Report on the Results of Pregnancy and Birth Survey for FY2017

1. Outline

1.1 Purpose

We address anxieties associated with pregnancy and childbirth and provide necessary support through assessing participants' physical and mental health. The survey also aims to improve perinatal care in Fukushima Prefecture by listening to people's needs and expectations.

1.2 Survey population

13,552 individuals who satisfy either of the following conditions:

(i) Those who received Maternal and Child Health Handbooks from municipal offices in Fukushima Prefecture from 1 August 2016 to 31 July 2017

(ii) Those who had the handbooks issued during the same period in other prefectures but received antenatal care and delivered babies in Fukushima Prefecture.

[For reference]

Year Surveyed	Number of survey population
FY 2011	16,001
FY 2012	14,516
FY 2013	15,218
FY 2014	15,125
FY 2015	14,572
FY 2016	14,154
FY 2017	13,552

1.3 Survey methods

A. Survey sheet: Self-administered questionnaire

B. Dates of questionnaire distribution

[Group 1] 1 November 2017, 12 January 2018, and 12 March 2018

[Group 2] Distributed on an as-needed basis through cooperating obstetrics institutions in Fukushima Prefecture.

＊For Group 1, questionnaires were sent to the target population based on the information regarding their pregnancy that was provided by the 59 municipalities in Fukushima Prefecture at 3 separate timings depending on their expected delivery date.

For FY2017 survey: When we requested the municipalities to provide information on the target population, we asked them to exclude those who had had miscarriage or stillbirth and cases in which the survival of the baby could not be confirmed and to report only the number of these cases.

For FY2016 survey: We excluded those who had had miscarriage or stillbirth and cases in which the survival of the baby could not be confirmed from the target population if we had received this information from municipalities before sending the questionnaire.

For FY2015 and previous surveys: We sent the questionnaire to all pregnant women in the prefecture

C. Response method: by post or online

*Online responses were accepted from 1 November 2017 to 30 April 2018.

1.4 Survey items

The major survey items are as follows:

A. Mental health of expectant mothers
B. Present situation of life (e.g. evacuation, separation of family members)
C. Conditions of delivery and health conditions of expectant mothers in their pregnancy
D. Confidence in child rearing
E. Expectations for next pregnancy

1.5 Data tabulation period

Responses received from 1 November 2017 to 21 December 2018

2. Summary of Survey Results

Survey results are as shown in 5.1, 5.2, and 5.3 of "5 Pregnancy and Birth Survey for FY 2017."

Note that the number of valid responses by category may not match valid responses in total due to missing values in each category.

2.1 Response rates (See Table 1-1)

The total number of responses (response rate) for FY 2017 was 6,449 (47.6%), the number of valid responses was 6,422, and the number of invalid responses was 27.

[For reference]

Year surveyed	Number of responses (response rate)
FY 2011	9,316 (58.2%)
FY 2012	7,181 (49.5%)
FY 2013	7,260 (47.7%)
FY 2014	7,132 (47.2%)
FY 2015	7,031 (48.3%)
FY 2016	7,326 (51.8%)
FY 2017	6,449 (47.6%)

2.2 Number of respondents by area (See Tables 1-1 and 1-2)

A. The number of respondents (response rates) by area of residence for the FY 2017 Survey was as follows: 1,634 (50.9%) in Kempoku, 1,862 (46.8%) in Kenchu, 473 (45.1%) in Kennan, 442 (40.5%) in Soso, 1,054 (45.5%) in Iwaki, 788 (47.8%) in Aizu, 79 (57.7%) in Minami-Aizu, and 117 in other prefectures.
B. Most respondents were in the 30-34 age group, followed by 25-29 and 35-39 age groups.

2.3 Survey results

A. Pregnancy outcomes (See Tables 9-2, 13-3, 14-8, and Tables 14-21 through 14-24)
   (a) The proportions of miscarriages and induced abortion among the target population which were not known at the time of receiving information from the municipalities or which were reported afterwards were 0.34% and 0.06%, respectively. (Q9)

[For reference]

Year surveyed	Proportion of miscarriages	Proportion of induced abortion	Note (Survey population)
FY 2011	0.77%	0.06%	We sent the questionnaire to all pregnant women in the prefecture.
FY 2012	0.81%	0.08%	
FY 2013	0.78%	0.04%	
FY 2014	0.62%	0.07%	
FY 2015	0.81%	0.16%	
FY 2016	0.85%	0.16%	We excluded those who had had miscarriage or stillbirth and cases in which the survival of the baby could not be confirmed from the target population if we had received this information from municipalities before sending the questionnaire.
FY 2017	0.34%	0.06%	When we requested the municipalities to provide information on the target population, we asked them to exclude those who had had miscarriage or stillbirth and cases in which the survival of the baby could not be confirmed and to report only the number of these cases.

* FY2017 survey is not comparable with the previous surveys because the target groups are different.

(b) The proportion of preterm deliveries was 5.4%. (Q13)

[For reference]

Year surveyed	Proportion of preterm deliveries
FY 2011	4.8%
FY 2012	5.7%
FY 2013	5.4%
FY 2014	5.4%
FY 2015	5.8%
FY 2016	5.4%
FY 2017	5.4%

Reference: According to the 2016 Vital Statistics of the Ministry of Health, Labor and Welfare, the proportion of preterm deliveries to the overall childbirth in Japan was 5.6%

(c) The proportion of low birth weight infants (less than 2,500g) was 9.4%. (Q14)

[For reference]

Years surveyed	Proportion of low birth weight infants
FY 2011	8.9%
FY 2012	9.6%
FY 2013	9.9%
FY 2014	10.1%
FY 2015	9.8%
FY 2016	9.5%
FY 2017	9.4%

Reference: According to the 2016 Vital Statistics of the Ministry of Health, Labor and Welfare, the proportion of low birth weight infants to the overall childbirth in Japan was 9.4%.

(d) The incidence of congenital anomalies in singleton pregnancies was 2.38%. The most frequent anomaly was cardiovascular malformation with an incidence of 0.62%. (Q14)

[For reference]

Year surveyed	Incidence of congenital anomalies in singleton pregnancies	Incidence of cardiovascular malformation
FY 2011	2.85%[1)]	0.89%[1)]
FY 2012	2.39%	0.79%
FY 2013	2.35%	0.91%
FY 2014	2.30%	0.74%
FY 2015	2.24%	0.75%
FY 2016	2.55%	0.91%
FY 2017	2.38%	0.62%

Reference: In general, it is reported that the incidence of congenital anomalies in singleton pregnancies is 3 to 5 %, and the natural incidence rate of cardiovascular malformation is about 1%.

[1)] The incidence rate in FY2011 in this table differs from the rate shown in the report on FY2011 survey results, which was calculated including invalid responses.

B. Mental health of mothers (See Tables 4-1 through 4-3)

The proportion of mothers with depressive symptoms was 20.7%.

For information, according to the national maternal and child health plan in Japan (Sukoyaka Oyako 21), the proportion of mothers suspected of experiencing postnatal depression evaluated by the Edinburgh Postnatal Depression Scale was 9.0% in 2013. (In the second version of Sukoyaka Oyako 21, the proportion of mothers suspected of experiencing postnatal depression in 2013 was revised to 8.4%, by reviewing the numeric values.)

The estimated proportion of postnatal depression from this survey by the Edinburgh Postnatal Depression Scale was 11.1%. (Reference used for calculation: Mishina H, et al. Pediatr Int. 2009; 51: 48.)

[For reference]

Year surveyed	Proportion of mothers with depressive symptoms
FY 2011	27.1%
FY 2012	25.5%
FY 2013	24.5%
FY 2014	23.4%
FY 2015	22.0%
FY 2016	21.1%
FY 2017	20.7%

C. Perinatal care (See Table 3)

1.7% of mothers answered “no” or “not at all” to a question if they received sufficient antenatal and delivery care. (Q3)

[For reference]

Year surveyed	Proportion of mothers who answered “no” or “not at all”
FY 2011	No applicable question
FY 2012	3.5%
FY 2013	2.3%
FY 2014	2.7%
FY 2015	2.4%
FY 2016	2.1%
FY 2017	1.7%

D. Family life and child rearing (See Tables 5-1 and 15)

The proportion of those who are evacuees (living in temporary houses or other accommodations) is on the decrease and the current rate is 2.3% overall for Fukushima Prefecture. (Q5)

[For reference]

Year surveyed	Proportion of those who are evacuees (living in temporary houses or other accommodations)
FY 2011	No applicable question
FY 2012	7.7%
FY 2013	5.5%
FY 2014	4.9%
FY 2015	3.8%
FY 2016	3.4%
FY 2017	2.3%

18.1% answered that they sometimes lose confidence in child rearing. (Q15)

[For reference]

Year surveyed	The proportion of mothers who answered that they sometimes lose confidence in child rearing
FY 2011	No applicable question
FY 2012	15.4%
FY 2013	17.5%
FY 2014	16.6%
FY 2015	17.7%
FY 2016	16.6%
FY 2017	18.1%

Reference: According to the 2013 Health and Welfare Science Research “Study on Final Evaluation / Problem Analysis of Healthy Parents and Children 21 and Promotion of Next National Health Movement” (Yamagata Zentaro Group), 19.3% of mothers answered at the health checkup for 3- and 4-month-old children that they did not have confidence in child rearing.

E. Family planning (See Tables 17-1 through 17-3)

- The proportion of those who anticipate another pregnancy was 52.4%.
- The following services were requested by those who anticipate another pregnancy: improvement of preschool, care for longer hours, or day care for sick children, 79.9%; information or services about child rearing and pediatric medicine, 65.6%.
- The reasons for not anticipating another pregnancy were as follows: no desire, 52.2%; age- or health-related reasons, 38.4%. The proportion of the respondents who answered that they were not planning a pregnancy because they are "worried about the effects of radiation" was 0.8%.

[For reference]

Year surveyed	Proportion of those who anticipate another pregnancy	Proportion of those who answered that they do not anticipate another pregnancy because they are "worried about the effects of radiation"
FY 2011	No applicable question	No applicable question
FY 2012	52.9%	14.8%
FY 2013	52.8%	5.6%
FY 2014	57.1%	3.9%
FY 2015	53.3%	1.6%
FY 2016	54.6%	1.2%
FY 2017	52.4%	0.8%

Reference: According to the 14th National Fertility Survey in 2010, 58% of couples married for less than 10 years were planning a pregnancy. (The proportion was 51% among those who already had a child.)

F. Free comments (See Table 18)

- 799 respondents (12.4%) provided comments in the free comments section.
- The most frequently discussed issues were about child rearing (34.5%) followed by requests for adequate parenting support services (27.3%).
- The proportion of those who wrote comments on effects of radiation on the fetus and child was 4.8%.

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[For reference]

Year surveyed	Number of those who provided comments in the free comments section	Proportion of those who wrote comments on radiation effects on fetus and child
FY 2011	3,722 (42.2%)	29.6%
FY 2012	1,481 (20.7%)	26.4%
FY 2013	867 (12.0%)	12.9%
FY 2014	745 (10.5%)	9.5%
FY 2015	1,101 (15.7%)	5.2%
FY 2016	965 (13.3%)	6.1%
FY 2017	799 (12.4%)	4.8%

2.4 Summary

A. Pregnancy outcomes

The proportions of preterm deliveries and low birth weight infants among those who received Maternal and Child Health Handbooks remained almost the same as the results up to FY 2016. The incidence of congenital anomalies in singleton pregnancies was also roughly the same as previous results, and not notably higher than the generally reported incidence.

B. Mental health of mothers

The proportion of mothers with depressive symptoms decreased over time from FY 2011, but the estimated proportion of those suspected of experiencing postnatal depression was still higher than the national date.

C. Free comments

The most frequently discussed issues were about child rearing followed by requests for adequate parenting support services. Concern about the effects of radiation on the fetus and child came up most frequently in FY 2011 and 2012, but has decreased since then.

3. Outline of Post-Survey Support

3.1 Purpose

To alleviate anxieties of those among all the FY2017 Pregnancy and Birth Survey respondents who were judged as requiring consultation and support by providing consultation and support via telephone or email by midwives and public health nurses.

3.2 Target population deemed as requiring support (See Table 19)

Among respondents of FY2017 Pregnancy and Birth Survey who returned their response between 1 November 2017 and 21 December 2018, those who were deemed as requiring telephone consultation and support (hereinafter "support-requiring mothers")

3.3 Criteria for Support (See Table 20)

Respondents who fall under one of the following:

A. Respondents who had two depression symptoms described in the questionnaire (Q4-1, Q4-2); and/or

B. Respondents who were screened based on their opinions in the free comments section.

Ex.) Those who appeared to have a severely depressed mood
Those in need of support for child rearing
Those who are concerned about radiation dose
Those who complain of poor physical condition
Those who want direct, substantial response
Those who requested support

3.4 Methods

Consultation and support via telephone and email

4. Summary of Support Results

The results of the support are as shown in "5.4 Status of Support" under "5. Tabulated Results of Pregnancy and Birth Survey for FY2017" below.

4.1 Number of support-requiring mothers (See Tables 19)

- Of 6,449 respondents who returned their response from 1 November 2017 through 21 December 2018, the number of those who were judged as requiring telephone consultation and support (hereinafter "support-requiring mothers") was 799 and the support-requiring rate was 12.4%.
- As for the breakdown of the support, the proportion of support due to depressive symptoms was 7.0% and the support by free comments was 5.4%. Since 2012, we have expanded the scope of support based on free comments from respondents so that support can be extended to a larger number of people.

[For reference]

Years surveyed	Number of respondents	Support based on depressive symptoms	Support based on free comments	Support-requiring mothers (support-requiring rate)
FY 2011	9,316	1,224 (13.1%)	177 (1.9%)	1,401 (15.0%)
FY 2012	7,181	751 (10.5%)	353 (4.9%)	1,104 (15.4%)
FY 2013	7,260	744 (10.2%)	357 (4.9%)	1,101 (15.2%)
FY 2014	7,132	645 (9.0%)	185 (2.6%)	830 (11.6%)
FY 2015	7,031	549 (7.8%)	364 (5.2%)	913 (13.0%)
FY 2016	7,326	573 (7.8%)	378 (5.2%)	951 (13.0%)
FY 2017	6,449	449 (7.0%)	350 (5.4%)	799 (12.4%)

4.2 Contents of consultation (See Table 21)

- The most frequently discussed issue by the respondents in need of support was physical and mental health of mothers (55.6%), followed by child rearing (51.8%) and family life (16.4%). (Issues relating to "child rearing" include breastfeeding volume, baby food, growth/development, how to relate to children, etc.)
- The proportion of consultation related to radiation effects and anxiety was 4.1%.

