%	24	3.4%	1	0.1%	229	32.2%	711

* The denominator for calculating percentages is the number of mothers in need of support. As multiple responses are allowed, the percentages may not be 100.0%.

[Table 22] Breakdown of reasons for ending support

Region	Carefully listen to participants' statements ¹⁾		Confirm consultation availability ²⁾		Provide information ³⁾		Recommend to seek medical care ⁴⁾		Respond to Q&A ⁵⁾		Referral to municipalities ⁶⁾		Referral to the Mental Health Support Team ⁷⁾	
Kenpoku	146	76.4%	46	24.1%	37	19.4%	19	9.9%	18	9.4%	0	0.0%	1	0.5%
Kenchu	160	73.1%	48	21.9%	44	20.1%	20	9.1%	22	10.0%	1	0.5%	0	0.0%
Kennan	39	75.0%	9	17.3%	7	13.5%	2	3.8%	3	5.8%	1	1.9%	0	0.0%
Soso	30	68.2%	6	13.6%	8	18.2%	3	6.8%	1	2.3%	0	0.0%	0	0.0%
Iwaki	71	71.0%	23	23.0%	24	24.0%	11	11.0%	11	11.0%	1	1.0%	0	0.0%
Aizu	60	69.0%	17	19.5%	14	16.1%	8	9.2%	8	9.2%	0	0.0%	2	2.3%
Minamiaizu	2	66.7%	1	33.3%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Outside Fukushima	7	46.7%	1	6.7%	6	40.0%	1	6.7%	0	0.0%	0	0.0%	0	0.0%
Aggregated total	515	72.4%	151	21.2%	140	19.7%	64	9.0%	63	8.9%	3	0.4%	3	0.4%

Region	Introduce specialist physicians ⁸⁾		Referral to the Radiation Consultation Office ⁹⁾		Absence		Contact information unknown		Refusal		Other		Number of mothers in need of support
Kenpoku	0	0.0%	0	0.0%	37	19.4%	6	3.1%	0	0.0%	2	1.0%	191
Kenchu	1	0.5%	0	0.0%	48	21.9%	8	3.7%	0	0.0%	1	0.5%	219
Kennan	0	0.0%	0	0.0%	9	17.3%	4	7.7%	0	0.0%	0	0.0%	52
Soso	0	0.0%	0	0.0%	11	25.0%	2	4.5%	1	2.3%	0	0.0%	44
Iwaki	0	0.0%	0	0.0%	25	25.0%	1	1.0%	0	0.0%	2	2.0%	100
Aizu	0	0.0%	0	0.0%	22	25.3%	5	5.7%	0	0.0%	0	0.0%	87
Minamiaizu	0	0.0%	0	0.0%	1	33.3%	0	0.0%	0	0.0%	0	0.0%	3
Outside Fukushima	0	0.0%	0	0.0%	7	46.7%	1	6.7%	0	0.0%	0	0.0%	15
Aggregated total	1	0.1%	0	0.0%	160	22.5%	27	3.8%	1	0.1%	5	0.7%	711

* The denominator for calculating percentages is the number of mothers in need of support. The breakdown shows the aggregated number. As multiple responses are allowed, the percentages may not be 100.0%.

- 1) Support was ended by sorting out problems by carefully listening to participants' statements.
- 2) Support was ended by confirming that participants already have medical institutions or counselors to consult with.
- 3) Support was ended by appropriately providing information and introducing administrative service offices.
- 4) Support was ended by recommending participants seek medical care by physicians.
- 5) Support was ended by responding to participants' questions.
- 6) Support was ended by providing participants' information to municipalities by obtaining their consent.
- 7) Support was ended by providing participants' information to the Mental Health Support Team of the Fukushima Medical University by obtaining participants' consent.
- 8) Support was ended by introducing specialists (physicians, doctors, nurses, clinical psychologists, etc.) of the Fukushima Medical University.
- 9) Support was ended by providing participants' information to the Radiation Consultation Office of Fukushima Medical University by obtaining participants' consent.

Report on the Results of the Follow-up Survey Covering FY2014 Pregnancy and Birth Survey Respondents

1 Outline

(1) Purpose

Since FY2011, the Pregnancy and Birth Survey (PBS) has been conducted as a cross-sectional survey covering different groups every year. Among the respondents to the PBS immediately after the earthquake, the percentage of those showing depressive tendencies was especially high, and many of their free comments contained serious issues. Accordingly, follow-up surveys were conducted for the respondents to the FY2011 and FY2012 PBS at four years post-partum, when loss of confidence in child rearing tends to increase. As a result, it was found that mothers having depressive tendencies and/or anxieties about radiation effects were decreasing but still accounted for 90%. Therefore, the follow-up was also conducted for the respondents to the FY2014 PBS, following that for the respondents to the FY2013 PBS, to ascertain their health conditions and continue support by phone to those in need of support.

(2) Coverage

Out of the respondents to the FY2014 PBS (excluding those who experienced a miscarriage, abortion, or stillbirth), 5,856 mothers were confirmed to be alive together with their babies through inquiries with municipal governments

[Reference]	Survey year	Covered respondents	Number
	FY2015	FY2011 PBS respondents	7,252
	FY2016	FY2012 PBS respondents	5,602
	FY2017	FY2013 PBS respondents	5,734
	FY2018	FY2014 PBS respondents	5,856

(3) Survey methods

A Survey sheet: self-administered questionnaire (postcard)

B Date of questionnaire distribution: January 11, 2019

C Response methods: by post or online

* Online responses were accepted from January 11 to April 30, 2019.

(4) Survey items

Survey items were as follows.

Q.1 Do you usually consider yourself healthy?

Q.2 Have you often felt down or depressed during the past month?

Q.3 During the past month, have you often felt uninterested in or unable to truly enjoy things?

Q.4 Do you sometimes feel a lack of confidence concerning child-rearing?

Q.5 Please check all the boxes that describe what you are worried about regarding radiation effects.

☐ Water ☐ Food ☐ Outdoor activities ☐ Child's health ☐ Prejudice ☐ Genetic effects ☐ Other

Q.6 Has your child ever had a disease that required hospitalization?

Q.7 Please check all the boxes that describe what you are anxious about regarding your child.

☐ Mental and physical development ☐ Diseases ☐ Lifestyle habits ☐ Other

(5) Data tabulation period

Responses returned from January 11 to August 31, 2019

[Reference]	Survey year	Survey	Data tabulation period (Period for accepting online responses)
	FY2015	Follow-up Survey Covering FY2011 PBS Respondents ("Follow-up for FY2011")	September 14, 2015–May 31, 2016 (Online response was not available)
	FY2016	Follow-up Survey Covering FY2012 PBS Respondents ("Follow-up for FY2012")	November 22, 2016–June 30, 2017 (November 22, 2016–June 30, 2017)
	FY2017	Follow-up Survey Covering FY2013 PBS Respondents ("Follow-up for FY2013")	January 12–August 31, 2018 (January 12–April 30, 2018)
	FY2018	Follow-up Survey Covering FY2014 PBS Respondents ("Follow-up for FY2014")	January 11–August 31, 2019 (January 11–April 30, 2019)

2 Summary of Survey Results

Survey results are as shown below in "5 Tabulated Results of the Follow-up for FY2014 (1), (2), and (3)." Note that the total may not match the sum of valid responses due to missing values in each survey item.

(1) Number of responses and response rate (See Table 1.)

The number of responses (response rate) in the Follow-up for FY2014 was 2,719 (46.4%) and the number of valid responses was 2,719 (There were no invalid responses). Among them, the number of online responses (response rate) was 768 (28.2%).

[Reference]	Survey year	Survey	Number of respondents		
			Total	Breakdown by response method	
			Number of responses (Response rate)	By post	Online Percentage of online responses
	FY2015	Follow-up for FY2011	2,554 (35.2%)	2,554	-
	FY2016	Follow-up for FY2012	2,021 (36.1%)	1,719	302 14.9%
	FY2017	Follow-up for FY2013	2,706 (47.2%)	2,062	644 23.8%
	FY2018	Follow-up for FY2014	2,719 (46.4%)	1,951	768 28.2%

(2) Number of responses, by area of residence (See Table 1.)

The number of respondents (response rate) to the Follow-up for FY2014 by area of residence was as follows: 753 (51.5%) in the Kenpoku Region; 815 (45.8%) in the Kenchu Region; 194 (45.9%) in the Kennan Region; 175 (41.8%) in the Soso Region; 480 (46.7%) in the Iwaki Region; 281 (40.5%) in the Aizu Region; and 21 (38.9%) in the Minamiaizu Region.

[Reference]	Survey year	Survey	Number of respondents, by area of residence (Response rate, by area of residence: %)					
			Kenpoku	Kenchu	Kennan	Soso	Iwaki	Aizu
	FY2015	Follow-up for FY2011	679 (38.7)	721 (32.7)	168 (34.1)	256 (34.9)	434 (35.9)	271 (34.5)
	FY2016	Follow-up for FY2012	675 (45.3)	508 (32.2)	165 (36.4)	113 (30.5)	330 (32.5)	212 (33.4)
	FY2017	Follow-up for FY2013	770 (49.4)	716 (47.1)	204 (44.0)	192 (46.6)	479 (46.0)	315 (46.9)
	FY2018	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)

(3) Maternal mental health conditions (See Tables 2 to 5.)

A The percentage of mothers who responded that their subjective health was poor ("Not so healthy" or "Not healthy") was 7.9%. The relevant percentage was 3.9% four years before in the FY2014 PBS. (Q.1)

[Reference]	Covered respondents	At the time of the Follow-up	At the time of the PBS, four years before
	FY2011 survey respondents	9.6%	The relevant question was not included.
	FY2012 survey respondents	9.3%	3.8%
	FY2013 survey respondents	7.9%	3.7%
	FY2014 survey respondents	7.9%	3.9%

B The percentage of mothers judged as having depressive tendencies was 22.5%. The relevant percentage was 23.4% four years before in the FY2014 PBS. (Q.2 and Q.3)

[Reference]	Covered respondents	At the time of the Follow-up	At the time of the PBS, four years before
	FY2011 survey respondents	25.6%	27.1%
	FY2012 survey respondents	25.7%	25.5%
	FY2013 survey respondents	23.5%	24.5%
	FY2014 survey respondents	22.5%	23.4%

(4) Family life and child rearing (See Table 6.)

The percentage of mothers who responded that they sometimes feel a lack of confidence concerning child rearing was 17.7%. The relevant percentage was 16.6% four years before in the FY2014 PBS. (Q.4)

[Reference]	Covered respondents	At the time of the Follow-up	At the time of the PBS, four years before
	FY2011 survey respondents	15.8%	The relevant question was not included.
	FY2012 survey respondents	18.2%	15.4%
	FY2013 survey respondents	16.7%	17.5%
	FY2014 survey respondents	17.7%	16.6%

Reference value: According to the 2010 Infants and Children's Health Degree Survey, 23.0% of the surveyed mothers responded that they sometimes feel a lack of confidence in rearing their children aged four.

(5) Anxieties about radiation effects (See Table 7.)

The percentage of mothers who checked at least one box in the list of anxieties about radiation effects was 85.4%. Among them, the percentage of those who checked the box for the child's health was 63.3%. (Q.5)

[Reference]	Survey year	Survey	Those who checked at least one box for anxieties about radiation effects	Of which, those who checked the box for child's health
	FY2015	Follow-up for FY2011	94.2%	79.5%
	FY2016	Follow-up for FY2012	90.9%	68.7%
	FY2017	Follow-up for FY2013	87.5%	66.3%
	FY2018	Follow-up for FY2014	85.4%	63.3%

(6) Children's health conditions and mothers' anxieties about their children (See Tables 8-1 to 8-2 and Table 9.)

A The percentage of mothers who responded that hospitalization had been required for a child's disease was 25.3%. Major diseases for hospitalization included pneumonia, respiratory syncytial virus infection, bronchitis, etc. (Q.6)

[Reference]	Survey year	Survey	Those whose children have had a disease that required hospitalization
	FY2015	Follow-up for FY2011	24.7%
	FY2016	Follow-up for FY2012	24.4%
	FY2017	Follow-up for FY2013	23.7%
	FY2018	Follow-up for FY2014	25.3%

- B The percentage of mothers who checked at least one box in the list of anxieties about their children was 63.4%. (Q.7)

[Reference]

Survey year	Survey	Those who checked at least one box for anxieties about their children	Those who checked the box for anxieties about mental and physical development	Those who checked the box for anxieties about diseases
FY2015	Follow-up for FY2011	70.8%	56.1%	57.6%
FY2016	Follow-up for FY2012	66.9%	56.9%	45.5%
FY2017	Follow-up for FY2013	61.2%	57.4%	40.4%
FY2018	Follow-up for FY2014	63.4%	56.9%	38.7%

(7) Content of free comments (See Tables 10-1 to 10-2.)

The total of 198 mothers (7.3%) wrote comments in the free comment section. The most frequently raised topics were "Positive comments about this survey," "Opinions/complaints about this survey," and "Childcare consultations."

[Reference]

Year	Survey	Those who wrote comments (%)	1st	2nd	3rd	4th	5th
FY 2015	Follow-up for FY2011	383 (15.0%)	Anxieties about radiation effects on fetus/child 53 (13.8%)	Positive comments about this survey 47 (12.3%)	Opinions/complaints about this survey 44 (11.5%)	Request for information on radiation and survey results 37 (9.7%)	Request concerning the Thyroid Ultrasound Examination 23 (6.0%)
FY 2016	Follow-up for FY2012	186 (9.2%)	Positive comments about this survey 33 (17.7%)	Opinions/complaints about this survey 24 (12.9%)	Anxieties about radiation effects on fetus/child 23 (12.4%)	Childcare consultations 17 (9.1%)	Request for improved child-rearing support 14 (7.5%)
FY 2017	Follow-up for FY2013	208 (7.7%)	Positive comments about this survey 36 (17.3%)	Opinions/complaints about this survey 25 (12.0%)	Anxieties about radiation effects on fetus/child 24 (11.5%)	Complaint about mother's mental disorders 16 (7.7%)	Request for improved child-rearing support 15 (7.5%)
FY 2018	Follow-up for FY2014	198 (7.3%)	Positive comments about this survey 42 (21.2%)	Opinions/complaints about this survey 26 (13.1%)	Childcare consultations 17 (8.6%)	Anxieties about radiation effects on fetus/child 14 (7.1%)	Request for improved child-rearing support 14 (7.1%)

(8) Conclusion

The percentage of mothers with poor subjective health in the Follow-up for FY2014 remained the same as in the previous fiscal year, while the percentages of mothers with depressive tendencies and mothers with anxieties about radiation effects have been decreasing year by year.

- A The response rate was 46.4%, higher than in the Follow-up for FY2011 and the Follow-up for FY2012 but lower than in the Follow-up for FY2013.
- B The percentage of mothers with poor subjective health (those who responded "Not so healthy" or "Not healthy") was 7.9%, lower than in the Follow-up for FY2011 and the Follow-up for FY2012 but at a similar level as in the Follow-up for FY2013.
- C The percentage of mothers with depressive tendencies has been decreasing year by year, and was 22.5% in the Follow-up for FY2014, lower than four years before in the FY2014 PBS.
- D The percentage of mothers who checked at least one box in the list of anxieties about radiation effects was 85.4%, showing a declining trend year by year.
- E The percentage of mothers who checked at least one box in the list of anxieties about their children was 63.4%, lower than in the Follow-up for FY2011 and the Follow-up for FY2012 but higher than in the Follow-up for FY2013. The most common anxiety was about children's "Mental and physical development" (56.9%).
- F The percentage of mothers who entered free comments was 7.3%. Comments regarding "Anxieties about radiation effects on fetus/child" have been decreasing year by year.

3 Outline of Post-Survey Support

(1) Purpose

For mothers judged as needing consultations and/or support, out of the respondents to the Follow-up for FY2014, midwives and public health nurses provide consultations and/or support by phone or by email to alleviate their worries.

(2) Mothers in need of support (See Table 11.)

Out of the respondents to the Follow-up for FY2014 (those who made responses between January 11 and August 31, 2019), mothers judged as needing consultations and/or support by phone ("mothers in need of support")

(3) Criteria for providing support (See Table 12.)

Respondents who fall under either A or B below:

- A Mothers falling under two survey items relating to depression (Q.2 and Q.3)
- B Mothers considered to need support based on the content of free comments (in the free comment section or other parts of the questionnaire)

Examples: A mother who entered a depressive comment; a mother in need of child-rearing support; a mother worrying about figures of radiation doses; a mother complaining of feeling ill; a mother directly making a request or seeking concrete answers; a mother requesting support, etc.

(4) Methods

Consultations and/or support by phone or by email

4 Summary of Results of Post-Survey Support

The results of the provided support are as shown below in "5 Tabulated Results of the Follow-up for FY2014 (4) Status of post-survey support."

(1) Number of mothers in need of support (See Table 11 and Table 12.)

Out of 2,719 respondents who made responses between January 11 and August 31, 2019, the number of mothers judged as being in need of consultations and/or support by phone ("mothers in need of support") was 380.

Since FY2017, mothers who expressed specific anxieties in places other than the questionnaire's free comment section have been included as candidates for support. As a result, the percentage of mothers in need of support identified based on their responses to questions regarding depressive tendencies was 9.7%, while that of mothers in need of support identified based on the content of their free comments was 4.2%. The percentage of mothers in need of support in total was 14.0%.

[Reference]

Year	Survey	Number of respondents	The number (percentage) of mothers in need of support identified based on their responses to questions regarding depressive tendencies	Number (percentage) of mothers in need of support identified based on the content of their free comments		Total number (percentage) of mothers in need of support
				Based on comments in the free comment section	Based on comments in other parts in the questionnaire	
FY2015	Follow-up for FY2011	2,554	299 (11.7%)	76 (3.0%)	-	375 (14.7%)
FY2016	Follow-up for FY2012	2,021	209 (10.3%)	47 (2.3%)	-	256 (12.7%)
FY2017	Follow-up for FY2013	2,706	277 (10.2%)	51 (1.9%)	65 (2.4%)	393 (14.5%)
FY2018	Follow-up for FY2014	2,719	265 (9.7%)	31 (1.1%)	84 (3.1%)	380 (14.0%)

* Mothers in need of support identified both based on their responses to questions regarding depressive tendencies and on their free comments are included in the category of those identified based on their responses to questions regarding depressive tendencies.

(2) Topics of consultations (See Table 13.)

The most common topics of consultations by phone were "Mothers' mental and/or physical health" (26.4%), followed by "Matters concerning child rearing (daily life)" (12.2%), based on the same support criteria as those in the previous follow-up surveys.

Consultations on "Anxieties about radiation and its effects" accounted for 5.7%, showing a decrease from the previous fiscal year.

[Reference]

Year	Survey	1st	2nd	3rd	4th	5th	Number of mothers in need of support	
FY 2015	Follow-up for FY2011 (based on the depression questions + free comment section)	Mothers' mental and/or physical health 129 (34.4%)	Anxieties about radiation and its effects 96 (25.6%)	Matters concerning child rearing (daily life) 81 (21.6%)	Children's mental and/or physical health 68 (18.1%)	Matters concerning family life 52 (13.9%)	375	
FY 2016	Follow-up for FY2012 (based on the depression questions + free comment section)	Mothers' mental and/or physical health 115 (44.9%)	Matters concerning child rearing (daily life) 59 (23.0%)	Children's mental and/or physical health 58 (22.7%)	Anxieties about radiation and its effects 34 (13.3%)	Matters concerning family life 27 (10.5%)	256	
FY 2017 ^{*1}	Follow-up for FY2013 (based on the depression questions + free comment section)	Mothers' mental and/or physical health 118 (36.0%)	Matters concerning child rearing (daily life) 91 (27.7%)	Matters concerning family life 48 (14.6%)	Anxieties about radiation and its effects 43 (13.1%)	Children's mental and/or physical health 32 (9.8%)	328	393
	(based on comments in other parts of the questionnaire) ^{*2}	Matters concerning child rearing (daily life) 30 (46.2%)	Anxieties about radiation and its effects 17 (26.2%)	Children's mental and/or physical health 6 (9.2%)	Mothers' mental and/or physical health 4 (6.2%)	Matters concerning family life 2 (3.1%)	65	
FY 2018 ^{*1}	Follow-up for FY2014 (based on the depression questions + free comment section)	Mothers' mental and/or physical health 78 (26.4%)	Matters concerning child rearing (daily life) 36 (12.2%)	Matters concerning family life 19 (6.4%)	Anxieties about radiation and its effects 17 (5.7%)	Children's mental and/or physical health 16 (5.4%)	296	380
	(based on comments in other parts of the questionnaire) ^{*2}	Anxieties about radiation and its effects 19 (22.6%)	Matters concerning child rearing (daily life) 9 (10.7%)	Children's mental and/or physical health 8 (9.5%)	Mothers' mental and/or physical health 4 (4.8%)	Matters concerning family life 3 (3.6%)	84	

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

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

(3) Reasons for ending support (See Table 14.)

Support was ended through "Carefully listening to participants' statements (by sorting out problems through carefully listening to participants' statements)" for 229 mothers (60.3%), and through "Providing information and introducing administrative service offices" for 90 mothers (23.7%). The number of cases where support was discontinued due to the absence of the respondents was 124 (32.6%). (Multiple responses are allowed. The denominator for calculating percentages is the number of mothers in need of support.)

[Reference]

Survey year	Survey	1st	2nd	3rd	Absence
FY 2015	Follow-up for FY2011	Carefully listen to participants' statements ^{*1} 197 (52.5%)	Provide information ^{*2} 105 (28.0%)	Confirm consultation availability ^{*3} 29 (7.7%)	131 (34.9%)
FY 2016	Follow-up for FY2012	Carefully listen to participants' statements 159 (62.1%)	Provide information 53 (20.7%)	Confirm consultation availability 26 (10.2%)	70 (27.3%)
FY 2017	Follow-up for FY2013	Carefully listen to participants' statements 245 (62.3%)	Provide information 133 (33.8%)	Confirm consultation availability 66 (16.8%)	119 (30.3%)
FY 2018	Follow-up for FY2014	Carefully listen to participants' statements 229 (60.3%)	Provide information 90 (23.7%)	Confirm consultation availability 55 (14.5%)	124 (32.6%)

*1 Support was ended by sorting out problems by carefully listening to participants' statements.

*2 Support was ended by appropriately providing information and introducing administrative service offices.

*3 Support was ended by confirming that participants already have medical institutions or counselors to consult with.

(4) Conclusion

- A The percentage of support provided based on responses to questions regarding depressive tendencies was 9.7%, remaining almost the same as in the follow-up survey in the previous fiscal year.
- B The most common topic of consultations was "Mothers' mental and/or physical health," based on the same support criteria as those in the first and the following follow-up surveys (only based on responses to questions regarding depressive tendencies and comments in the free comment section). The percentage of consultations on "Anxieties about radiation and its effects" has been on a declining trend.
- C Support was ended mainly through "Carefully listening to participants' statements (by sorting out problems through carefully listening to participants' statements)."

5 Tabulated Results of the Follow-up for FY2014

Coverage: 5,856 mothers, out of the overall respondents to the FY2014 PBS, who gave a live birth and were confirmed to be living with their children as of September 2018

Tabulated responses: The questionnaire was delivered on January 11, 2019, and 2,719 responses received from January 11 to August 31, 2019 were tabulated.

* As percentages are rounded, the sum of percentages for each item may not become 100%.

(1) Number of survey sheets distributed and status of responses

[Table 1]

Region	Number of survey sheets distributed		Number of respondents					
			Total responses (response rate)	Breakdown by response method				
				By post		Online		
Kenpoku	1,461	24.9%	753 (51.5%)	547	72.6%	206	27.4%	
Kenchu	1,778	30.4%	815 (45.8%)	574	70.4%	241	29.6%	
Kennan	423	7.2%	194 (45.9%)	144	74.2%	50	25.8%	
Soso	419	7.2%	175 (41.8%)	130	74.3%	45	25.7%	
Iwaki	1,028	17.6%	480 (46.7%)	337	70.2%	143	29.8%	
Aizu	693	11.8%	281 (40.5%)	204	72.6%	77	27.4%	
Minamiaizu	54	0.9%	21 (38.9%)	15	71.4%	6	28.6%	
Total	5,856	100.0%	2,719 (46.4%)	1,951	71.8%	768	28.2%	

(2) Tabulation by survey item

Responses from 2,719 respondents were tabulated (invalid responses: 0). Individual question items may contain no or invalid responses.

[Table 2] Do you usually consider yourself healthy? (Q.1)

The percentage of mothers with poor subjective health (those who responded "Not so healthy" or "Not healthy") was 7.9%.

Region	Very healthy		Rather healthy		Not so healthy		Not healthy		No or invalid responses		Total
Kenpoku	123	16.3%	568	75.4%	55	7.3%	6	0.8%	1	0.1%	753
Kenchu	143	17.5%	596	73.1%	65	8.0%	6	0.7%	5	0.6%	815
Kennan	24	12.4%	152	78.4%	17	8.8%	1	0.5%	0	0.0%	194
Soso	25	14.3%	135	77.1%	14	8.0%	1	0.6%	0	0.0%	175
Iwaki	113	23.5%	335	69.8%	30	6.3%	1	0.2%	1	0.2%	480
Aizu	48	17.1%	213	75.8%	16	5.7%	4	1.4%	0	0.0%	281
Minamiaizu	2	9.5%	19	90.5%	0	0.0%	0	0.0%	0	0.0%	21
Total	478	17.6%	2018	74.2%	197	7.2%	19	0.7%	7	0.3%	2,719

[Table 3] Have you often felt down or depressed during the past month? (Q.2)

Region	Yes		No		No or invalid responses		Total
Kenpoku	161	21.4%	585	77.7%	7	0.9%	753
Kenchu	163	20.0%	640	78.5%	12	1.5%	815
Kennan	36	18.6%	155	79.9%	3	1.5%	194
Soso	46	26.3%	127	72.6%	2	1.1%	175
Iwaki	80	16.7%	394	82.1%	6	1.3%	480
Aizu	62	22.1%	218	77.6%	1	0.4%	281
Minamiaizu	2	9.5%	19	90.5%	0	0.0%	21
Total	550	20.2%	2,138	78.6%	31	1.1%	2,719

[Table 4] During the past month, have you often felt uninterested in or unable to truly enjoy things? (Q.3)

Region	Yes		No		No or invalid responses		Total
Kenpoku	92	12.2%	654	86.9%	7	0.9%	753
Kenchu	108	13.3%	695	85.3%	12	1.5%	815
Kennan	20	10.3%	171	88.1%	3	1.5%	194
Soso	22	12.6%	151	86.3%	2	1.1%	175
Iwaki	41	8.5%	433	90.2%	6	1.3%	480
Aizu	42	14.9%	238	84.7%	1	0.4%	281
Minamiaizu	2	9.5%	19	90.5%	0	0.0%	21
Total	327	12.0%	2,361	86.8%	31	1.1%	2,719

[Table 5] Depressive tendencies

(Regarding the respondents who responded "Yes" to both or either of Q.2 and Q.3)

Region	"Yes" to both		"Yes" to either		"No" to both		No or invalid responses		Total
Kenpoku	76	10.1%	101	13.4%	569	75.6%	7	0.9%	753
Kenchu	86	10.6%	99	12.1%	618	75.8%	12	1.5%	815
Kennan	15	7.7%	26	13.4%	150	77.3%	3	1.5%	194
Soso	18	10.3%	32	18.3%	123	70.3%	2	1.1%	175
Iwaki	32	6.7%	57	11.9%	385	80.2%	6	1.3%	480
Aizu	36	12.8%	32	11.4%	212	75.4%	1	0.4%	281
Minamiaizu	2	9.5%	0	0.0%	19	90.5%	0	0.0%	21
Total	265	9.7%	347	12.8%	2,076	76.4%	31	1.1%	2,719

* Depressive tendencies: 22.5% [("Yes" to both + "Yes" to either (612)) / Total (2,719)]

[Table 6] Do you sometime feel a lack of confidence concerning child-rearing? (Q.4)

Region	Yes		No		Not sure		No or invalid responses		Total
Kenpoku	153	20.3%	297	39.4%	298	39.6%	5	0.7%	753
Kenchu	130	16.0%	308	37.8%	375	46.0%	2	0.2%	815
Kennan	38	19.6%	86	44.3%	70	36.1%	0	0.0%	194
Soso	35	20.0%	70	40.0%	70	40.0%	0	0.0%	175
Iwaki	70	14.6%	236	49.2%	173	36.0%	1	0.2%	480
Aizu	54	19.2%	115	40.9%	111	39.5%	1	0.4%	281
Minamiaizu	0	0.0%	13	61.9%	8	38.1%	0	0.0%	21
Total	480	17.7%	1,125	41.4%	1,105	40.6%	9	0.3%	2,719

[Table 7] Please check all the boxes that describe what you are worried about regarding radiation effects.

(Q.5)

Region	Child's health		Prejudice		Food		Genetic effects		Water		Outdoor activities		Other		Valid responses
Kenpoku	434	67.1%	297	45.9%	208	32.1%	204	31.5%	146	22.6%	156	24.1%	8	1.2%	647
Kenchu	453	64.4%	340	48.4%	234	33.3%	239	34.0%	218	31.0%	199	28.3%	8	1.1%	703
Kennan	117	69.6%	88	52.4%	69	41.1%	52	31.0%	65	38.7%	45	26.8%	0	0.0%	168
Soso	85	57.0%	72	48.3%	64	43.0%	55	36.9%	59	39.6%	27	18.1%	0	0.0%	149
Iwaki	226	57.1%	168	42.4%	145	36.6%	111	28.0%	151	38.1%	98	24.7%	4	1.0%	396
Aizu	142	59.4%	87	36.4%	105	43.9%	54	22.6%	78	32.6%	61	25.5%	1	0.4%	239
Minamiaizu	12	63.2%	6	31.6%	9	47.4%	7	36.8%	3	15.8%	4	21.1%	0	0.0%	19
Total	1,469	63.3%	1,058	45.6%	834	35.9%	722	31.1%	720	31.0%	590	25.4%	21	0.9%	2,321

* The denominator for calculating percentages is the number of valid responses (those who checked at least one box).

As multiple responses are allowed, the total of the percentages may not be 100.0%.

* 85.4% of the respondents checked at least one box (2,321 out of 2,719 respondents).

Questions 6 and 7 pertain to children born from August 1, 2013 to April 23, 2015.