[For reference]

Year surveyed	Content			Proportion of consultations related to radiation effects and anxiety
	1st	2nd	3rd	
FY 2011	Concerns about radiation effects and anxiety 29.2%	Physical and mental health of mothers 20.2%	Child rearing (life) 14.0%	29.2%
FY 2012	Physical and mental health of mothers 33.4%	Child rearing (life) 26.7%	Concerns about radiation effects and anxiety 23.7%	23.7%
FY 2013	Physical and mental health of mothers 42.5%	Child rearing (life) 38.7%	Physical and mental health of children 20.3%	17.1%
FY 2014	Physical and mental health of mothers 49.5%	Child rearing (life) 36.1%	Family life 20.5%	9.5%
FY 2015	Physical and mental health of mothers 53.1%	Child rearing (life) 40.9%	Family life 21.8%	5.9%
FY 2016	Physical and mental health of mothers 59.8%	Child rearing (life) 43.4%	Family life 19.5%	5.0%
FY 2017	Physical and mental health of mothers 55.6%	Child rearing (life) 51.8%	Family life 16.4%	4.1%

4.3 Reasons for terminating support (See Table 22)

Reasons for terminating support include "listened carefully" (Support was terminated after listening carefully to what mothers said and helping to sort out their problems) in 577 cases (72.2%), followed by "information provided (Support was terminated after relevant information and administrative service contact information were provided) in 238 cases (29.8%), and "Already consulted (support was terminated after confirming that mothers had already consulted with medical or other institutions" in 212 cases (26.5%). Note: Multiple answers were allowed. The denominator of percentages is the total number support-requiring mothers.

4.4 Conclusions

- Support-requiring rate based on depressive symptoms in FY2017 Survey was on a decreasing trend since FY2011.
- The most frequently discussed issue in the consultation in FY 2017 was the physical and mental health of mothers as had been the case since FY 2012. Issues related to the effects and anxiety of radiation became less frequent over time.

5. Tabulated Results of Pregnancy and Birth Survey for FY2017

In the following tabulations, "Outside Fukushima" indicates those who temporarily returned to Fukushima to give birth. The survey questionnaires were distributed to them and responses were collected from them with cooperation of obstetrics institutions in Fukushima Prefecture.

5.1 Response rates

[Table 1-1] Status of distribution and response

Area	Survey population		Responses (Response rate)		Online (Response rate)	
Kempoku	3,212	23.7%	1,634	50.9%	282	17.3%
Kenchu	3,980	29.4%	1,862	46.8%	371	19.9%
Kennan	1,048	7.7%	473	45.1%	82	17.3%
Soso	1,091	8.1%	442	40.5%	80	18.1%
Iwaki	2,317	17.1%	1,054	45.5%	184	17.5%
Aizu	1,650	12.2%	788	47.8%	150	19.0%
Minami-aizu	137	1.0%	79	57.7%	10	12.7%
Outside Fukushima	117	0.9%	117	100.0%	18	15.4%
Total	13,552	100.0%	6,449	47.6%	1,177	18.3%

[Table 1-2] Age group of respondents (age is of the time of occurrence i.e. delivery, stillbirth)

The total number of respondents is 6,422 out of 6,449 excluding 27 invalid responses.

Each category includes non-responses and invalid responses. Percentages have been rounded and may not total to 100%

Area	Ages 15-19		Ages 20-24		Ages 25-29		Ages 30-34		Ages 35-39		Ages 40-44		Ages 45-49		Non-response/ invalid response[1)]		Total
Kempoku	14	0.9%	138	8.5%	466	28.6%	569	35.0%	343	21.1%	74	4.5%	4	0.2%	20	1.2%	1,628
Kenchu	13	0.7%	168	9.1%	539	29.0%	668	36.0%	372	20.0%	79	4.3%	1	0.1%	16	0.9%	1,856
Kennan	5	1.1%	47	10.0%	123	26.1%	183	38.8%	87	18.4%	15	3.2%	0	0.0%	12	2.5%	472
Soso	4	0.9%	50	11.4%	127	28.9%	164	37.3%	72	16.4%	19	4.3%	1	0.2%	3	0.7%	440
Iwaki	14	1.3%	111	10.5%	292	27.7%	329	31.2%	245	23.3%	47	4.5%	3	0.3%	12	1.1%	1,053
Aizu	4	0.5%	59	7.5%	225	28.7%	291	37.1%	154	19.6%	39	5.0%	0	0.0%	12	1.5%	784
Minami-aizu	0	0.0%	9	11.5%	24	30.8%	31	39.7%	12	15.4%	1	1.3%	0	0.0%	1	1.3%	78
Outside Fukushima	0	0.0%	1	0.9%	42	37.8%	48	43.2%	18	16.2%	1	0.9%	0	0.0%	1	0.9%	111
Total	54	0.8%	583	9.1%	1,838	28.6%	2,283	35.5%	1,303	20.3%	275	4.3%	9	0.1%	77	1.2%	6,422

[1)] Non-response/invalid response: responses without the date of occurrences.

5.2 Results by question item

[Table 2] Do you think of yourself as healthy? (Q2)

Area	Very healthy		somewhat healthy		Not so healthy		Not healthy		Non-response/ invalid response [1)]		Total
Kempoku	411	25.2%	1,161	71.3%	48	2.9%	2	0.1%	6	0.4%	1,628
Kenchu	489	26.3%	1,286	69.3%	72	3.9%	5	0.3%	4	0.2%	1,856
Kennan	129	27.3%	328	69.5%	13	2.8%	1	0.2%	1	0.2%	472
Soso	85	19.3%	330	75.0%	23	5.2%	1	0.2%	1	0.2%	440
Iwaki	326	31.0%	682	64.8%	34	3.2%	6	0.6%	5	0.5%	1,053
Aizu	194	24.7%	556	70.9%	27	3.4%	2	0.3%	5	0.6%	784
Minami-aizu	23	29.5%	53	67.9%	2	2.6%	0	0.0%	0	0.0%	78
Outside Fukushima	34	30.6%	76	68.5%	1	0.9%	0	0.0%	0	0.0%	111
Total	1,691	26.3%	4,472	69.6%	220	3.4%	17	0.3%	22	0.3%	6,422

[Table 3] Did you receive sufficient antenatal or delivery care for the current pregnancy? (Q3)

Area	Very much		Yes		Not sure		No		Not at all		Non-response/invalid response		Total
Kempoku	496	30.5%	984	60.4%	118	7.2%	22	1.4%	2	0.1%	6	0.4%	1,628
Kenchu	561	30.2%	1,075	57.9%	185	10.0%	28	1.5%	1	0.1%	6	0.3%	1,856
Kennan	129	27.3%	284	60.2%	45	9.5%	12	2.5%	1	0.2%	1	0.2%	472
Soso	124	28.2%	267	60.7%	41	9.3%	6	1.4%	1	0.2%	1	0.2%	440
Iwaki	337	32.0%	598	56.8%	87	8.3%	22	2.1%	2	0.2%	7	0.7%	1,053
Aizu	215	27.4%	484	61.7%	74	9.4%	6	0.8%	1	0.1%	4	0.5%	784
Minami-aizu	22	28.2%	45	57.7%	9	11.5%	2	2.6%	0	0.0%	0	0.0%	78
Outside Fukushima	36	32.4%	63	56.8%	9	8.1%	1	0.9%	1	0.9%	1	0.9%	111
Total	1,920	29.9%	3,800	59.2%	568	8.8%	99	1.5%	9	0.1%	26	0.4%	6,422

[Table 4-1] Have you often been feeling down or depressed for the past month? (Q4-1)

Area	Yes		No		Non-response/ invalid response		Total
Kempoku	347	21.3%	1,275	78.3%	6	0.4%	1,628
Kenchu	350	18.9%	1,501	80.9%	5	0.3%	1,856
Kennan	94	19.9%	376	79.7%	2	0.4%	472
Soso	97	22.0%	341	77.5%	2	0.5%	440
Iwaki	161	15.3%	884	84.0%	8	0.8%	1,053
Aizu	151	19.3%	628	80.1%	5	0.6%	784
Minami-aizu	16	20.5%	62	79.5%	0	0.0%	78
Outside Fukushima	31	27.9%	80	72.1%	0	0.0%	111
Total	1,247	19.4%	5,147	80.1%	28	0.4%	6,422

[Table 4-2] Have you lost interest in activities or found things unjoyful for the past month? (Q4-2)

Area	Yes		No		Non-response/ Invalid response		Total
Kempoku	149	9.2%	1,473	90.5%	6	0.4%	1,628
Kenchu	138	7.4%	1,713	92.3%	5	0.3%	1,856
Kennan	36	7.6%	434	91.9%	2	0.4%	472
Soso	49	11.1%	389	88.4%	2	0.5%	440
Iwaki	72	6.8%	973	92.4%	8	0.8%	1,053
Aizu	66	8.4%	713	90.9%	5	0.6%	784
Minami-aizu	10	12.8%	68	87.2%	0	0.0%	78
Outside Fukushima	9	8.1%	102	91.9%	0	0.0%	111
Total	529	8.2%	5,865	91.3%	28	0.4%	6,422

[Table 4-3] Depressive symptoms (Those who answered “yes” to both or either of Q4-1 and Q4-2)

Area	Yes to both questions		Yes to either of the question		No to both questions		Non-response/ invalid response		Total
Kempoku	127	7.8%	242	14.9%	1,253	77.0%	6	0.4%	1,628
Kenchu	115	6.2%	258	13.9%	1,478	79.6%	5	0.3%	1,856
Kennan	33	7.0%	64	13.6%	373	79.0%	2	0.4%	472
Soso	42	9.5%	62	14.1%	334	75.9%	2	0.5%	440
Iwaki	62	5.9%	109	10.4%	874	83.0%	8	0.8%	1,053
Aizu	52	6.6%	113	14.4%	614	78.3%	5	0.6%	784
Minami-aizu	9	11.5%	8	10.3%	61	78.2%	0	0.0%	78
Outside Fukushima	7	6.3%	26	23.4%	78	70.3%	0	0.0%	111
Total	447	7.0%	882	13.7%	5,065	78.9%	28	0.4%	6,422

Proportion of those with depressive symptoms: 20.7% (447 checked both boxes of *Yes*+882 checked either of *Yes*/total of 6,422)

[Table 5-1] Are you evacuated from your home? (Q5)

Area	Yes, I am living in temporary housing		Yes, I am living in other kind of accommodation		Have evacuated but returned home		Have never been evacuated		Non-response/ invalid response		Total
Kempoku	1	0.1%	10	0.6%	124	7.6%	1,462	89.8%	31	1.9%	1,628
Kenchu	1	0.1%	9	0.5%	172	9.3%	1,647	88.7%	27	1.5%	1,856
Kennan	0	0.0%	2	0.4%	22	4.7%	437	92.6%	11	2.3%	472
Soso	4	0.9%	111	25.2%	134	30.5%	184	41.8%	7	1.6%	440
Iwaki	0	0.0%	6	0.6%	334	31.7%	694	65.9%	19	1.8%	1,053
Aizu	0	0.0%	4	0.5%	21	2.7%	735	93.8%	24	3.1%	784
Minami-aizu	0	0.0%	0	0.0%	3	3.8%	73	93.6%	2	2.6%	78
Outside Fukushima	0	0.0%	0	0.0%	3	2.7%	107	96.4%	1	0.9%	111
Total	6	0.1%	142	2.2%	813	12.7%	5,339	83.1%	122	1.9%	6,422

[Table 5-2] Are you living apart from family members you previously lived with because of evacuation? (Q5)
This question is for 148 respondents who answered Yes to the previous question.

Area	Yes		No		Non-response/ Invalid response		Total
Kempoku	8	72.7%	3	27.3%	0	0.0%	11
Kenchu	3	30.0%	7	70.0%	0	0.0%	10
Kennan	1	50.0%	1	50.0%	0	0.0%	2
Soso	41	35.7%	74	64.3%	0	0.0%	115
Iwaki	4	66.7%	2	33.3%	0	0.0%	6
Aizu	1	25.0%	3	75.0%	0	0.0%	4
Minami-aizu	0	0.0%	0	0.0%	0	0.0%	0
Outside Fukushima	0	0.0%	0	0.0%	0	0.0%	0
Total	58	39.2%	90	60.8%	0	0.0%	148

[Table 5-3] Are you communicating well with your family? (Q5)
This question is for 58 respondents who answered *Yes* to the previous question.

Area	Yes		No		Not sure		Non-response/ invalid response		Total
Kempoku	7	87.5%	1	12.5%	0	0.0%	0	0.0%	8
Kenchu	3	100.0%	0	0.0%	0	0.0%	0	0.0%	3
Kennan	1	100.0%	0	0.0%	0	0.0%	0	0.0%	1
Soso	34	82.9%	2	4.9%	5	12.2%	0	0.0%	41
Iwaki	4	100.0%	0	0.0%	0	0.0%	0	0.0%	4
Aizu	1	100.0%	0	0.0%	0	0.0%	0	0.0%	1
Minami-aizu	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
Outside Fukushima	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
Total	50	86.2%	3	5.2%	5	8.6%	0	0.0%	58

[Table 6] Whom are you living with? Check all that apply. (Q6) (Multiple answers are allowed).

Area	No one		Husband or partner		Children		Parents or parents-in-law		Other		Valid response
Kempoku	2	0.1%	1,524	93.9%	1,384	85.3%	408	25.1%	106	6.5%	1,623
Kenchu	2	0.1%	1,729	93.5%	1,586	85.7%	495	26.8%	120	6.5%	1,850
Kennan	0	0.0%	442	94.0%	406	86.4%	170	36.2%	33	7.0%	470
Soso	1	0.2%	397	90.4%	392	89.3%	136	31.0%	36	8.2%	439
Iwaki	1	0.1%	994	94.8%	920	87.7%	229	21.8%	30	2.9%	1,049
Aizu	3	0.4%	738	94.7%	676	86.8%	278	35.7%	69	8.9%	779
Minami-aizu	0	0.0%	73	93.6%	62	79.5%	39	50.0%	10	12.8%	78
Outside Fukushima	0	0.0%	108	97.3%	64	57.7%	9	8.1%	1	0.9%	111
Total	9	0.1%	6,005	93.8%	5,490	85.8%	1,764	27.6%	405	6.3%	6,399

The denominator of percentages is the sum of valid responses to Q6. Proportion does not total to 100.0% because of the multiple answers.

[Table 7-1] Did you smoke when you were notified of your recent pregnancy? (Q7-1)

Area	Have never smoked		Quit before detecting pregnancy		Quit after detecting pregnancy		Yes		Non-response/ Invalid response		Total
Kempoku	1,192	73.2%	190	11.7%	175	10.7%	67	4.1%	4	0.2%	1,628
Kenchu	1,297	69.9%	220	11.9%	222	12.0%	113	6.1%	4	0.2%	1,856
Kennan	320	67.8%	64	13.6%	58	12.3%	28	5.9%	2	0.4%	472
Soso	299	68.0%	66	15.0%	52	11.8%	22	5.0%	1	0.2%	440
Iwaki	726	68.9%	136	12.9%	133	12.6%	52	4.9%	6	0.6%	1,053
Aizu	550	70.2%	101	12.9%	86	11.0%	43	5.5%	4	0.5%	784
Minami-aizu	55	70.5%	10	12.8%	8	10.3%	5	6.4%	0	0.0%	78
Outside Fukushima	79	71.2%	10	9.0%	15	13.5%	7	6.3%	0	0.0%	111
Total	4,518	70.4%	797	12.4%	749	11.7%	337	5.2%	21	0.3%	6,422

[Table 7-2] Did you smoke during the pregnancy? (Q7-2)

Area	No		Yes		Non-response/ invalid response		Total
Kempoku	1,593	97.9%	30	1.8%	5	0.3%	1,628
Kenchu	1,804	97.2%	47	2.5%	5	0.3%	1,856
Kennan	458	97.0%	12	2.5%	2	0.4%	472
Soso	424	96.4%	14	3.2%	2	0.5%	440
Iwaki	1,017	96.6%	28	2.7%	8	0.8%	1,053
Aizu	751	95.8%	25	3.2%	8	1.0%	784
Minami-aizu	74	94.9%	3	3.8%	1	1.3%	78
Outside Fukushima	108	97.3%	3	2.7%	0	0.0%	111
Total	6,229	97.0%	162	2.5%	31	0.5%	6,422

[Table 7-3] Do you smoke now? (Q7-3)

Area	No		Yes		Non-response/ invalid response		Total
Kempoku	1,569	96.4%	54	3.3%	5	0.3%	1,628
Kenchu	1,780	95.9%	71	3.8%	5	0.3%	1,856
Kennan	447	94.7%	23	4.9%	2	0.4%	472
Soso	417	94.8%	21	4.8%	2	0.5%	440
Iwaki	996	94.6%	50	4.7%	7	0.7%	1,053
Aizu	733	93.5%	45	5.7%	6	0.8%	784
Minami-aizu	77	98.7%	1	1.3%	0	0.0%	78
Outside Fukushima	106	95.5%	5	4.5%	0	0.0%	111
Total	6,125	95.4%	270	4.2%	27	0.4%	6,422

[Table 8] Did you give birth to one baby (singleton) or two (twins) (including the cases of stillbirth)? (Q8)

Area	Singleton		Twins		Non-response/ invalid response		Total
Kempoku	1,614	99.1%	14	0.9%	0	0.0%	1,628
Kenchu	1,845	99.4%	11	0.6%	0	0.0%	1,856
Kennan	469	99.4%	3	0.6%	0	0.0%	472
Soso	434	98.6%	5	1.1%	1	0.2%	440
Iwaki	1,045	99.2%	8	0.8%	0	0.0%	1,053
Aizu	779	99.4%	5	0.6%	0	0.0%	784
Minami-aizu	76	97.4%	2	2.6%	0	0.0%	78
Outside Fukushima	110	99.1%	1	0.9%	0	0.0%	111
Total	6,372	99.2%	49	0.8%	1	0.0%	6,422

[Table 9-1] Details of pregnancy (Q9)

Area	Natural conception		Ovarian hyper-stimulation		Artificial insemination		In vitro fertilization		Ovarian hyperstimulation and artificial insemination		Ovarian hyper-stimulation and in vitro fertilization		Non-response/ invalid response		Total
Kempoku	1,478	90.8%	51	3.1%	18	1.1%	65	4.0%	4	0.2%	6	0.4%	6	0.4%	1,628
Kenchu	1,718	92.6%	32	1.7%	25	1.3%	61	3.3%	3	0.2%	7	0.4%	10	0.5%	1,856
Kennan	433	91.7%	16	3.4%	6	1.3%	16	3.4%	0	0.0%	0	0.0%	1	0.2%	472
Soso	396	90.0%	10	2.3%	8	1.8%	19	4.3%	2	0.5%	4	0.9%	1	0.2%	440
Iwaki	962	91.4%	32	3.0%	19	1.8%	27	2.6%	4	0.4%	2	0.2%	7	0.7%	1,053
Aizu	716	91.3%	19	2.4%	14	1.8%	27	3.4%	0	0.0%	0	0.0%	8	1.0%	784
Minami-aizu	70	89.7%	2	2.6%	2	2.6%	1	1.3%	1	1.3%	1	1.3%	1	1.3%	78
Outside Fukushima	97	87.4%	4	3.6%	0	0.0%	9	8.1%	0	0.0%	0	0.0%	1	0.9%	111
Total	5,870	91.4%	166	2.6%	92	1.4%	225	3.5%	14	0.2%	20	0.3%	35	0.5%	6,422

[Table 9-2] Pregnancy results (Q9) *Basically, a birth of twins is counted as 1 Delivered. However, for 3 cases of twins with different outcomes, the results were counted separately. For example, twins pregnancy with a sound delivery and a miscarriage are counted as 1 Delivered and 1 Miscarriage.

Area	Delivered		Miscarriage		Induced abortion		Stillbirth		Total
Kempoku	1,624	99.69%	2	0.12%	1	0.06%	2	0.12%	1,629
Kenchu	1,840	99.14%	10	0.54%	3	0.16%	3	0.16%	1,856
Kennan	470	99.37%	2	0.42%	0	0.00%	1	0.21%	473
Soso	437	99.32%	2	0.45%	0	0.00%	1	0.23%	440
Iwaki	1,043	98.96%	6	0.57%	0	0.00%	5	0.47%	1,054
Aizu	783	99.87%	0	0.00%	0	0.00%	1	0.13%	784
Minami-aizu	77	98.72%	0	0.00%	0	0.00%	1	1.28%	78
Outside Fukushim	111	100.00 %	0	0.00%	0	0.00%	0	0.00%	111
Total	6,385	99.38%	22	0.34%	4	0.06%	14	0.22%	6,425

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[Table 10-1] Have you ever had a miscarriage? (Q10-1)

Area	Yes		No		Non-response/ invalid response		Total
Kempoku	314	19.3%	1,302	80.0%	12	0.7%	1,628
Kenchu	354	19.1%	1,482	79.8%	20	1.1%	1,856
Kennan	102	21.6%	369	78.2%	1	0.2%	472
Soso	98	22.3%	337	76.6%	5	1.1%	440
Iwaki	226	21.5%	822	78.1%	5	0.5%	1,053
Aizu	170	21.7%	604	77.0%	10	1.3%	784
Minami-aizu	10	12.8%	68	87.2%	0	0.0%	78
Outside Fukushima	19	17.1%	92	82.9%	0	0.0%	111
Total	1,293	20.1%	5,076	79.0%	53	0.8%	6,422

[Table 10-2] Have you ever had induced abortion? (Q10-2)

Area	Yes		No		Non-response/ invalid response		Total
Kempoku	219	13.5%	1,347	82.7%	62	3.8%	1,628
Kenchu	240	12.9%	1,558	83.9%	58	3.1%	1,856
Kennan	45	9.5%	411	87.1%	16	3.4%	472
Soso	71	16.1%	356	80.9%	13	3.0%	440
Iwaki	161	15.3%	862	81.9%	30	2.8%	1,053
Aizu	121	15.4%	639	81.5%	24	3.1%	784
Minami-aizu	10	12.8%	62	79.5%	6	7.7%	78
Outside Fukushima	12	10.8%	96	86.5%	3	2.7%	111
Total	879	13.7%	5,331	83.0%	212	3.3%	6,422

[Table 10-3] Have you ever had a stillbirth? (Q10-3)

Area	Yes		No		Non-response/ invalid response		Total
Kempoku	13	0.8%	1,598	98.2%	17	1.0%	1,628
Kenchu	28	1.5%	1,807	97.4%	21	1.1%	1,856
Kennan	6	1.3%	463	98.1%	3	0.6%	472
Soso	9	2.0%	425	96.6%	6	1.4%	440
Iwaki	9	0.9%	1,037	98.5%	7	0.7%	1,053
Aizu	6	0.8%	767	97.8%	11	1.4%	784
Minami-aizu	0	0.0%	78	100.0%	0	0.0%	78
Outside Fukushima	0	0.0%	111	100.0%	0	0.0%	111
Total	71	1.1%	6,286	97.9%	65	1.0%	6,422

[Table 10-4] Have you ever given birth? (Q10-4)

Area	Yes		No		Non-response/ invalid response		Total
Kempoku	824	50.6%	743	45.6%	61	3.7%	1,628
Kenchu	892	48.1%	904	48.7%	60	3.2%	1,856
Kennan	262	55.5%	199	42.2%	11	2.3%	472
Soso	249	56.6%	177	40.2%	14	3.2%	440
Iwaki	526	50.0%	498	47.3%	29	2.8%	1,053
Aizu	407	51.9%	351	44.8%	26	3.3%	784
Minami-aizu	35	44.9%	38	48.7%	5	6.4%	78
Outside Fukushima	36	32.4%	70	63.1%	5	4.5%	111
Total	3,231	50.3%	2,980	46.4%	211	3.3%	6,422

[Table 10-5] Have you ever had twins? (Q10-5)

Area	Yes		No		Non-response/ invalid response		Total
Kempoku	6	0.4%	1,602	98.4%	20	1.2%	1,628
Kenchu	14	0.8%	1,819	98.0%	23	1.2%	1,856
Kennan	4	0.8%	465	98.5%	3	0.6%	472
Soso	6	1.4%	427	97.0%	7	1.6%	440
Iwaki	8	0.8%	1,038	98.6%	7	0.7%	1,053
Aizu	4	0.5%	768	98.0%	12	1.5%	784
Minami-aizu	0	0.0%	78	100.0%	0	0.0%	78
Outside Fukushima	0	0.0%	111	100.0%	0	0.0%	111
Total	42	0.7%	6,308	98.2%	72	1.1%	6,422

[Table 11-1] Did you suffer from any disease prior to the current pregnancy? (Q11)

Area	Yes		No		Non-response/ invalid response		Total
Kempoku	501	30.8%	1,125	69.1%	2	0.1%	1,628
Kenchu	578	31.1%	1,274	68.6%	4	0.2%	1,856
Kennan	126	26.7%	344	72.9%	2	0.4%	472
Soso	132	30.0%	307	69.8%	1	0.2%	440
Iwaki	342	32.5%	705	67.0%	6	0.6%	1,053
Aizu	258	32.9%	525	67.0%	1	0.1%	784
Minami-aizu	27	34.6%	51	65.4%	0	0.0%	78
Outside Fukushima	31	27.9%	80	72.1%	0	0.0%	111
Total	1,995	31.1%	4,411	68.7%	16	0.2%	6,422

[Table 11-2] Incidence of each disease among those who responded "yes" to Q11
(Valid response: 1,994 Non-response/invalid response: 1)

Area	Other allergic disease [1]		Respiratory disease [2]		Mental illness [3]		Thyroid disease		Intestinal disorder		Neurological disorder [4]		Heart disease [5]		Hyper-tension		Cancer	
Kempoku	275	42.0%	116	17.7%	62	9.5%	40	6.1%	23	3.5%	22	3.4%	10	1.5%	9	1.4%	9	1.4%
Kenchu	325	43.2%	136	18.1%	53	7.0%	44	5.9%	31	4.1%	17	2.3%	11	1.5%	17	2.3%	10	1.3%
Kennan	59	34.9%	29	17.2%	15	8.9%	9	5.3%	8	4.7%	4	2.4%	8	4.7%	0	0.0%	3	1.8%
Soso	69	42.1%	27	16.5%	20	12.2%	11	6.7%	4	2.4%	3	1.8%	2	1.2%	2	1.2%	2	1.2%
Iwaki	208	43.2%	91	18.9%	40	8.3%	19	4.0%	10	2.1%	5	1.0%	16	3.3%	6	1.2%	5	1.0%
Aizu	124	37.8%	57	17.4%	34	10.4%	25	7.6%	16	4.9%	8	2.4%	8	2.4%	2	0.6%	3	0.9%
Minami-aizu	13	33.3%	5	12.8%	5	12.8%	3	7.7%	2	5.1%	1	2.6%	0	0.0%	0	0.0%	0	0.0%
Outside Fukushima	19	51.4%	7	18.9%	3	8.1%	0	0.0%	1	2.7%	1	2.7%	1	2.7%	0	0.0%	1	2.7%
Total	1,092	41.6%	468	17.8%	232	8.8%	151	5.8%	95	3.6%	61	2.3%	56	2.1%	36	1.4%	33	1.3%

Area	Collagen disease [6]		Blood disorders [7]		Hyper-lipemia		Infection [8]		Liver Disease [9]		Diabetes		Neuro-muscular disease [10]		Other		Total
Kempoku	7	1.1%	7	1.1%	4	0.6%	1	0.2%	7	1.1%	1	0.2%	1	0.2%	61	9.3%	655
Kenchu	6	0.8%	6	0.8%	6	0.8%	9	1.2%	5	0.7%	3	0.4%	3	0.4%	70	9.3%	752
Kennan	3	1.8%	2	1.2%	3	1.8%	1	0.6%	1	0.6%	1	0.6%	0	0.0%	23	13.6%	169
Soso	2	1.2%	2	1.2%	1	0.6%	2	1.2%	0	0.0%	4	2.4%	0	0.0%	13	7.9%	164
Iwaki	5	1.0%	5	1.0%	4	0.8%	4	0.8%	4	0.8%	7	1.5%	3	0.6%	49	10.2%	481
Aizu	2	0.6%	0	0.0%	3	0.9%	2	0.6%	3	0.9%	3	0.9%	1	0.3%	37	11.3%	328
Minami-aizu	0	0.0%	0	0.0%	0	0.0%	1	2.6%	0	0.0%	0	0.0%	0	0.0%	9	23.1%	39
Outside Fukushima	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	4	10.8%	37
Total	25	1.0%	22	0.8%	21	0.8%	20	0.8%	20	0.8%	19	0.7%	8	0.3%	266	10.1%	2,625

1) Atopic dermatitis, Allergic rhinitis, etc. 2) Pneumonia, asthma, etc. 3) Depression, schizophrenia, etc.
4) Cerebral apoplexy, epilepsy, etc. 5) Myocardial infarction, angina pectoris, arrhythmia, congenital heart disease, etc.
6) Lupus erythematosus, etc. 7) Idiopathic thrombocytopenia, etc. 8) Tuberculosis, etc. 9) Chronic hepatitis, etc. 10) Myasthenia gravis, etc. *Multiple answers were allowed.

[Table 11-3] Names of diseases suffered by the respondents who responded “yes” to Q11 and chose “other.” (Multiple answers were allowed).