[Table 8-1] Has your child ever had a disease that required hospitalization? (Q.6)

Region	Yes		No		No or invalid responses		Total
Kenpoku	207	27.5%	538	71.4%	8	1.1%	753
Kenchu	208	25.5%	593	72.8%	14	1.7%	815
Kennan	55	28.4%	137	70.6%	2	1.0%	194
Soso	48	27.4%	126	72.0%	1	0.6%	175
Iwaki	88	18.3%	388	80.8%	4	0.8%	480
Aizu	72	25.6%	206	73.3%	3	1.1%	281
Minamiaizu	11	52.4%	10	47.6%	0	0.0%	21
Total	689	25.3%	1,998	73.5%	32	1.2%	2,719

[Table 8-2] Diseases that caused hospitalization mentioned in Q.6 (Has your child ever had a disease that required hospitalization?)

(Multiple responses were allowed.)

Pneumonia	160	Epilepsy	3	Viral pneumonia	1	Neuroblastoma	1
RSV infection	85	Rotavirus gastroenteritis	3	West syndrome	1	Hydrocephalus	1
Bronchitis	58	Jaundice	3	Croup	1	Pure red cell aplasia	1
Febrile seizure	48	Acute nasopharyngitis	3	Klebsiella pneumonia	1	Congenital arachnoid cyst	1
Kawasaki disease	44	Bronchiolitis	3	Status epilepticus	1	Congenital duodenal stenosis	1
Asthma	34	Food allergy	3	Human metapneumo-virus infection	1	Congenital upper airway stenosis	1
Gastroenteritis	31	Cardiac disease	3	Human metapneumo-virus bronchitis	1	Multiple erythema	1
Inguinal hernia	26	Allergic purpura	2	Human metapneumo-virus bronchial pneumonia	1	Nevus of Ota	1
Bronchial asthma	14	Viral gastroenteritis	2	Human metapneumo-virus pneumonia	1	Meconium aspiration syndrome	1
Influenza	13	Norovirus gastroenteritis	2	Herpangina	1	Colorectal polyp	1
Urinary tract infection	13	Retractile testis	2	Herpes infection	1	Toxicoderma	1
Adenovirus infection	10	Bronchial pneumonia	2	Herpetic gingivostomatitis	1	Intestinal obstruction	1
RSV pneumonia	9	Acute laryngitis	2	Lymphadenitis	1	Anoxic brain injury	1
Otitis media	9	Acute upper respiratory inflammation	2	Mandible fracture	1	Craniosynostosis	1
Mycoplasma pneumonia	8	Cheiloschisis	2	Suppurative lymphadenitis	1	Idiopathic thrombocytopenic purpura	1
Croup syndrome	7	Neutropenia	2	Suppurative gonarthrits	1	Hearing loss	1
Intussusception	7	Lipoblastoma	2	Regional ileitis	1	Ureter enlargement	1
Cold syndrome	6	Atrial septal defect	2	Ptosis	1	Urachal remnant	1
Norovirus infection	6	Neonatal jaundice	2	Pneumothorax	1	Burn	1
Dehydration	6	Hydronephrosis	2	Acute myositis	1	Accessory ear	1
Exanthem subitum	6	Erythema exsudativum multiforme	2	Very low birth weight	1	Cellulitis	1
Streptococcal infection	6	Extremely low birth weight	2	Conjunctival dermoid cyst	1	Chronic lung disease	1
Seizure	5	Undescended testicle	2	Hemangioma	1	Egg allergy	1
Nephrotic syndrome	5	Hypospadias	2	Cleft lip and palate	1	Ovary sliding hernia	1
Rotavirus infection	5	Hypertrophic pyloric stenosis	2	Laryngitis	1	Funnel chest	1
Pharyngitis	5	Hemangioma	2	Laryngomalacia	1	Asthmatic bronchitis	1
Acute bronchopneumonia	5	Apnea syndrome	2	Syndactyly	1	Asthmatic attack	1
Hand, foot and mouth disease	5	Tonsillitis	2	Fracture	1	Adenopharyngitis	1
Pyelonephritis	5	Naval hernia	2	Purpura	1	Enlarged tonsil	1
Hypoglycemia	5	Type 1 diabetes	1	Parotid lymphadenitis	1	Perianal abscess	1
Cryptorchidism	5	EBV infection	1	Autointoxication	1	Axillary cellulitis	1
Hydrocele testis	4	RSV bronchial pneumonia	1	Juvenile polyp	1	Vesicoureteric reflux	1
Ventricular septal defect	4	Adenovirus gastroenteritis	1	Pediatric epilepsy	1	Cervical abscess	1
Low birth weight	4	Aphthous stomatitis	1	Small bowel abnormalities	1	Peters anomaly (congenital corneal opacity)	1
Tonsillar hypertrophy	4	Allergy	1	Small bowel atresia	1	Staphylococcal scalded skin syndrome	1
RSV bronchitis	3	Hemophilus influenzae pneumonia	1	Heart disease	1		
Anaphylactic shock	3	Viral bronchitis	1	Neonatal asphyxia	1		

[Table 9] Please check all the boxes that describe your anxiety about your child/children (Q.7)

Region	Mental and physical development		Lifestyle habits		Disease		Other		Valid responses
Kenpoku	281	56.8%	247	49.9%	190	38.4%	24	4.8%	495
Kenchu	307	56.9%	275	50.9%	217	40.2%	16	3.0%	540
Kennan	79	63.2%	54	43.2%	54	43.2%	5	4.0%	125
Soso	61	62.9%	42	43.3%	29	29.9%	7	7.2%	97
Iwaki	164	57.5%	126	44.2%	115	40.4%	10	3.5%	285
Aizu	82	48.0%	82	48.0%	57	33.3%	7	4.1%	171
Minamiaizu	7	58.3%	4	33.3%	5	41.7%	0	0.0%	12
Total	981	56.9%	830	48.1%	667	38.7%	69	4.0%	1,725

* The denominator for calculating percentages is the number of valid responses (those who checked at least one box). As multiple responses are allowed, the total of the percentages may not be 100.0%.

* 63.4% of the respondents checked at least one box (1,725 out of 2,719 respondents).

(3) Free comments

[Table 10-1] Percentage of mothers who entered free comments

Region	Those who entered comments		Those who did not enter comments		Total
Kenpoku	51	6.8%	702	93.2%	753
Kenchu	60	7.4%	755	92.6%	815
Kennan	22	11.3%	172	88.7%	194
Soso	12	6.9%	163	93.1%	175
Iwaki	29	6.0%	451	94.0%	480
Aizu	24	8.5%	257	91.5%	281
Minamiaizu	0	0.0%	21	100.0%	21
Total	198	7.3%	2,521	92.7%	2,719

[Table 10-2] Content of free comments

Content	Number	Percentage
Positive comments about this survey	42	21.2%
Opinions/complaints about this survey	26	13.1%
Childcare consultations	17	8.6%
Anxieties about radiation effects on fetus/child	14	7.1%
Request for enhancing child-rearing support services	14	7.1%
Request concerning information provision and publication of survey results	11	5.6%
Anxieties and/or dissatisfaction about insufficient medical services	9	4.5%
Complaint about mother's mental disorders	9	4.5%
Request for enhancing medical services and request concerning physical health care	9	4.5%
Request for ensuring decontamination and securing play areas	7	3.5%
Anxieties about radiation effects on baby food and other food	6	3.0%
Complaint about mother's physical disorders	6	3.0%
Anxieties and/or dissatisfaction about the reliability or lack of information	4	2.0%
Anxieties about radiation effects on water	3	1.5%
Request concerning the Thyroid Ultrasound Examination	3	1.5%
Matters concerning financial anxiety and burden	2	1.0%
Request for financial support	2	1.0%
Request concerning the Fukushima Health Management Survey	2	1.0%
Interpersonal relations	2	1.0%
Other matters concerning inspections and surveys	1	0.5%
Support for life as a refugee	1	0.5%
Other	48	24.2%

* Multiple responses were allowed. The denominator for calculating percentages is 198, the total number of respondents who entered free comments.

(4) Status of post-survey support

The number of mothers in need of support in the Follow-up for FY2014 was 380 (14.0% of 2,719 respondents).

Tabulation of data regarding post-survey support is based on 2,719 responses received from January 11 to August 31, 2019.

[Table 11] Number of mothers in need of support

Region	Number of respondents	Number of mothers in need of support	
Kenpoku	753	105	13.9%
Kenchu	815	121	14.8%
Kennan	194	24	12.4%
Soso	175	26	14.9%
Iwaki	480	50	10.4%
Aizu	281	52	18.5%
Minamiaizu	21	2	9.5%
Total	2,719	380	14.0%

* The denominator for calculating percentages accounted for by mothers in need of support is the number of respondents.

[Table 12] Breakdown of mothers in need of support by region

Region	Mothers in need of support identified based on their responses to questions regarding depressive tendencies		Mothers in need of support identified based on the content of their free comments		Total
Kenpoku	76	72.4%	29	27.6%	105
Kenchu	86	71.1%	35	28.9%	121
Kennan	15	62.5%	9	37.5%	24
Soso	18	69.2%	8	30.8%	26
Iwaki	32	64.0%	18	36.0%	50
Aizu	36	69.2%	16	30.8%	52
Minamiaizu	2	100.0%	0	0.0%	2
Total	265	69.7%	115	30.3%	380

* As percentages are rounded, the sum of percentages for each item may not become 100%.

[Table 13] Breakdown of major topics of consultations by region

Region	Mothers' mental and/or physical health		Matters concerning child rearing (daily life)		Anxieties about radiation and its effects		Children's mental and/or physical health		Matters concerning family life		Matters concerning life as a refugee		Other		Number of mothers in need of support
Kenpoku	32	30.5%	16	15.2%	5	4.8%	7	6.7%	4	3.8%	0	0.0%	62	59.0%	105
Kenchu	23	19.0%	14	11.6%	16	13.2%	6	5.0%	9	7.4%	1	0.8%	73	60.3%	121
Kennan	4	16.7%	2	8.3%	4	16.7%	1	4.2%	0	0.0%	0	0.0%	17	70.8%	24
Soso	7	26.9%	4	15.4%	0	0.0%	3	11.5%	4	15.4%	0	0.0%	15	57.7%	26
Iwaki	8	16.0%	4	8.0%	5	10.0%	4	8.0%	1	2.0%	0	0.0%	33	66.0%	50
Aizu	8	15.4%	5	9.6%	6	11.5%	3	5.8%	4	7.7%	0	0.0%	33	63.5%	52
Minamiaizu	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	2	100.0%	2
Total	82	21.6%	45	11.8%	36	9.5%	24	6.3%	22	5.8%	1	0.3%	235	61.8%	380

* The denominator for calculating percentages is the number of mothers in need of support. As multiple responses are allowed, the total of the percentages may not be 100.0%.

[Table 14] Breakdown of reasons for ending support

Region	Carefully listen to participants' statements ¹⁾		Provide information ²⁾		Confirm consultation availability ³⁾		Respond to Q&A ⁴⁾		Recommend to seek medical care ⁵⁾		Referral to the Mental Health Support Team ⁶⁾		Referral to municipalities ⁷⁾	
Kenpoku	73	69.5%	33	31.4%	24	22.9%	6	5.7%	3	2.9%	2	1.9%	0	0.0%
Kenchu	71	58.7%	26	21.5%	18	14.9%	6	5.0%	4	3.3%	1	0.8%	0	0.0%
Kennan	13	54.2%	6	25.0%	4	16.7%	5	20.8%	1	4.2%	0	0.0%	0	0.0%
Soso	14	53.8%	4	15.4%	3	11.5%	0	0.0%	1	3.8%	0	0.0%	0	0.0%
Iwaki	26	52.0%	9	18.0%	4	8.0%	7	14.0%	3	6.0%	0	0.0%	0	0.0%
Aizu	30	57.7%	12	23.1%	2	3.8%	2	3.8%	1	1.9%	0	0.0%	0	0.0%
Minamiaizu	2	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Total	229	60.3%	90	23.7%	55	14.5%	26	6.8%	13	3.4%	3	0.8%	0	0.0%

Region	Referral to the Radiation Consultation Office ⁸⁾		Introduce specialist physicians ⁹⁾		Absence		Contact information unknown		Refusal		Other		Number of mothers in need of support
Kenpoku	0	0.0%	0	0.0%	27	25.7%	2	1.9%	1	1.0%	1	1.0%	105
Kenchu	0	0.0%	0	0.0%	42	34.7%	3	2.5%	0	0.0%	3	2.5%	121
Kennan	0	0.0%	0	0.0%	9	37.5%	2	8.3%	0	0.0%	0	0.0%	24
Soso	0	0.0%	0	0.0%	8	30.8%	4	15.4%	0	0.0%	0	0.0%	26
Iwaki	0	0.0%	0	0.0%	21	42.0%	3	6.0%	0	0.0%	0	0.0%	50
Aizu	0	0.0%	0	0.0%	17	32.7%	4	7.7%	0	0.0%	1	1.9%	52
Minamiaizu	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	2
Total	0	0.0%	0	0.0%	124	32.6%	18	4.7%	1	0.3%	5	1.3%	380

* The denominator for calculating percentages is the number of mothers in need of support. The breakdown shows the aggregated number. As multiple responses are allowed, the total of the percentages may not be 100.0%.

- 1) Support was ended by sorting out problems by carefully listening to participants' statements.
- 2) Support was ended by appropriately providing information and introducing administrative service offices.
- 3) Support was ended by confirming that participants already have medical institutions or counselors to consult with.
- 4) Support was ended by responding to participants' questions.
- 5) Support was ended by recommending participants to seek medical care by physicians.
- 6) Support was ended by providing participants' information to the Mental Health Support Team of the Fukushima Medical University by obtaining participants' consent.
- 7) Support was ended by providing participants' information to municipalities by obtaining participants' consent.
- 8) Support was ended by providing participants' information to the Radiation Consultation Office of Fukushima Medical University by obtaining participants' consent.
- 9) Support was ended by introducing specialist physicians of the Fukushima Medical University.

"Pregnancy and Birth Survey," Fukushima Health Management Survey Results (from FY2011 to FY2018)

1 Purpose and Outline of the Survey

Fukushima Prefecture has been conducting the Pregnancy and Birth Survey every year since FY2011 with the aim of properly ascertaining mental and physical health conditions of pregnant women intending to give birth and raise children in Fukushima, and alleviating their worries and providing them with necessary care.

A high percentage of questionnaire respondents immediately after the earthquake showed depressive tendencies in particular and the number of mothers who were not confident about child rearing was apt to increase. Accordingly, a follow-up survey has been conducted every year since FY2015 targeting mothers who had no opportunity of receiving health checkups for four years after delivery, starting with mothers who responded to the questionnaire survey in FY2011.

2 Outline of the Implementation of the Survey and the Provision of Support

(1) Main survey

Coverage: Women who obtained a maternity handbook from municipalities in Fukushima
Women who obtained a maternity handbook somewhere else but received prenatal checkups and gave birth in Fukushima

Survey items: • Outcome of pregnancy and babies' health conditions
• Pregnant women's mental health conditions
• Present living conditions (circumstances of a refugee life or forced separation from family members)
• Situation during delivery and pregnant women's physical health conditions
• Confidence in raising children
• Attitude toward the next pregnancy

Survey method: Questionnaire sheets are sent to the targeted pregnant women, asking them to fill in the sheets and send them back by post. The online response system was newly introduced in FY2016.

(2) Follow-up survey

Coverage: Respondents of the FY2011 survey to FY2014 survey

Survey items: • Pregnant women's mental health conditions
• Confidence in raising children
• Worries over radiation effects
• Hospitalization of children
• Worries over children

Survey method: Questionnaire sheets are sent to the targeted pregnant women, asking them to fill in the sheets and send them back by post. The online response system was newly introduced in FY2016.

(3) Provision of support

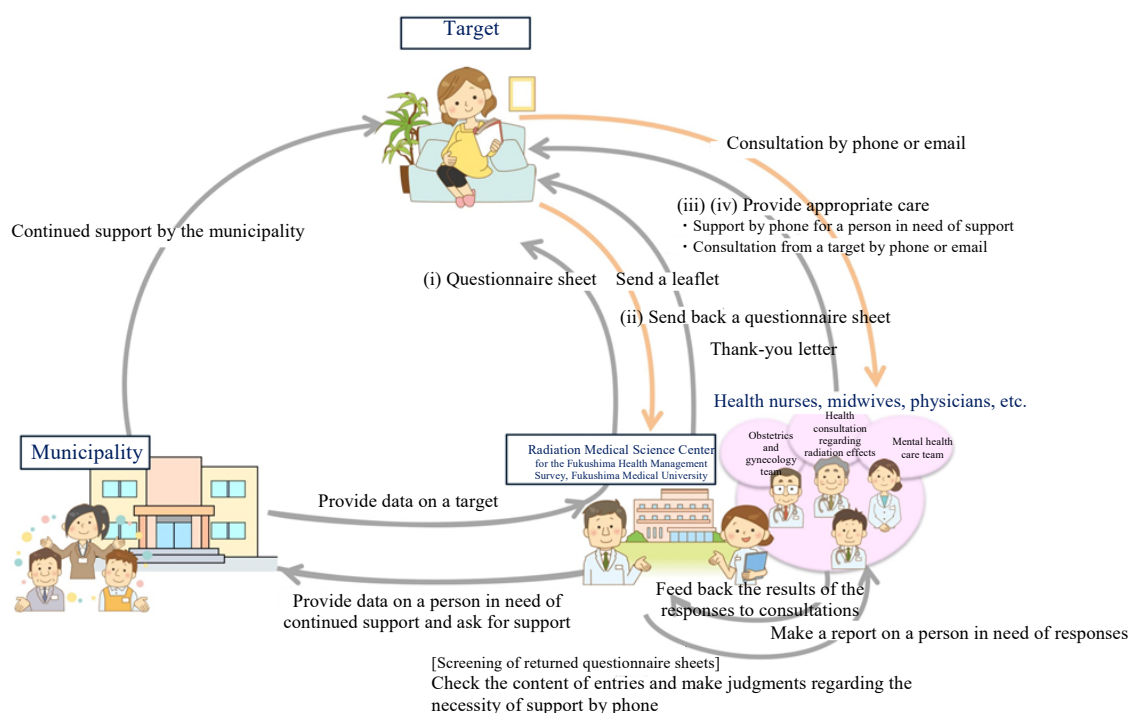
Criteria for support

Women falling under A. or B. below:

- A. Women falling under two survey items relating to depression
- B. Women considered to be in need of support based on the content of free comments (statements in the free comment column or for other survey items)
 - e.g. A woman who entered a depressive comment; a woman in need of child-rearing support; a woman worrying about figures of radiation doses; a woman complaining of feeling ill; a woman seeking concrete answers; a woman requesting support, etc.

Support methods

- A. Check the content of responses to the questionnaire promptly and identify respondents who seem to be in need of help.
- B. Midwives and health nurses of the Radiation Medical Science Center for the Fukushima Health Management Survey provide counseling and support by phone sequentially.
- C. When any case requiring more specialized responses is found through support by phone, the case is referred to a specialized physician. For women for whom regional support is found to be necessary, requests are made to municipalities where they reside to ask for further responses.
- D. Consultations are accepted at the email address and the phone line dedicated for the Pregnancy and Birth Survey and support is provided accordingly.



3 Survey Results

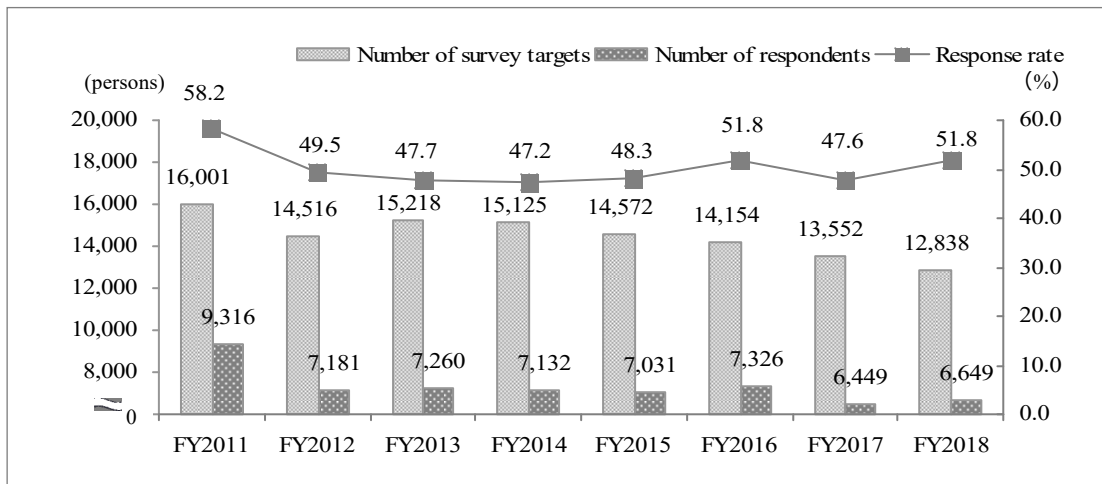
(1) Number of survey targets, number of responses, and response rate

For eight years, the response rate of the main survey was around 50%, showing a high level of people's interest. By area, immediately after the earthquake, the response rate was over 60% in the northern area of the prefecture and the Soso area, but the response rates showed no notable changes thereafter. The number of respondents once declined in FY2012 and recovered in FY2013, but was decreasing thereafter in the same manner as the trend of the number of births nationwide.

The response rate of the follow-up survey has been on a rise although being slightly lower than that of the main survey. By area as well, the response rates for the last two surveys were higher than before for all survey areas.

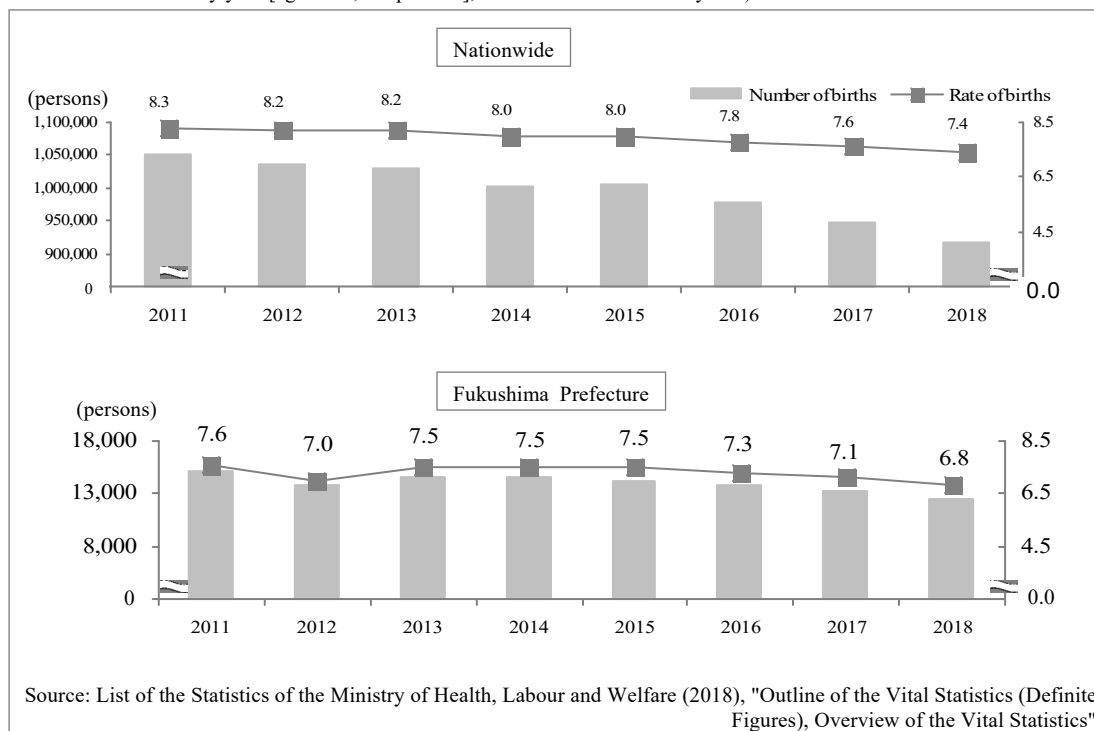
(Main survey)

[Number of survey targets, number of responses, and response rate]

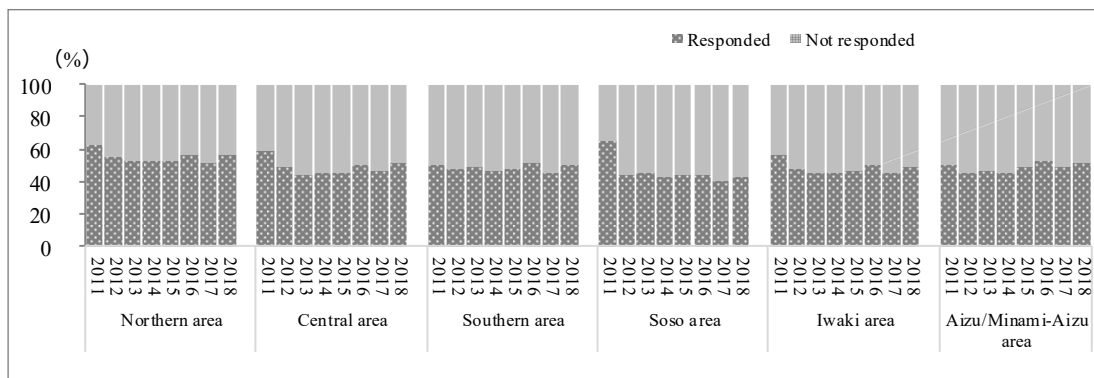


[Reference] Current Population Survey, Vital Statistics

(Number and rate of births by year [against 1,000 persons], sex ratio and total fertility rate)

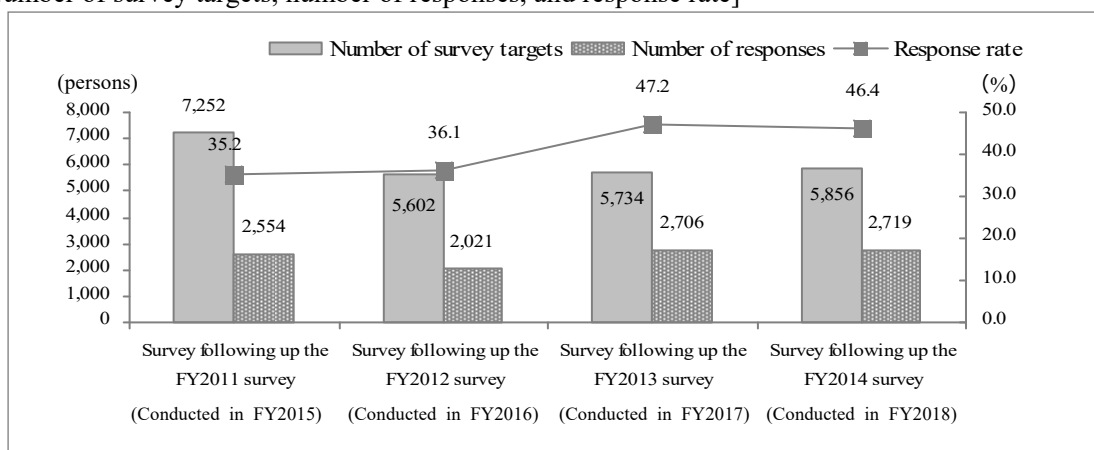


[Response rate by area]

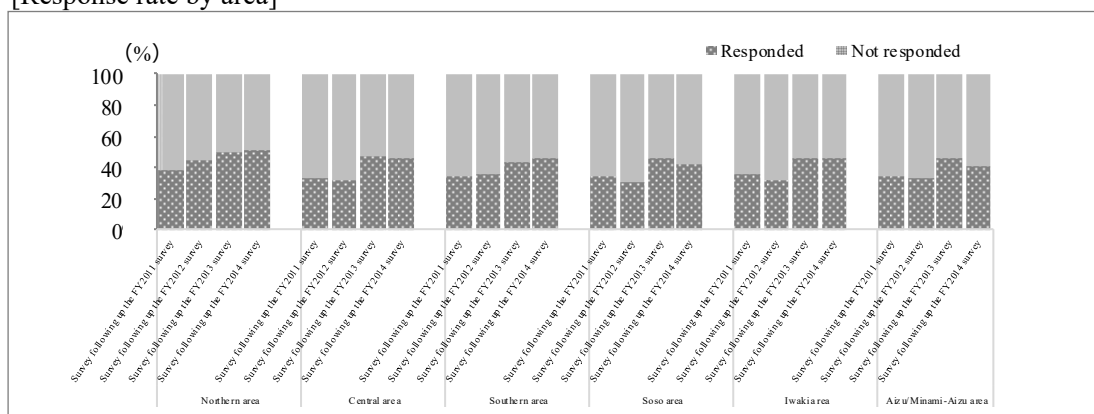


(Follow-up survey)

[Number of survey targets, number of responses, and response rate]



[Response rate by area]



(2) Responses to the questionnaire

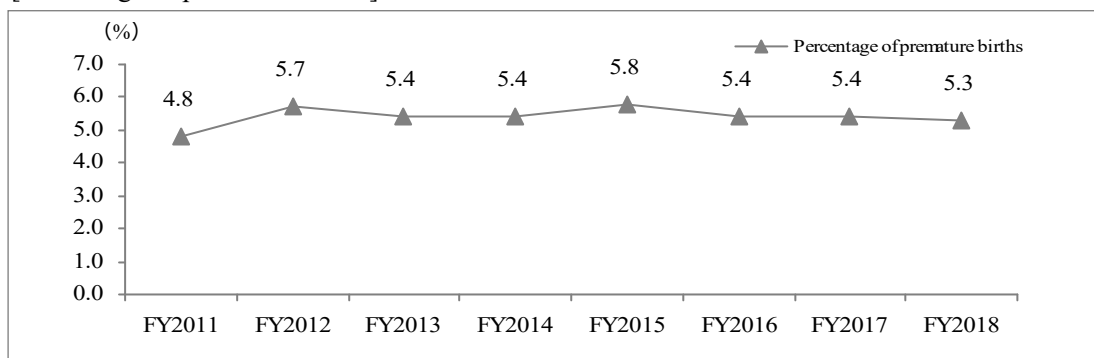
A. Results of pregnancy (percentages of premature births and congenital abnormalities or anomalies)

The results of the Pregnancy and Birth Survey from FY2011 to FY2018 showed almost no differences from data of government statistics or other generally published data for each fiscal year. The percentages of congenital abnormalities or anomalies also showed no difference by area.