Ovarian tumor	72	Sudden deafness	2	Hip Perthes disease	1	Sacroiliac arthritis	1
Uterine fibroid	37	Deafness	2	Cleft lip and cleft	1	Congenital cyst	1
Endometriosis	33	Breast fibroadenoma	2	Lumbar disc disease	1	Congenital keratosis	1
Cervical intraepithelial neoplasm	12	Urinary stone	2	osteoporosis	1	Congenital hip dislocation	1
Meniere's disease	10	Hydatidiform mole	2	Ectopic pregnancy	1	Congenital kyphoscoliosis	1
Pyelonephritis	10	Allergic purpura	1	Uterine adenomyosis	1	Congenital bile duct dilatation	1
Polycystic ovary syndrome	10	Sarcoidosis	1	Glomerulonephritis	1	Condyloma acuminatum	1
IgA nephropathy	6	Nut cracker syndrome	1	Purpura	1	Cholelithiasis	1
Glaucoma	6	Narcolepsy	1	Lipoma	1	Otitis media	1
Endometrial polyp	5	Uveitis	1	Optic Neuromyelitis	1	Idiopathic deafness	1
Kawasaki disease	5	Hernia	1	hemorrhoid	1	Mammary lobular tumor	1
Hyperprolactinemia	3	Libed vasculitis	1	Otosclerosis	1	Sepsis	1
Nephritis	3	Subacute lymphadenitis	1	Mediastinal emphysema	1	Developmental disorder	1
Ureteral stone disease	3	Gastric submucosal tumor	1	Writing spasm	1	Nasal septal curvature	1
Pancreatitis	3	Acetabular dysplasia	1	Deep vein thrombosis	1	Sinusitis	1
Alopecia areata	2	Macular hole	1	Renal cyst	1	Abdominal wall tumor	1
Hematuria	2	Psoriasis	1	Kidney stones	1	Retinal detachment	1
Lumbar disc herniation	2	Teratoma	1	Renal tumor	1	Tonsillitis	1
Endometrial hyperplasia	2	Cervical disc herniation	1	kidney failure	1	Cystitis	1
Parotid tumor	2	Hemangiomas	1	Hydronephrosis	1		

[Table 12-1] Did you suffer from any disease during the current pregnancy? (Q12)

Area	Yes		No		Non-response/ invalid response		Total
Kempoku	474	29.1%	1,150	70.6%	4	0.2%	1,628
Kenchu	546	29.4%	1,306	70.4%	4	0.2%	1,856
Kennan	120	25.4%	351	74.4%	1	0.2%	472
Soso	108	24.5%	326	74.1%	6	1.4%	440
Iwaki	298	28.3%	753	71.5%	2	0.2%	1,053
Aizu	227	29.0%	557	71.0%	0	0.0%	784
Minami-aizu	22	28.2%	56	71.8%	0	0.0%	78
Outside Fukushima	35	31.5%	76	68.5%	0	0.0%	111
Total	1,830	28.5%	4,575	71.2%	17	0.3%	6,422

Area	Incidence of all diseases [1)]		Valid response
Kempoku	474	29.2%	1,624
Kenchu	546	29.5%	1,852
Kennan	120	25.5%	471
Soso	108	24.9%	434
Iwaki	298	28.4%	1,051
Aizu	227	29.0%	784
Minami-aizu	22	28.2%	78
Outside Fukushima	35	31.5%	111
Total	1,830	28.6%	6,405

1) The denominator of percentages is the sum of valid responses (“yes” + “no”).

[Table 12-2] Incidence rate of each disease (Multiple answers were allowed.)

Area	Threatened premature delivery		Threatened abortion		Pregnancy hypertension		Gestational diabetes mellitus		Infectious disease [1]		Oligo-hydramnios		Premature delivery	
Kempoku	207	12.7%	124	7.6%	58	3.6%	69	4.2%	41	2.5%	20	1.2%	25	1.5%
Kenchu	234	12.6%	108	5.8%	69	3.7%	72	3.9%	47	2.5%	64	3.5%	20	1.1%
Kennan	45	9.6%	28	5.9%	17	3.6%	7	1.5%	9	1.9%	10	2.1%	7	1.5%
Soso	50	11.5%	32	7.4%	16	3.7%	15	3.5%	12	2.8%	4	0.9%	4	0.9%
Iwaki	124	11.8%	76	7.2%	40	3.8%	19	1.8%	33	3.1%	18	1.7%	13	1.2%
Aizu	105	13.4%	67	8.5%	16	2.0%	34	4.3%	25	3.2%	11	1.4%	13	1.7%
Minami-aizu	9	11.5%	6	7.7%	0	0.0%	3	3.8%	5	6.4%	2	2.6%	1	1.3%
Outside Fukushima	16	14.4%	13	11.7%	4	3.6%	1	0.9%	1	0.9%	2	1.8%	0	0.0%
Total	790	12.3%	454	7.1%	220	3.4%	220	3.4%	173	2.7%	131	2.0%	83	1.3%

Area	Placenta previa		Mental problems including insomnia and anxiety		Poly-hydramnios		Miscarriage		Trauma		Thrombosis [2]		Cerebral apoplexy [3]		Other	
Kempoku	18	1.1%	11	0.7%	1	0.1%	1	0.1%	1	0.1%	1	0.1%	0	0.0%	24	1.5%
Kenchu	17	0.9%	8	0.4%	11	0.6%	2	0.1%	1	0.1%	2	0.1%	1	0.1%	43	2.3%
Kennan	3	0.6%	1	0.2%	2	0.4%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	17	3.6%
Soso	4	0.9%	3	0.7%	1	0.2%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	6	1.4%
Iwaki	7	0.7%	9	0.9%	5	0.5%	4	0.4%	2	0.2%	0	0.0%	0	0.0%	18	1.7%
Aizu	11	1.4%	2	0.3%	3	0.4%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	12	1.5%
Minami-aizu	0	0.0%	1	1.3%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	1.3%
Outside Fukushima	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	5	4.5%
Total	60	0.9%	35	0.5%	23	0.4%	7	0.1%	4	0.1%	3	0.0%	1	0.0%	126	2.0%

1) Pneumonia, influenza, tetanus, etc. 2) Thrombosis (Economy-class Syndrome), pulmonary embolism 3) Cerebral infarction, cerebral hemorrhage, subarachnoid hemorrhage, etc.

*The denominator of percentages is 6,405 respondents who responded “yes” or “no” to Q12. Percentages do not total to 100.0 due to multiple answers.

[Table 12-3] Names of diseases/conditions suffered by the respondents who responded “yes” to Q12 and chose "other."

(Multiple answers were allowed).

Uterine fibroid	28	Sinusitis	3	Hypothyroidism	1	Bass disturbance type deafness	1
Ovarian tumor	13	Graves' disease	2	Goiter	1	Idiopathic thrombo-cytopenic purpura	1
Cervical cancer	8	Hashimoto's disease	2	Cervical asthenia	2	Sudden deafness	1
Asthma	8	Appendicitis	2	Hemorrhoid	1	Gestational thrombocytopenia	1
Cervical intraepithelial neoplasia	5	Disc herniation	2	Food poisoning	1	Pulmonary edema	1
Prurigo gestation	5	WPW syndrome	1	Pyelonephritis	1	Leukemia	1
Herpes zoster	4	Condyloma	1	Meningioma	1	Arrhythmia	1
Placenta adhesion	4	Protein C deficiency	1	Urgent uterus rupture	1	Ovarian bleeding	1
Cervical polyp	3	Polyp	1	Anterior vessel	1	Scar pregnancy	1
Carpal tunnel syndrome	3	Malignant hypertension	1	Vestibular neuritis	1	Vaginal polyp	1
Varicose vein	3	Rhabdomyolysis	1	Systemic lupus erythematosus	1	Pancreatitis	1
Twins transfusion syndrome	3	Harada disease	1	Ulcerative colitis	1	Inguinal hernia	1

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

Area	Singleton		Twins		Non-response/ invalid response		Total
Kempoku	1,612	99.1%	14	0.9%	0	0.0%	1,626
Kenchu	1,837	99.4%	11	0.6%	0	0.0%	1,848
Kennan	468	99.4%	3	0.6%	0	0.0%	471
Soso	434	98.9%	5	1.1%	0	0.0%	439
Iwaki	1,042	99.2%	8	0.8%	0	0.0%	1,050
Aizu	779	99.4%	5	0.6%	0	0.0%	784
Minami-aizu	76	97.4%	2	2.6%	0	0.0%	78
Outside Fukushima	110	99.1%	1	0.9%	0	0.0%	111
Total	6,358	99.2%	49	0.8%	0	0.0%	6,407

[Table 13-1] How many weeks' gestation were you when you gave birth? (Q13)
Singletons

Area	12-21 weeks		22-23 weeks		24-27 weeks		28-31 weeks		32-36 weeks		37-41 weeks		≥42 weeks		Total
Kempoku	1	0.1%	0	0.0%	3	0.2%	7	0.4%	53	3.3%	1,547	96.0%	1	0.1%	1,612
Kenchu	5	0.3%	2	0.1%	4	0.2%	10	0.5%	72	3.9%	1,741	94.8%	3	0.2%	1,837
Kennan	1	0.2%	0	0.0%	0	0.0%	2	0.4%	22	4.7%	442	94.4%	1	0.2%	468
Soso	1	0.2%	1	0.2%	2	0.5%	1	0.2%	14	3.2%	414	95.4%	1	0.2%	434
Iwaki	2	0.2%	1	0.1%	2	0.2%	6	0.6%	52	5.0%	977	93.8%	2	0.2%	1,042
Aizu	0	0.0%	1	0.1%	4	0.5%	10	1.3%	30	3.9%	733	94.1%	1	0.1%	779
Minami-aizu	0	0.0%	0	0.0%	0	0.0%	0	0.0%	2	2.6%	74	97.4%	0	0.0%	76
Outside Fukushima	0	0.0%	0	0.0%	0	0.0%	0	0.0%	2	1.8%	108	98.2%	0	0.0%	110
Total	10	0.2%	5	0.1%	15	0.2%	36	0.6%	247	3.9%	6,036	94.9%	9	0.1%	6,358

In Tables 13-2 to 14-28 where the first child and the second child of twins were counted separately, the numbers of the first and the second children are not equal due to a case of miscarriage of the 2nd child at less than 12 weeks.

[Table 13-2] How many weeks' gestation were you when you gave birth? (Q13)
Twins

Area	12-21 weeks		22-23 weeks		24-27 weeks		28-31 weeks		32-36 weeks		37-41 weeks		≥42 weeks		Total
Kempoku	0	0.0%	0	0.0%	0	0.0%	2	7.4%	8	29.6%	17	63.0%	0	0.0%	27
Kenchu	0	0.0%	0	0.0%	0	0.0%	2	9.1%	16	72.7%	4	18.2%	0	0.0%	22
Kennan	0	0.0%	0	0.0%	0	0.0%	0	0.0%	4	80.0%	1	20.0%	0	0.0%	5
Soso	0	0.0%	0	0.0%	0	0.0%	0	0.0%	4	40.0%	6	60.0%	0	0.0%	10
Iwaki	0	0.0%	0	0.0%	0	0.0%	0	0.0%	4	26.7%	11	73.3%	0	0.0%	15
Aizu	0	0.0%	0	0.0%	0	0.0%	0	0.0%	4	40.0%	6	60.0%	0	0.0%	10
Minami-aizu	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	4	100.0%	0	0.0%	4
Outside Fukushima	0	0.0%	0	0.0%	0	0.0%	2	100.0%	0	0.0%	0	0.0%	0	0.0%	2
Total	0	0.0%	0	0.0%	0	0.0%	6	6.3%	40	42.1%	49	51.6%	0	0.0%	95

[Table 13-3] Distribution of gestational week and proportion of premature birth

Singletons and twins

Area	Number of deliveries by weeks (Singletons and twins)									Proportion of premature birth [1]
	12-21	22-23	24-27	28-31	32-36	37-41	42-	Total	Total of 22-36 weeks	22-36 weeks / Total minus 12-21weeks
Kempoku	1	0	3	9	61	1,564	1	1,639	73	4.5%
Kenchu	5	2	4	12	88	1,745	3	1,859	106	5.7%
Kennan	1	0	0	2	26	443	1	473	28	5.9%
Soso	1	1	2	1	18	420	1	444	22	5.0%
Iwaki	2	1	2	6	56	988	2	1,057	65	6.2%
Aizu	0	1	4	10	34	739	1	789	49	6.2%
Minami-aizu	0	0	0	0	2	78	0	80	2	2.5%
Outside Fukushima	0	0	0	2	2	108	0	112	4	3.6%
Total	10	5	15	42	287	6,085	9	6,453	349	5.4%

* A premature birth is one that occurs between 22 and 36 weeks of pregnancy.

[1] The denominator for premature birth rates is the total number of deliveries (6,453) excluding those who had an unknown number of fetus, delivered at unknown number of weeks, and delivered at less than 12 weeks, minus the number of deliveries at less than 22 weeks (10).

[Table 13-4] Details of delivery, Singletons (Q13)

Area	Spontaneous labor		Vacuum extraction or forceps delivery		Cesarean section		Non-response/ invalid response		Total
Kempoku	1,094	67.9%	231	14.3%	282	17.5%	5	0.3%	1,612
Kenchu	1,198	65.2%	226	12.3%	401	21.8%	12	0.7%	1,837
Kennan	324	69.2%	57	12.2%	80	17.1%	7	1.5%	468
Soso	222	51.2%	98	22.6%	110	25.3%	4	0.9%	434
Iwaki	665	63.8%	141	13.5%	228	21.9%	8	0.8%	1,042
Aizu	469	60.2%	100	12.8%	205	26.3%	5	0.6%	779
Minami-aizu	52	68.4%	7	9.2%	17	22.4%	0	0.0%	76
Outside Fukushima	67	60.9%	21	19.1%	20	18.2%	2	1.8%	110
Total	4,091	64.3%	881	13.9%	1,343	21.1%	43	0.7%	6,358

[Table 13-5] Details of delivery, The first child of twins (Q13)

Area	Spontaneous labor		Vacuum extraction or forceps delivery		Cesarean section		Non-response/ invalid response		Total
Kempoku	1	7.1%	2	14.3%	11	78.6%	0	0.0%	14
Kenchu	0	0.0%	1	9.1%	10	90.9%	0	0.0%	11
Kennan	0	0.0%	1	33.3%	2	66.7%	0	0.0%	3
Soso	1	20.0%	0	0.0%	4	80.0%	0	0.0%	5
Iwaki	1	12.5%	0	0.0%	7	87.5%	0	0.0%	8
Aizu	0	0.0%	0	0.0%	5	100.0%	0	0.0%	5
Minami-aizu	0	0.0%	0	0.0%	2	100.0%	0	0.0%	2
Outside Fukushima	0	0.0%	0	0.0%	1	100.0%	0	0.0%	1
Total	3	6.1%	4	8.2%	42	85.7%	0	0.0%	49

[Table 13-6] Details of delivery, The second child of twins (Q13)

Area	Spontaneous labor		Vacuum extraction or forceps delivery		Cesarean section		Non-response/ invalid response		Total
Kempoku	1	7.7%	2	15.4%	10	76.9%	0	0.0%	13
Kenchu	0	0.0%	1	9.1%	10	90.9%	0	0.0%	11
Kennan	0	0.0%	0	0.0%	2	100.0%	0	0.0%	2
Soso	0	0.0%	1	20.0%	4	80.0%	0	0.0%	5
Iwaki	0	0.0%	0	0.0%	7	100.0%	0	0.0%	7
Aizu	0	0.0%	0	0.0%	5	100.0%	0	0.0%	5
Minami-aizu	0	0.0%	0	0.0%	2	100.0%	0	0.0%	2
Outside Fukushima	0	0.0%	0	0.0%	1	100.0%	0	0.0%	1
Total	1	2.2%	4	8.7%	41	89.1%	0	0.0%	46

In Tables 14-1 to 14-14, “Non-response/invalid response” is shown in the right-hand column. (n) = number of valid responses. The sum of males and females may not match with the total due to “Non-response/invalid response.”

[Table 14-1] Delivery status, Male-female ratio by area/Singletons and twins (Q14)

Area	Males		Females		Non-response/ invalid response		Total
Kempoku	792	48.3%	824	50.3%	23	1.4%	1,639
Kenchu	907	48.8%	910	49.0%	42	2.3%	1,859
Kennan	242	51.2%	227	48.0%	4	0.8%	473
Soso	227	51.1%	214	48.2%	3	0.7%	444
Iwaki	552	52.2%	494	46.7%	11	1.0%	1,057
Aizu	398	50.4%	378	47.9%	13	1.6%	789
Minami-aizu	46	57.5%	33	41.3%	1	1.3%	80
Outside Fukushima	54	48.2%	58	51.8%	0	0.0%	112
Total	3,218	49.9%	3,138	48.6%	97	1.5%	6,453

[Table 14-2] Weight at delivery, Singletons/Male and female combined (Q14)

Area	<1.0 kg		1.0-<1.5 kg		1.5-<2.0 kg		2.0-<2.5 kg		2.5-<3.0 kg	
Kempoku	2	0.1%	4	0.2%	17	1.1%	115	7.1%	629	39.0%
Kenchu	7	0.4%	5	0.3%	11	0.6%	129	7.0%	719	39.1%
Kennan	1	0.2%	1	0.2%	2	0.4%	32	6.8%	187	40.0%
Soso	3	0.7%	1	0.2%	4	0.9%	33	7.6%	158	36.4%
Iwaki	4	0.4%	9	0.9%	9	0.9%	71	6.8%	395	37.9%
Aizu	3	0.4%	6	0.8%	5	0.6%	47	6.0%	286	36.7%
Minami-aizu	0	0.0%	0	0.0%	0	0.0%	8	10.5%	25	32.9%
Outside Fukushima	0	0.0%	0	0.0%	0	0.0%	3	2.7%	31	28.2%
Total	20	0.3%	26	0.4%	48	0.8%	438	6.9%	2,430	38.2%

Area	3.0-<3.5 kg		3.5-<4.0 kg		4.0-<4.5 kg		≥4.5 kg		Non-response/ invalid response		Total
Kempoku	688	42.7%	141	8.7%	10	0.6%	3	0.2%	3	0.2%	1,612
Kenchu	759	41.3%	180	9.8%	19	1.0%	0	0.0%	8	0.4%	1,837
Kennan	195	41.7%	45	9.6%	4	0.9%	0	0.0%	1	0.2%	468
Soso	192	44.2%	38	8.8%	4	0.9%	0	0.0%	1	0.2%	434
Iwaki	440	42.2%	106	10.2%	5	0.5%	1	0.1%	2	0.2%	1,042
Aizu	341	43.8%	84	10.8%	4	0.5%	0	0.0%	3	0.4%	779
Minami-aizu	35	46.1%	8	10.5%	0	0.0%	0	0.0%	0	0.0%	76
Outside Fukushima	61	55.5%	14	12.7%	1	0.9%	0	0.0%	0	0.0%	110
Total	2,711	42.6%	616	9.7%	47	0.7%	4	0.1%	18	0.3%	6,358

[Table 14-3] Weight at delivery, Singletons/Male (Q14)

Area	<1.0 kg		1.0-<1.5 kg		1.5-<2.0 kg		2.0-<2.5 kg		2.5-<3.0 kg	
Kempoku	0	0.0%	1	0.1%	11	1.4%	47	6.0%	284	36.1%
Kenchu	3	0.3%	4	0.4%	6	0.7%	46	5.1%	339	37.8%
Kennan	1	0.4%	1	0.4%	1	0.4%	10	4.1%	96	39.7%
Soso	0	0.0%	0	0.0%	1	0.5%	12	5.5%	75	34.2%
Iwaki	1	0.2%	6	1.1%	3	0.6%	32	5.9%	180	33.0%
Aizu	2	0.5%	3	0.8%	2	0.5%	21	5.3%	131	33.3%
Minami-aizu	0	0.0%	0	0.0%	0	0.0%	2	4.7%	12	27.9%
Outside Fukushima	0	0.0%	0	0.0%	0	0.0%	0	0.0%	14	25.9%
Total	7	0.2%	15	0.5%	24	0.8%	170	5.3%	1,131	35.6%

Area	3.0-<3.5 kg		3.5-<4.0 kg		4.0-<4.5 kg		≥4.5 kg		Non-response/ invalid response		Total
Kempoku	344	43.8%	91	11.6%	6	0.8%	1	0.1%	1	0.1%	786
Kenchu	378	42.1%	107	11.9%	12	1.3%	0	0.0%	3	0.3%	898
Kennan	108	44.6%	23	9.5%	2	0.8%	0	0.0%	0	0.0%	242
Soso	106	48.4%	22	10.0%	3	1.4%	0	0.0%	0	0.0%	219
Iwaki	262	48.1%	56	10.3%	3	0.6%	1	0.2%	1	0.2%	545
Aizu	180	45.8%	50	12.7%	4	1.0%	0	0.0%	0	0.0%	393
Minami-aizu	22	51.2%	7	16.3%	0	0.0%	0	0.0%	0	0.0%	43
Outside Fukushima	31	57.4%	8	14.8%	1	1.9%	0	0.0%	0	0.0%	54
Total	1,431	45.0%	364	11.4%	31	1.0%	2	0.1%	5	0.2%	3,180

[Table 14-4] Weight at delivery, Singletons/Female (Q14)

Area	<1.0 kg		1.0-<1.5 kg		1.5-<2.0 kg		2.0-<2.5 kg		2.5-<3.0 kg	
Kempoku	2	0.2%	3	0.4%	6	0.7%	67	8.3%	335	41.7%
Kenchu	3	0.3%	1	0.1%	4	0.4%	82	9.1%	369	41.1%
Kennan	0	0.0%	0	0.0%	1	0.5%	21	9.5%	89	40.1%
Soso	3	1.4%	1	0.5%	3	1.4%	21	9.9%	83	39.2%
Iwaki	2	0.4%	3	0.6%	6	1.2%	39	8.0%	212	43.4%
Aizu	1	0.3%	3	0.8%	3	0.8%	25	6.7%	151	40.5%
Minami-aizu	0	0.0%	0	0.0%	0	0.0%	5	15.6%	13	40.6%
Outside Fukushima	0	0.0%	0	0.0%	0	0.0%	3	5.4%	17	30.4%
Total	11	0.4%	11	0.4%	23	0.7%	263	8.5%	1,269	41.2%

Area	3.0-<3.5 kg		3.5-<4.0 kg		4.0-<4.5 kg		≥4.5 kg		Non-response/ invalid response		Total
Kempoku	334	41.6%	49	6.1%	3	0.4%	2	0.2%	2	0.2%	803
Kenchu	361	40.2%	70	7.8%	7	0.8%	0	0.0%	0	0.0%	897
Kennan	87	39.2%	22	9.9%	2	0.9%	0	0.0%	0	0.0%	222
Soso	84	39.6%	15	7.1%	1	0.5%	0	0.0%	1	0.5%	212
Iwaki	176	36.1%	48	9.8%	2	0.4%	0	0.0%	0	0.0%	488
Aizu	156	41.8%	32	8.6%	0	0.0%	0	0.0%	2	0.5%	373
Minami-aizu	13	40.6%	1	3.1%	0	0.0%	0	0.0%	0	0.0%	32
Outside Fukushima	30	53.6%	6	10.7%	0	0.0%	0	0.0%	0	0.0%	56
Total	1,241	40.3%	243	7.9%	15	0.5%	2	0.1%	5	0.2%	3,083

[Table 14-5] Weight at delivery, Twins/Male and female combined (Q14)

Area	<1.0 kg		1.0-<1.5 kg		1.5-<2.0 kg		2.0-<2.5 kg		2.5-<3.0 kg		3.0-<3.5 kg		≥3.5 kg		Total
Kempoku	0	0.0%	2	7.4%	5	18.5%	11	40.7%	6	22.2%	3	11.1%	0	0.0%	27
Kenchu	0	0.0%	4	18.2%	8	36.4%	7	31.8%	3	13.6%	0	0.0%	0	0.0%	22
Kennan	0	0.0%	0	0.0%	2	40.0%	1	20.0%	1	20.0%	0	0.0%	1	20.0%	5
Soso	0	0.0%	0	0.0%	3	30.0%	7	70.0%	0	0.0%	0	0.0%	0	0.0%	10
Iwaki	0	0.0%	0	0.0%	1	6.7%	8	53.3%	5	33.3%	1	6.7%	0	0.0%	15
Aizu	0	0.0%	0	0.0%	2	20.0%	4	40.0%	4	40.0%	0	0.0%	0	0.0%	10
Minami-aizu	0	0.0%	0	0.0%	1	25.0%	2	50.0%	1	25.0%	0	0.0%	0	0.0%	4
Outside Fukushima	0	0.0%	2	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	2
Total	0	0.0%	8	8.4%	22	23.2%	40	42.1%	20	21.1%	4	4.2%	1	1.1%	95

[Table 14-6] Weight at delivery, Twins/Male (Q14)

Area	<1.0 kg		1.0-<1.5 kg		1.5-<2.0 kg		2.0-<2.5 kg		2.5-<3.0 kg		3.0-<3.5 kg		Non-response/ Invalid response		Total
Kempoku	0	0.0%	0	0.0%	1	16.7%	1	16.7%	3	50.0%	1	16.7%	0	0.0%	6
Kenchu	0	0.0%	0	0.0%	3	33.3%	6	66.7%	0	0.0%	0	0.0%	0	0.0%	9
Kennan	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
Soso	0	0.0%	0	0.0%	2	25.0%	6	75.0%	0	0.0%	0	0.0%	2	25.0%	8
Iwaki	0	0.0%	0	0.0%	0	0.0%	5	71.4%	2	28.6%	0	0.0%	0	0.0%	7
Aizu	0	0.0%	0	0.0%	0	0.0%	1	20.0%	4	80.0%	0	0.0%	0	0.0%	5
Minami-aizu	0	0.0%	0	0.0%	1	33.3%	1	33.3%	1	33.3%	0	0.0%	1	33.3%	3
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	0	0.0%	0	0.0%	7	18.4%	20	52.6%	10	26.3%	1	2.6%	0	0.0%	38

[Table 14-7] Weight at delivery, Twins/Female (Q14)

Area	<1.0 kg		1.0-<1.5 kg		1.5-<2.0 kg		2.0-<2.5 kg		2.5-<3.0 kg		3.0-<3.5 kg		≥ 3.5 kg		Total
Kempoku	0	0.0%	2	9.5%	4	19.0%	10	47.6%	3	14.3%	2	9.5%	0	0.0%	21
Kenchu	0	0.0%	4	30.8%	5	38.5%	1	7.7%	3	23.1%	0	0.0%	0	0.0%	13
Kennan	0	0.0%	0	0.0%	2	40.0%	1	20.0%	1	20.0%	0	0.0%	1	20.0%	5
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%	1	16.7%	2	33.3%	3	50.0%	0	0.0%	0	0.0%	6
Aizu	0	0.0%	0	0.0%	2	40.0%	3	60.0%	0	0.0%	0	0.0%	0	0.0%	5
Minami-aizu	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%	2	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	2
Total	0	0.0%	8	14.5%	15	27.3%	19	34.5%	10	18.2%	2	3.6%	1	1.8%	55

[Table 14-8] Weight at delivery, Singletons and twins (Q14)

Excluding 18 babies who were not identified neither as a singleton nor a twin due to non-response or invalid response to Q14.

Area	<1.0 kg	1.0-<1.5 kg	1.5-<2.0 kg	2.0-<2.5 kg	2.5-<3.0 kg	3.0-<3.5 kg	3.5-<4.0 kg	4.0-<4.5 kg	≥4.5 kg	Total	Low birth weight infant	Proportion of low birth weight infant
Kempoku	2	6	22	126	635	691	141	10	3	1,636	156	9.5%
Kenchu	7	9	19	136	722	759	180	19	0	1,851	171	9.2%
Kennan	1	1	4	33	188	195	46	4	0	472	39	8.3%
Soso	3	1	7	40	158	192	38	4	0	443	51	11.5%
Iwaki	4	9	10	79	400	441	106	5	1	1,055	102	9.7%
Aizu	3	6	7	51	290	341	84	4	0	786	67	8.5%
Minami-aizu	0	0	1	10	26	35	8	0	0	80	11	13.8%
Outside Fukushima	0	2	0	3	31	61	14	1	0	112	5	4.5%
Total	20	34	70	478	2,450	2,715	617	47	4	6,435	602	9.4%

*Low birth weight infants are newborns weighing less than 2.5 kg at birth.