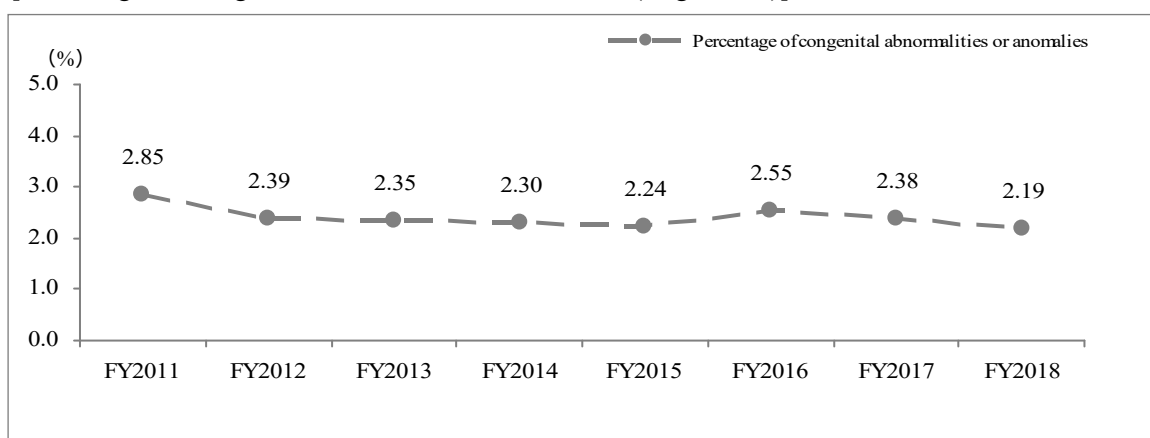
* Percentage of premature births: The national average for FY2017 was 5.7%. (Premature births: Babies born at a gestational age from 22 weeks to less than 37 weeks)

* The percentage of congenital abnormalities identifiable at the time of birth is generally 3% to 5% and the causes are diverse ("Guidelines for Obstetrical Practice in Japan: Obstetrics 2017").

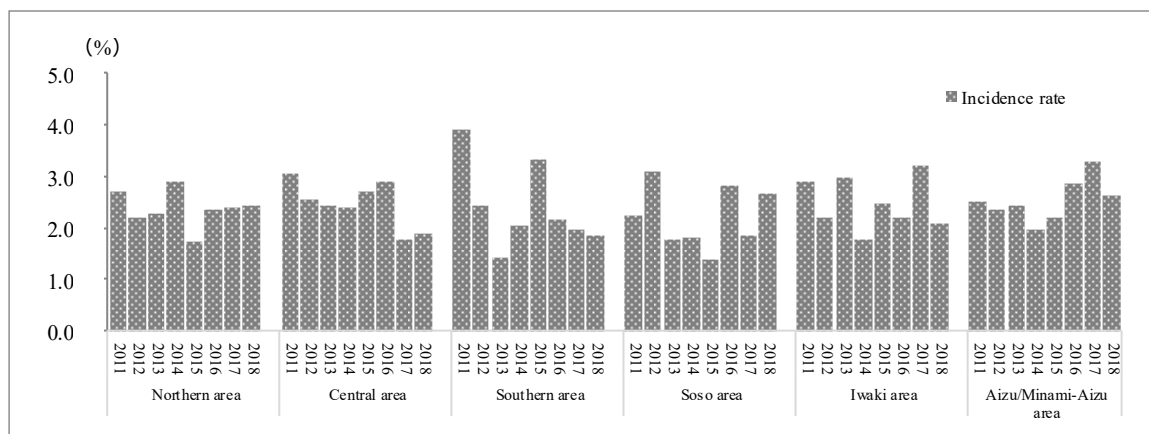
[Percentage of premature births]



[Percentages of congenital abnormalities or anomalies (single birth)]



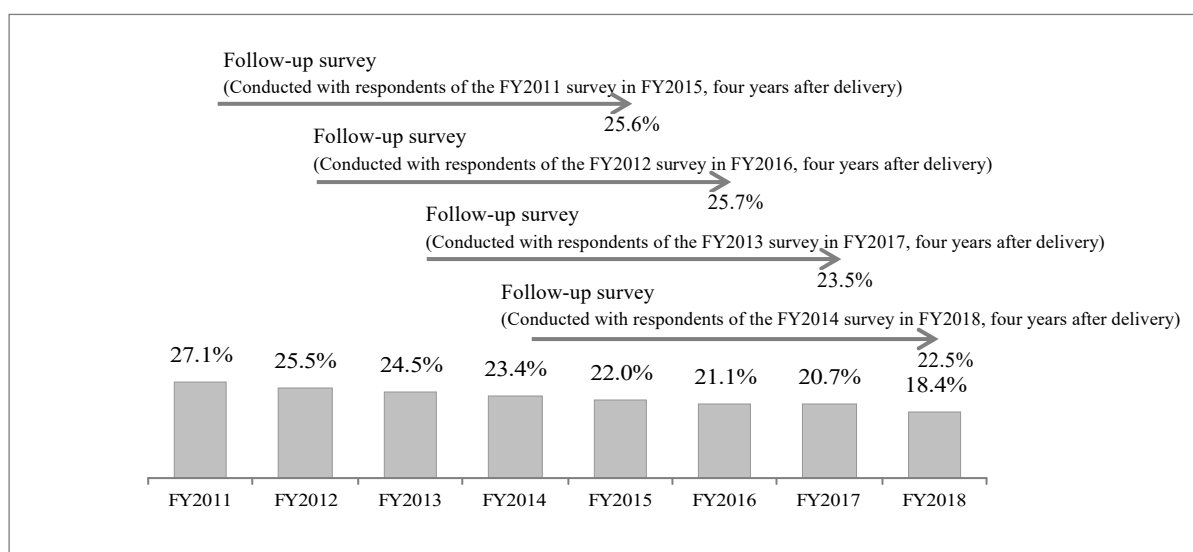
[Percentages of congenital abnormalities or anomalies by area (single birth)]



B. Mothers' mental health (percentage of depressive tendencies)

The number of mothers who responded affirmatively to both or either of the questions "Are you apt to feel depressed?" and "Are you uninterested in things?" was rather large in the earlier surveys but has been decreasing thereafter.

[Changes in mothers' depressive tendencies]



C. Care for pregnancy and delivery

The percentage of mothers unsatisfied with care for pregnancy and delivery has been small as a whole and is decreasing year by year.

[Percentage of mothers unsatisfied with care for pregnancy and delivery]

Survey year	Percentage of responses "Unsatisfied" or "Completely unsatisfied"
FY2011	No relevant questions contained
FY2012	3.5%
FY2013	2.3%
FY2014	2.7%
FY2015	2.4%
FY2016	2.1%
FY2017	1.7%
FY2018	1.7%

D. Status of family life and child rearing (percentages of mothers living a refugee life and mothers not confident about child rearing)

- The percentage of mothers who responded that they are living a refugee life is decreasing year by year.
- The percentage of mothers who responded that they sometimes are not confident about child rearing has remained slightly less than 20% since immediately after the earthquake up until now.

[Percentage of mothers living a refugee life]

Survey year	Percentage of responses that they are living a refugee life at present (including those living in temporary housing and those living in other types of housing)
FY2011	No relevant questions contained
FY2012	7.7%

FY2013	5.5%
FY2014	4.9%
FY2015	3.8%
FY2016	3.4%
FY2017	2.3%
FY2018	1.8%

[Percentage of mothers not confident about child rearing]

Survey year	Percentage of responses that they are not confident about child rearing
FY2011	No relevant questions contained
FY2012	15.4%
FY2013	17.5%
FY2014	16.6%
FY2015	17.7%
FY2016	16.6%
FY2017	18.1%
FY2018	17.7%

E. Intention and request concerning next pregnancy and delivery

The percentage of mothers wishing to have another child has been constantly over 50% since the earthquake. Mothers who cited worries over radiation effects as a reason for not wishing to have another child accounted for less than 1% in the most recent survey.

[Intention concerning next pregnancy and delivery]

Survey year	Percentage of responses that they wish to have another child	Percentage of responses citing worries over radiation effects as a reason for not wishing to have another child
FY2011	No relevant questions contained	No relevant questions contained
FY2012	52.9%	14.8%
FY2013	52.8%	5.6%
FY2014	57.1%	3.9%
FY2015	53.3%	1.6%
FY2016	54.6%	1.2%
FY2017	52.4%	0.8%
FY2018	52.2%	0.5%

F. Free comments (percentages of mothers entering free comments and mothers mentioning worries over radiation effects on fetuses and children, in particular)

The percentage of mothers who entered free comments on their worries over radiation effects on fetuses and children was nearly 30% immediately after the commencement of the survey but has been decreasing year by year to around 2% recently.

[Content of free comments]

Survey year	Number of respondents who entered free comments (percentage)	Percentage of free comments regarding radiation effects on fetuses and children
FY2011	3,722 persons (42.2%)	29.6%

FY2012	1,481 persons (20.7%)	26.4%
FY2013	867 persons (12.0%)	12.9%
FY2014	745 persons (10.5%)	9.5%
FY2015	1,101 persons (15.7%)	5.2%
FY2016	965 persons (13.3%)	6.1%
FY2017	799 persons (12.4%)	4.8%
FY2018	881 persons (13.4%)	1.8%

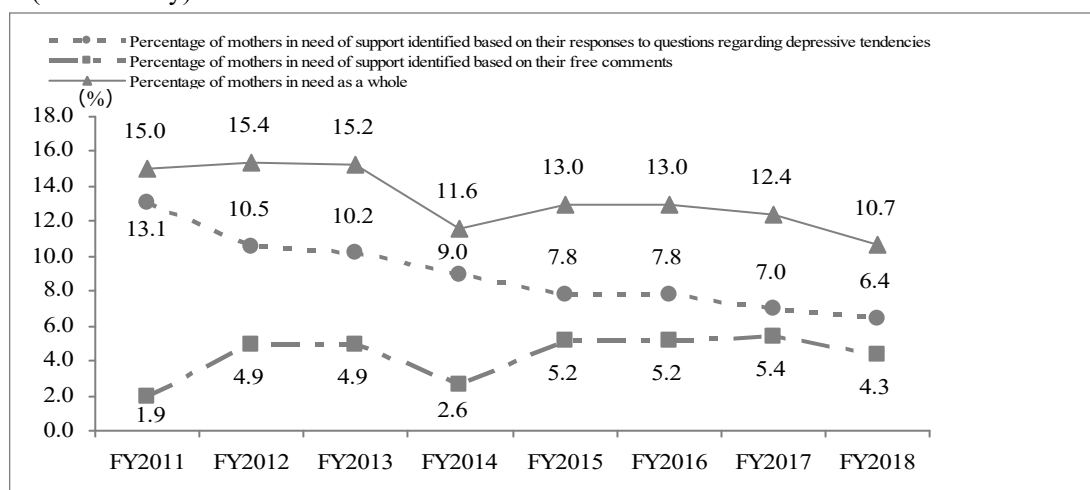
(3) Results of support

A. Provision of support

For mothers, out of the respondents of the questionnaire, who were judged to be in need of consultations and support based on their responses, full-time midwives and health nurses provide consultations and support by phone or by email. The percentage of mothers in need of support identified based on their responses to questions regarding depressive tendencies in this survey has decreased by nearly 50% from the level immediately after the earthquake and the percentage identified through follow-up surveys has also been on a decline. Since FY2012, the coverage of support has been expanded to include those suspected to be in need of support from the content of their free comments and the percentage of those in need of support marked 10.7% in FY2018.

[Provision of support and the content thereof]

(Main survey)

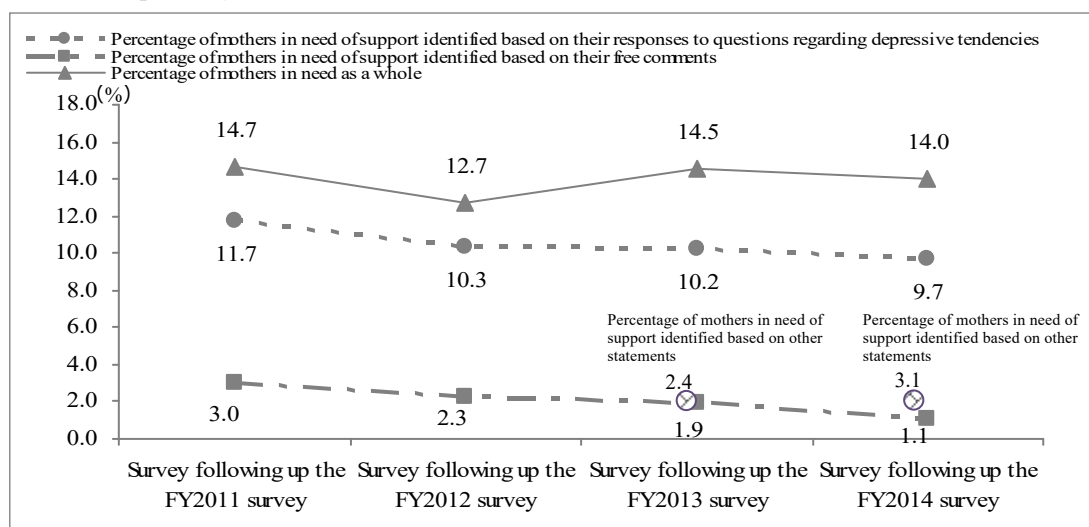


(cases)

		FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018
Number of mothers in need of support	Responses to questions regarding depressive tendencies	1,224	751	744	645	549	573	449	424
	Free comments	177	353	357	185	364	378	350	287
Number of respondents		9,316	7,181	7,260	7,132	7,031	7,326	6,449	6,649

*Mothers in need of support identified both based on their responses to questions regarding depressive tendencies and on their free comments are included in the category of those identified based on their responses to questions regarding depressive tendencies.

(Follow-up survey)



(cases)

		Survey following up the FY2011 survey (conducted in FY2015)	Survey following up the FY2012 survey (conducted in FY2016)	Survey following up the FY2013 survey (conducted in FY2017)	Survey following up the FY2014 survey (conducted in FY2018)
Number of mothers in need of support	Responses to questions regarding depressive tendencies	299	209	277	265
	Free comments	76	47	51	31
	Other statements	—	—	65	84
Number of respondents		2,554	2,021	2,706	2,719

*Mothers in need of support identified both based on their responses to questions regarding depressive tendencies and on their free comments are included in the category of those identified based on their responses to questions regarding depressive tendencies.

B. Topics of consultations

Through this survey, support by phone has been provided to nearly 1,000 mothers every fiscal year, but the number of targets has been decreasing recently. Details of the consultations have varied by fiscal year. Consultations on worries over radiation and its effects were most common immediately after the earthquake but have decreased over time. Since FY2012, consultations on mothers' mental and physical health and matters concerning child rearing (daily life) have been increasing and have become dominant.

In the follow-up survey, the number of consultations on mothers' mental and physical health has constantly been the largest since the commencement of the survey in FY2015 up to FY2018. Consultations on worries over radiation and its effects have been decreasing year by year.

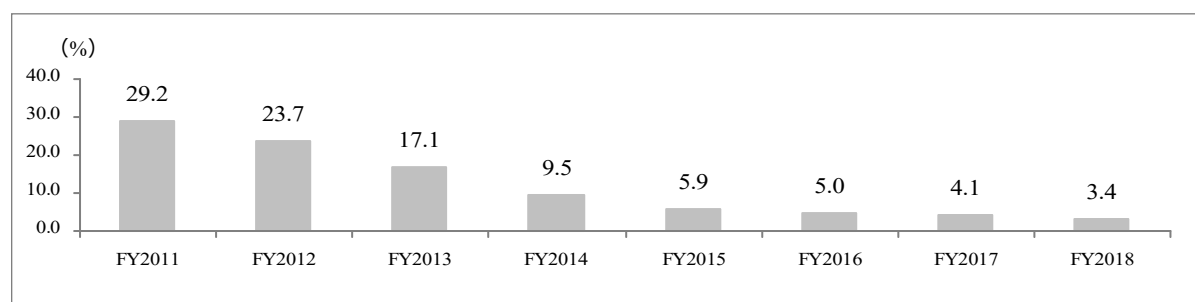
[Topics of consultations by phone]

(Main survey)

	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018
1st	Worries over radiation and its effects 29.2%	Mothers' mental and physical health 33.4%	Mothers' mental and physical health 42.5%	Mothers' mental and physical health 49.5%	Mothers' mental and physical health 53.1%	Mothers' mental and physical health 59.8%	Mothers' mental and physical health 55.6%	Mothers' mental and physical health 53.2%
2ns	Mothers' mental and physical health 20.2%	Matters concerning child rearing (daily life) 26.7%	Matters concerning child rearing (daily life) 38.7%	Matters concerning child rearing (daily life) 36.1%	Matters concerning child rearing (daily life) 40.9%	Matters concerning child rearing (daily life) 43.4%	Matters concerning child rearing (daily life) 51.8%	Matters concerning child rearing (daily life) 41.4%
3rd	Matters concerning child rearing (daily life) 14.0%	Worries over radiation and its effects 23.7%	Children's mental and physical health 20.3%	Matters concerning family life 20.5%	Matters concerning family life 21.8%	Matters concerning family life 19.5%	Matters concerning family life 16.4%	Children's mental and physical health 16.0%
4th	Children's mental and physical health 10.5%	Children's mental and physical health 13.4%	Matters concerning family life 19.8%	Children's mental and physical health 14.5%	Children's mental and physical health 20.6%	Children's mental and physical health 18.0%	Children's mental and physical health 8.6%	Matters concerning family life 9.3%
5th	Matters concerning a refugee life 9.3%	Matters concerning family life 10.3%	Worries over radiation and its effects 17.1%	Worries over radiation and its effects 9.5%	Worries over radiation and its effects 5.9%	Worries over radiation and its effects 5.0%	Worries over radiation and its effects 4.1%	Worries over radiation and its effects 3.4%

A single person may have made multiple consultations.

[Consultations on worries over radiation and its effects]



(Follow-up survey)

	Survey following up the FY2011 survey (conducted in FY2015)	Survey following up the FY2012 survey (conducted in FY2016)	Survey following up the FY2013 survey (conducted in FY2017)	Survey following up the FY2014 survey (conducted in FY2018)
1st	Mothers' mental and physical health 34.4%	Mothers' mental and physical health 44.9%	Mothers' mental and physical health 36.0%	Mothers' mental and physical health 26.4%
2ns	Worries over radiation and its effects 25.6%	Matters concerning child rearing (daily life) 23.0%	Matters concerning child rearing (daily life) 27.7%	Matters concerning child rearing (daily life) 12.2%
3rd	Matters concerning child rearing (daily life) 21.6%	Children's mental and physical health 22.7%	Matters concerning family life 14.6%	Matters concerning family life 6.4%
4th	Children's mental and physical health 18.1%	Worries over radiation and its effects 13.3%	Worries over radiation and its effects 13.1%	Worries over radiation and its effects 5.7%
5th	Matters concerning family life 13.9%	Matters concerning family life 10.5%	Children's mental and physical health 9.8%	Children's mental and physical health 5.4%

* The method of inputting information (the form and person to input information) was altered from the survey following up the FY2013 survey.

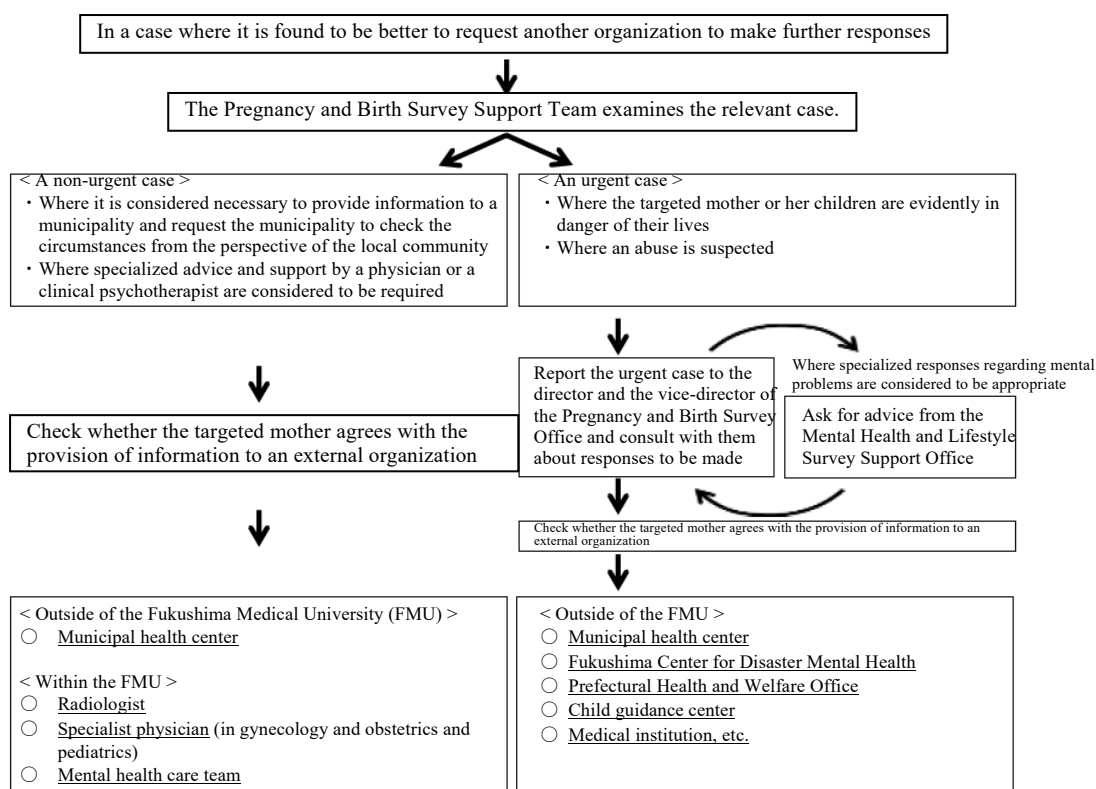
C. Referral to other organizations

When an urgent need for referral to a municipal government is found based on responses to the questionnaire, such as deterioration in psychological symptoms, difficulties in child rearing, child neglect, abuse, or domestic violence, a request for support is made to a service office of the relevant municipality after consulting with a member of the Prefectural Oversight Committee responsible for the Pregnancy and Birth Survey and obtaining consent from the relevant mother concerning the referral to the service office.

[Number of referrals of mothers in need of support to other organizations]

Referred to	Municipal personnel in charge of maternal and child health		Radiation consultation office of the Fukushima Medical University		Mental Health Support Team of the Fukushima Medical University		Specialist physicians of the Fukushima Medical University	
	Main survey	Follow-up survey	Main survey	Follow-up survey	Main survey	Follow-up survey	Main survey	Follow-up survey
FY2011	2	—	7	—	4	—	2	—
FY2012	6	—	1	—	14	—	0	—
FY2013	1	—	0	—	6	—	1	—
FY2014	3	—	0	—	1	—	0	—
FY2015	1	0	1	1	0	0	0	0
FY2016	8	0	0	0	5	0	0	0
FY2017	4	2	0	0	2	1	0	0
FY2018	3	0	0	0	3	3	1	0

[Procedures for making contact with other organizations (outside of the Pregnancy and Birth Survey Office)]



4 Publication of Survey Results and Feedback to Communities

- The latest survey results are made available on the website of the Radiation Medical Science Center for the Fukushima Health Management Survey, Fukushima Medical University.
- From FY2014 to FY2017, we held briefing sessions to explain survey results in five areas of the

prefecture (northern area, southern area, Soso area, Aizu area, and Iwaki area).

- Since FY2015, we have reported the outline of the survey results to health nurses, etc. at meetings of personnel in charge of maternal and child health of all municipalities held by the prefectural government.
- In FY2019, we directly visited 13 municipal liaison associations mainly in the Hamadori area and individually reported the survey results.
- We prepared a leaflet to outline the survey and explain the outcomes and sent copies thereof together with questionnaire sheets to all survey targets and also delivered them to municipalities and obstetrics and gynecology clinics and other medical institutions.
- On the occasions of the public symposium hosted by the Japan Medical Association and the "Iki Iki Kenko Zukuri Forum (Health and Fitness Forum)," we displayed a panel showing the survey results and delivered the leaflet.

5 Efforts for Raising Response Rates

- From the FY2016 main survey, the online response system was newly introduced for the convenience of respondents.
- In collaboration with municipalities, we posted requests for cooperation to the survey on municipal PR magazines.
- As the questionnaire contains questions concerning a health examination for one-month old babies, questionnaire sheets came to be delivered on three occasions considering mothers' due dates from the FY2014 survey so that mothers could respond to those questions on a timely basis.
- We reviewed and decreased the questions to alleviate respondents' burden.
- We sent a reminder or sent questionnaire sheets again to encourage those not responding to the questionnaire to send back responses.
- We conducted a survey to check the status of responses among the targets of the FY2014 survey.

We selected one municipality each from the Hamadori area, Nakadori area and Aizu area, and conducted a questionnaire survey with approximately 100 mothers who came to receive a health examination for three to four-month old babies (30 to 40 mothers per municipality) to obtain suggestions concerning survey methods.

6 Roles Having Been Played by the Survey

- (1) Present evidence to show that it is safe enough to get pregnant and give birth in Fukushima

The survey clarified changes in the percentages of premature births and congenital abnormalities or anomalies in Fukushima over time and showed that those percentages were the same as figures of nationwide surveys and general standards, thereby presenting the safety of getting pregnant and giving birth in Fukushima.

- (2) Observe pregnant women and provide them with support through conducting the survey

The survey conducted every year has contributed to continuously observing pregnant women in

Fukushima and ascertaining their circumstances individually and has led to the provision of concrete support.

(3) Provide support in an interactive manner

- Targeting mothers who are judged to be in need of support based on the survey results (including those who cannot take actions by themselves), supporters have made phone calls to ascertain the current situation and provide support on a case-by-case basis. The survey results have been used to identify cases requiring individual visit support and to refer such cases to respective municipalities.
- We prepared a dedicated phone line and email account to make it easier for anyone to make consultations and also established a service office to receive consultations from targeted mothers.

(4) Build a system to provide support in collaboration with obstetrics and gynecology physicians and other organizations

- We requested obstetrics and gynecology physicians and other organizations for the cooperation in delivering questionnaire sheets and referred mothers judged in need of specialized support to them, thereby promoting continued support for those mothers.
- We visited the Japanese Midwives' Association and built a system for collaboration with regard to assistance with the main survey. The Association has been mainly introduced for mothers who experienced a stillbirth.
- We have informed medical institutions of mothers' requests entered in questionnaire sheets via the Fukushima Society of Obstetrics and Gynecology and the Fukushima Association of Obstetricians and Gynecologists.

(5) Closely collaborate with municipalities

We have referred mothers in need of urgent measures or continued support identified based on their responses to the questionnaire or the results of support by phone to responsible personnel of the respective municipalities and have provided support to those mothers in collaboration therewith.

(6) Share the current status and challenges concerning maternal and child health (with the prefecture, municipalities, and related organizations)

- Since FY2013, explanations have been provided directly by physicians at briefing sessions to explain survey results targeting health nurses, nurses, and related organizations in Fukushima and meetings hosted by the prefectural government (meetings of municipal personnel in charge of maternal and child health). For the FY2017 main survey, at the liaison association meetings of 13 municipalities in the Hamadori area, we explained the situation of each municipality and conducted opinion exchanges to share information.
- Upon requests from municipalities, we provided survey results for the respective municipalities separately.

(7) Respond to mothers' worries over radiation

- After commencing the FY2011 main survey, we prepared a support book to help children and their guardians maintain their good mental and physical health and sent copies thereof to survey targets. From the next fiscal year, we sent the support book together with the questionnaire sheet to each of the survey targets (until the FY2013 main survey).
- Starting with the FY2014 main survey, we prepared a leaflet to outline the survey and explain the outcomes and sent copies thereof together with questionnaire sheets.

(8) Provide support to supporters

In order to further enhance qualities of supporters to enable them to properly respond to survey targets' worries and questions, we have encouraged them to acquire specialized knowledge and conduct case studies, and have provided them with training concerning knowledge on radiation and the thyroid gland, thereby promoting their appropriate responses to wide-ranging consultations.

(9) Noteworthy outcomes

- We have been able to maintain high response rates. There were criticisms concerning the survey, but there were also words of thanks and encouraging remarks. We have simplified questions and introduced an online method and have secured enough space for free comments since the first survey. Additionally, we have provided support by phone or by email. All these efforts are considered to have contributed to gaining people's approval for the survey.
- The percentages of stillbirths, premature births, low birth-weight babies, and congenital abnormalities or anomalies in Fukushima were found to be at the same levels as the national averages. Negative impacts were apt to attract attention immediately after the earthquake, but the survey results have also presented positive aspects.
- We have visited respective areas in Fukushima to directly explain survey results to responsible municipal personnel and this has raised people's interest in the survey and has enabled us to smoothly provide support to those in need of help in collaboration with municipalities. We received the following comments from municipal personnel in charge of maternal and child health who participated in briefing sessions: "I understand the current status of Fukushima Prefecture. It was very helpful." "Today's explanations will serve as useful information when I respond to consultations concerning child rearing by phone or at the time of a health examination and visit support."

Summary

- 1 The percentages of stillbirths (0.25%), premature births (4.4%), low birth-weight babies (8.7%), and congenital anomalies (2.72%) were almost the same as the national averages of those percentages in Japan.
Pregnancy and Birth Survey after the Great East Japan Earthquake and Fukushima Daiichi Nuclear Power Plant Accident in Fukushima Prefecture
Fujimori K, et al. *Fukushima J Med Sci.* 2014;60(1):75-81.
- 2 Survey targets found positive for depression accounted for 28% throughout the prefecture. The percentage was high for mothers in the Soso area and those who changed obstetric care facilities, but was low for mothers in the Iwaki and Aizu areas.
Immediate effects of the Fukushima nuclear power plant disaster on depressive symptoms among mothers with infants: A prefectural-wide cross-sectional study from the Fukushima Health Management Survey
Goto A, et al. *BMC Psychiatry.* 2015 Mar 26;15:59.
- 3 In Fukushima, depressive symptoms were observed more frequently among mothers who experienced a miscarriage or stillbirth than among those who had a live birth.
IMMEDIATE MENTAL CONSEQUENCES OF THE GREAT EAST JAPAN EARTHQUAKE AND FUKUSHIMA NUCLEAR POWER PLANT ACCIDENT ON MOTHERS EXPERIENCING MISCARRIAGE, ABORTION, AND STILLBIRTH: THE FUKUSHIMA HEALTH MANAGEMENT SURVEY
Komiya H, et al. *Fukushima J Med Sci.* 2015;61(1):66-71.
- 4 Changes of obstetric care facilities due to medical reasons often result in premature births. However, no association was observed between premature births and changes of obstetric care facilities by mothers by themselves.
Effect of medical institution change on gestational duration after the Great East Japan Earthquake: The Fukushima Health Management Survey
Suzuki K, et al. *J Obstet Gynaecol Res.* 2016 Dec;42(12):1704-1711.
- 5 No influence of the earthquake was observed in the growth of one month-old babies. In the Soso area, the percentage of mothers using powdered milk showed an increasing trend over time after the earthquake.
Impact of the Great East Japan Earthquake on feeding methods and newborn growth at 1 month postpartum: results from the Fukushima Health Management Survey. Kyozuka H, et al. *Radiat Environ Biophys.* 2016 May;55(2):139-46.
- 6 A significantly larger percentage of mothers who used to live in the evacuation areas and who could not receive prenatal checkups as scheduled used powdered milk due to worries over radioactive contamination.
Factors Associated with Infant Feeding Methods after the Nuclear Power Plant Accident in Fukushima: Data from the Pregnancy and Birth Survey for the Fiscal Year 2011 Fukushima Health Management Survey.
Ishii K, et al. *Matern Child Health J.* 2016 Aug;20(8):1704-12.
- 7 Women who became pregnant within six months after the earthquake showed higher percentages of premature births and low birth-weight babies, and cases of respiratory diseases and mental disorders increased.
Obstetric outcomes in women in Fukushima prefecture during and after the Great East Japan Earthquake and Fukushima nuclear power plant accident: The Fukushima Health Management Survey
Hayashi M, et al. *Open Journal of Obstetrics and Gynecology,* 2016, 6, 705-713
- 8 A significantly larger percentage of mothers who were forced to change prenatal checkups and obstetric care facilities, those with high-risk pregnancy, those who had a Caesarean, and those who gave birth to their first babies are receiving support by phone. They use powdered milk more often

than those who do not receive support, worrying about radiation effects.