[Table 14-9] Height at delivery, Singletons/Male and female combined (Q14)

Area	<47 cm		47-<48 cm		48-<49 cm		49-<50 cm		50-<51 cm	
Kempoku	163	10.1%	168	10.4%	264	16.4%	334	20.7%	365	22.6%
Kenchu	215	11.7%	199	10.8%	246	13.4%	401	21.8%	420	22.9%
Kennan	40	8.5%	41	8.8%	47	10.0%	89	19.0%	114	24.4%
Soso	63	14.5%	43	9.9%	67	15.4%	77	17.7%	99	22.8%
Iwaki	115	11.0%	107	10.3%	168	16.1%	228	21.9%	198	19.0%
Aizu	121	15.5%	83	10.7%	148	19.0%	139	17.8%	155	19.9%
Minami-aizu	10	13.2%	9	11.8%	12	15.8%	9	11.8%	21	27.6%
Outside Fukushima	9	8.2%	7	6.4%	16	14.5%	27	24.5%	27	24.5%
Total	736	11.6%	657	10.3%	968	15.2%	1,304	20.5%	1,399	22.0%

Area	51-<52 cm		≥52 cm		Non-response/ invalid response		Total
Kempoku	194	12.0%	119	7.4%	5	0.3%	1,612
Kenchu	202	11.0%	146	7.9%	8	0.4%	1,837
Kennan	81	17.3%	53	11.3%	3	0.6%	468
Soso	53	12.2%	30	6.9%	2	0.5%	434
Iwaki	97	9.3%	125	12.0%	4	0.4%	1,042
Aizu	87	11.2%	41	5.3%	5	0.6%	779
Minami-aizu	9	11.8%	6	7.9%	0	0.0%	76
Outside Fukushima	16	14.5%	8	7.3%	0	0.0%	110
Total	739	11.6%	528	8.3%	27	0.4%	6,358

[Table 14-10] Height at delivery, Singletons/Male (Q14)

Area	<47 cm		47-<48 cm		48-<49 cm		49-<50 cm		50-<51 cm	
Kempoku	58	7.4%	74	9.4%	122	15.5%	154	19.6%	192	24.4%
Kenchu	81	9.0%	101	11.2%	105	11.7%	182	20.3%	209	23.3%
Kennan	19	7.9%	19	7.9%	16	6.6%	42	17.4%	61	25.2%
Soso	22	10.0%	17	7.8%	32	14.6%	40	18.3%	59	26.9%
Iwaki	48	8.8%	50	9.2%	80	14.7%	122	22.4%	113	20.7%
Aizu	45	11.5%	37	9.4%	68	17.3%	80	20.4%	82	20.9%
Minami-aizu	4	9.3%	3	7.0%	9	20.9%	3	7.0%	13	30.2%
Outside Fukushima	4	7.4%	3	5.6%	4	7.4%	10	18.5%	16	29.6%
Total	281	8.8%	304	9.6%	436	13.7%	633	19.9%	745	23.4%

Area	51-<52 cm		≥52 cm		Non-response/ invalid response		Total
Kempoku	106	13.5%	79	10.1%	1	0.1%	786
Kenchu	121	13.5%	98	10.9%	1	0.1%	898
Kennan	51	21.1%	33	13.6%	1	0.4%	242
Soso	34	15.5%	15	6.8%	0	0.0%	219
Iwaki	62	11.4%	68	12.5%	2	0.4%	545
Aizu	51	13.0%	27	6.9%	3	0.8%	393
Minami-aizu	7	16.3%	4	9.3%	0	0.0%	43
Outside Fukushima	11	20.4%	6	11.1%	0	0.0%	54
Total	443	13.9%	330	10.4%	8	0.3%	3,180

[Table 14-11] Height at delivery, Singletons/Female (Q14)

Area	<47 cm		47-<48cm		48-<49 cm		49-<50 cm		50-<51 cm	
Kempoku	104	13.0%	91	11.3%	133	16.6%	175	21.8%	170	21.2%
Kenchu	131	14.6%	95	10.6%	135	15.1%	215	24.0%	198	22.1%
Kennan	21	9.5%	22	9.9%	31	14.0%	46	20.7%	52	23.4%
Soso	41	19.3%	26	12.3%	35	16.5%	37	17.5%	39	18.4%
Iwaki	66	13.5%	57	11.7%	86	17.6%	106	21.7%	84	17.2%
Aizu	73	19.6%	46	12.3%	77	20.6%	57	15.3%	72	19.3%
Minami-aizu	5	15.6%	6	18.8%	3	9.4%	6	18.8%	8	25.0%
Outside Fukushima	5	8.9%	4	7.1%	12	21.4%	17	30.4%	11	19.6%
Total	446	14.5%	347	11.3%	512	16.6%	659	21.4%	634	20.6%

Area	51-<52 cm		≥52 cm		Non-response/ invalid response		Total
Kempoku	87	10.8%	39	4.9%	4	0.5%	803
Kenchu	77	8.6%	44	4.9%	2	0.2%	897
Kennan	29	13.1%	20	9.0%	1	0.5%	222
Soso	18	8.5%	14	6.6%	2	0.9%	212
Iwaki	33	6.8%	55	11.3%	1	0.2%	488
Aizu	35	9.4%	12	3.2%	1	0.3%	373
Minami-aizu	2	6.3%	2	6.3%	0	0.0%	32
Outside Fukushima	5	8.9%	2	3.6%	0	0.0%	56
Total	286	9.3%	188	6.1%	11	0.4%	3,083

[Table 14-12] Height at delivery, Twins/Male and female combined (Q14)

Area	<44 cm		44-<45 cm		45-<46 cm		46-<47 cm		47-<48 cm		48-<49 cm		≥49 cm		Non-response/ invalid response		Total
Kempoku	8	29.6%	0	0.0%	2	7.4%	3	11.1%	4	14.8%	6	22.2%	4	14.8%	0	0.0%	27
Kenchu	11	50.0%	0	0.0%	2	9.1%	5	22.7%	3	13.6%	1	4.5%	0	0.0%	0	0.0%	22
Kennan	1	20.0%	1	20.0%	1	20.0%	0	0.0%	0	0.0%	1	20.0%	1	20.0%	0	0.0%	5
Soso	5	50.0%	1	10.0%	1	10.0%	1	10.0%	0	0.0%	2	20.0%	0	0.0%	0	0.0%	10
Iwaki	1	6.7%	2	13.3%	3	20.0%	2	13.3%	4	26.7%	0	0.0%	3	20.0%	0	0.0%	15
Aizu	3	30.0%	1	10.0%	2	20.0%	0	0.0%	0	0.0%	3	30.0%	1	10.0%	0	0.0%	10
Minami-aizu	1	25.0%	0	0.0%	1	25.0%	0	0.0%	2	50.0%	0	0.0%	0	0.0%	0	0.0%	4
Outside Fukushima	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
Total	32	33.7%	5	5.3%	12	12.6%	11	11.6%	13	13.7%	13	13.7%	9	9.5%	0	0.0%	95

[Table 14-13] Height at delivery, Twins/Male (Q14)

Area	<44 cm		44-<45 cm		45-<46 cm		46-<47 cm		47-<48 cm		48-<49 cm		≥49 cm		Non-response/ invalid response		Total
Kempoku	1	16.7%	0	0.0%	1	16.7%	0	0.0%	0	0.0%	2	33.3%	2	33.3%	0	0.0%	6
Kenchu	2	22.2%	0	0.0%	2	22.2%	4	44.4%	1	11.1%	0	0.0%	0	0.0%	0	0.0%	9
Kennan	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
Soso	3	37.5%	1	12.5%	1	12.5%	1	12.5%	0	0.0%	2	25.0%	0	0.0%	0	0.0%	8
Iwaki	1	14.3%	1	14.3%	1	14.3%	1	14.3%	1	14.3%	0	0.0%	2	28.6%	0	0.0%	7
Aizu	0	0.0%	1	20.0%	0	0.0%	0	0.0%	0	0.0%	3	60.0%	1	20.0%	0	0.0%	5
Minami-aizu	1	33.3%	0	0.0%	0	0.0%	0	0.0%	2	66.7%	0	0.0%	0	0.0%	0	0.0%	3
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	8	21.1%	3	7.9%	5	13.2%	6	15.8%	4	10.5%	7	18.4%	5	13.2%	0	0.0%	38

[Table 14-14] Height at delivery, Twins/Female (Q14)

Area	<44 cm		44-<45 cm		45-<46 cm		46-<47 cm		47-<48 cm		48-<49 cm		≥49 cm		Total
Kempoku	7	33.3%	0	0.0%	1	4.8%	3	14.3%	4	19.0%	4	19.0%	2	9.5%	21
Kenchu	9	69.2%	0	0.0%	0	0.0%	1	7.7%	2	15.4%	1	7.7%	0	0.0%	13
Kennan	1	20.0%	1	20.0%	1	20.0%	0	0.0%	0	0.0%	1	20.0%	1	20.0%	5
Soso	2	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	2
Iwaki	0	0.0%	1	16.7%	2	33.3%	0	0.0%	3	50.0%	0	0.0%	0	0.0%	6
Aizu	3	60.0%	0	0.0%	2	40.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	5
Minami-aizu	0	0.0%	0	0.0%	1	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1
Outside Fukushima	2	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	2
Total	24	43.6%	2	3.6%	7	12.7%	4	7.3%	9	16.4%	6	10.9%	3	5.5%	55

[Table 14-15] Apparent death of the newborn, Singletons (Q14)

Area	Yes		No		Non-response/ invalid response		Total
Kempoku	23	1.4%	1,580	98.0%	9	0.6%	1,612
Kenchu	15	0.8%	1,794	97.7%	28	1.5%	1,837
Kennan	3	0.6%	462	98.7%	3	0.6%	468
Soso	6	1.4%	425	97.9%	3	0.7%	434
Iwaki	8	0.8%	1,021	98.0%	13	1.2%	1,042
Aizu	6	0.8%	766	98.3%	7	0.9%	779
Minami-aizu	1	1.3%	75	98.7%	0	0.0%	76
Outside Fukushima	1	0.9%	108	98.2%	1	0.9%	110
Total	63	1.0%	6,231	98.0%	64	1.0%	6,358

[Table 14-16] Resuscitation, Singletons

Responses of 63 respondents who answered “yes” about apparent death in newborns.

Area	Yes		No		Not sure		Non-response/ invalid response		Total
Kempoku	18	78.3%	2	8.7%	3	13.0%	0	0.0%	23
Kenchu	11	73.3%	2	13.3%	2	13.3%	0	0.0%	15
Kennan	2	66.7%	0	0.0%	1	33.3%	0	0.0%	3
Soso	4	66.7%	2	33.3%	0	0.0%	0	0.0%	6
Iwaki	6	75.0%	1	12.5%	0	0.0%	1	12.5%	8
Aizu	5	83.3%	0	0.0%	1	16.7%	0	0.0%	6
Minami-aizu	0	0.0%	0	0.0%	1	100.0%	0	0.0%	1
Outside Fukushima	1	100.0%	0	0.0%	0	0.0%	0	0.0%	1
Total	47	74.6%	7	11.1%	8	12.7%	1	1.6%	63

[Table 14-17] Apparent death of the newborn, The first child of twins

Area	Yes	No	Non-response/ invalid response	Total
Kempoku	1	13	0	14
Kenchu	0	11	0	11
Kennan	0	3	0	3
Soso	0	5	0	5
Iwaki	0	8	0	8
Aizu	0	5	0	5
Minami-aizu	0	2	0	2
Outside Fukushima	0	1	0	1
Total	1	48	0	49

[Table 14-18] Resuscitation, The first child of twins

Response from 1 respondent who answered “yes” about apparent death of the newborn.

Area	Yes	No	Not sure	Total
Kempoku	1	0	0	1
Kenchu	0	0	0	0
Kennan	0	0	0	0
Soso	0	0	0	0
Iwaki	0	0	0	0
Aizu	0	0	0	0
Minami-aizu	0	0	0	0
Outside Fukushima	0	0	0	0
Total	1	0	0	1

[Table 14-19] Apparent death of the newborn, The 2nd child of twins

Area	Yes	No	Non-response/ invalid response	Total
Kempoku	2	11	0	13
Kenchu	0	11	0	11
Kennan	0	2	0	2
Soso	0	5	0	5
Iwaki	0	7	0	7
Aizu	0	5	0	5
Minami-aizu	0	2	0	2
Outside Fukushima	0	1	0	1
Total	2	44	0	46

[Table 14-20] Resuscitation, The 2nd child of twins
Responses from 2 respondents who answered “yes” about apparent death of the newborn.

Area	Yes	No	Not sure	Total
Kempoku	2	0	0	2
Kenchu	0	0	0	0
Kennan	0	0	0	0
Soso	0	0	0	0
Iwaki	0	0	0	0
Aizu	0	0	0	0
Minami-aizu	0	0	0	0
Outside Fukushima	0	0	0	0
Total	2	0	0	2

[Table 14-21] Newborns with birth defects/congenital anomalies, Singletons
Responses from 6,358 respondents with singleton delivery at or after 12 weeks. (Table 13-1)

Area	Yes		No		Non-response/ invalid response		Total
Kempoku	38	2.4%	1,559	96.7%	15	0.9%	1,612
Kenchu	32	1.7%	1,786	97.2%	19	1.0%	1,837
Kennan	9	1.9%	453	96.8%	6	1.3%	468
Soso	8	1.8%	424	97.7%	2	0.5%	434
Iwaki	33	3.2%	999	95.9%	10	1.0%	1,042
Aizu	26	3.3%	748	96.0%	5	0.6%	779
Minami-aizu	2	2.6%	73	96.1%	1	1.3%	76
Outside Fukushima	2	1.8%	107	97.3%	1	0.9%	110
Total	150	2.4%	6,149	96.7%	59	0.9%	6,358

[Table 14-22] Incidence of birth defects/congenital anomalies, Singletons

Area	Incidence of congenital anomalies*		Valid response
Kempoku	38	2.38%	1,597
Kenchu	32	1.76%	1,818
Kennan	9	1.95%	462
Soso	8	1.85%	432
Iwaki	33	3.20%	1,032
Aizu	26	3.36%	774
Minami-aizu	2	2.67%	75
Outside Fukushima	2	1.83%	109
Total	150	2.38%	6,299

*The denominator of percentage is the sum of valid responses (those who responded either “yes” or “no” to the question on congenital anomalies in singletons).
The above incidence rates differ from those in the report on FY2011 survey results, which were calculated including invalid responses.

[Table 14-23] Incidence of diseases[1)]
Responses from 150 respondents who answered “yes” to the question on birth defects/congenital anomalies in singletons (Multiple answers were allowed).

Area	Cataract	Heart malform-ation	Anomalies of kidney/ urinary tract	Spina bifida	Micro-cephaly	Hydro-cephalus	Cleft lip and palate	Gastro-intestinal tract closure [2)]	Anal atresia	Polydactyl/ syndactyly	Other
Kempoku	0	6	5	1	0	1	1	0	2	7	18
Kenchu	0	13	2	0	0	0	1	1	1	3	12
Kennan	0	5	1	0	0	0	0	0	0	0	4
Soso	0	1	2	0	0	0	1	1	0	0	3
Iwaki	1	9	3	1	0	0	1	3	0	5	12
Aizu	0	4	9	1	0	0	4	1	0	1	8
Minami-aizu	0	0	0	1	0	0	0	0	0	0	1
Outside Fukushima	0	1	0	0	0	0	0	0	0	0	1
Total	1	39	22	4	0	1	8	6	3	16	59
Incidence rate	0.02%	0.62%	0.35%	0.06%	0.00%	0.02%	0.13%	0.10%	0.05%	0.25%	0.94%

[1)] The denominator of incident rates is the number of valid responses (6,299 respondents who answered “yes” or “no” in the question on birth defects/congenital anomalies in singletons.
[2)] Closure of the esophagus, duodenum, jejunum, or ileum

[Table 14-24] Breakdown of "other" anomalies mentioned in the responses from those who answered “yes” about congenital anomalies in singletons (Multiple answers were allowed).

Secondary ear	7	Umbilical hernia	2	Congenital upper airway atresia	1	Submucosal cleft palate	1
Diaphragmatic hernia	4	Strawberry hemangiomas	1	Congenital bile duct dilatation	1	Corpus callosum defect	1
Hearing difficulty	4	Pierre-Robin syndrome	1	Congenital chyle chest	1	Pulmonary sequestration	1
Hypothyroidism	3	Ear canal closure	1	Simple hemangiomas	1	Nasal stenosis	1
Amino acid metabolism disorders	2	Ocular cutaneous albinism	1	Brachydactyly	1	Adrenal hyperplasia	1
Down syndrome	2	Facial paralysis	1	Intestinal malrotation	1	Thumb hypoplasia	1
Ptosis	2	Laryngomalacia	1	Cryptorchidism	1	Birthmark	1
Microtia	2	Strangulation syndrome	1	Stationary testicle	1	Devil tooth	1
Ataxia	2	Malformation of the ear	1	Early fusion of the skull	1	Gill arch syndrome	1
Congenital nasolacrimal duct obstruction	2	Inborn error of fatty acid metabolism	1	Clubfoot	1		

[Table 14-25] Newborns with birth defects/congenital anomalies, Twins
Responses from 95 respondents with twin delivery at or after 12 weeks. (Table 13-2)

Area	Yes		No		Non-response/ invalid response		Total
Kempoku	2	7.4%	22	81.5%	3	11.1%	27
Kenchu	2	9.1%	20	90.9%	0	0.0%	22
Kennan	0	0.0%	5	100.0%	0	0.0%	5
Soso	0	0.0%	9	90.0%	1	10.0%	10
Iwaki	0	0.0%	15	100.0%	0	0.0%	15
Aizu	1	10.0%	9	90.0%	0	0.0%	10
Minami-aizu	0	0.0%	4	100.0%	0	0.0%	4
Outside Fukushima	0	0.0%	0	0.0%	2	100.0%	2
Total	5	5.3%	84	88.4%	6	6.3%	95

[Table 14-26] Incidence of birth defects/congenital anomalies, Twins

Area	Incidence of congenital anomalies[1)]		Valid response
Kempoku	2	8.33%	24
Kenchu	2	9.09%	22
Kennan	0	0.00%	5
Soso	0	0.00%	9
Iwaki	0	0.00%	15
Aizu	1	10.00%	10
Minami-aizu	0	0.00%	4
Outside Fukushima	0	0.00%	0
Total	5	5.62%	89

1)The denominator of incident rates is the number of valid responses (sum of “yes” and “no” in the question on birth defects/congenital anomalies in twins).

∗ The above incidence rates differ from those in the report on FY 2011 survey results, which were calculated including invalid responses.

[Table 14-27] Breakdown of diseases
Responses from 5 respondents who answered “yes” to the question on birth defects/congenital anomalies in twins (Multiple answers were allowed).

Area	Cataract	Heart malform-ation	Anomalies of kidey and urinary tract	Rachi-schisis	Micro-Cephaly	Hydro-cephalus	Cleft lip and plate	Gastro-intestinal atresia	Anal atresia	Polydactyly and syndactyly	Other
Kempoku	0	0	0	0	0	0	0	1	0	0	1
Kenchu	0	0	2	0	0	0	0	0	0	0	0
Kennan	0	0	0	0	0	0	0	0	0	0	0
Soso	0	0	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	0
Minami-aizu	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	0	3	0	0	0	0	1	0	0	1

[Table 15] Do you sometimes lose confidence in child rearing? (Q15)

Responses from 6,385 respondents who gave birth.

Area	Yes		No		Not sure		Non-response/ invalid response		Total
Kempoku	315	19.4%	530	32.6%	752	46.3%	27	1.7%	1,624
Kenchu	329	17.9%	665	36.1%	823	44.7%	23	1.3%	1,840
Kennan	77	16.4%	185	39.4%	205	43.6%	3	0.6%	470
Soso	66	15.1%	160	36.6%	204	46.7%	7	1.6%	437
Iwaki	167	16.0%	483	46.3%	385	36.9%	8	0.8%	1,043
Aizu	154	19.7%	304	38.8%	318	40.6%	7	0.9%	783
Minami-aizu	13	16.9%	18	23.4%	46	59.7%	0	0.0%	77
Outside Fukushima	36	32.4%	20	18.0%	55	49.5%	0	0.0%	111
Total	1,157	18.1%	2,365	37.0%	2,788	43.7%	75	1.2%	6,385

Table 16-1 to 16-5 show the results of 6,309 newborns (6,214 singletons, 95 twins, and 0 unknown) who received the 1-month medical checkup within 60 days after delivery.

[Table 16-1] Average number of days from birth to the 1-month-old medical checkup

Area	Respondents	Average number of days at the time of checkup
Kempoku	1,606	34.5
Kenchu	1,821	32.7
Kennan	456	32.8
Soso	431	32.7
Iwaki	1,032	32.4
Aizu	774	32.5
Minami-aizu	79	32.5
Outside Fukushima	110	33.3
Total	6,309	33.1

Table 16-2 to 16-5 include responses which do not indicate the baby's gender, and therefore the sum of males and females does not match the total number of newborns. The number of non responses/invalid responses is shown in the far-right column. (n) = number of valid responses

[Table 16-2] Weight, Singletons Mean (g)±SD (n)

Area	Total	Male	Female	Non-response/ Invalid response
Kempoku	4269.4 ± 576.5 (1,574)	4398.1 ± 587.5 (768)	4142.7 ± 535.7 (783)	5
Kenchu	4185.7 ± 537.7 (1,789)	4286.7 ± 566.1 (882)	4080.8 ± 484.9 (871)	10
Kennan	4188.9 ± 552.0 (450)	4300.1 ± 555.6 (231)	4073.1 ± 524.3 (216)	1
Soso	4155.7 ± 602.3 (420)	4306.7 ± 547.5 (212)	3994.0 ± 618.5 (205)	1
Iwaki	4139.8 ± 585.7 (1,015)	4246.2 ± 601.7 (531)	4019.9 ± 545.5 (477)	2
Aizu	4148.7 ± 591.6 (763)	4236.5 ± 597.8 (386)	4055.4 ± 577.1 (365)	1
Minami-aizu	4229.4 ± 530.4 (75)	4360.7 ± 543.3 (43)	4052.9 ± 464.3 (32)	0
Outside Fukushima	4269.6 ± 487.6 (108)	4377.3 ± 482.3 (53)	4165.8 ± 474.0 (55)	0
Total	4195.1 ± 568.9 (6,194)	4306.0 ± 580.5 (3,106)	4079.0 ± 533.5 (3,004)	20

[Table 16-3] Weight, Twins Mean (g) ±SD (n)

Area	Total	Male	Female	Non-response/ invalid response
Kempoku	3360.0 ± 885.7 (26)	3529.5 ± 991.3 (6)	3309.2 ± 872.8 (20)	1
Kenchu	2764.3 ± 756.3 (22)	3154.7 ± 476.6 (9)	2494.1 ± 810.0 (13)	0
Kennan	3308.8 ± 810.1 (5)	(0)	3308.8 ± 810.1 (5)	0
Soso	3033.7 ± 563.5 (10)	3132.6 ± 577.6 (8)	2638.0 ± 362.0 (2)	0
Iwaki	3152.9 ± 505.9 (15)	3067.6 ± 631.8 (7)	3074.3 ± 142.0 (6)	0
Aizu	3561.6 ± 576.2 (10)	4041.6 ± 372.7 (5)	3081.6 ± 179.3 (5)	0
Minami-aizu	3513.5 ± 638.0 (4)	3423.3 ± 749.5 (3)	3784.0 (1)	0
Outside Fukushima	1659.5 ± 78.5 (2)	(0)	1659.5 ± 78.5 (2)	0
Total	3141.9 ± 777.7 (94)	3331.1 ± 678.0 (38)	2988.6 ± 819.4 (54)	1

[Table 16-4] Height, Singletons Mean (cm) ±SD (n)

Area	Total	Male	Female	Non-response/ invalid response
Kempoku	53.4 ± 2.6 (1,569)	53.8 ± 2.7 (768)	53.0 ± 2.5 (778)	10
Kenchu	53.1 ± 2.7 (1,785)	53.3 ± 3.0 (880)	52.7 ± 2.5 (869)	14
Kennan	52.4 ± 2.7 (449)	52.8 ± 2.8 (231)	52.0 ± 2.6 (215)	2
Soso	53.0 ± 2.8 (417)	53.4 ± 2.7 (210)	52.5 ± 2.9 (204)	4
Iwaki	52.9 ± 2.9 (1,011)	53.2 ± 3.0 (529)	52.5 ± 2.7 (475)	6
Aizu	53.1 ± 3.4 (759)	53.5 ± 3.3 (382)	52.7 ± 3.4 (365)	5
Minami-aizu	53.7 ± 2.5 (75)	54.5 ± 2.6 (43)	52.6 ± 2.1 (32)	0
Outside Fukushima	53.1 ± 2.5 (107)	53.3 ± 3.0 (53)	53.0 ± 1.8 (54)	1
Total	53.1 ± 2.8 (6,172)	53.4 ± 2.9 (3,096)	52.7 ± 2.7 (2,992)	42

[Table 16-5] Height, Twins Mean (cm) ±SD (n)

Area	Total	Male	Female	Non-response/ invalid response
Kempoku	50.3 ± 4.7 (26)	51.6 ± 4.3 (6)	49.9 ± 4.8 (20)	1
Kenchu	47.3 ± 4.1 (22)	49.4 ± 2.4 (9)	45.8 ± 4.4 (13)	0
Kennan	48.5 ± 4.4 (5)	(0)	48.5 ± 4.4 (5)	0
Soso	49.1 ± 2.3 (10)	49.5 ± 2.5 (8)	47.6 ± 0.1 (2)	0
Iwaki	49.6 ± 2.6 (15)	48.9 ± 3.2 (7)	49.6 ± 1.3 (6)	0
Aizu	50.2 ± 2.6 (10)	52.4 ± 1.6 (5)	48.0 ± 1.1 (5)	0
Minami-aizu	50.1 ± 2.9 (4)	49.8 ± 3.4 (3)	51.0 (1)	0
Outside Fukushima	40.9 ± 0.5 (2)	(0)	40.9 ± 0.5 (2)	0
Total	49.0 ± 4.0 (94)	50.1 ± 3.0 (38)	48.2 ± 4.4 (54)	1

[Table 17-1] Are you planning to have the next baby? (Q17)

Area	Yes		No		Non-response/ invalid response		Total
Kempoku	849	52.1%	762	46.8%	17	1.0%	1,628
Kenchu	993	53.5%	840	45.3%	23	1.2%	1,856
Kennan	232	49.2%	238	50.4%	2	0.4%	472
Soso	219	49.8%	215	48.9%	6	1.4%	440
Iwaki	556	52.8%	485	46.1%	12	1.1%	1,053
Aizu	402	51.3%	374	47.7%	8	1.0%	784
Minami-aizu	40	51.3%	38	48.7%	0	0.0%	78
Outside Fukushima	75	67.6%	36	32.4%	0	0.0%	111
Total	3,366	52.4%	2,988	46.5%	68	1.1%	6,422

[Table 17-2] Services which you think would be useful for your next pregnancy or childbirth (Multiple answers were allowed).

Area	Improvement of preschool, care for longer hours, or day care for sick children		Information or services about child rearing and pediatric medicine		Improvement of maternity or childcare leave		Information on radiation and health risks		Other		Valid response
Kempoku	693	83.7%	511	61.7%	546	65.9%	169	20.4%	71	8.6%	828
Kenchu	798	82.4%	639	66.0%	669	69.1%	211	21.8%	63	6.5%	968
Kennan	183	81.0%	152	67.3%	141	62.4%	51	22.6%	12	5.3%	226
Soso	162	77.1%	154	73.3%	110	52.4%	47	22.4%	12	5.7%	210
Iwaki	409	76.7%	356	66.8%	345	64.7%	128	24.0%	36	6.8%	533
Aizu	273	72.8%	243	64.8%	252	67.2%	74	19.7%	28	7.5%	375
Minami-aizu	17	44.7%	27	71.1%	24	63.2%	4	10.5%	4	10.5%	38
Outside Fukushima	63	85.1%	50	67.6%	44	59.5%	9	12.2%	7	9.5%	74
Total	2,598	79.9%	2,132	65.6%	2,131	65.5%	693	21.3%	233	7.2%	3,252

The denominator of percentages is the sum of valid responses (those who answered “yes” to Q17 and described the services that they think would be useful for the next pregnancy or childbirth). Percentages do not total to 100.0% due to multiple answers.

[Table 17-3] Reasons for not wishing the next pregnancy (Multiple answers were allowed)

Area	Do not have a desire for it		Age or health related reason		Busy raising children		Financial reason		Have no one to support me in housework/child rearing		Have no daycare service	
Kempoku	408	53.7%	292	38.4%	251	33.0%	178	23.4%	79	10.4%	112	14.7%
Kenchu	398	47.7%	335	40.2%	282	33.8%	221	26.5%	102	12.2%	66	7.9%
Kennan	145	61.2%	79	33.3%	76	32.1%	49	20.7%	19	8.0%	19	8.0%
Soso	115	54.2%	74	34.9%	82	38.7%	55	25.9%	23	10.8%	19	9.0%
Iwaki	242	50.1%	195	40.4%	165	34.2%	119	24.6%	46	9.5%	34	7.0%
Aizu	204	54.5%	144	38.5%	143	38.2%	93	24.9%	37	9.9%	15	4.0%
Minami-aizu	19	52.8%	12	33.3%	12	33.3%	13	36.1%	3	8.3%	1	2.8%
Outside Fukushima	21	58.3%	9	25.0%	15	41.7%	11	30.6%	7	19.4%	6	16.7%
Total	1,552	52.2%	1,140	38.4%	1,026	34.5%	739	24.9%	316	10.6%	272	9.2%

Area	Family living apart		Worried about the effects of radiation		Life as an evacuee		Other		Valid response
Kempoku	12	1.6%	3	0.4%	0	0.0%	32	4.2%	760
Kenchu	20	2.4%	15	1.8%	0	0.0%	38	4.6%	834
Kennan	5	2.1%	2	0.8%	0	0.0%	11	4.6%	237
Soso	6	2.8%	0	0.0%	2	0.9%	12	5.7%	212
Iwaki	12	2.5%	4	0.8%	0	0.0%	22	4.6%	483
Aizu	4	1.1%	0	0.0%	0	0.0%	12	3.2%	374
Minami-aizu	0	0.0%	0	0.0%	0	0.0%	5	13.9%	36
Outside Fukushima	4	11.1%	0	0.0%	0	0.0%	1	2.8%	36
Total	63	2.1%	24	0.8%	2	0.1%	133	4.5%	2,972

The denominator of percentages is the sum of valid responses (those who answered “no” to Q17 and described reasons for not wishing the next pregnancy). Percentages do not total to 100.0% due to multiple answers.