Characteristics of Mothers in Need of Support by Phone after the Tokyo Electric Power Company's Fukushima Daiichi Nuclear Power Station and the Details of Consultations – Based on the Pregnancy and Birth Survey, Fukushima Health Management Survey in FY2011 –
Kayoko Ishii, et al., *Japan Society of Maternal Health* (2016)

- 9 Mothers whose babies were SGA (small-for-gestational-age) accounted for 5.6%. Areas where they lived at the time of the accident at the NPS and the timing of getting pregnant did not exert any influence on the occurrence of SGA.

Influence of the Great East Japan Earthquake and the Fukushima Daiichi Nuclear Disaster on the Birth Weight of Newborns in Fukushima Prefecture: Fukushima Health Management Survey.
Yasuda S, et al. *J Matern Fetal Neonatal Med.* 2017 Dec;30(24):2900-2904

- 1 0 The use of ART temporarily decreased in Fukushima immediately after the Great East Japan Earthquake but no long-term influence of the earthquake has been observed.

Impact of the Great East Japan Earthquake and Fukushima nuclear power plant accident on assisted reproductive technology in Fukushima prefecture: The Fukushima Health Management Survey
Hayashi M, et al. *J Clin Med Res.* 2017 Sep;9(9):776-781.

- 1 1 A refugee life and worries over radiation were associated with depressive tendencies, but were not associated with a low confidence in child rearing.

The Fukushima Nuclear Accident Affected Mothers' Depression but Not Maternal Confidence.
Goto A, et al. *Asia Pac J Public Health.* 2017 Mar;29(2_suppl):139S-150S.

- 1 2 The percentages of those aged 30 or older and those with depressive tendencies were higher among mothers who entered free comments in the questionnaire sheet than those who did not. Mothers' concerns shifted from radiation-related problems to their own mental and physical health.

Fukushima mothers' concerns and associated factors after the Fukushima nuclear power plant disaster: analysis of qualitative data from the Fukushima Health Management Survey 2011–2013
Ito S, et al. *Asia Pac J Public Health.* 2017 Mar;29(2_suppl):151S-160S.

- 1 3 Major research papers based on the results of the surveys for four years were compiled.

Pregnancy and Birth Survey of the Fukushima Health Management Survey: Review of four surveys conducted annually after the disaster
Ishii K, et al. *Asia Pac J Public Health.* 2017 Mar;29(2_suppl):56S-62S. Review.

- 1 4 41.2% of the targeted mothers felt worries due to prejudice and discrimination and their such worries are especially associated with their age, whether they have depressive symptoms, whether they received prenatal checkups as scheduled, and whether they have developed any new diseases or symptoms after the earthquake.

Overview of the Pregnancy and Birth Survey section of the Fukushima Health Management Survey: Focusing on mother's anxieties toward radioactive exposure
Ito S, et al. *Journal of the National Institute of Public Health* 2018 67 (1) 59-70

- 1 5 Mothers who used to live in the evacuation areas and those still living a refugee life are more likely to show depressive tendencies significantly. In particular, mothers who are living a refugee life separately from some of their family members and those who did not respond that they have good communications with their family members showed a higher percentage of having depressive tendencies.

Consideration of Refugee Life and Mental Health of Pregnant Women Caused by the Great East Japan Earthquake
Ota Misao, et al., *Journal of the Japan Maternal and Infant Caring Association* (2018)

- 1 6 Pregnant women who were in later pregnancy at the time of the earthquake showed increased risks of hypertensive disorders of pregnancy.

The effect of the Great East Japan Earthquake on Hypertensive Disorders during pregnancy: A study from the Fukushima Health Management Survey
Kyozuka H, et al. *J Matern Fetal Neonatal Med.* 2019 Apr 1:1-6.

- 1 7 In the case of mothers having only one child, worries over radiation are associated with their reluctance to have another child.

Factors associated with intention of future pregnancy among women affected by the Fukushima Nuclear Accident: Analysis of Fukushima Health Management Survey Data from 2012 to 2014
Goto A, et al. *J Epidemiol.* 2019 Aug 5;29(8):308-314

- 1 8 By combining a paper survey and an online survey, the response rate has been raised. Respondents to the questionnaire in writing generally expressed their feelings and opinions more clearly.

Development and Implementation of an Internet Survey to Assess Community Health in the Face of a Health Crisis: Data from the Pregnancy and Birth Survey of the Fukushima Health Management Survey, 2016
Nakano H, et al. *Int J Environ Res Public Health.* 2019 Jun 1;16(11). pii: E1946.

Report on the Third-Round Thyroid Survey (Second Full-Scale Thyroid Survey)

1. Summary

1.1 Purpose

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

1.2 Survey Population

In addition to the participants of Preliminary Baseline Survey (Fukushima residents born between 2 April 1992 and 1 April 2011), the Full-Scale Thyroid Survey (from and after the Second-Round Survey) also includes those who were born between 2 April 2011 and 1 April 2012.

1.3 Implementation Period

The Second Full-Scale Survey started on 1 May 2016 and covered examinees up to age 20 on a municipality-by-municipality schedule to FY 2017. Thereafter, we revised the schedule of examinations so that examinees can take examinations every five years – at ages 25, 30, 35, etc. – to make it easier for examinees to remember when they are due for examination. However, the interval between the examination at age 25 and the previous one should not be greater than 5 years.

1.4 Responsible Organizations

Fukushima Prefecture commissioned Fukushima Medical University (FMU) to conduct the survey in cooperation with organizations inside and outside Fukushima for the convenience of examination participants (the number of contracts is as of 30 September 2019).

1.4-1 The primary examination

Inside Fukushima Prefecture	82 medical facilities
Outside Fukushima Prefecture	121 medical facilities

1.4-2 The confirmatory examination

Inside Fukushima Prefecture	5 medical facilities including FMU
Outside Fukushima Prefecture	37 medical facilities

1.5 Method

1.5-1 The primary examination

We use ultrasonography for examination of the thyroid gland.

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

-Diagnostic criteria (A)

Those with A1 or A2 test results are recommended for watchful waiting until they undergo the primary examination, starting from April 2018.

A1: No nodules / cysts

A2: Nodules ≤ 5.0 mm or cysts ≤ 20.0 mm

-Diagnostic criteria (B)

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

B: Nodules ≥ 5.1 mm or cysts ≥ 20.1 mm

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

-Diagnostic criteria (C)

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

C: Immediate need for confirmatory examination, judging from the condition of the thyroid gland.

1.5-2 The confirmatory examination

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

We recommend medical follow-up for those requiring it due to confirmatory test results.

1.5-3 Flow chart

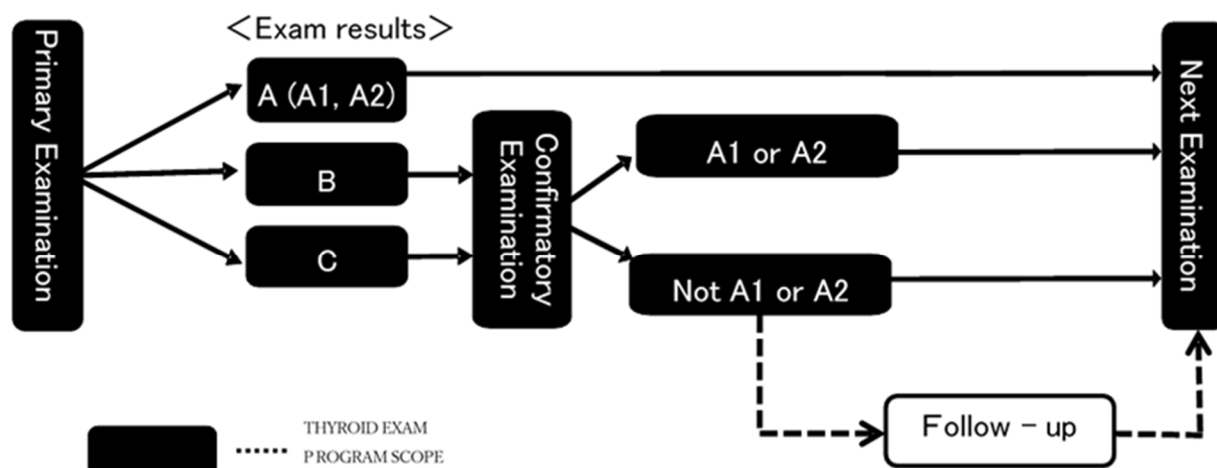


Fig.1 Flow chart

1.6 Municipalities Surveyed

The municipalities where examinations were carried out in FY 2016 and FY 2017 are as follows:

- 25 municipalities surveyed in FY 2016
- 34 municipalities surveyed in FY 2017

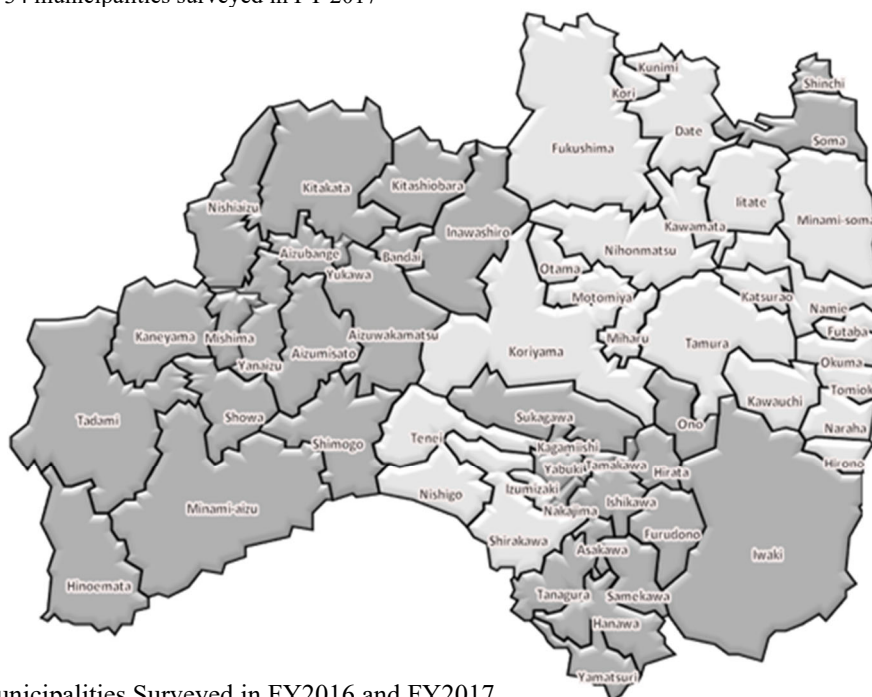


Fig. 2 Municipalities Surveyed in FY2016 and FY2017

2. Results as of 30 September 2019

2.1 Results of the Primary Examination

2.1-1 Progress report

The primary examination started on 1 May 2016 for at 336,669 people in 59 municipalities (25 municipalities in FY2016 and 34 municipalities in FY2017) and so far carried out for 217,904 people (64.7%). (Examination status for each municipality and that of prefectures other than Fukushima are as in Appendix 1 and Appendix 2)

Results have been confirmed for 217,897 participants (100.0%) and notifications have been sent accordingly. (The result for each municipality is as Appendix 3)

Thus far, 76,420 (35.1%) were classified as A1, 139,976 (64.2%) as A2, 1,501 (0.7%) as B, and none as C.

Table 1 Progress and results of the primary examination

As of 30 September 2019

	Survey population a	Participants		Proportion (%) c (c/b)	Exam results							
		Proportion (%) b (b/a)	Outside Fukushima		Class (%)							
					A				Requiring confirmatory examination			
					A1 d (d/c)	(d/c)	A2 e (e/c)	(e/c)	B f (f/c)	(f/c)	C g (g/c)	(g/c)
FY 2016	191,876	126,383 (65.9)	8,904	126,381 (100.0)	44,038 (34.8)	(34.8)	81,538 (64.5)	(64.5)	805 (0.6)	(0.6)	0 (0.0)	(0.0)
FY 2017	144,793	91,521 (63.2)	3,595	91,516 (100.0)	32,382 (35.4)	(35.4)	58,438 (63.9)	(63.9)	696 (0.8)	(0.8)	0 (0.0)	(0.0)
Total	336,669	217,904 (64.7)	12,499	217,897 (100.0)	76,420 (35.1)	(35.1)	139,976 (64.2)	(64.2)	1,501 (0.7)	(0.7)	0 (0.0)	(0.0)

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

As of 30 September 2019

	Number of participants with confirmed results a	Number and proportion of participants with nodules/cysts			
		Nodules		Cysts	
		≥5.1 mm b (b/a)	≤5.0 mm c (c/a)	≥20.1 mm d (d/a)	≤20.0 mm e (e/a)
FY 2016	126,381	805 (0.6)	429 (0.3)	0 (0.0)	81,923 (64.8)
FY 2017	91,516	693 (0.8)	399 (0.4)	3 (0.0)	58,739 (64.2)
Total	217,897	1,498 (0.7)	828 (0.4)	3 (0.0)	140,662 (64.6)

- Proportions are rounded to the 1st decimal place. This also applies to other tables.
- The participants in FY2016 and FY 2017 surveys are those received the Full-Scale Survey examination conducted on a municipality-by-municipality basis (until they are older than 20 years old), whereas those who receive examination at 5-year intervals (those born in FY1992 and FY1993) are excluded.
- The results of those received examination at 5-year intervals will be shown separately. Examinations for those born in FY1992 (approx. 23,000) and FY1993 (approx. 22,000) took place in FY 2017 and FY2018, respectively.

2.1-2 Participation rates by age group

The participation rate of the age group of 18 or older (age as of 1 April 2016) in municipalities surveyed in FY 2016 was 17.2%.

The participation rate of the age group of 18 or older (age as of 1 April 2017) in municipalities surveyed in FY 2017 was 16.5%.

Table 3 Participation rates by age group

As of 30 September 2019

		Total	Age group (years)			
FY 2016	Age group (years)		4-7	8-12	13-17	18-23
	Survey population (a)	191,876	36,620	51,003	56,840	47,413
	Participants (b)	126,383	26,425	45,553	46,267	8,138
	Proportion (%) (b/a)	65.9	72.2	89.3	81.4	17.2
FY 2017	Age group (years)		5-7	8-12	13-17	18-24
	Survey population (a)	144,793	19,316	37,165	41,995	46,317
	Participants (b)	91,521	14,957	33,947	34,966	7,651
	Proportion (%) (b/a)	63.2	77.4	91.3	83.3	16.5
Total	Survey population (a)	336,669	55,936	88,168	98,835	93,730
	Participants (b)	217,904	41,382	79,500	81,233	15,789
	Proportion (%) (b/a)	64.7	74.0	90.2	82.2	16.8

· Age groups are formed with the age as of 1 April of each fiscal year.

2.1-3 Comparison of Full-scale Thyroid Surveys

Comparison of Third- and Second-Round Survey results is as shown in Table 4.

Among 201,519 participants who were diagnosed as A1 or A2 in the Second-Round Survey, 200,823 (99.7%) had A1 or A2 results, and 696 (0.3%) were diagnosed as B in the Third-Round Survey.

Among 1,147 participants who were diagnosed as B in the Second-Round Survey, 442 (38.5%) had A1 or A2 results, and 705 (61.5%) were diagnosed as B in the Third-Round Survey.

Table 4 Comparison of Full-scale Thyroid Survey

As of 30 September 2019

			Results of the Second-round Survey*1 (%) a	Results of the Third-Round Survey *2			
				A		B d d/a (%)	C e e/a (%)
				A1 b b/a (%)	A2 c c/a (%)		
Results of the Second- round Survey	A	A1	79,748 (100.0)	57,633 (72.3)	21,979 (27.6)	136 (0.2)	0 (0.0)
		A2	121,771 (100.0)	12,174 (10.0)	109,037 (89.5)	560 (0.5)	0 (0.0)
	B		1,147 (100.0)	62 (5.4)	380 (33.1)	705 (61.5)	0 (0.0)
	C		0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
	No participation		15,231 (100.0)	6,551 (43.0)	8,580 (56.3)	100 (0.7)	0 (0.0)
	Total		217,897 (100.0)	76,420 (35.1)	139,976 (64.2)	1,501 (0.7)	0 (0.0)

*1 Upper figures show a previous (Second Round) diagnosis for the participants in this (Third Round) survey whose results have been confirmed. They are not the breakdown of the total number of the previous-round participants (270,557)

*2 Upper figures show the breakdown of the Third-Round Survey participants who were diagnosed for each diagnostic class in the Second-Round Survey. Lower figures are their proportion (%).

2.2 Results of the Confirmatory Examination

2.2-1 Progress report

Confirmatory Examinations have been conducted since October 2016 and so far 1,098 (73.2%) of 1,501 people who were recommended for a confirmatory examination as a result of the primary examination have received the examination and 1,050 (95.6%) have completed the entire procedure of the examination (Implementation status of each municipality is shown in Appendix 5).

Of the foregoing 1,050 participants, 108 (A1: 9, A2: 99) (10.3%) were confirmed to meet A1 or A2 diagnostic criteria by the Primary Examination standards (including those with other thyroid conditions). Remaining 942 (89.7%) people were confirmed to be non-equivalent to A1 or A2.

Table 5 Progress and results of the confirmatory examination

As of 30 September 2019

	Number of those requiring confirmatory exam a	Participants Proportion (%) b (b/a)	Confirmatory exam coverage (%) c (c/b)	Confirmed exam results			
				A1	A2	Not A1 or A2	
				d (d/c)	e (e/c)	f (f/c)	FNAC g (g/f)
FY 2016	805	610 (75.8)	577 (94.6)	5 (0.9)	58 (10.1)	514 (89.1)	37 (7.2)
FY 2017	696	488 (70.1)	473 (96.9)	4 (0.8)	41 (8.7)	428 (90.5)	37 (8.6)
Total	1,501	1,098 (73.2)	1,050 (95.6)	9 (0.9)	99 (9.4)	942 (89.7)	74 (7.9)

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

Among those who underwent FNAC, 30 had nodules classified as malignant or suspicious for malignancy. 12 of them were male, and 18 were female. Participants' age at the time of the confirmatory examination ranged from 12 to 23 years (mean age: 16.4 ± 2.8 years). The minimum and maximum tumor diameters were 5.6 mm and 33.0 mm. Mean tumor diameter was 13.0 ± 6.5 mm.

Results of these 30 participants in the Full-Scale Survey (the Second-Round Survey) were: 20 were classified as A (A1: 6, A2: 14), 7 as B and 3 did not participated in the survey.

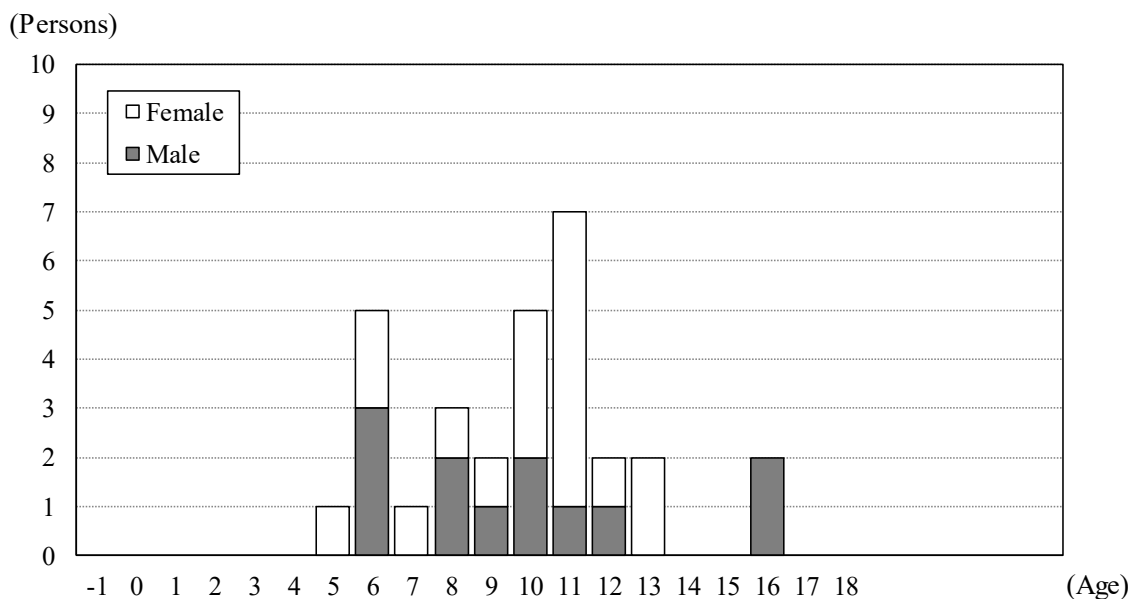
Table 6. Results of FNAC

A. Municipalities surveyed in FY 2016	
• Malignant or suspicious for malignancy :	12 ^{*)}
• Male to female ratio :	6:6
• Mean age (SD, min-max):	16.3 (3.0, 12-23), 10.3 (2.8, 6-16) at the time of disaster
• Mean tumor size:	14.0 mm (6.0 mm, 8.7-30.4 mm)
B. Municipalities surveyed in FY 2017	
• Malignant or suspicious for malignancy :	18 ^{*)}
• Male to female ratio :	6:12
• Mean age (SD, min-max):	16.5 (2.7, 12-22), 9.4 (2.9, 5-16) at the time of disaster
• Mean tumor size:	12.4 (6.9 mm, 5.6-33.0 mm)
C. Total	
• Malignant or suspicious for malignancy :	30 ^{*)}
• Male to female ratio :	12:18
• Mean age (SD, min-max):	16.4 (2.8, 12-23), 9.8 (2.8, 5-16) at the time of disaster
• Mean tumor size:	13.0 mm (6.5 mm, 5.6-33.0 mm)

^{*)} Surgical cases are as shown in Appendix 6.

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

Age distributions of 30 people having nodules classified as malignant or suspicious for malignancy by age as of 11 March 2011 is shown in Fig. 3, and by age as of the confirmatory examination in Fig. 4.



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

Fig.3 Age as of 11 March 2011

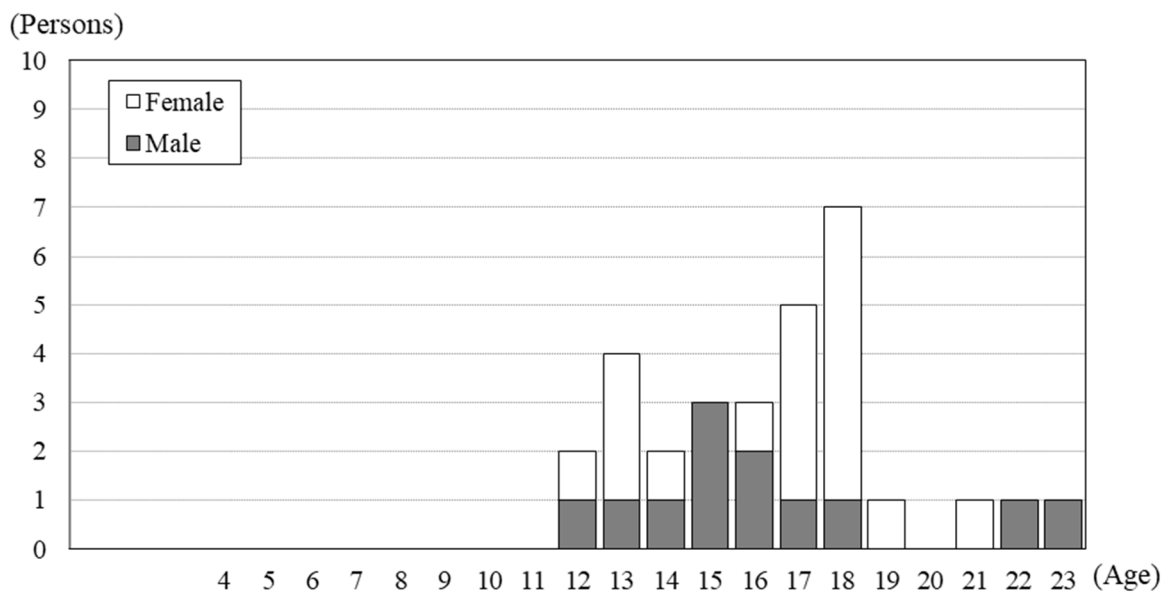


Fig.4 Age as of the date of confirmatory examination

2.2-4 Basic Survey results of those with nodules diagnosed as malignant or suspicious for malignancy by FNAC

11(36.7%) of the 30 people participated in the Basic Survey (for external radiation dose estimation), and 11 received the results. The highest effective dose documented was 1.5 mSv.

Table 7. A breakdown of dose estimates for participants of the Basic Survey

As of 30 September 2019

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	3	0	0	4	0	0	3	4
1-1.9	0	0	1	1	1	1	0	0	2	2
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	4	1	1	5	0	0	5	6

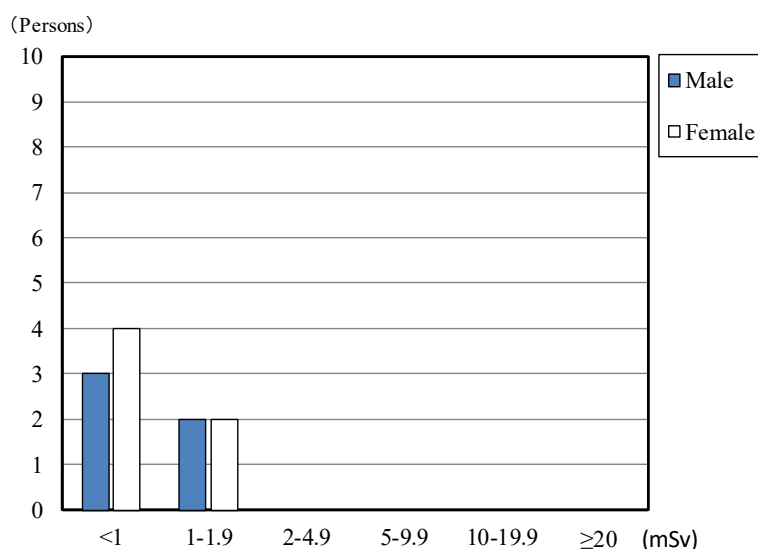


Fig. 5 Effective dose of the participants

2.2-5 Blood test and urinary iodine test results as of 30 September 2019

Table 8. Blood test results

Mean±SD (Abnormal value)

	FT4 ¹⁾ (ng/dL)	FT3 ²⁾ (pg/mL)	TSH ³⁾ (μIU/mL)	Tg ⁴⁾ (ng/mL)	TgAb ⁵⁾ (IU/mL)	TPOAb ⁶⁾ (IU/mL)
Reference Range	0.95-1.74 ⁷⁾	2.13-4.07 ⁷⁾	0.340-3.880 ⁷⁾	≤33.7	<28.0	<16.0
30 malignant or suspicious	1.2 ± 0.1 (3.3%)	3.6 ± 0.7 (16.7%)	1.8 ± 1.2 (16.7%)	29.8 ± 38.8 (26.7%)	20.0%	16.7%
Other 989	1.2 ± 0.2 (6.2%)	3.5 ± 0.5 (6.3%)	1.3 ± 4.4 (9.1%)	29.1 ± 98.3 (14.4%)	8.2%	12.6%

- 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.

Table 9 Urinary iodine test results

(μg/day)

	Minimum	25th percentile	Median	75th percentile	Maximum
30 malignant or suspicious	69	144	229	397	3510
Other 991	26	109	176	324	8910

2.2-6 Confirmatory Examination results by area as of 30 September 2019

The proportions of participants with nodules diagnosed as malignant or suspicious for malignancy were 0.03% in Hamadori, 0.02% in 13 municipalities in the nationally designated evacuation zones and Aizu, and 0.01% in Nakadori.

Table 10 Confirmatory examination results by area

Area	Number of Participants a	Participants who required confirmatory exam b	Proportion who required confirmatory exam (%) b/a	Number who underwent confirmatory exam	Malignant or Suspicious cases c	Proportion of malignant or suspicious cases (%) c/a
13 municipalities ¹⁾	27,084	212	0.8	161	5	0.02
Nakadori ²⁾	121,916	761	0.6	564	8	0.01
Hamadori ³⁾	41,295	323	0.8	230	12	0.03
Aizu ⁴⁾	27,609	205	0.7	143	5	0.02
Total	217,904	1,501	0.7	1,098	30	0.01

- 1) Tamura, Minami-soma, Date, Kawamata, Hirono, Naraha, Tomioka, Kawauchi, Okuma, Futaba, Namie, Katsurao, Iitate
- 2) Fukushima, Koriyama, Shirakawa, Sukagawa, Nihonmatsu, Motomiya, Kori, Kunimi, Otama, Kagamiishi, Tenei, Nishigo, Izumizaki, Nakajima, Yabuki, Tanagura, Yamatsuri, Hanawa, Samegawa, Ishikawa, Tamakawa, Hirata, Asakawa, Furudono, Miharuru, Ono
- 3) Iwaki, Soma, Shinchi
- 4) Aizuwakamatsu, Kitakata, Shimogo, Hinoemata, Tadami, Minami-aizu, Kitashiobara, Nishiaizu, Bandai, Inawashiro, Aizubange, Yugawa, Yanaizu, Mishima, Kaneyama, Showa, Aizumisato

2.3 Mental Health Care

2.3-1 Support for primary examination participants

Since July 2015, we offer person-to-person explanations to participants at public venues where primary examinations take place. After the examination, medical doctors explain the results showing the ultrasound image in private consultation booths set up at the venue. As of 30 September 2019, 27,853 (84.9%) of 32,806 participants visited the consultation booths. In case the booths cannot be set up at school, alternatives such as briefing sessions at schools and telephonic supports are offered.

- ※ The number of those who used the consultation booths includes participants receiving the Second-Round Survey.

2.3-2 Support for confirmatory examination participants

We have set up a support team for participants of the confirmatory examination within Fukushima Medical University to address their anxiety and concerns, as well as online support for Q&A and counseling.

Since the start of the Full-Scale Thyroid Survey, 1,175 participants (413 males and 762 females) have received support as of 30 September 2019. The number of supports provided was 2,433 in total. Of these, 1,347 (55.4%) received support at their first examination and 1,020 (41.9%) at subsequent examination (includes 139 (5.7%) at FNAC) – and 66 (2.7%) at informed consent.

For those who have proceeded to the health insurance medical care, we continue to provide support in cooperation with the teams of medical staff at hospitals.

- ※ The number of those who used the consultation booths at the confirmatory examination includes participants receiving the examination second time.

Appendix 1

Thyroid ultrasound examination (TUE) coverage by municipality

As of 30 September 2019

	Survey population a	Participants		Proportion (%) b/a	Number and proportion *2 of participants by age group				Participants living outside Fukushima c *3	Proportion (%) c/b
		b	Outside Fukushima *1		4-9	10-14	15-19	≥20		
Municipalities surveyed in FY 2016										
Kawamata	2,142	1,409	34	65.8	408 29.0	544 38.6	409 29.0	48 3.4	76	5.4
Namie	3,315	1,954	508	58.9	581 29.7	664 34.0	576 29.5	133 6.8	586	30.0
Iitate	987	604	23	61.2	174 28.8	261 43.2	151 25.0	18 3.0	42	7.0
Minami-soma	11,540	7,076	1,236	61.3	2,208 31.2	2,726 38.5	1,839 26.0	303 4.3	1,333	18.8
Date	10,210	7,085	242	69.4	2,028 28.6	2,674 37.7	2,095 29.6	288 4.1	266	3.8
Tamura	6,344	4,055	99	63.9	1,269 31.3	1,594 39.3	1,105 27.3	87 2.1	186	4.6
Hirono	975	546	66	56.0	163 29.9	185 33.9	154 28.2	44 8.1	61	11.2
Naraha	1,281	771	99	60.2	214 27.8	270 35.0	222 28.8	65 8.4	103	13.4
Tomioka	2,751	1,477	299	53.7	393 26.6	509 34.5	450 30.5	125 8.5	329	22.3
Kawauchi	297	171	15	57.6	47 27.5	72 42.1	49 28.7	3 1.8	16	9.4
Okuma	2,259	1,343	270	59.5	418 31.1	496 36.9	349 26.0	80 6.0	300	22.3
Futaba	1,133	464	117	41.0	139 30.0	184 39.7	117 25.2	24 5.2	125	26.9
Katsurao	211	129	4	61.1	36 27.9	50 38.8	32 24.8	11 8.5	10	7.8
Fukushima	49,340	34,103	2,096	69.1	10,281 30.1	12,202 35.8	10,176 29.8	1,444 4.2	2,412	7.1
Nihonmatsu	9,308	6,347	230	68.2	1,955 30.8	2,456 38.7	1,747 27.5	189 3.0	258	4.1
Motomiya	5,615	3,898	124	69.4	1,316 33.8	1,445 37.1	1,030 26.4	107 2.7	130	3.3
Otama	1,468	1,051	34	71.6	358 34.1	405 38.5	256 24.4	32 3.0	33	3.1
Koriyama	59,469	38,115	2,851	64.1	11,583 30.4	14,398 37.8	10,610 27.8	1,524 4.0	3,081	8.1
Kori	1,854	1,354	39	73.0	424 31.3	501 37.0	370 27.3	59 4.4	38	2.8
Kunimi	1,405	1,021	31	72.7	275 26.9	385 37.7	304 29.8	57 5.6	32	3.1
Tenei	966	634	24	65.6	191 30.1	258 40.7	164 25.9	21 3.3	23	3.6
Shirakawa	11,352	7,648	295	67.4	2,261 29.6	2,853 37.3	2,251 29.4	283 3.7	373	4.9
Nishigo	3,722	2,562	110	68.8	787 30.7	951 37.1	705 27.5	119 4.6	142	5.5
Izumizaki	1,163	799	12	68.7	239 29.9	310 38.8	222 27.8	28 3.5	19	2.4
Miharu	2,769	1,767	46	63.8	454 25.7	628 35.5	595 33.7	90 5.1	44	2.5
Subtotal	191,876	126,383	8,904	65.9	38,202 30.2	47,021 37.2	35,978 28.5	5,182 4.1	10,018	7.9

*1) The number of participants who received the examination at facilities outside Fukushima or by teams dispatched from FMU (as of 31 August 2019)

*2) The upper layer shows the number of participants, and the lower layer shows the proportion of participants from each municipality.

*3) The number of participants who have resident registration outside of Fukushima.

- Age groups were formed based on the age at the Full-Scale Thyroid Survey (the Third-Round Survey). This applies to other tables hereafter.

As of 30 September 2019

	Survey population	Participants		Proportion (%)	Number and proportion*2 of participants by age group				Participants living outside Fukushima*3	Proportion (%)
		b	Outside Fukushima*1		b/a	4-9	10-14	15-19		
	a			b					b/a	4-9
Municipalities surveyed in FY 2017										
Iwaki	56,810	36,624	2,006	64.5	8,793	13,724	11,600	2,507	2,066	5.6
					24.0	37.5	31.7	6.8		
Sukagawa	14,113	9,247	275	65.5	2,570	3,476	2,699	502	305	3.3
					27.8	37.6	29.2	5.4		
Soma	6,252	3,822	256	61.1	1,137	1,410	1,110	165	291	7.6
					29.7	36.9	29.0	4.3		
Kagamiishi	2,417	1,590	44	65.8	436	614	470	70	46	2.9
					27.4	38.6	29.6	4.4		
Shinchi	1,320	849	34	64.3	212	333	263	41	48	5.7
					25.0	39.2	31.0	4.8		
Nakajima	972	645	6	66.4	177	240	202	26	8	1.2
					27.4	37.2	31.3	4.0		
Yabuki	3,041	1,962	43	64.5	632	736	519	75	49	2.5
					32.2	37.5	26.5	3.8		
Ishikawa	2,530	1,609	36	63.6	485	591	470	63	49	3.0
					30.1	36.7	29.2	3.9		
Yamatsuri	930	578	16	62.2	187	219	148	24	13	2.2
					32.4	37.9	25.6	4.2		
Asakawa	1,210	820	27	67.8	214	316	251	39	36	4.4
					26.1	38.5	30.6	4.8		
Hirata	1,101	691	8	62.8	208	268	196	19	11	1.6
					30.1	38.8	28.4	2.7		
Tanagura	2,749	1,752	42	63.7	536	677	479	60	54	3.1
					30.6	38.6	27.3	3.4		
Hanawa	1,492	889	27	59.6	260	348	242	39	35	3.9
					29.2	39.1	27.2	4.4		
Samegawa	617	382	12	61.9	120	154	96	12	17	4.5
					31.4	40.3	25.1	3.1		
Ono	1,716	1,031	21	60.1	318	423	254	36	19	1.8
					30.8	41.0	24.6	3.5		
Tamakawa	1,210	798	10	66.0	222	333	220	23	12	1.5
					27.8	41.7	27.6	2.9		
Furudono	946	623	16	65.9	197	232	158	36	17	2.7
					31.6	37.2	25.4	5.8		
Hinoemata	94	47	5	50.0	14	13	17	3	4	8.5
					29.8	27.7	36.2	6.4		
Minami-aizu	2,512	1,472	25	58.6	437	559	428	48	25	1.7
					29.7	38.0	29.1	3.3		
Kaneyama	177	89	1	50.3	19	42	25	3	1	1.1
					21.3	47.2	28.1	3.4		
Showa	127	74	3	58.3	26	26	20	2	4	5.4
					35.1	35.1	27.0	2.7		
Mishima	174	107	1	61.5	24	44	37	2	1	0.9
					22.4	41.1	34.6	1.9		
Shimogo	873	528	9	60.5	160	200	148	20	8	1.5
					30.3	37.9	28.0	3.8		
Kitakata	8,079	4,925	101	61.0	1,336	1,903	1,518	168	110	2.2
					27.1	38.6	30.8	3.4		
Nishiaizu	885	476	9	53.8	135	175	145	21	15	3.2
					28.4	36.8	30.5	4.4		
Tadami	642	391	7	60.9	119	147	112	13	5	1.3
					30.4	37.6	28.6	3.3		
Inawashiro	2,383	1,504	40	63.1	456	560	420	68	47	3.1
					30.3	37.2	27.9	4.5		
Bandai	555	355	9	64.0	105	143	98	9	13	3.7
					29.6	40.3	27.6	2.5		
Kitashiobara	502	318	7	63.3	98	129	79	12	7	2.2
					30.8	40.6	24.8	3.8		
Aizumisato	3,311	2,063	41	62.3	568	832	563	100	45	2.2
					27.5	40.3	27.3	4.8		
Aizubange	2,790	1,736	48	62.2	489	679	490	78	38	2.2
					28.2	39.1	28.2	4.5		
Yanaizu	538	342	4	63.6	103	129	96	14	3	0.9
					30.1	37.7	28.1	4.1		
Aizuwakamatsu	21,119	12,768	401	60.5	3,585	4,811	3,915	457	470	3.7
					28.1	37.7	30.7	3.6		
Yugawa	606	414	5	68.3	121	159	115	19	8	1.9
					29.2	38.4	27.8	4.6		
Subtotal	144,793	91,521	3,595	63.2	24,499	34,645	27,603	4,774	3,880	4.2
					26.8	37.9	30.2	5.2		
Total	336,669	217,904	12,499	64.7	62,701	81,666	63,581	9,956	13,898	6.4
					28.8	37.5	29.2	4.6		

Appendix 2

Thyroid ultrasound examination (TUE) coverage outside Fukushima by prefecture As of 31 August 2019

Prefecture	Number of medical facilities	Participants *	Prefecture	Number of medical facilities	Participants *	Prefecture	Number of medical facilities	Participants *
Hokkaido	7	355	Fukui	1	23	Hiroshima	2	33
Aomori	2	143	Yamanashi	2	105	Yamaguchi	1	22
Iwate	3	306	Nagano	3	139	Tokushima	1	9
Miyagi	2	2,546	Gifu	1	43	Kagawa	1	17
Akita	1	184	Shizuoka	2	112	Ehime	1	12
Yamagata	3	594	Aichi	4	223	Kochi	1	14
Ibaraki	4	770	Mie	1	25	Fukuoka	3	85
Tochigi	8	751	Shiga	1	22	Saga	1	5
Gunma	2	234	Kyoto	3	99	Nagasaki	2	27
Saitama	3	589	Osaka	7	232	Kumamoto	1	31
Chiba	5	547	Hyogo	2	138	Oita	1	14
Tokyo	16	2,137	Nara	2	30	Miyazaki	1	29
Kanagawa	6	1,034	Wakayama	1	6	Kagoshima	1	19
Niigata	2	590	Tottori	1	10	Okinawa	1	54
Toyama	2	23	Shimane	1	15			
Ishikawa	1	43	Okayama	3	60			
						Total	120	12,499

- The number of participants includes those who received examination at facilities outside Fukushima or by teams dispatched by Fukushima Medical University.
- The number of dispatches of FMU teams for examinations outside Fukushima was 1, to Kanagawa.

Appendix 3

Results of primary examination by municipality

As of 30 September 2019

	Participants a	Confirmed results b Proportion (%) b/a (%)	Number by exam results				Nodules		Cysts	
			Proportion (%)							
			A		B	C	Proportion (%)		Proportion (%)	
			A1	A2			≥5.1 mm	≤5.0 mm	≥20.1 mm	≤20.0 mm

Municipalities surveyed in FY 2016

Kawamata	1,409	1,409	490	910	9	0	9	7	0	915
		100.0	34.8	64.6	0.6	0.0	0.6	0.5	0.0	64.9
Namie	1,954	1,954	652	1,286	16	0	16	9	0	1,289
		100.0	33.4	65.8	0.8	0.0	0.8	0.5	0.0	66.0
Iitate	604	604	203	397	4	0	4	2	0	397
		100.0	33.6	65.7	0.7	0.0	0.7	0.3	0.0	65.7
Minami-soma	7,076	7,076	2,568	4,455	53	0	53	32	0	4,477
		100.0	36.3	63.0	0.7	0.0	0.7	0.5	0.0	63.3
Date	7,085	7,085	2,460	4,575	50	0	50	23	0	4,599
		100.0	34.7	64.6	0.7	0.0	0.7	0.3	0.0	64.9
Tamura	4,055	4,055	1,490	2,519	46	0	46	22	0	2,544
		100.0	36.7	62.1	1.1	0.0	1.1	0.5	0.0	62.7
Hirono	546	546	195	347	4	0	4	3	0	346
		100.0	35.7	63.6	0.7	0.0	0.7	0.5	0.0	63.4
Naraha	771	771	293	475	3	0	3	2	0	476
		100.0	38.0	61.6	0.4	0.0	0.4	0.3	0.0	61.7
Tomioka	1,477	1,477	511	953	13	0	13	3	0	960
		100.0	34.6	64.5	0.9	0.0	0.9	0.2	0.0	65.0
Kawauchi	171	171	41	129	1	0	1	0	0	130
		100.0	24.0	75.4	0.6	0.0	0.6	0.0	0.0	76.0
Okuma	1,343	1,343	461	871	11	0	11	6	0	873
		100.0	34.3	64.9	0.8	0.0	0.8	0.4	0.0	65.0
Futaba	464	464	173	289	2	0	2	0	0	290
		100.0	37.3	62.3	0.4	0.0	0.4	0.0	0.0	62.5
Katsurao	129	129	50	79	0	0	0	1	0	79
		100.0	38.8	61.2	0.0	0.0	0.0	0.8	0.0	61.2
Fukushima	34,103	34,103	11,993	21,917	193	0	193	105	0	22,015
		100.0	35.2	64.3	0.6	0.0	0.6	0.3	0.0	64.6
Nihonmatsu	6,347	6,347	2,266	4,036	45	0	45	22	0	4,060
		100.0	35.7	63.6	0.7	0.0	0.7	0.3	0.0	64.0
Motomiya	3,898	3,898	1,357	2,524	17	0	17	8	0	2,535
		100.0	34.8	64.8	0.4	0.0	0.4	0.2	0.0	65.0
Otama	1,051	1,051	374	671	6	0	6	3	0	675
		100.0	35.6	63.8	0.6	0.0	0.6	0.3	0.0	64.2
Koriyama	38,115	38,113	13,084	24,790	239	0	239	130	0	24,900
		100.0	34.3	65.0	0.6	0.0	0.6	0.3	0.0	65.3
Kori	1,354	1,354	493	851	10	0	10	4	0	858
		100.0	36.4	62.9	0.7	0.0	0.7	0.3	0.0	63.4
Kunimi	1,021	1,021	340	673	8	0	8	2	0	678
		100.0	33.3	65.9	0.8	0.0	0.8	0.2	0.0	66.4
Tenei	634	634	213	414	7	0	7	1	0	419
		100.0	33.6	65.3	1.1	0.0	1.1	0.2	0.0	66.1
Shirakawa	7,648	7,648	2,666	4,941	41	0	41	23	0	4,965
		100.0	34.9	64.6	0.5	0.0	0.5	0.3	0.0	64.9
Nishigo	2,562	2,562	829	1,719	14	0	14	8	0	1,725
		100.0	32.4	67.1	0.5	0.0	0.5	0.3	0.0	67.3
Izumizaki	799	799	272	525	2	0	2	5	0	525
		100.0	34.0	65.7	0.3	0.0	0.3	0.6	0.0	65.7
Miharu	1,767	1,767	564	1,192	11	0	11	8	0	1,193
		100.0	31.9	67.5	0.6	0.0	0.6	0.5	0.0	67.5
Subtotal	126,383	126,381	44,038	81,538	805	0	805	429	0	81,923
		100.0	34.8	64.5	0.6	0.0	0.6	0.3	0.0	64.8

	Participants a	Confirmed results b Proportion b/a (%)	Number by exam results				Nodules		Cysts	
			Proportion (%)				Proportion (%)		Proportion (%)	
			A		B	C	≥5.1 mm	≤5.0 mm	≥20.1 mm	≤20.0 mm
			A1	A2						

Municipalities surveyed in FY 2017

Iwaki	36,624	36,619 100.0	12,655 34.6	23,681 64.7	283 0.8	0 0.0	281 0.8	145 0.4	2 0.0	23,798 65.0
Sukagawa	9,247	9,247 100.0	3,236 35.0	5,928 64.1	83 0.9	0 0.0	83 0.9	46 0.5	0 0.0	5,969 64.6
Soma	3,822	3,822 100.0	1,536 40.2	2,253 58.9	33 0.9	0 0.0	33 0.9	21 0.5	0 0.0	2,270 59.4
Kagamiishi	1,590	1,590 100.0	528 33.2	1,050 66.0	12 0.8	0 0.0	12 0.8	7 0.4	0 0.0	1,056 66.4
Shinchi	849	849 100.0	307 36.2	535 63.0	7 0.8	0 0.0	7 0.8	4 0.5	0 0.0	537 63.3
Nakajima	645	645 100.0	226 35.0	416 64.5	3 0.5	0 0.0	3 0.5	4 0.6	0 0.0	415 64.3
Yabuki	1,962	1,962 100.0	683 34.8	1,271 64.8	8 0.4	0 0.0	8 0.4	4 0.2	0 0.0	1,274 64.9
Ishikawa	1,609	1,609 100.0	639 39.7	962 59.8	8 0.5	0 0.0	8 0.5	4 0.2	0 0.0	965 60.0
Yamatsuri	578	578 100.0	196 33.9	379 65.6	3 0.5	0 0.0	3 0.5	1 0.2	0 0.0	381 65.9
Asakawa	820	820 100.0	292 35.6	519 63.3	9 1.1	0 0.0	9 1.1	3 0.4	0 0.0	525 64.0
Hirata	691	691 100.0	271 39.2	415 60.1	5 0.7	0 0.0	5 0.7	2 0.3	0 0.0	416 60.2
Tanagura	1,752	1,752 100.0	635 36.2	1,107 63.2	10 0.6	0 0.0	10 0.6	8 0.5	0 0.0	1,114 63.6
Hanawa	889	889 100.0	322 36.2	558 62.8	9 1.0	0 0.0	9 1.0	5 0.6	0 0.0	561 63.1
Samegawa	382	382 100.0	139 36.4	239 62.6	4 1.0	0 0.0	4 1.0	3 0.8	0 0.0	241 63.1
Ono	1,031	1,031 100.0	309 30.0	714 69.3	8 0.8	0 0.0	8 0.8	3 0.3	0 0.0	718 69.6
Tamakawa	798	798 100.0	283 35.5	512 64.2	3 0.4	0 0.0	3 0.4	6 0.8	0 0.0	513 64.3
Furudono	623	623 100.0	238 38.2	382 61.3	3 0.5	0 0.0	3 0.5	2 0.3	0 0.0	383 61.5
Hinoemata	47	47 100.0	21 44.7	26 55.3	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	26 55.3
Minami-aizu	1,472	1,472 100.0	552 37.5	909 61.8	11 0.7	0 0.0	11 0.7	3 0.2	0 0.0	913 62.0
Kaneyama	89	89 100.0	31 34.8	57 64.0	1 1.1	0 0.0	1 1.1	1 1.1	0 0.0	57 64.0
Showa	74	74 100.0	34 45.9	38 51.4	2 2.7	0 0.0	2 2.7	0 0.0	0 0.0	39 52.7
Mishima	107	107 100.0	28 26.2	78 72.9	1 0.9	0 0.0	1 0.9	1 0.9	0 0.0	79 73.8
Shimogo	528	528 100.0	220 41.7	303 57.4	5 0.9	0 0.0	5 0.9	1 0.2	0 0.0	307 58.1
Kitakata	4,925	4,925 100.0	1,761 35.8	3,128 63.5	36 0.7	0 0.0	36 0.7	27 0.5	0 0.0	3,139 63.7
Nishiaizu	476	476 100.0	178 37.4	294 61.8	4 0.8	0 0.0	4 0.8	2 0.4	0 0.0	293 61.6
Tadami	391	391 100.0	144 36.8	245 62.7	2 0.5	0 0.0	2 0.5	1 0.3	0 0.0	247 63.2
Inawashiro	1,504	1,504 100.0	526 35.0	963 64.0	15 1.0	0 0.0	15 1.0	7 0.5	0 0.0	974 64.8
Bandai	355	355 100.0	131 36.9	222 62.5	2 0.6	0 0.0	2 0.6	2 0.6	0 0.0	223 62.8
Kitashiobara	318	318 100.0	107 33.6	209 65.7	2 0.6	0 0.0	2 0.6	1 0.3	0 0.0	209 65.7
Aizumisato	2,063	2,063 100.0	769 37.3	1,279 62.0	15 0.7	0 0.0	15 0.7	12 0.6	0 0.0	1,285 62.3
Aizubange	1,736	1,736 100.0	585 33.7	1,137 65.5	14 0.8	0 0.0	14 0.8	17 1.0	0 0.0	1,140 65.7
Yanaizu	342	342 100.0	123 36.0	219 64.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	219 64.0
Aizuwakamatsu	12,768	12,768 100.0	4,526 35.4	8,150 63.8	92 0.7	0 0.0	91 0.7	54 0.4	1 0.0	8,191 64.2
Yugawa	414	414 100.0	151 36.5	260 62.8	3 0.7	0 0.0	3 0.7	2 0.5	0 0.0	262 63.3
Subtotal	91,521	91,516 100.0	32,382 35.4	58,438 63.9	696 0.8	0 0.0	693 0.8	399 0.4	3 0.0	58,739 64.2
Total	217,904	217,897 100.0	76,420 35.1	139,976 64.2	1,501 0.7	0 0.0	1,498 0.7	828 0.4	3 0.0	140,662 64.6

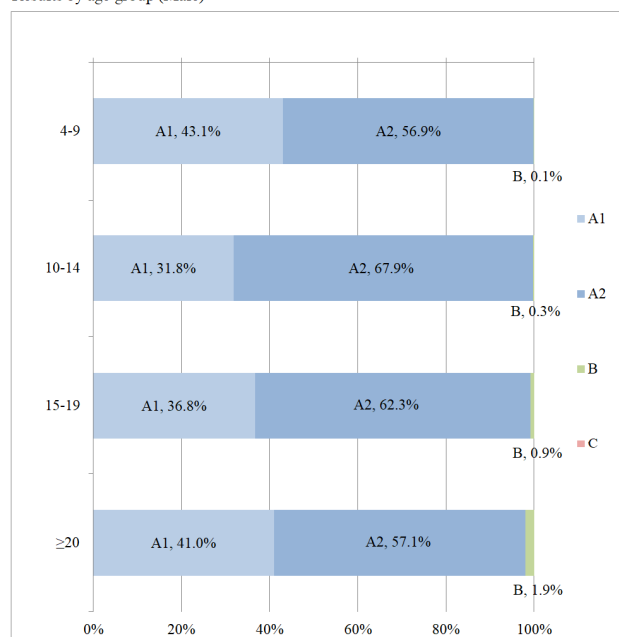
Appendix 4

1 Thyroid ultrasound examination results by age and sex

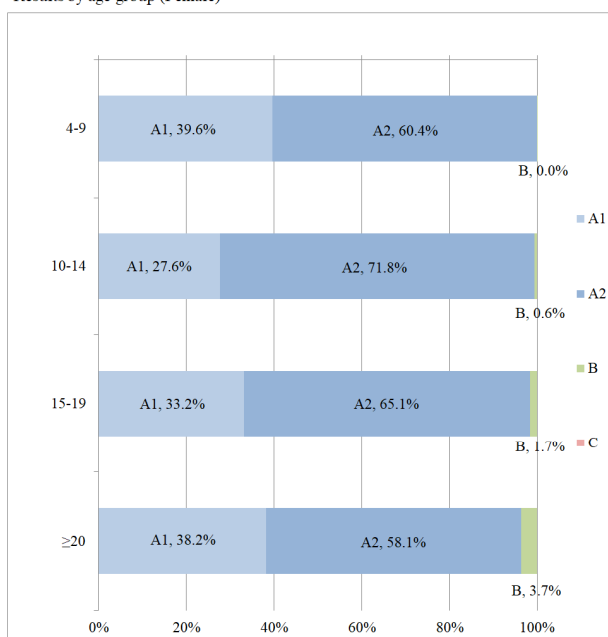
As of 30 September 2019

Class/ sex	A						B			C			Total		
	A1			A2											
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Age															
4-9	13,887	12,061	25,948	18,338	18,383	36,721	17	12	29	0	0	0	32,242	30,456	62,698
10-14	13,268	11,055	24,323	28,284	28,707	56,991	110	242	352	0	0	0	41,662	40,004	81,666
15-19	11,697	10,532	22,229	19,838	20,687	40,525	286	541	827	0	0	0	31,821	31,760	63,581
≥20	1,772	2,148	3,920	2,470	3,269	5,739	83	210	293	0	0	0	4,325	5,627	9,952
Total	40,624	35,796	76,420	68,930	71,046	139,976	496	1,005	1,501	0	0	0	110,050	107,847	217,897

Results by age group (Male)



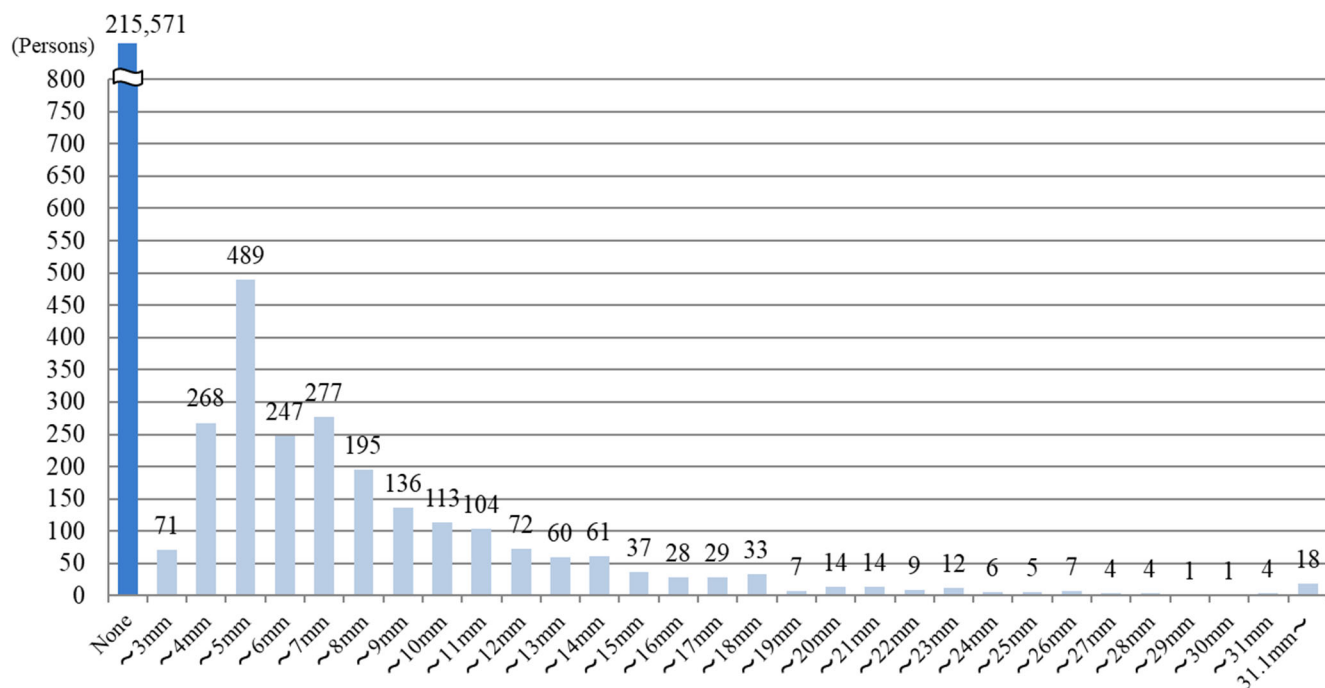
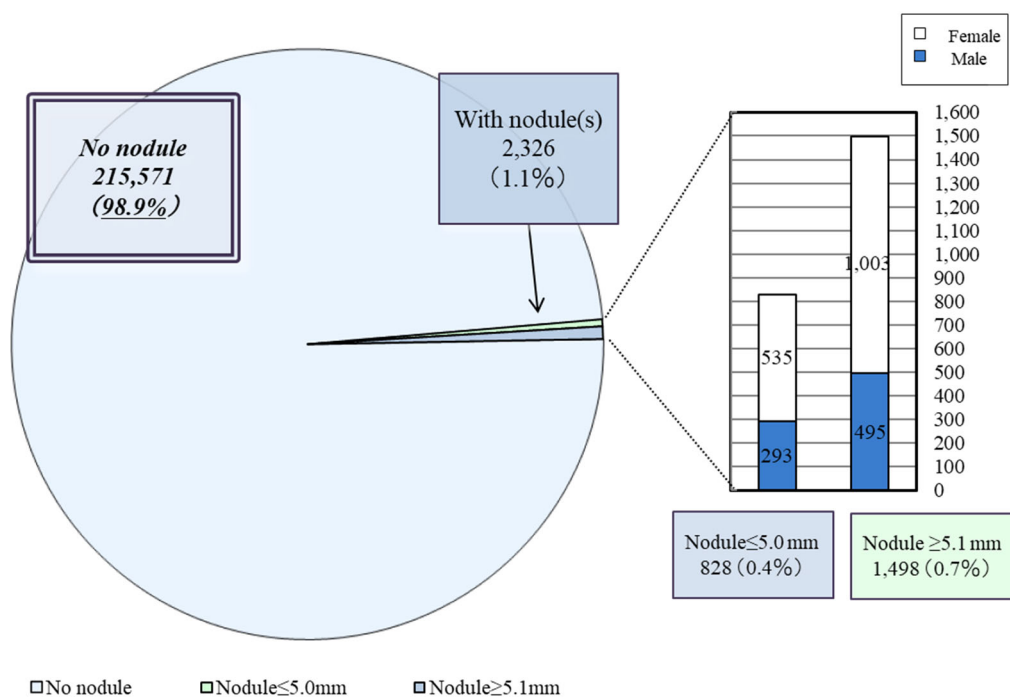
Results by age group (Female)



2 Nodule characteristics

As of 30 September 2019

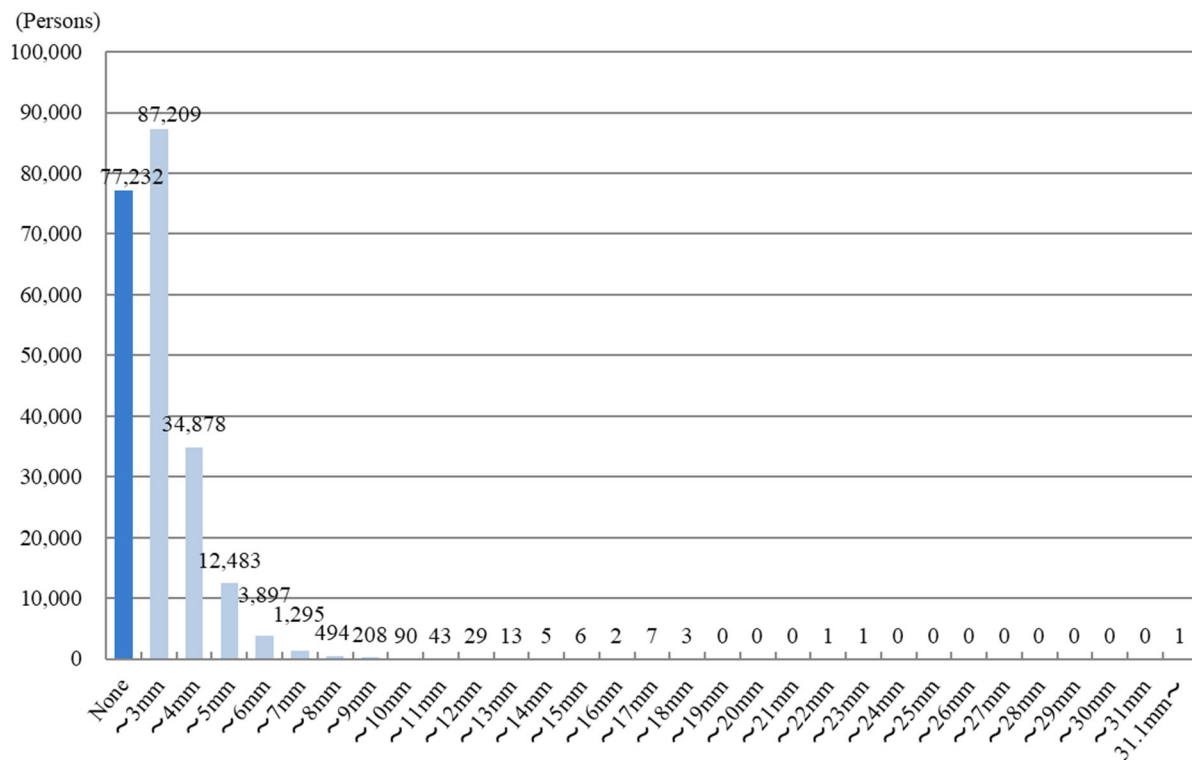
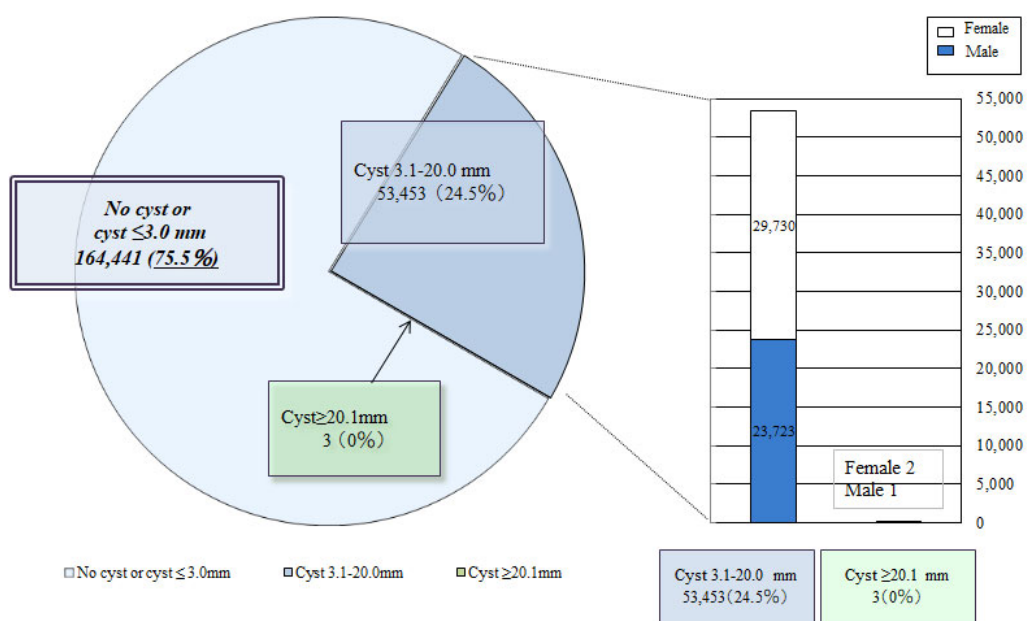
Nodule size	Total	Gender		Class	Proportion
		Male	Female		
None	215,571	109,262	106,309	A1	98.9%
≤ 3.0 mm	71	34	37	A2	0.4%
3.1-5.0 mm	757	259	498		
5.1-10.0 mm	968	329	639	B	0.7%
10.1-15.0 mm	334	111	223		
15.1-20.0 mm	111	27	84		
20.1-25.0 mm	46	17	29		
≥ 25.1 mm	39	11	28		
Total	217,897	110,050	107,847		



3 Cyst characteristics

As of 30 September 2019

Cyst size	Total	Gender		Class	Proportion
		Male	Female		
None	77,232	40,912	36,320	A1	75.5%
≤ 3.0 mm	87,209	45,414	41,795	A2	
3.1-5.0 mm	47,361	21,602	25,759		
5.1-10.0 mm	5,984	2,091	3,893		
10.1-15.0 mm	96	25	71		
15.1-20.0 mm	12	5	7		
20.1-25.0 mm	2	0	2	B	0.001%
≥ 25.1 mm	1	1	0		
Total	217,897	110,050	107,847		



Appendix 5

Results of confirmatory examination by area

As of 30 September 2019

Results of confirmatory examination by area

As of 30 September 2017

Area	Participants a	Participants who required confirmatory exam b Proportion (%) b/a	Number of those who underwent confirmatory exam					Number of confirmed results				
			Total c Proportion (%) c/b	Ages 4-9 d Proportion (%) d/c	Ages 10-14 e Proportion (%) e/c	Ages 15-19 f Proportion (%) f/c	≥ 20 g Proportion (%) g/c	Total h Proportion (%) h/c	A1 i Proportion (%) i/h	A2 j Proportion (%) j/h	Not A1 or A2	
				k Proportion (%) k/h	FNAC l Proportion (%) l/k							
13 municipalities ¹⁾	27,084	212 0.8	161 75.9	1 0.6	36 22.4	95 59.0	29 18.0	153 95.0	0 0.0	19 12.4	134 87.6	13 9.7
Nakadori ²⁾	121,916	761 0.6	564 74.1	14 2.5	111 19.7	317 56.2	122 21.6	536 95.0	5 0.9	45 8.4	486 90.7	31 6.4
Hamadori ³⁾	41,295	323 0.8	230 71.2	2 0.9	53 23.0	115 50.0	60 26.1	224 97.4	2 0.9	23 10.5	199 88.8	21 10.6
Aizu ⁴⁾	27,609	205 0.7	143 69.8	4 2.8	25 17.5	74 51.7	40 28.0	137 95.8	2 1.5	12 8.8	123 89.8	9 7.3
Total	217,904	1,501 0.7	1,098 73.2	21 1.9	225 20.5	601 54.7	251 22.9	1,050 95.6	9 0.9	99 9.4	942 89.7	74 7.9

- 1) Tamura, Minami-soma, Date, Kawamata, Hirono, Naraha, Tomioka, Kawauchi, Okuma, Futaba, Namie, Katsurao, Iitate
- 2) Fukushima, Koriyama, Shirakawa, Sukagawa, Nihonmatsu, Motomiya, Kori, Kunimi, Otama, Kagamiishi, Tenei, Nishigo, Izumizaki, Nakajima, Yabuki, Tanagura, Yamatsuri, Hanawa, Samegawa, Ishikawa, Tamakawa, Hirata, Asakawa, Furudono, Miharu, Ono
- 3) Iwaki, Soma, Shinchi
- 4) Aizuwakamatsu, Kitakata, Shimogo, Hinoemata, Tadami, Minami-aizu, Kitashiobara, Nishiaizu, Bandai, Inawashiro, Aizubange, Yugawa, Yanaizu, Mishima, Kaneyama, Showa, Aizumisato

Appendix 6

Surgical cases for malignancy or suspicion of malignancy

1. Municipalities surveyed in FY 2016	
• Malignant or suspicious for malignancy:	12 (11 surgical cases: 11 papillary thyroid carcinomas)
2. Municipalities surveyed in FY 2017	
• Malignant or suspicious for malignancy:	18 (13 surgical case: 13 papillary thyroid carcinomas)
3. Total	
• Malignant or suspicious for malignancy:	30 (24 surgical cases: 24 papillary thyroid carcinomas)

Report on the Fourth-Round Thyroid Survey (Third Full-Scale Thyroid Survey)

1. Summary

1.1 Purpose

In order to monitor the long-term health of children, we are now engaged in the third Full-Scale Thyroid Survey (the Fourth-Round Survey), following the Preliminary Baseline Survey for background assessment of thyroid glands, and two Full-Scale Thyroid Surveys (the Second- and Third-Round Surveys) to continuously confirm the status of thyroid glands.

1.2 Survey Population

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

1.3 Implementation Period

From April 2018 (schedule of FY 2018 and FY 2019):

1.3-1 For those 18 years old or younger

The examination will be carried out for each municipality in FY 2018 and FY 2019.

1.3-2 19 years old or older

The examination will be carried out for each age (school grade).

FY 2018: those who were born in FY 1996 and FY 1998

FY 2019: those who were born in FY 1997 and FY 1999

1.3-3 For those 25 years old

For those who are older than 20, examination will be carried out with 5-year interval.

FY 2018: those who were born in FY 1993

FY 2019: those who were born in FY 1994

The results of these examinations will be reported separately.

1.4 Responsible Organizations

Fukushima Prefecture commissioned Fukushima Medical University (FMU) to conduct the survey in cooperation with organizations inside and outside Fukushima for the convenience of examination participants (the number of contracts is as of 30 September 2019).

1.4-1 The primary examination

Inside Fukushima Prefecture	82 medical facilities
Outside Fukushima Prefecture	121 medical facilities

1.4-2 The confirmatory examination

Inside Fukushima Prefecture	5 medical facilities including FMU
Outside Fukushima Prefecture	37 medical facilities

1.5 Method

1.5-1 The primary examination

We use ultrasonography for examination of the thyroid gland.

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

-Diagnostic Criteria (A)

A1: No nodules / cysts

A2: Nodules ≤ 5.0 mm or cysts ≤ 20.0 mm

-Diagnostic Criteria (B)

B: Nodules ≥ 5.1 mm or cysts ≥ 20.1 mm

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

-Diagnostic Criteria (C)

C: Immediate need for confirmatory examination, judging from the condition of the thyroid gland.

1.5-2 The confirmatory examination

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

We recommend medical follow-up for those requiring it due to confirmatory exam results.

1.5-3 Flow chart

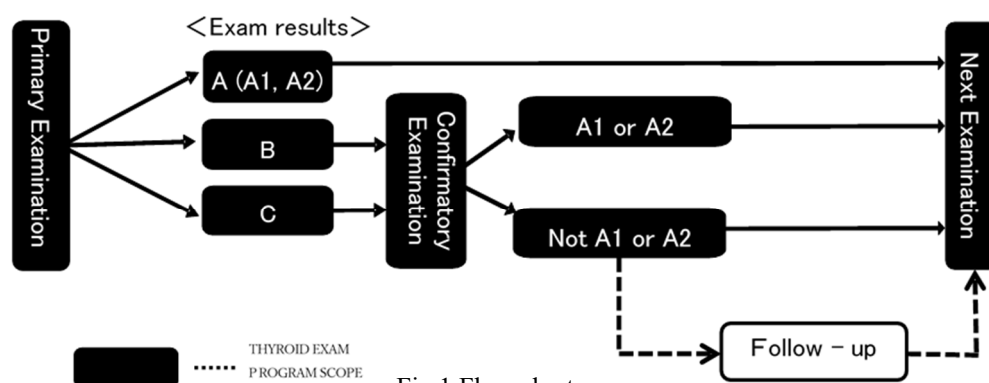


Fig.1 Flow chart

1.6 Municipalities Surveyed

The municipalities where examinations (for those 18 years old or younger) were carried out in FY 2018 and FY 2019 are as follows:

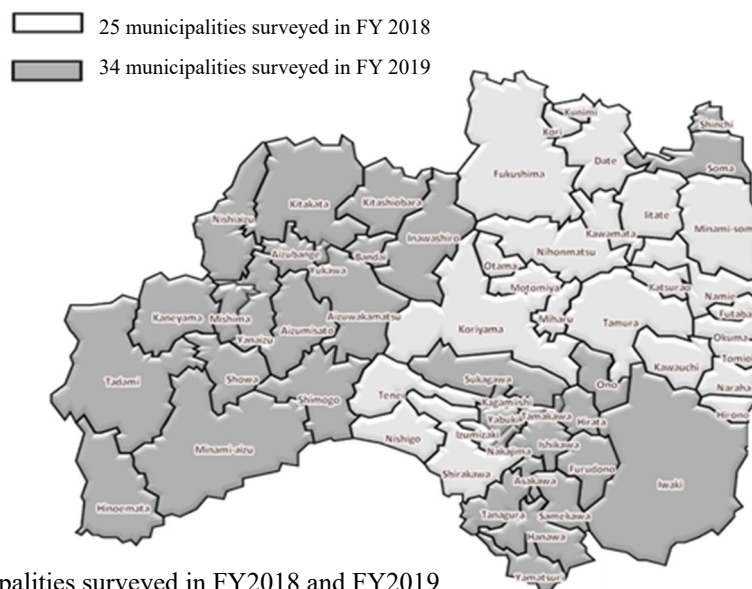


Fig.2 Municipalities surveyed in FY2018 and FY2019

2. Results as of 30 September 2019

2.1 Results of the Primary Examination

2.1-1 Progress report

The examination was carried out for 136,942 (46.5%) participants by 30 September 2019 (Implementation status for each municipality and prefectures other than Fukushima are shown in Appendix 1 and Appendix 2). Results of 125,491 participants (91.6%) have been confirmed and notifications were sent to them accordingly. (The result for each municipality is shown in Appendix 3).

Of these, 43,064 were classified as A1 (34.3%), 81,598 as A2 (65.0%), 829 (0.7%) as B, and none as C.

Table 1 Progress and results of the primary examination As of 30 September 2019

	Survey population a	Participants		Proportion (%) c (c/b)	Exam results					
		Proportion (%) b (b/a)	Outside Fukushima		Class (%)					
					A				Requiring confirmatory exam	
					A1 d (d/c)	A2 e (e/c)	B f (f/c)	C g (g/c)		
FY 2018	168,021	103,315 (61.5)	6,547	101,803 (98.5)	34,808 (34.2)	66,394 (65.2)	601 (0.6)	0 (0.0)		
FY 2019	126,162	33,627 (26.7)	2,301	23,688 (70.4)	8,256 (34.9)	15,204 (64.2)	228 (1.0)	0 (0.0)		
Total	294,183	136,942 (46.5)	8,848	125,491 (91.6)	43,064 (34.3)	81,598 (65.0)	829 (0.7)	0 (0.0)		

Table 2. Number and proportion of participants with nodules/cysts As of 30 September 2019

	Number of participants with confirmed results a	Number and proportion of participants with nodules/cysts			
		Nodules		Cysts	
		≥5.1 mm b (b/a)	≤5.0 mm c (c/a)	≥20.1 mm d (d/a)	≤20.0 mm e (e/a)
FY 2018	101,803	598 (0.6)	330 (0.3)	3 (0.0)	66,695 (65.5)
FY 2019	23,688	228 (1.0)	106 (0.4)	0 (0.0)	15,328 (64.7)
Total	125,491	826 (0.7)	436 (0.3)	3 (0.0)	82,023 (65.4)

- Proportions are rounded at a lower decimal place. This applies to other tables as well.
- Those who receive the examination at 5-year intervals (those born between FY1992 and FY1995) are excluded. The results of examinations with 5-year intervals will be shown separately.
- The examination for those born in FY 1992 (approx. 22,000) and FY 1993 (approx. 22,000) took place in FY 2017 and FY 2018, respectively. Those born in FY 1994 (approx. 22,000) and FY 1995 (approx. 21,000) will be covered in FY 2019 and FY 2020 surveys, respectively.

2.1-2 Participation rates by age group

The participation rate for each age group as of 1 April of each year is shown in Table 3.

Table 3 Participation rates by age group

As of 30 September 2019

		Total	Age group (years)		
FY 2018	Age group (years)		6-11	12-17	18-24
	Survey population (a)	168,021	56,927	64,829	46,265
	Participants (b)	103,315	47,728	51,231	4,356
	Proportion (%) (b/a)	61.5	83.8	79.0	9.4
FY 2019	Age group (years)		7-11	12-17	18-24
	Survey population (a)	126,162	34,159	47,276	44,727
	Participants (b)	33,627	12,904	16,429	4,294
	Proportion (%) (b/a)	26.7	37.8	34.8	9.6
Total	Survey population (a)	294,183	91,086	112,105	90,992
	Participants (b)	136,942	60,632	67,660	8,650
	Proportion (%) (b/a)	46.5	66.6	60.4	9.5

· Age groups are formed with the age as of 1 April of each fiscal year.

2.1-3 Comparison of Full-scale Thyroid Surveys

Comparison of Fourth- and Third-Round Survey results is shown in Table 4. Among 111,234 participants who were diagnosed as A1 or A2 in the Third-Round Survey, 110,838 (99.6%) had A1 or A2 results, and 396 (0.4%) were diagnosed as B in the Fourth-Round Survey. Among 449 participants who were diagnosed as B in the Third-Round Survey, 88 (19.6%) had A1 or A2 results, and 361 (80.4%) were diagnosed as B in the Fourth-Round Survey.

Table 4 Comparison of Full-scale Thyroid Survey

As of 30 September 2019

			Results of the Third-round Survey* ¹ (%) a	Results of the Fourth-Round Survey* ²			
				A		B	C
				A1	A2		
				b b/a (%)	c c/a (%)	d d/a (%)	e e/a (%)
Results of the Third-round Survey	A	A1	38,604 (100.0)	29,395 (76.1)	9,159 (23.7)	50 (0.1)	0 (0.0)
		A2	72,630 (100.0)	7,931 (10.9)	64,353 (88.6)	346 (0.5)	0 (0.0)
	B		449 (100.0)	4 (0.9)	84 (18.7)	361 (80.4)	0 (0.0)
	C		0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
	No participation		13,808 (100.0)	5,734 (41.5)	8,002 (58.0)	72 (0.5)	0 (0.0)
	Total		125,491 (100.0)	43,064 (34.3)	81,598 (65.0)	829 (0.7)	0 (0.0)

*1 Upper figures show a previous (Third-Round) diagnosis for the participants in this (Fourth-Round) survey whose results have been confirmed. They are not the breakdown of the total number of the previous-round participants (217,897).

*2 Upper figures show the breakdown of the Fourth-Round Survey participants who were diagnosed for each diagnostic class in the Third-Round Survey. Lower figures are their proportion (%).

2.2 Results of the Confirmatory Examination

2.2-1 Progress Report

By 30 September 2019, 484 of 829 people (58.4%) have received the examination. Of those, 418 (86.4%) have completed.

Of the foregoing 418 participants, 38 (A1: 2, A2: 36) (9.1%) was confirmed to meet A1 or A2 diagnostic criteria by the Primary Examination standards (including those with other thyroid conditions). Remaining 380 (90.9%) people were confirmed to be outside of A1/A2 criteria.

Table 5 Progress and results of the confirmatory examination

As of 30 September 2019

	Number of those requiring confirmatory exam a	Participants Proportion (%) b (b/a)	Confirmatory exam coverage (%) c (c/b)	Confirmed exam results			
				A1	A2	Not A1 or A2	
				d (d/c)	e (e/c)	f (f/c)	FNAC g (g/f)
FY 2018	601	399 (66.4)	369 (92.5)	2 (0.5)	34 (9.2)	333 (90.2)	28 (8.4)
FY 2019	228	85 (37.3)	49 (57.6)	0 (0.0)	2 (4.1)	47 (95.9)	1 (2.1)
Total	829	484 (58.4)	418 (86.4)	2 (0.5)	36 (8.6)	380 (90.9)	29 (7.6)

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

Among those who underwent FNAC, 16 had nodules classified as malignant or suspicious for malignancy.

8 of them were male, and 8 were female. Participants' age at the time of the confirmatory examination ranged from 11 to 20 years (mean age: 16.1 ± 2.6 years). The minimum and maximum tumor diameters were 6.1 mm and 29.4 mm. Mean tumor diameter was 11.5 ± 5.7 mm.

13 of these 16 participants had A (A1: 3, A2: 10) and 3 had B in the Full-Scale Survey (Third-Round Survey).

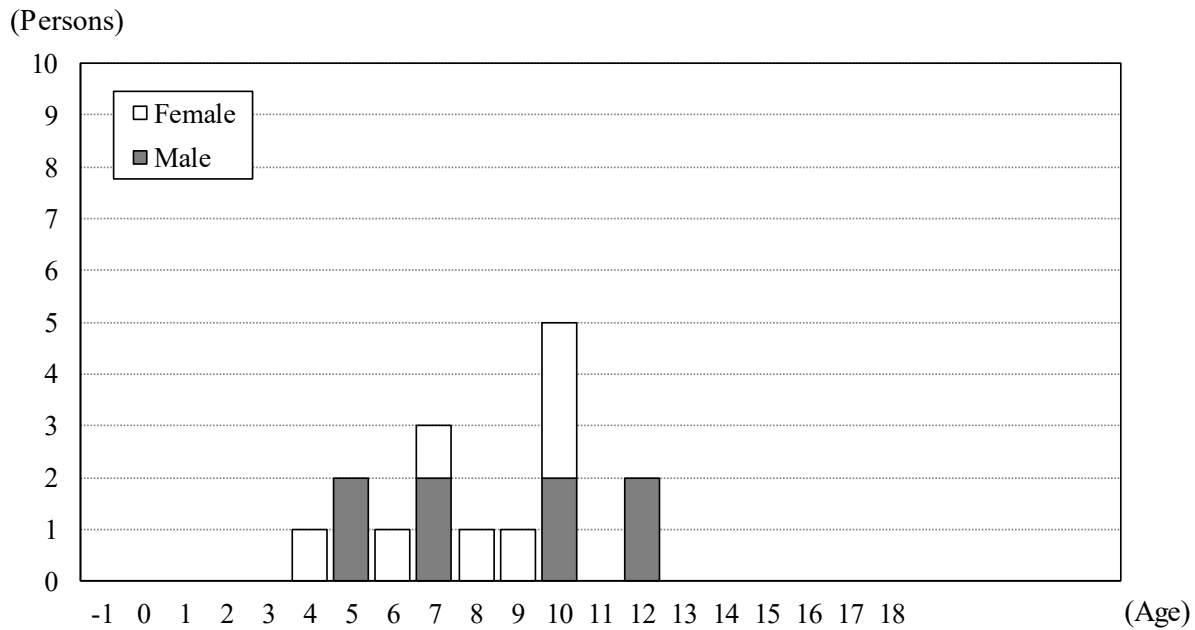
Table 6. Results of FNAC

A. Municipalities surveyed in FY 2018	
• Malignant or suspicious for malignancy :	15 ^{*)}
• Male to female ratio :	7:8
B. Municipalities surveyed in FY 2019	
• Malignant or suspicious for malignancy :	1 ^{*)}
• Male to female ratio :	1:0
C. Total	
• Malignant or suspicious for malignancy :	16 ^{*)}
• Male to female ratio :	8:8
• Mean age (SD, min-max):	16.1 (2.6, 11-20), 8.3 (2.5, 4-12) at the time of disaster
• Mean tumor size:	11.5 mm (5.7 mm, 6.1-29.4 mm)

^{*)} Surgical cases are as shown in Appendix 6.

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

Age distributions of 16 people with nodules classified as malignant or suspicious with their age as of 11 March 2011 is as Fig. 3, with their age as of confirmatory examination is as Fig. 4.



Note: Those who were 15 and 18 at the time of the disaster were not included in the Fourth-Round Survey participants.

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

Fig.3 Age as of 11 March 2011

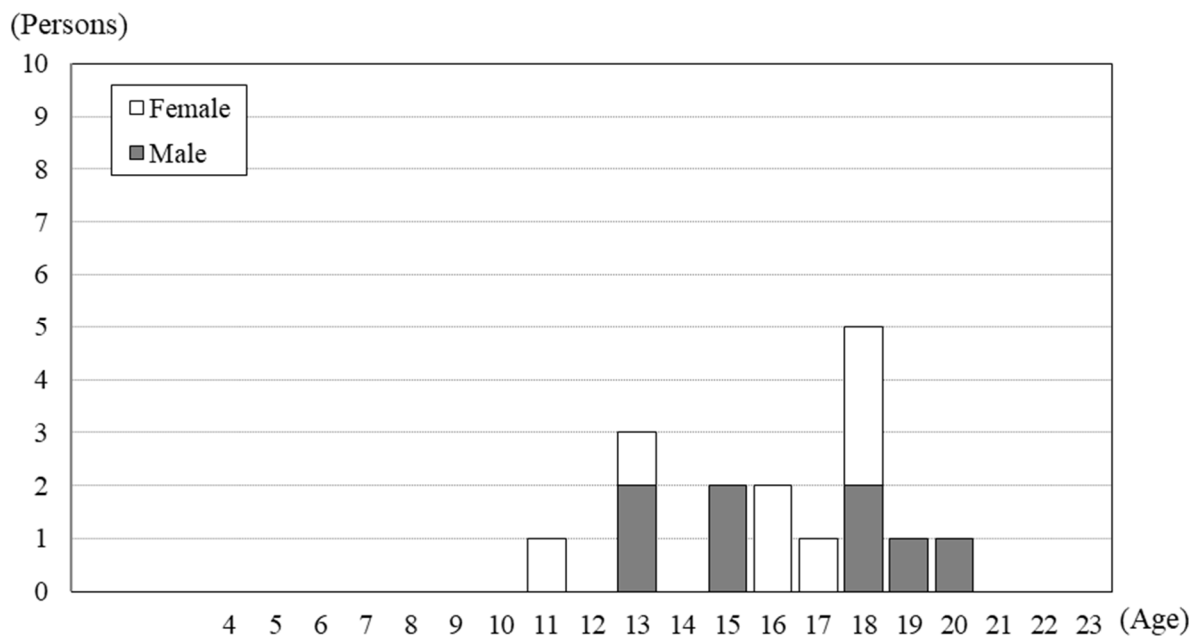


Fig. 4 Age as of the date of confirmatory examination

2.2-4 Basic Survey results of those with nodules diagnosed as malignant or suspicious for malignancy by FNAC

11 (68.8%) of the 16 people who were diagnosed as malignant or suspicious cases by FNAC had participated in the Basic Survey (for external radiation dose estimation), and 11 received the results. The highest effective dose documented was 2.4 mSv.

Table 7. A breakdown of dose estimates for participants of the Basic Survey

As of 30 September 2019

Effective dose (mSv)	Age at the time of the disaster									
	0-5		6-10		11-15		16-18		Total	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
<1	0	0	1	1	0	0	0	0	1	1
1-1.9	0	0	2	1	1	0	0	0	3	1
2-4.9	2	0	0	2	1	0	0	0	3	2
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	2	0	3	4	2	0	0	0	7	4

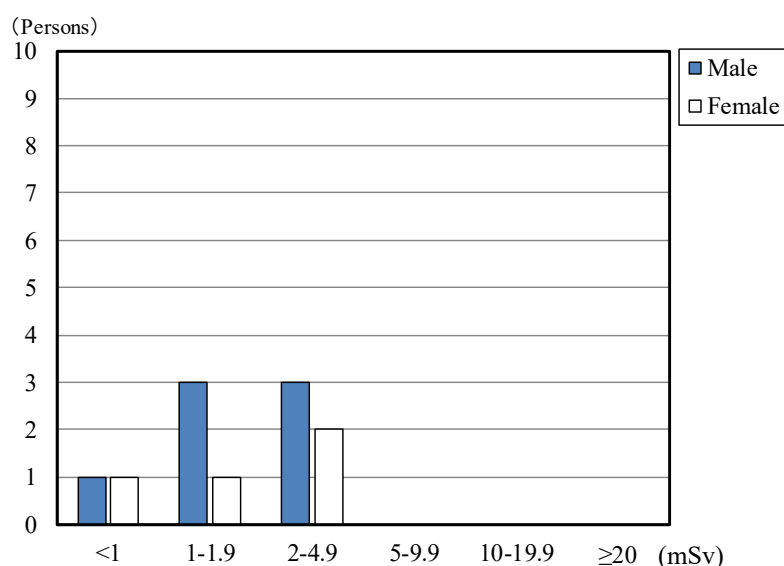


Fig. 5 Effective dose of the participants

2.2-5 Blood and urinary iodine test results as of 30 September 2019

Table 8. Blood test results

	FT4 ¹⁾ (ng/dL)	FT3 ²⁾ (pg/mL)	TSH ³⁾ (μIU/mL)	Tg ⁴⁾ (ng/mL)	Mean±SD (Abnormal value)	
Reference Range	0.95~1.74 ⁷⁾	2.13~4.07 ⁷⁾	0.340~3.880 ⁷⁾	≤33.7	<28.0	<16.0
16 malignant or suspicious	1.3 ± 0.1 (0.0%)	3.5 ± 0.5 (0.0%)	1.3 ± 0.5 (0.0%)	29.6± 67.6 (12.5%)	43.8%	37.5%
Other 383	1.3 ± 0.3 (5.0%)	3.6 ± 1.0 (7.3%)	1.2 ± 0.9 (8.4%)	20.5± 28.8 (11.2%)	5.0%	5.2%

- 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.

Table 9 Urinary iodine test results

	Minimum	25th percentile	Median	75th percentile	Maximum
16 malignant or suspicious	54	132	211	487	1780
Other 377	32	116	193	331	17200

2.2-6 Confirmatory Examination results by area as of 30 September 2019

The proportions of participants with nodules diagnosed as malignant or suspicious for malignancy were 0.01% in 13 municipalities in the nationally-designated evacuation zones and Nakadori, and 0.00% in Hamadori and Aizu.

Table 10 Confirmatory examination results by area

Area	Number of Participants a	Participants who required confirmatory exam b	Proportion who required confirmatory exam (%) b/a	Number who underwent confirmatory exam	Malignant or suspicious cases c	Proportion of malignant or suspicious cases (%) c/a
13 municipalities ¹⁾	20,031	115	0.6	84	2	0.01
Nakadori ²⁾	99,664	580	0.6	350	14	0.01
Hamadori ³⁾	9,073	71	0.8	25	0	0.00
Aizu ⁴⁾	8,174	63	0.8	25	0	0.00
Total	136,942	829	0.6	484	16	0.01

- 1) Tamura, Minami-soma, Date, Kawamata, Hirono, Naraha, Tomioka, Kawauchi, Okuma, Futaba, Namie, Katsurao, Iitate
- 2) Fukushima, Koriyama, Shirakawa, Sukagawa, Nihonmatsu, Motomiya, Kori, Kunimi, Otama, Kagamiishi, Tenei, Nishigo, Izumizaki, Nakajima, Yabuki, Tanagura, Yamatsuri, Hanawa, Samegawa, Ishikawa, Tamakawa, Hirata, Asakawa, Furudono, Miharuru, Ono
- 3) Iwaki, Soma, Shinchi
- 4) Aizuwakamatsu, Kitakata, Shimogo, Hinoemata, Tadami, Minami-aizu, Kitashiobara, Nishiaizu, Bandai, Inawashiro, Aizubange, Yugawa, Yanaizu, Mishima, Kaneyama, Showa, Aizumisato

3. Mental Health Care

We provide the following support.

3.1 Support for the Primary Examination Participants

After the examination, medical doctors explain the results showing the ultrasound image in private consultation booths at the venue. As of 30 September 2019, 2,344 (100%) of 2,345 participants visited the consultation booths.

3.2 Briefing Sessions

To help participants or their parents improve their understanding of the thyroid examination, briefing sessions were carried out. Since April 2018, 811 people in 27 venues participated in the briefing sessions as of 30 September 2019. The cumulative total of participants is 14,834.

3.3 Support for the Confirmatory Examination Participants

We have set up a support team for participants of the confirmatory examination within Fukushima Medical University to address their anxiety and concerns, as well as online support for Q&A and counseling.

Since the start of Fourth-Round Survey, 312 participants (103 males and 209 females) have received support as of 30 September 2019. The number of supports provided was 611 in total. Of these, 312 (51.1%) received support at their first examination and 299 (48.9%) at subsequent examination.

For those who proceeded to regular insured medical care, we continue to provide support in cooperation with teams of medical staff at hospitals.

Appendix 1

Thyroid ultrasound examination (TUE) coverage by municipality

As of 30 September 2019

	Survey population	Participants		Proportion (%)	Number and proportion*2 of participants by age group			Participants living outside Fukushima c*3	Proportion (%) c/b
		b	Outside Fukushima*1		b/a	6-11	12-17		
	a								
Municipalities surveyed in FY 2018									
Kawamata	1,832	1,123	25	61.3	470	575	78	39	3.5
					41.9	51.2	6.9		
Namie	2,858	1,208	287	42.3	473	571	164	333	27.6
					39.2	47.3	13.6		
Iitate	852	528	17	62.0	217	273	38	24	4.5
					41.1	51.7	7.2		
Minami-soma	10,201	5,677	788	55.7	2,404	2,836	437	841	14.8
					42.3	50.0	7.7		
Date	8,781	5,819	166	66.3	2,327	3,027	465	173	3.0
					40.0	52.0	8.0		
Tamura	5,435	3,360	65	61.8	1,497	1,620	243	75	2.2
					44.6	48.2	7.2		
Hirono	801	294	30	36.7	135	132	27	25	8.5
					45.9	44.9	9.2		
Naraha	1,094	267	46	24.4	104	125	38	51	19.1
					39.0	46.8	14.2		
Tomioka	2,340	679	178	29.0	233	330	116	193	28.4
					34.3	48.6	17.1		
Kawauchi	267	132	9	49.4	47	80	5	10	7.6
					35.6	60.6	3.8		
Okuma	2,020	611	195	30.2	247	272	92	203	33.2
					40.4	44.5	15.1		
Futaba	978	236	57	24.1	100	110	26	58	24.6
					42.4	46.6	11.0		
Katsurao	174	97	3	55.7	36	51	10	3	3.1
					37.1	52.6	10.3		
Fukushima	43,238	28,332	1,676	65.5	11,645	14,216	2,471	1,671	5.9
					41.1	50.2	8.7		
Nihonmatsu	8,104	5,389	186	66.5	2,264	2,762	363	170	3.2
					42.0	51.3	6.7		
Motomiya	4,910	3,153	88	64.2	1,390	1,554	209	82	2.6
					44.1	49.3	6.6		
Otama	1,287	908	23	70.6	413	439	56	17	1.9
					45.5	48.3	6.2		
Koriyama	52,557	32,416	2,299	61.7	13,210	16,441	2,765	2,271	7.0
					40.8	50.7	8.5		
Kori	1,609	1,112	29	69.1	465	544	103	25	2.2
					41.8	48.9	9.3		
Kunimi	1,204	794	17	65.9	293	429	72	18	2.3
					36.9	54.0	9.1		
Tenei	839	506	7	60.3	216	255	35	7	1.4
					42.7	50.4	6.9		
Shirakawa	9,969	6,373	235	63.9	2,584	3,263	526	234	3.7
					40.5	51.2	8.3		
Nishigo	3,263	2,163	86	66.3	911	1,067	185	94	4.3
					42.1	49.3	8.6		
Izumizaki	1,025	657	4	64.1	274	332	51	4	0.6
					41.7	50.5	7.8		
Miharu	2,383	1,481	31	62.1	559	771	151	24	1.6
					37.7	52.1	10.2		
Subtotal	168,021	103,315	6,547	61.5	42,514	52,075	8,726	6,645	6.4
					41.1	50.4	8.4		

*1) The number of participants who received the examination at facilities outside Fukushima (as of 31 August 2019)

*2) The upper layer shows number of participants, and the lower layer shows the proportion of participants from each municipality.

*3) The number of participants who have resident registration outside of Fukushima.

• Age groups were formed based on the age at the Full-Scale Survey (the Fourth-Round Survey). This applies to other tables hereafter.

As of 30 September 2019

	Survey population a	Participants		Proportion (%) b/a	Number and proportion ^{*2} of participants by age group			Participants living outside Fukushima c ^{*3}	Proportion (%) c/b
		b	Outside Fukushima ^{*1}		6-11	12-17	18-24		

Municipalities surveyed in FY 2019

Iwaki	49,600	5,330	1,295	10.7	825 15.5	2,358 44.2	2,147 40.3	1,166	21.9
Sukagawa	12,378	5,900	180	47.7	2,032 34.4	3,125 53.0	743 12.6	162	2.7
Soma	5,507	3,092	187	56.1	1,246 40.3	1,606 51.9	240 7.8	198	6.4
Kagamiishi	2,133	963	26	45.1	477 49.5	372 38.6	114 11.8	26	2.7
Shinchi	1,162	651	29	56.0	230 35.3	363 55.8	58 8.9	24	3.7
Nakajima	849	493	6	58.1	190 38.5	260 52.7	43 8.7	4	0.8
Yabuki	2,672	1,663	26	62.2	724 43.5	824 49.5	115 6.9	27	1.6
Ishikawa	2,182	1,313	19	60.2	531 40.4	670 51.0	112 8.5	18	1.4
Yamatsuri	816	459	7	56.3	210 45.8	229 49.9	20 4.4	6	1.3
Asakawa	1,064	634	13	59.6	236 37.2	346 54.6	52 8.2	13	2.1
Hirata	969	580	7	59.9	244 42.1	290 50.0	46 7.9	5	0.9
Tanagura	2,399	1,431	24	59.6	582 40.7	764 53.4	85 5.9	25	1.7
Hanawa	1,299	689	11	53.0	286 41.5	365 53.0	38 5.5	15	2.2
Samegawa	519	296	3	57.0	136 45.9	150 50.7	10 3.4	3	1.0
Ono	1,488	828	8	55.6	347 41.9	423 51.1	58 7.0	9	1.1
Tamakawa	1,052	643	3	61.1	251 39.0	348 54.1	44 6.8	3	0.5
Furudono	817	488	13	59.7	203 41.6	238 48.8	47 9.6	8	1.6
Hinoemata	87	29	1	33.3	16 55.2	12 41.4	1 3.4	0	0.0
Minami-aizu	2,128	1,000	14	47.0	461 46.1	491 49.1	48 4.8	11	1.1
Kaneyama	147	62	0	42.2	21 33.9	36 58.1	5 8.1	0	0.0
Showa	115	59	3	51.3	29 49.2	27 45.8	3 5.1	3	5.1
Mishima	148	67	0	45.3	28 41.8	37 55.2	2 3.0	0	0.0
Shimogo	747	340	4	45.5	172 50.6	156 45.9	12 3.5	4	1.2
Kitakata	6,947	296	45	4.3	110 37.2	111 37.5	75 25.3	39	13.2
Nishiaizu	761	274	5	36.0	148 54.0	105 38.3	21 7.7	5	1.8
Tadami	555	318	5	57.3	134 42.1	159 50.0	25 7.9	1	0.3
Inawashiro	2,070	963	21	46.5	475 49.3	441 45.8	47 4.9	19	2.0
Bandai	477	191	7	40.0	98 51.3	85 44.5	8 4.2	5	2.6
Kitashiobara	445	182	1	40.9	92 50.5	87 47.8	3 1.6	1	0.5
Aizumisato	2,823	1,290	23	45.7	563 43.6	614 47.6	113 8.8	21	1.6
Aizubange	2,402	1,028	31	42.8	486 47.3	454 44.2	88 8.6	22	2.1
Yanaizu	464	227	1	48.9	106 46.7	106 46.7	15 6.6	1	0.4
Aizuwakamatsu	18,421	1,606	279	8.7	464 28.9	625 38.9	517 32.2	254	15.8
Yugawa	519	242	4	46.6	116 47.9	99 40.9	27 11.2	7	2.9
Subtotal	126,162	33,627	2,301	26.7	12,269 36.5	16,376 48.7	4,982 14.8	2,105	6.3
Total	294,183	136,942	8,848	46.5	54,783 40.0	68,451 50.0	13,708 10.0	8,750	6.4

Appendix 2

Thyroid ultrasound examination (TUE) coverage outside Fukushima by prefecture

As of 31 August 2019

Prefecture	Number of medical facilities	Participants *	Prefecture	Number of medical facilities	Participants *	Prefecture	Number of medical facilities	Participants *
Hokkaido	7	239	Fukui	1	15	Hiroshima	2	21
Aomori	2	112	Yamanashi	2	75	Yamaguchi	1	20
Iwate	3	230	Nagano	3	109	Tokushima	1	3
Miyagi	2	2,063	Gifu	1	22	Kagawa	1	23
Akita	1	144	Shizuoka	2	75	Ehime	1	10
Yamagata	3	436	Aichi	4	160	Kochi	1	10
Ibaraki	4	492	Mie	1	16	Fukuoka	3	64
Tochigi	8	554	Shiga	1	10	Saga	1	1
Gunma	2	142	Kyoto	3	71	Nagasaki	2	23
Saitama	3	459	Osaka	7	157	Kumamoto	1	23
Chiba	5	383	Hyogo	2	108	Oita	1	11
Tokyo	16	1,347	Nara	2	24	Miyazaki	1	19
Kanagawa	6	623	Wakayama	1	8	Kagoshima	1	5
Niigata	2	386	Tottori	1	7	Okinawa	1	34
Toyama	2	25	Shimane	1	11			
Ishikawa	1	35	Okayama	3	43			
						Total	120	8,848

*The number of participants represents those who received examination at facilities outside Fukushima

Appendix 3

Results of primary examination by municipality

As of 30 September 2019

	Participants a	Confirmed results b Proportion (%) b/a (%)	Number by exam results				Nodules		Cysts	
			Proportion (%)							
			A		B	C	Proportion (%)		Proportion (%)	
			A1	A2			≥5.1 mm	≤5.0 mm	≥20.1 mm	≤20.0 mm

Municipalities surveyed in FY 2018

Kawamata	1,123	1,120	407	709	4	0	4	2	0	713
		99.7	36.3	63.3	0.4	0.0	0.4	0.2	0.0	63.7
Nemie	1,208	1,141	387	745	9	0	9	5	0	747
		94.5	33.9	65.3	0.8	0.0	0.8	0.4	0.0	65.5
Iitate	528	521	193	324	4	0	4	2	0	327
		98.7	37.0	62.2	0.8	0.0	0.8	0.4	0.0	62.8
Minami-soma	5,677	5,484	1,939	3,512	33	0	33	27	0	3,523
		96.6	35.4	64.0	0.6	0.0	0.6	0.5	0.0	64.2
Date	5,819	5,798	1,993	3,771	34	0	34	17	0	3,791
		99.6	34.4	65.0	0.6	0.0	0.6	0.3	0.0	65.4
Tamura	3,360	3,283	1,217	2,047	19	0	19	10	0	2,054
		97.7	37.1	62.4	0.6	0.0	0.6	0.3	0.0	62.6
Hirono	294	276	90	181	5	0	5	1	0	183
		93.9	32.6	65.6	1.8	0.0	1.8	0.4	0.0	66.3
Naraha	267	230	90	140	0	0	0	0	0	140
		86.1	39.1	60.9	0.0	0.0	0.0	0.0	0.0	60.9
Tomioka	679	630	233	394	3	0	3	0	0	395
		92.8	37.0	62.5	0.5	0.0	0.5	0.0	0.0	62.7
Kawauchi	132	128	39	88	1	0	1	0	0	89
		97.0	30.5	68.8	0.8	0.0	0.8	0.0	0.0	69.5
Okuma	611	562	193	367	2	0	2	2	0	369
		92.0	34.3	65.3	0.4	0.0	0.4	0.4	0.0	65.7
Futaba	236	215	69	146	0	0	0	0	0	146
		91.1	32.1	67.9	0.0	0.0	0.0	0.0	0.0	67.9
Katsurao	97	94	30	63	1	0	1	0	0	63
		96.9	31.9	67.0	1.1	0.0	1.1	0.0	0.0	67.0
Fukushima	28,332	28,205	9,710	18,343	152	0	151	86	1	18,418
		99.6	34.4	65.0	0.5	0.0	0.5	0.3	0.0	65.3
Nihonmatsu	5,389	5,364	1,871	3,444	49	0	48	20	1	3,471
		99.5	34.9	64.2	0.9	0.0	0.9	0.4	0.0	64.7
Motomiya	3,153	3,131	1,101	2,018	12	0	12	8	0	2,019
		99.3	35.2	64.5	0.4	0.0	0.4	0.3	0.0	64.5
Otama	908	906	301	599	6	0	6	2	0	602
		99.8	33.2	66.1	0.7	0.0	0.7	0.2	0.0	66.4
Koriyama	32,416	31,829	10,491	21,150	188	0	187	104	1	21,248
		98.2	33.0	66.4	0.6	0.0	0.6	0.3	0.0	66.8
Kori	1,112	1,105	392	706	7	0	7	2	0	709
		99.4	35.5	63.9	0.6	0.0	0.6	0.2	0.0	64.2
Kunimi	794	789	254	526	9	0	9	1	0	533
		99.4	32.2	66.7	1.1	0.0	1.1	0.1	0.0	67.6
Tenei	506	461	174	285	2	0	2	2	0	287
		91.1	37.7	61.8	0.4	0.0	0.4	0.4	0.0	62.3
Shirakawa	6,373	6,298	2,186	4,074	38	0	38	23	0	4,093
		98.8	34.7	64.7	0.6	0.0	0.6	0.4	0.0	65.0
Nishigo	2,163	2,136	718	1,407	11	0	11	9	0	1,412
		98.8	33.6	65.9	0.5	0.0	0.5	0.4	0.0	66.1
Izumizaki	657	634	236	396	2	0	2	2	0	398
		96.5	37.2	62.5	0.3	0.0	0.3	0.3	0.0	62.8
Miharu	1,481	1,463	494	959	10	0	10	5	0	965
		98.8	33.8	65.6	0.7	0.0	0.7	0.3	0.0	66.0
Subtotal	103,315	101,803	34,808	66,394	601	0	598	330	3	66,695
		98.5	34.2	65.2	0.6	0.0	0.6	0.3	0.0	65.5

	Participants a	Confirmed results b Proportion (%) b/a (%)	Number by exam results				Nodules		Cysts	
			Proportion (%)				Proportion (%)		Proportion (%)	
			A		B	C	Proportion (%)		Proportion (%)	
			A1	A2			≥5.1 mm	≤5.0 mm	≥20.1 mm	≤20.0 mm

Municipalities surveyed in FY 2019

Iwaki	5,330	2,974 55.8	1,068 35.9	1,864 62.7	42 1.4	0 0.0	42 1.4	22 0.7	0 0.0	1,882 63.3
Sukagawa	5,900	1,975 33.5	657 33.3	1,291 65.4	27 1.4	0 0.0	27 1.4	17 0.9	0 0.0	1,306 66.1
Soma	3,092	1,961 63.4	660 33.7	1,274 65.0	27 1.4	0 0.0	27 1.4	9 0.5	0 0.0	1,292 65.9
Kagamiishi	963	316 32.8	105 33.2	204 64.6	7 2.2	0 0.0	7 2.2	2 0.6	0 0.0	208 65.8
Shinchi	651	329 50.5	105 31.9	222 67.5	2 0.6	0 0.0	2 0.6	2 0.6	0 0.0	224 68.1
Nakajima	493	480 97.4	165 34.4	312 65.0	3 0.6	0 0.0	3 0.6	0 0.0	0 0.0	315 65.6
Yabuki	1,663	1,524 91.6	556 36.5	961 63.1	7 0.5	0 0.0	7 0.5	6 0.4	0 0.0	965 63.3
Ishikawa	1,313	1,283 97.7	427 33.3	844 65.8	12 0.9	0 0.0	12 0.9	4 0.3	0 0.0	851 66.3
Yamatsuri	459	457 99.6	145 31.7	312 68.3	0 0.0	0 0.0	0 0.0	2 0.4	0 0.0	312 68.3
Asakawa	634	622 98.1	200 32.2	415 66.7	7 1.1	0 0.0	7 1.1	3 0.5	0 0.0	416 66.9
Hirata	580	534 92.1	208 39.0	325 60.9	1 0.2	0 0.0	1 0.2	1 0.2	0 0.0	326 61.0
Tanagura	1,431	1,416 99.0	518 36.6	888 62.7	10 0.7	0 0.0	10 0.7	7 0.5	0 0.0	896 63.3
Hanawa	689	680 98.7	258 37.9	419 61.6	3 0.4	0 0.0	3 0.4	2 0.3	0 0.0	419 61.6
Samegawa	296	293 99.0	123 42.0	167 57.0	3 1.0	0 0.0	3 1.0	0 0.0	0 0.0	168 57.3
Ono	828	758 91.5	236 31.1	516 68.1	6 0.8	0 0.0	6 0.8	1 0.1	0 0.0	521 68.7
Tamakawa	643	567 88.2	217 38.3	343 60.5	7 1.2	0 0.0	7 1.2	1 0.2	0 0.0	346 61.0
Furudono	488	475 97.3	185 38.9	289 60.8	1 0.2	0 0.0	1 0.2	2 0.4	0 0.0	288 60.6
Hinoemata	29	28 96.6	10 35.7	18 64.3	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	18 64.3
Minami-aizu	1,000	921 92.1	341 37.0	573 62.2	7 0.8	0 0.0	7 0.8	2 0.2	0 0.0	577 62.6
Kaneyama	62	49 79.0	11 22.4	38 77.6	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	38 77.6
Showa	59	47 79.7	11 23.4	36 76.6	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	36 76.6
Mishima	67	56 83.6	14 25.0	42 75.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	42 75.0
Shimogo	340	304 89.4	119 39.1	183 60.2	2 0.7	0 0.0	2 0.7	0 0.0	0 0.0	184 60.5
Kitakata	296	247 83.4	89 36.0	153 61.9	5 2.0	0 0.0	5 2.0	2 0.8	0 0.0	154 62.3
Nishiaizu	274	269 98.2	99 36.8	170 63.2	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	170 63.2
Tadami	318	311 97.8	108 34.7	202 65.0	1 0.3	0 0.0	1 0.3	0 0.0	0 0.0	203 65.3
Inawashiro	963	876 91.0	312 35.6	554 63.2	10 1.1	0 0.0	10 1.1	2 0.2	0 0.0	563 64.3
Bandai	191	175 91.6	45 25.7	128 73.1	2 1.1	0 0.0	2 1.1	1 0.6	0 0.0	129 73.7
Kitashiobara	182	176 96.7	61 34.7	113 64.2	2 1.1	0 0.0	2 1.1	0 0.0	0 0.0	115 65.3
Aizumisato	1,290	1,132 87.8	356 31.4	769 67.9	7 0.6	0 0.0	7 0.6	6 0.5	0 0.0	770 68.0
Aizubange	1,028	928 90.3	288 31.0	633 68.2	7 0.8	0 0.0	7 0.8	2 0.2	0 0.0	639 68.9
Yanaizu	227	205 90.3	69 33.7	136 66.3	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	136 66.3
Aizuwakamatsu	1,606	1,080 67.2	385 35.6	676 62.6	19 1.8	0 0.0	19 1.8	9 0.8	0 0.0	684 63.3
Yugawa	242	240 99.2	105 43.8	134 55.8	1 0.4	0 0.0	1 0.4	1 0.4	0 0.0	135 56.3
Subtotal	33,627	23,688 70.4	8,256 34.9	15,204 64.2	228 1.0	0 0.0	228 1.0	106 0.4	0 0.0	15,328 64.7
Total	136,942	125,491 91.6	43,064 34.3	81,598 65.0	829 0.7	0 0.0	826 0.7	436 0.3	3 0.0	82,023 65.4

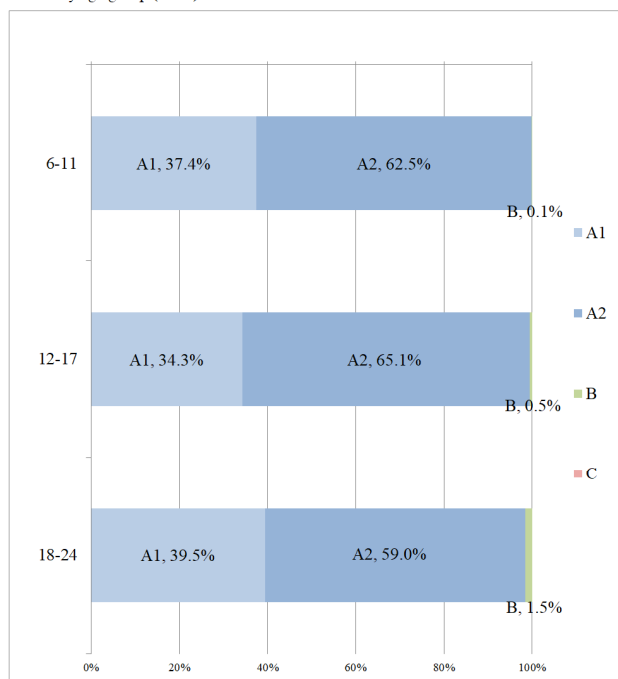
Appendix 4

1 Thyroid ultrasound examination results by age and sex

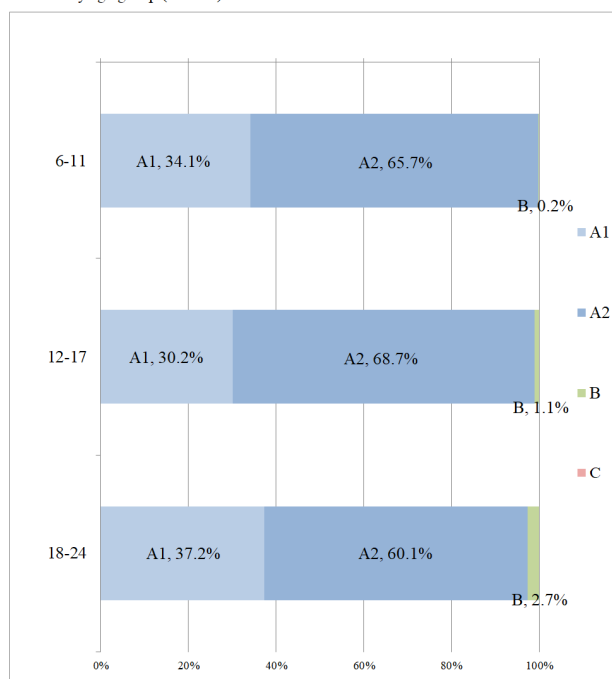
As of 30 September 2019

Class/ Sex Ages	A						B			C			Total		
	A1			A2			Male			Female			Total		
	Male	Female	Total	Male	Female	Total									
6-11	9,886	8,606	18,492	16,508	16,594	33,102	32	40	72	0	0	0	26,426	25,240	51,666
12-17	10,785	9,097	19,882	20,456	20,742	41,198	162	333	495	0	0	0	31,403	30,172	61,575
18-24	2,257	2,433	4,690	3,372	3,926	7,298	87	175	262	0	0	0	5,716	6,534	12,250
Total	22,928	20,136	43,064	40,336	41,262	81,598	281	548	829	0	0	0	63,545	61,946	125,491

Results by age group (Male)



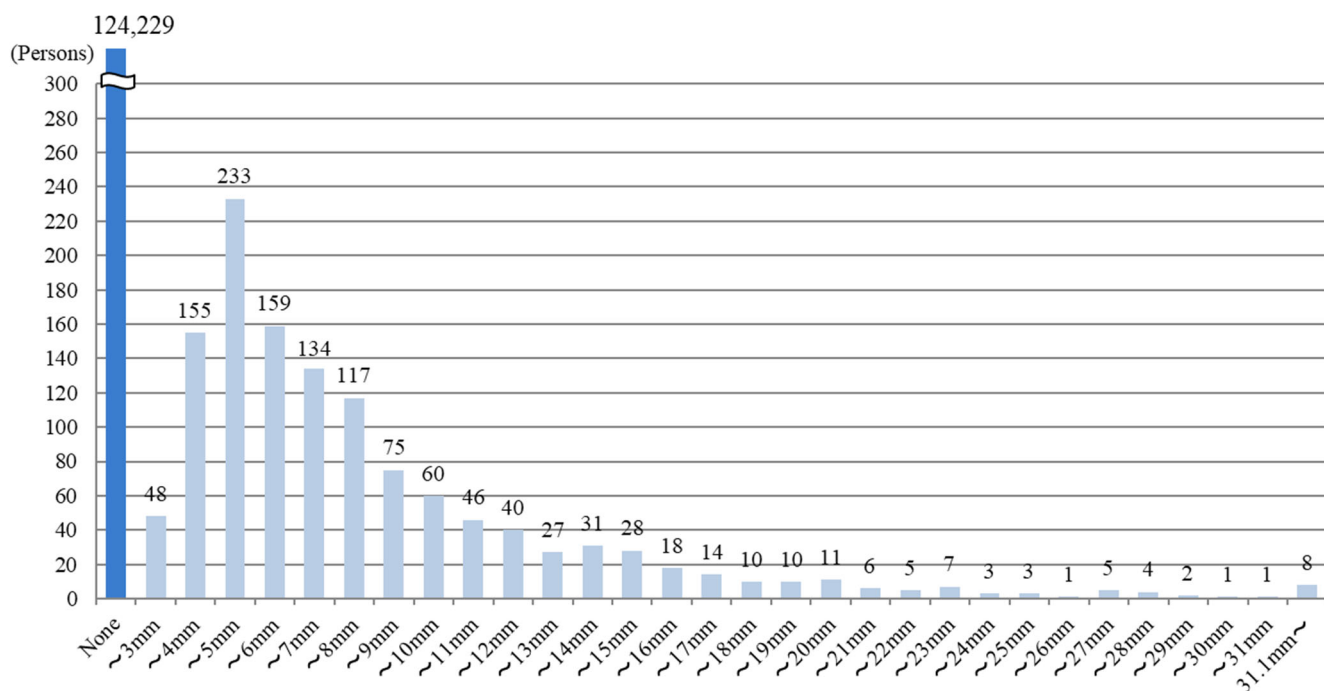
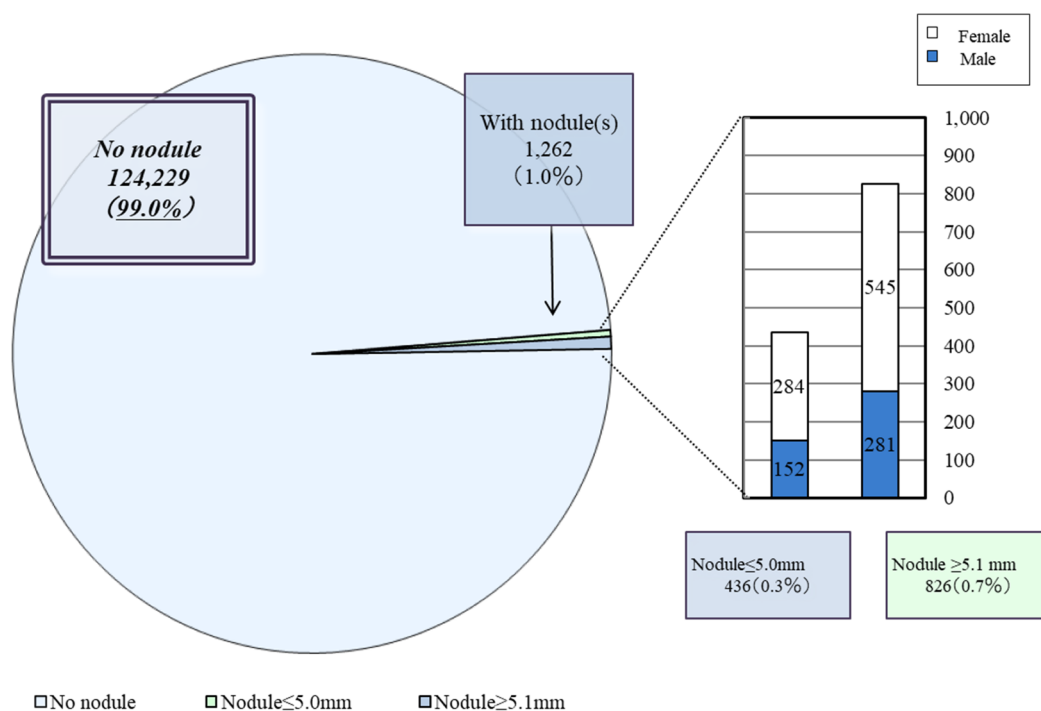
Results by age group (Female)



2 Nodule characteristics

As of 30 September 2019

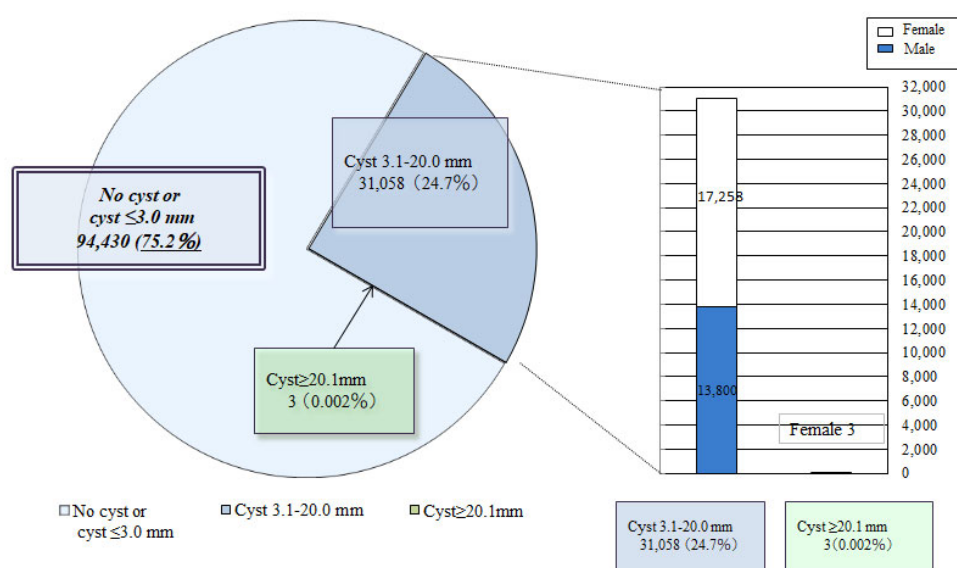
Nodule size	Total	Gender		Class	Proportion
		Male	Female		
None	124,229	63,112	61,117	A1	99.0%
≤ 3.0 mm	48	22	26	A2	0.3%
3.1-5.0 mm	388	130	258		
5.1-10.0 mm	545	187	358	B	0.7%
10.1-15.0 mm	172	67	105		
15.1-20.0 mm	63	18	45		
20.1-25.0 mm	24	6	18		
≥ 25.1 mm	22	3	19		
Total	125,491	63,545	61,946		



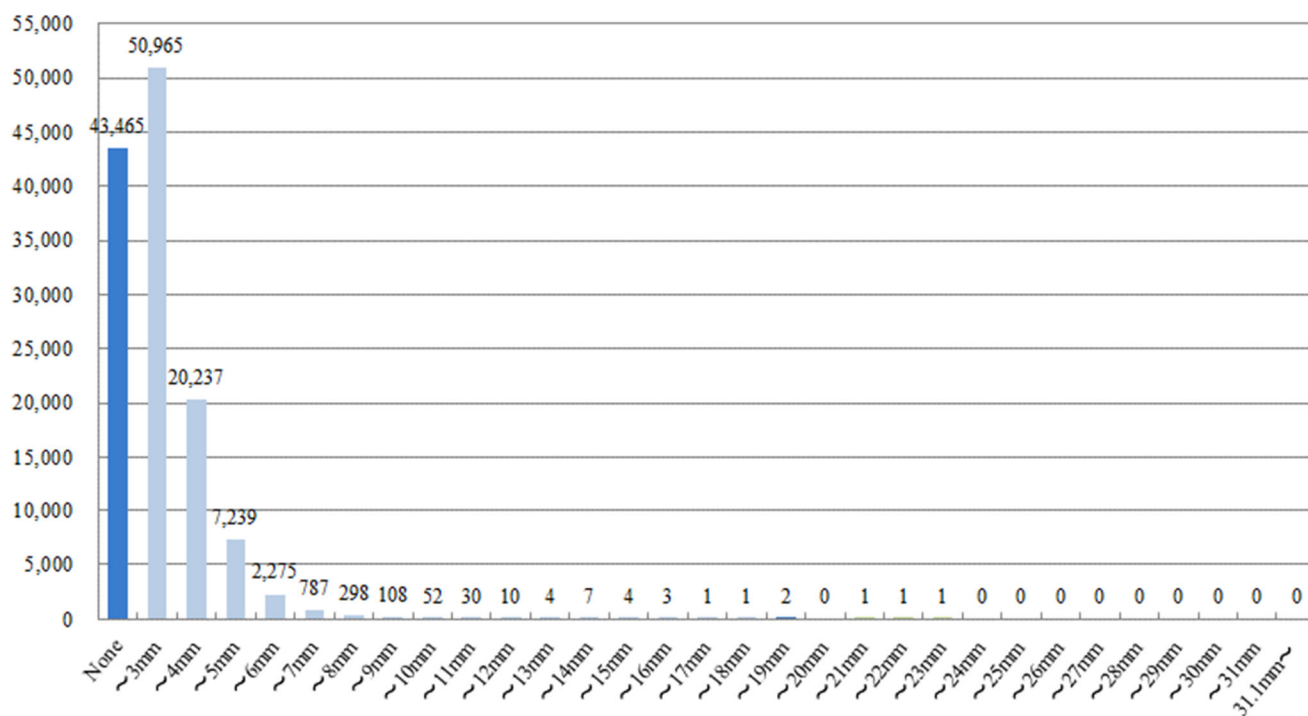
3 Cyst characteristics

As of 30 September 2019

Cyst size	Total			Class	Proportion
	Male	Female			
None	43,465	23,077	20,388	A1	75.2%
≤ 3.0 mm	50,965	26,668	24,297	A2	
3.1-5.0 mm	27,476	12,491	14,985		
5.1-10.0 mm	3,520	1,289	2,231		
10.1-15.0 mm	55	19	36		
15.1-20.0 mm	7	1	6		
20.1-25.0 mm	3	0	3	B	0.002%
≥ 25.1 mm	0	0	0		
Total	125,491	63,545	61,946		



(Persons)



Appendix 5

Results of confirmatory examination coverage by area

As of 30 September 2019

Area	Participants a	Participants who required confirmatory exam b Proportion (%) b/a	Number of those who underwent confirmatory exam				Number of confirmed results				
			Total c Proportion (%) c/b	Ages 6-11 d Proportion (%) d/c	Ages 12-17 e Proportion (%) e/c	≥ 18 f Proportion (%) f/c	Total h Proportion (%) h/c	A1 i Proportion (%) i/h	A2 j Proportion (%) j/h	Not A1 or A2	
										k Proportion (%) k/h	FNAC l Proportion (%) l/k
13 municipalities ¹⁾	20,031	115 0.6	84 73.0	7 8.3	58 69.0	19 22.6	82 97.6	1 1.2	1 1.2	80 97.6	5 6.3
Nakadori ²⁾	99,664	580 0.6	350 60.3	36 10.3	211 60.3	103 29.4	307 87.7	1 0.3	34 11.1	272 88.6	24 8.8
Hamadori ³⁾	9,073	71 0.8	25 35.2	1 4.0	3 12.0	21 84.0	17 68.0	0 0.0	0 0.0	17 100.0	0 0.0
Aizu ⁴⁾	8,174	63 0.8	25 39.7	5 20.0	12 48.0	8 32.0	12 48.0	0 0.0	1 8.3	11 91.7	0 0.0
Total	136,942	829 0.6	484 58.4	49 10.1	284 58.7	151 31.2	418 86.4	2 0.5	36 8.6	380 90.9	29 7.6

- 1) Tamura, Minami-soma, Date, Kawamata, Hirono, Naraha, Tomioka, Kawauchi, Okuma, Futaba, Namie, Katsurao, Iitate
- 2) Fukushima, Koriyama, Shirakawa, Sukagawa, Nihonmatsu, Motomiya, Kori, Kunimi, Otama, Kagamiishi, Tenei, Nishigo, Izumizaki, Nakajima, Yabuki, Tanagura, Yamatsuri, Hanawa, Samegawa, Ishikawa, Tamakawa, Hirata, Asakawa, Furudono, Miharu, Ono
- 3) Iwaki, Soma, Shinnchi
- 4) Aizuwakamatsu, Kitakata, Shimogo, Hinoemata, Tadami, Minami-aizu, Kitashiobara, Nishiaizu, Bandai, Inawashiro, Aizubange, Yugawa, Yanaizu, Mishima, Kaneyama, Showa, Aizumisato

Appendix 6

Surgical cases for malignancy or suspicion of malignancy

1. Municipalities surveyed in FY 2018	
Malignant or suspicious for malignancy:	15 (8 surgical cases: 8 papillary thyroid carcinomas)
2. Municipalities surveyed in FY 2019	
Malignant or suspicious for malignancy:	1 (0 surgical case: 0 papillary thyroid carcinomas)
3. Total	
Malignant or suspicious for malignancy:	16 (8 surgical cases: 8 papillary thyroid carcinomas)

Report on the Thyroid Survey for Age 25

1. Summary

1.1 Survey Population

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

This report includes the status of the following groups:

- Those who were born between 2 April 1992 and 1 April 1993
- Those who were born between 2 April 1993 and 1 April 1994

1.2 Implementation Period

The Thyroid Survey for Age 25 (hereinafter “Age 25 Survey”) started in FY2017. If participants fail to receive TUE in the year they turn 25, they are entitled for TUE until the fiscal year prior to the year they turn 30 (see Fig. 1 for the implementation schedule of Age 25 Survey).

Eligible residents are invited to take examination every 5 years and can take one by the year before their next examination.

Year of examination Birth Year of examinee	FY2017 Age	FY2018 Age	FY2019 Age	FY2020 Age	FY2021 Age	FY2022 Age	FY2023 Age
FY1992	25 ★	26	27	28	29	30 ★	31
FY1993	24	25 ★	26	27	28	29	30 ★
FY1994	23	24	25 ★	26	27	28	29
FY1995	22	23	24	25 ★	26	27	28

- Beginning from FY2017, examinations are offered to Fukushima residents and ex-residents who turn age 25 in each fiscal year.
- Notifications for the examination will be sent to 25-year-old residents in the fiscal year marked with ★.

Fig. 1 Implementation schedule for Age 25 Survey

2. Summarized Results of Age 25 Survey (as of 30 September 2019)

2.1 Results of the Primary Examination

2.1-1 Progress report

The primary examination for Age 25 Survey started in May 2017 for those who turned 25 years old in FY2017 (those born in FY1992 and FY1993) and 4,277 (9.6%) people participated.

Results of 4,239 (99.1%) participants have been confirmed and results reports were sent to them accordingly.

Of these, 1,839 were classified as A1 (43.4%), 2,202 as A2(51.9%), 198 (4.7%) as B, and none as C.

Table 1. Progress and results of the primary examination

As of 30 September 2019

	Survey population	Participants		Proportion (%)	Exam results			
		Proportion (%)	Outside Fukushima		Class (%)			
					A		Requiring confirmatory exam	
					A1 d (d/c)	A2 e (e/c)	B f (f/c)	C g (g/c)
Born in FY1992	22,653	2,234 (9.9)	709	2,230 (99.8)	929 (41.7)	1,203 (53.9)	98 (4.4)	0 (0.0)
Born in FY1993	21,889	2,043 (9.3)	721	2,009 (98.3)	910 (45.3)	999 (49.7)	100 (5.0)	0 (0.0)
Total	44,542	4,277 (9.6)	1,430	4,239 (99.1)	1,839 (43.4)	2,202 (51.9)	198 (4.7)	0 (0.0)

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

As of 30 September 2019

	Number of participants with confirmed results a	Number and proportion of participants with nodules/cysts			
		Nodules		Cysts	
		≥5.1 mm b (b/a)	≤5.0 mm c (c/a)	≥20.1 mm d (d/a)	≤20.0 mm e (e/a)
Born in FY1992	2,230	97 (4.3)	46 (2.1)	1 (0.0)	1,248 (56.0)
Born in FY1993	2,009	100 (5.0)	35 (1.7)	0 (0.0)	1,043 (51.9)
Total	4,239	197 (4.6)	81 (1.9)	1 (0.0)	2,291 (54.0)

- Proportions are rounded to the tenths digit. This will apply to other tables.
- The number of survey population and number of actual participants will be presented by fiscal year in this and future reports.

2.1-2 Comparison with the previous examination results

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

Among 2,788 participants who were diagnosed as A (A1 or A2) in the previous survey, 2,724 (97.7%) were diagnosed as A (A1 or A2), and 64 (2.3%) as B in Age 25 Survey.

Among 102 participants who were diagnosed as B in the previous survey, 33 (32.4%) were diagnosed as A (A1 or A2), and 69 (67.6%) as B in Age 25 Survey.

Table 3 Comparison with the previous survey results

As of 30 September 2019

			Results of the previous survey ^{*1}	Results of the Age 25 Survey ^{*2}			
				A		B d d/a (%)	C e e/a (%)
				A1 b b/a (%)	A2 c c/a (%)		
Results of the previous survey	A	A1	1,385 (100.0)	1,127 (81.4)	245 (17.7)	13 (0.9)	0 (0.0)
		A2	1,994 (100.0)	317 (15.9)	1,610 (80.7)	67 (3.4)	0 (0.0)
	B		115 (100.0)	4 (3.5)	31 (27.0)	80 (69.6)	0 (0.0)
	C		0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
	No participation		1,740 (100.0)	780 (44.8)	876 (50.3)	84 (4.8)	0 (0.0)
	Total		5,234 (100.0)	2,228 (42.6)	2,762 (52.8)	244 (4.7)	0 (0.0)

*1 Upper figures show a previous diagnosis for the participants in this (the Age 25) survey whose results have been confirmed.

*2 Upper figures show the breakdown of the Age 25 Survey participants who were diagnosed for each diagnostic class in the previous Survey. Lower figures are their proportion (%).

2.2 Results of the Confirmatory Examination

2.2-1 Progress report

Out of 198 eligible people, 145 (73.2%) participated, of whom 127 (87.6%) completed the whole procedure of the examination.

Of the foregoing 127 participants, 7 (A2 equivalent: 7) (5.5%) were confirmed to meet A1 or A2 diagnostic criteria by the Primary Examination standards (including those with thyroid diseases). The remaining 120 (94.5%) participants were confirmed to be non-equivalent to A1 or A2.

Table 4. Progress and results of the confirmatory examination

As of 30 September 2019

	Number of those requiring confirmatory exam a	Participants Proportion (%) b (b/a)	Confirmatory exam coverage (%) c (c/b)	Confirmed exam results			
				A1	A2	Not A1 or A2	
				d (d/c)	e (e/c)	f (f/e)	FNAC g (g/f)
Born in FY1992	98	81 (82.7)	78 (96.3)	0 (0.0)	3 (3.8)	75 (96.2)	8 (10.7)
Born in FY1993	102	84 (82.4)	80 (95.2)	0 (0.0)	7 (8.8)	73 (91.3)	5 (6.8)
Born in FY1994	44	3 (6.8)	2 (66.7)	1 (50.0)	0 (0.0)	1 (50.0)	0 (0.0)
Total	244	168 (68.9)	160 (95.2)	1 (0.6)	10 (6.3)	149 (93.1)	13 (8.7)

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

Among those who underwent FNAC, 4 were diagnosed as having malignant or suspicious-for-malignancy nodules: 2 males and 2 females. Participants' age at the time of the confirmatory examination ranged from 24 to 25 years (mean age: 24.8 ± 0.5 years). The minimum and maximum tumor diameters were 12.3 mm and 18.0 mm. Mean tumor diameter was 14.5 ± 2.7 mm.

In the previous survey, 1 of these 4 participants had A2 and 3 had not participated.

Table 5. Results of FNAC

Among those who underwent Age 25 Survey:	
• Malignant or suspicious for malignancy :	4*)
• Male to female ratio :	2:2
• Mean age (SD, min-max):	24.8 (0.5, 24-27), 17.0 (0.8, 16-18) at the time of disaster
• Mean tumor size:	14.5 mm (2.7 mm, 12.3-18.0 mm)

*) Surgical cases are as shown in Appendix 2.

3 Mental Health Care

3.1 Support for Primary Examination Participants

Since April 2017, we offer person-to-person explanations to participants at public venues where primary examinations take place. After the examination, medical doctors explain the results, showing the ultrasound image in private consultation booths at the venue. As of 30 September 2019, 362 (99.7%) of 363 participants visited the consultation booths.

3.2 Support for Confirmatory Examination Participants

For participants of the confirmatory examination, a support team was set up within Fukushima Medical University to address their anxiety and concerns, as well as online support for Q&A and counseling.

Since the start of Age 25 Survey, 54 participants have received support as of 30 September 2019, including 14 males and 40 females. Support was provided to 110 in total. Of these, 54 (49.1%) received support at their first examination and 56 (50.9%) at subsequent examinations.

For those who have proceeded to the health insurance medical care, we continue to provide support in cooperation with the teams of medical staff at hospitals.

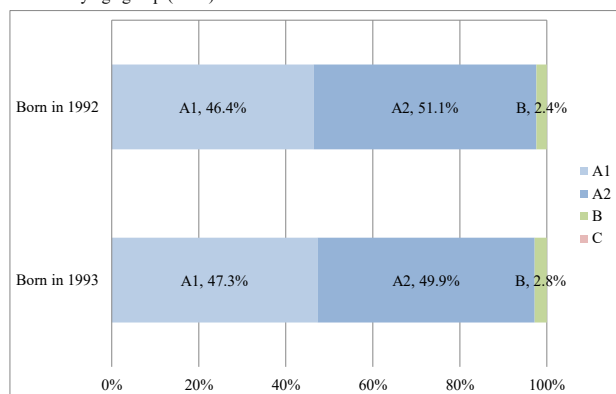
Appendix 1

1 Thyroid ultrasound examination results by sex

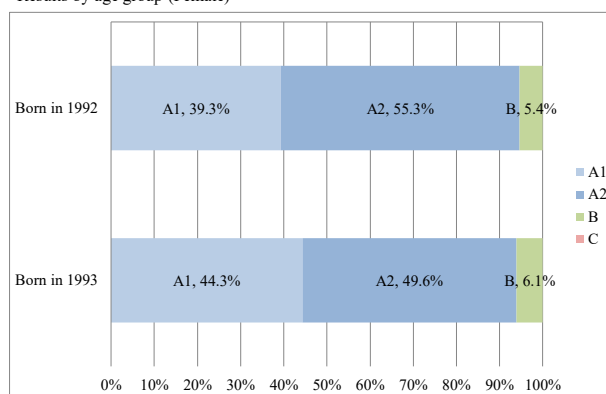
As of 30 September 2019

Survey Population	Class/ Sex	A						B			C			Total		
		A1			A2			Male	Female	Total	Male	Female	Total	Male	Female	Total
		Male	Female	Total	Male	Female	Total									
Born in FY1992		345	584	929	380	823	1,203	18	80	98	0	0	0	743	1,487	2,230
Born in FY1993		322	588	910	340	659	999	19	81	100	0	0	0	681	1,328	2,009
Total		667	1,172	1,839	720	1,482	2,202	37	161	198	0	0	0	1,424	2,815	4,239

Results by age group (Male)



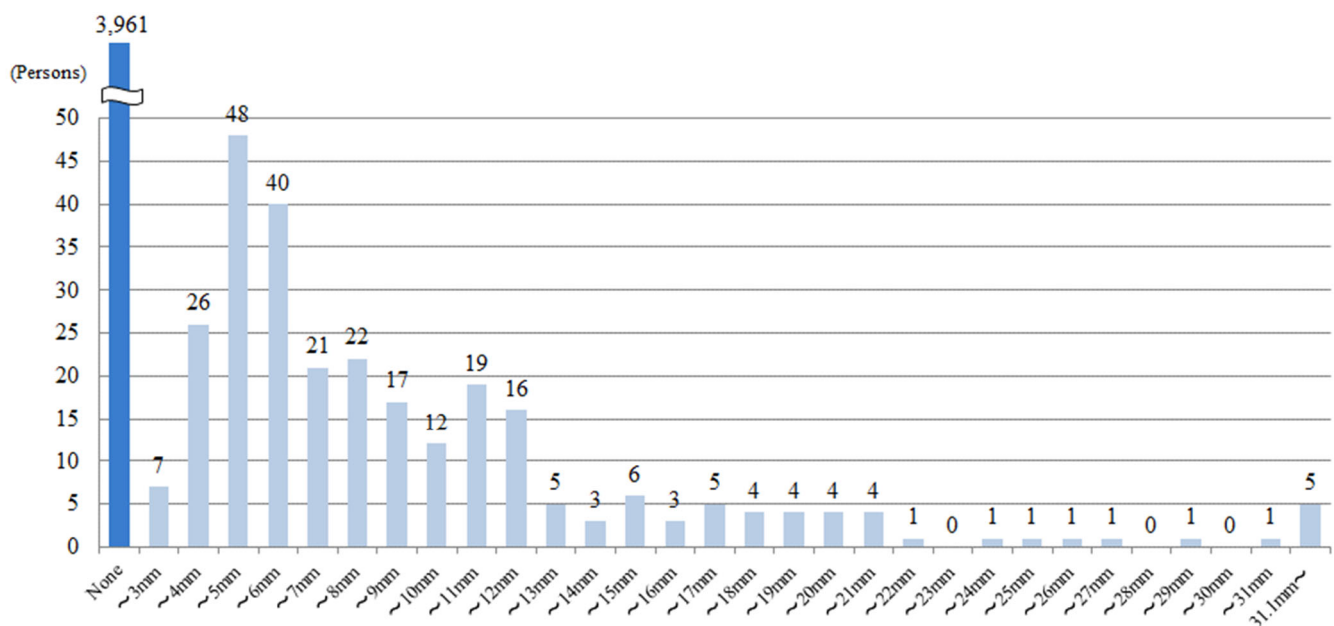
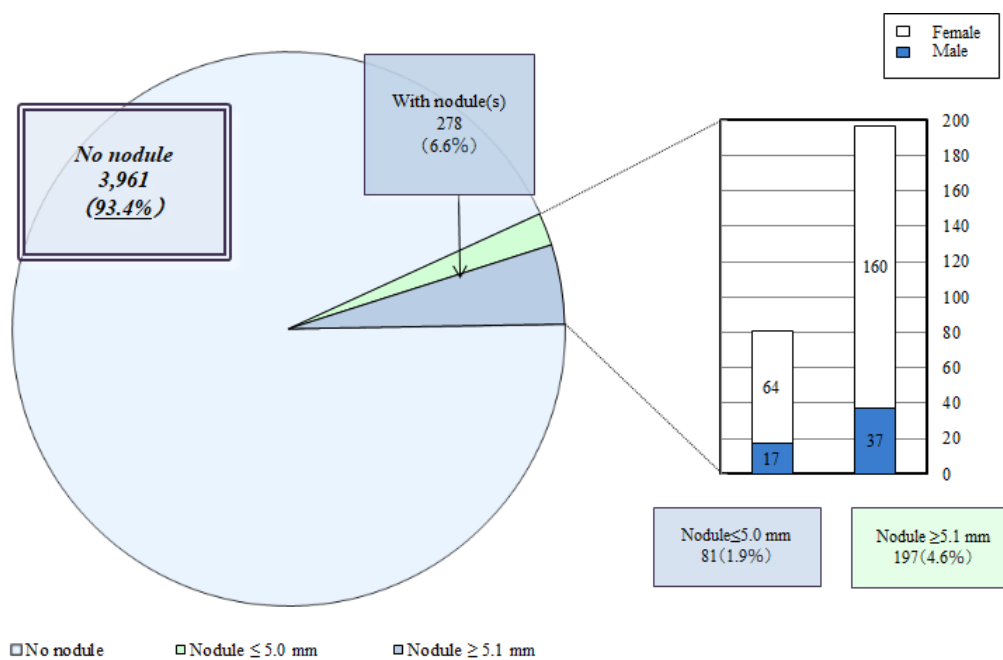
Results by age group (Female)



2 Nodule characteristics

As of 30 September 2019

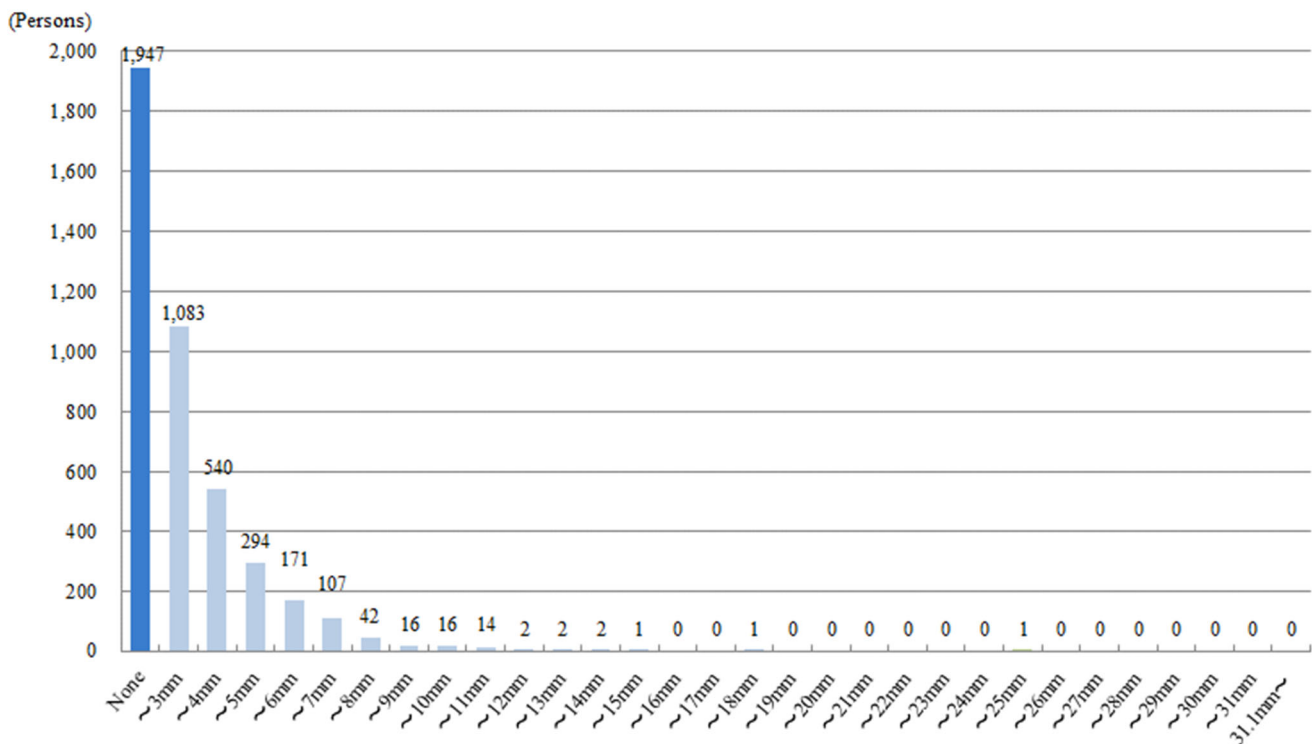
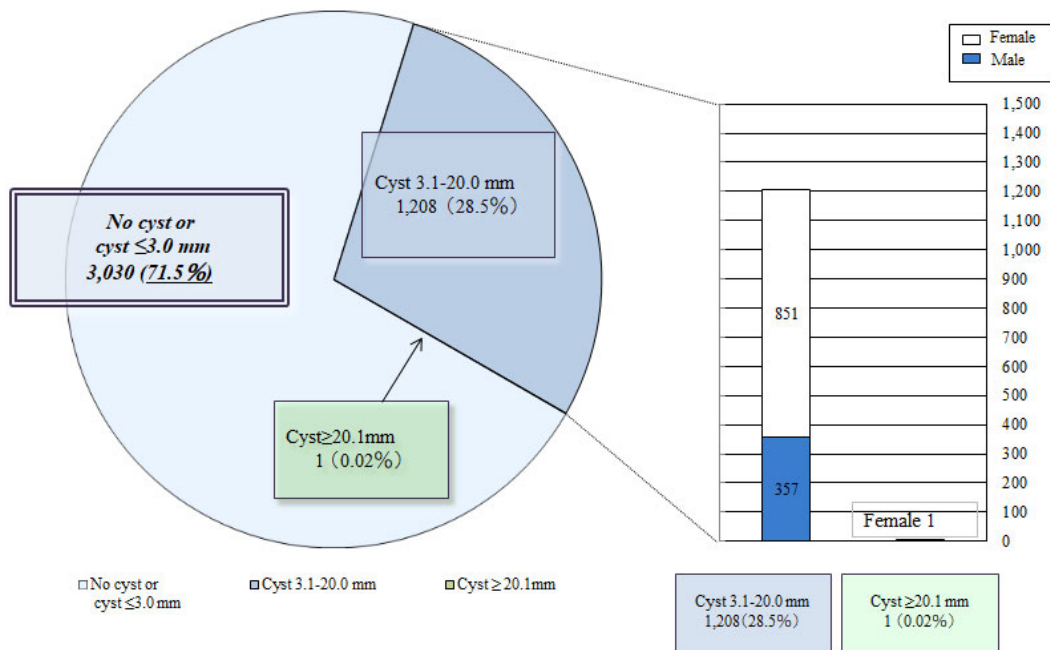
Nodule size	Total	Gender		Class	Proportion
		Male	Female		
None	3,961	1,370	2,591	A1	93.4%
~3.0mm	7	0	7	A2	1.9%
3.1~5.0mm	74	17	57		
5.1~10.0mm	112	22	90	B	4.6%
10.1~15.0mm	49	10	39		
15.1~20.0mm	20	2	18		
20.1~25.0mm	7	2	5		
25.1mm~	9	1	8		
Total	4,239	1,424	2,815		



3 Cyst characteristics

As of 30 September 2019

Cyst size	Total	Male	Female	Class	Proportion
None	1,947	694	1,253	A1	71.5%
~3.0mm	1,083	373	710	A2	
3.1~5.0mm	834	259	575		
5.1~10.0mm	352	93	259		
10.1~15.0mm	21	4	17		
15.1~20.0mm	1	1	0		
20.1~25.0mm	1	0	1	B	0.02%
25.1mm~	0	0	0		
Total	4,239	1,424	2,815		



Appendix 2

Surgical cases for malignancy or suspicion of malignancy

Among those who underwent Thyroid Survey for Age 25:

- Malignant or suspicious for malignancy:4 (1 surgical cases: 1 papillary thyroid carcinomas)