5.3 Free comments

Out of 6,422 valid responses, 799 responses which contained comments were tabulated.

[Table 18] Main contents of free comments (Multiple answers were allowed. The denominator of percentages is 799 responses containing free comments).

Content	Number	Proportion
Consultation regarding child rearing[1)]	276	34.5%
Request for improved parenting support services	218	27.3%
Complaints of their own poor mental health	121	15.1%
Request regarding improved medical services and physical care	105	13.1%
Complaints of their own poor physical health[1)]	104	13.0%
Anxiety and dissatisfaction about insufficient medical services	79	9.9%
Opinions or complaints about this survey	76	9.5%
Personal relationships[2)]	55	6.9%
Requests for financial support	44	5.5%
Financial anxiety and burden	43	5.4%
Radiation effects on fetus and child health	38	4.8%
Requests regarding information dissemination and publication of research results	38	4.8%
Positive comments about this survey	27	3.4%
Requests for decontamination and provision of safe playgrounds	24	3.0%
Anxiety and dissatisfaction about reliability or lack of information	11	1.4%
Requests for improved mental health care and consultation services	7	0.9%
Anxiety about radiation effects on water	5	0.6%
Requests for Thyroid Ultrasound Examination	5	0.6%
Anxiety about radiation exposure when staying or playing outdoors	4	0.5%
Association of radiation with the outcome of the latest pregnancy	3	0.4%
Requests for examination for internal exposure (whole-body counting, etc.)	3	0.4%
Comments regarding external exposure (distribution of glass dosimeters or dosimetry devices)	3	0.4%
Requests for medical check-ups and examinations as a whole	3	0.4%
Radiation effects on baby foods and foodstuffs	2	0.3%
Requests regarding the Fukushima Health Management Survey	2	0.3%
Radiation effects on breast milk and other milk	1	0.1%
Other	182	22.8%

[1)] Issue not mentioned in FY 2011 survey [2)] Issue not mentioned in FY 2012survey

5.4 Status of post-survey support

Number of support-requiring mothers in FY 2017 Survey: 799 (out of 6,449 respondents) (Support-requiring rate: 12.4%).

Tabulation of data regarding post-survey support is based on 6,449 responses returned between 1 November 2017 and 21 December 2018.

[Table 19] Number and proportion of support-requiring mothers

Area	Responses	Support-requiring mothers	
Kempoku	1,634	219	13.4%
Kenchu	1,862	233	12.5%
Kennan	473	54	11.4%
Soso	442	64	14.5%
Iwaki	1,054	112	10.6%
Aizu	788	89	11.3%
Minami-aizu	79	11	13.9%
Outside Fukushima	117	17	14.5%
Total	6,449	799	12.4%

*The denominator of percentages is the number of responses.

[Table 20] Number of support-requiring mothers by area

Area	Support based on depressive symptoms		Support based on the content of free comments		Total
Kempoku	127	58.0%	92	42.0%	219
Kenchu	116	49.8%	117	50.2%	233
Kennan	33	61.1%	21	38.9%	54
Soso	42	65.6%	22	34.4%	64
Iwaki	62	55.4%	50	44.6%	112
Aizu	53	59.6%	36	40.4%	89
Minami-aizu	9	81.8%	2	18.2%	11
Outside Fukushima	7	41.2%	10	58.8%	17
Total	449	56.2%	350	43.8%	799

[Table 21] Main contents of consultation by area

Area	Physical and mental health of mothers		Child rearing (daily life)		Family life		Physical and mental health of children		Anxiety about radiation effects		Matters regarding evacuation		Other		Number of support requiring mothers
Kempoku	131	59.8%	117	53.4%	38	17.4%	22	10.0%	13	5.9%	0	0.0%	56	25.6%	219
Kenchu	127	54.5%	114	48.9%	38	16.3%	18	7.7%	11	4.7%	0	0.0%	65	27.9%	233
Kennan	27	50.0%	26	48.1%	5	9.3%	1	1.9%	1	1.9%	0	0.0%	20	37.0%	54
Soso	33	51.6%	39	60.9%	14	21.9%	5	7.8%	2	3.1%	0	0.0%	20	31.3%	64
Iwaki	60	53.6%	55	49.1%	17	15.2%	14	12.5%	4	3.6%	0	0.0%	35	31.3%	112
Aizu	47	52.8%	47	52.8%	17	19.1%	8	9.0%	1	1.1%	0	0.0%	30	33.7%	89
Minami-aizu	9	81.8%	7	63.6%	2	18.2%	0	0.0%	1	9.1%	0	0.0%	2	18.2%	11
Outside Fukushima	10	58.8%	9	52.9%	0	0.0%	1	5.9%	0	0.0%	0	0.0%	5	29.4%	17
Total	444	55.6%	414	51.8%	131	16.4%	69	8.6%	33	4.1%	0	0.0%	233	29.2%	799

The denominator of percentages is the number of support-requiring mothers. Percentages do not total to 100.0% due to multiple answers.

[Table 22] Reason for terminating support

Area	Listened carefully [1]		Information provided [2]		Already consulted [3]		Questions answered [4]		Medical care Recommended [5]		Referred them to municipalities [6]		Referred them to Mental Health Support Team [7]	
Kempoku	163	74.4%	81	37.0%	60	27.4%	27	12.3%	21	9.6%	1	0.5%	1	0.5%
Kenchu	168	72.1%	68	29.2%	61	26.2%	35	15.0%	29	12.4%	1	0.4%	0	0.0%
Kennan	33	61.1%	6	11.1%	8	14.8%	4	7.4%	1	1.9%	0	0.0%	0	0.0%
Soso	46	71.9%	16	25.0%	16	25.0%	10	15.6%	5	7.8%	0	0.0%	1	1.6%
Iwaki	81	72.3%	32	28.6%	38	33.9%	17	15.2%	11	9.8%	0	0.0%	0	0.0%
Aizu	64	71.9%	23	25.8%	21	23.6%	18	20.2%	8	9.0%	2	2.2%	0	0.0%
Minami-aizu	9	81.8%	2	18.2%	5	45.5%	1	9.1%	0	0.0%	0	0.0%	0	0.0%
Outside Fukushima	13	76.5%	10	58.8%	3	17.6%	1	5.9%	1	5.9%	0	0.0%	0	0.0%
Total	577	72.2%	238	29.8%	212	26.5%	113	14.1%	76	9.5%	4	0.5%	2	0.3%

Area	Referred them to radiation consulation service [8]		Referred them to medical specialist [9]		Absent		Phone number not shown		Support declined		Other		Number of support-requiring mothers
Kempoku	0	0.0%	0	0.0%	45	20.5%	4	1.8%	2	0.9%	1	0.5%	219
Kenchu	0	0.0%	0	0.0%	53	22.7%	9	3.9%	0	0.0%	1	0.4%	233
Kennan	0	0.0%	0	0.0%	17	31.5%	2	3.7%	1	1.9%	0	0.0%	54
Soso	0	0.0%	0	0.0%	13	20.3%	3	4.7%	0	0.0%	1	1.6%	64
Iwaki	0	0.0%	0	0.0%	28	25.0%	2	1.8%	1	0.9%	0	0.0%	112
Aizu	0	0.0%	0	0.0%	19	21.3%	5	5.6%	0	0.0%	0	0.0%	89
Minami-aizu	0	0.0%	0	0.0%	2	18.2%	0	0.0%	0	0.0%	0	0.0%	11
Outside Fukushima	0	0.0%	0	0.0%	4	23.5%	0	0.0%	0	0.0%	0	0.0%	17
Total	0	0.0%	0	0.0%	181	22.7%	25	3.1%	4	0.5%	3	0.4%	799

The denominator of percentages is the number of support-requiring mothers. Percentages do not total to 100.0% due to multiple answers.

[1] Support was terminated after listening carefully to what mothers said and helping to sort out their problems
[2] Support was terminated after relevant information and administrative service contact information were provided.
[3] Support was terminated after confirming that mothers had already consulted with medical or other institutions.
[4] Support was terminated after providing adequate information and answers to questions from mothers.
[5] Support was terminated after recommending to seek medical care.
[6] Support was terminated after referring them to relevant sections of municipalities upon their consent.
[7] Support was terminated after referring them to the mental health support team at FMU upon their consent.
[8] Support was terminated after referring them to the radiation consultation service at FMU upon their consent.
[9] Support was terminated after referring them to medical specialists at FMU.

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

1. Outline

1.1 Purpose

Since FY 2011, Fukushima Medical University has conducted the Pregnancy and Birth Survey, which is a cross-sectional survey focusing on a different group each year. Since many of the respondents to the Pregnancy and Birth Survey at the time of the disaster tended to have depressive symptoms and wrote about serious issues in the free comment section of the survey, a follow-up survey was conducted targeting the respondents of FY2011 and FY2012 at four years post-partum, when loss of confidence in child rearing tends to increase. Results showed that the number of those who had depressive tendencies and concerns about radiation effects was, although on a downward trend, still accounted for 90% of the respondents. Therefore, another follow-up survey was conducted targeting the respondents of FY2013 survey in order to assess their health conditions and provide telephone support as necessary.

1.2 Survey population

The target group covered 5,734 respondents of FY2013 Pregnancy and Birth Survey who were identified as being alive along with their children through referral to municipalities (excluding those who miscarried, terminatedtheir pregnancy, or had a stillbirth).

[For reference]

Year Surveyed	Target group	Number of persons
FY2015	FY2011 Survey respondents	7,252
FY2016	FY2012 Survey respondents	5,602
FY2017	FY2013 Survey respondents	5,734

1.3 Survey methods

A. Survey sheet: Self-administered questionnaire (post card)

B. Dates of questionnaire distribution: 12 January2018.

C. Response method: by post or online

*Online responses were accepted from 12 January 2018 to 30 April 2018.

1.4 Survey items

Survey items are as follows:

Q1 Do you think of yourself as healthy?

Q2 Have you often been feeling down or depressed for the past month?

Q3 Have you lost interest in activities or found things not enjoyable for the past month?

Q4 Do you sometimes lose confidence in child rearing?

Q5 Check boxes for all matters of insecurity regarding the effects of radiation.

☐Water ☐Food ☐Child's outdoor play ☐Child's health ☐Prejudice ☐Genetic influences ☐Others

Q6 Has your child caught any disease subjected to hospitalization?

Q7 Check boxes for all matters of concern regarding your child.

☐Mental and physical development ☐Sickness ☐Lifestyle ☐Othert

1.5 Data tabulation period

Responses returned from 12 January 2018 through 31 August 2018

[For reference]

Year surveyed	Survey name	Data aggregation period (Period for accepting online responses)
FY2015	Follow-up Survey Targeting FY2011 Survey Respondents ("Follow-up for FY2011")	14 September 2015 - 31 May 2016 (Online response was not available)
FY2016	Follow-up Survey Targeting FY2012 Survey Respondents ("Follow-up or FY2012")	22 November 2016 – 30 June 2017 (22 November 2016 – 30 June 2017)
FY2017	Follow-up Survey Targeting FY2013 Survey Respondents ("Follow-up for FY2013")	12 January 2018 – 31 August 2018 (12 January 2018 – 30 April 2018)

2. Summary of Survey Results

Survey results are as shown in 5.1, 5.2, and 5.3 in "5. Tabulated Results of the Follow-up Survey for FY 2013" below. Note that the total may not match the sum of valid responses due to missing values in each category.

2.1 Number of responses and response rates (See Table 1)

The number of responses (response rate) in the Follow-up for FY2013 was 2,706 (47.2%) and the number of valid respondents was 2,706 (invalid respondents: 0). Among them, the number (response rate) of online respondents was 644 (23.8%).

[For reference]

Year surveyed	Survey name	No. of responses			
		Total	Breakdown by response method		
		No. of respondents (response rate)	By post	Online	Percentage of online reponses
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%

2.2 Number of respondents by area (See Table 1)

The number of respondents (response rate) by area of residencein the Follow-up Survey of FY 2013 was as follows: 770 (49.4%) in Kempoku, 716 (47.1%) in Kenchu, 204 (44.0%) in Kennan, 192 (46.6%) in Soso, 479 (46.0%) in Iwaki, 315 (46.9%) in Aizu, and 30 (44.1%) in Minami-Aizu.

[For reference]

Year surveyed	Survey name	Number of respondents by area (Response rate: %)						
		Kempoku	Kenchu	Kennan	Soso	Iwaki	Aizu	Minami-aizu
FY2015	Follow-up for FY2011	679 (38.7)	721 (32.7)	168 (34.1)	256 (34.9)	434 (35.9)	271 (34.5)	25 (34.7)
FY2016	"Follow-up for FY2012	675 (45.3)	508 (32.2)	165 (36.4)	113 (30.5)	330 (32.5)	212 (33.4)	18 (29.0)
FY2017	Follow-up for FY2013	770 (49.4)	716 (47.1)	204 (44.0)	192 (46.6)	479 (46.0)	315 (46.9)	30 (44.1)

2.3 Mental health of mothers (See Tables 2 through 5)

A. The proportion of mothers who responded that their subjective health was poor ("Not so healty" or "Not healthy" was 7.9%. The proportion in the FY 2013 Survey conducted four years before was 3.7% (Q1).

[For reference]

	As of the Follow-up Survey	As of the main survey conducted four years before
FY2011 Survey respondents	9.6%	This question was not asked.
FY2012 Survey respondents	9.3%	3.8%
FY2013 Survey respondents	7.9%	3.7%

B. The proportion of mothers who were deemed as having depressive symptoms was 23.5%. The proportion was 24.5% in the FY2013 Survey conducted four years before (Q2, Q3).

[For reference]

	As of the Follow-up Survey	As of the main survey conducted four years before
FY2011 Survey respondents	25.6%	27.1%
FY2012 Survey respondents	25.7%	25.5%
FY2013 Survey respondents	23.5%	24.5%

2.4 Conditions regarding family life and child rearing (See Table 6)

The proportion of those who responded that they sometimes lose confidence in child rearing was 16.7%. The proportion was 17.5% in the FY 2013 Survey conducted four years before (Q4).

[For reference]

	As of the Follow-up Survey	As of the main survey conducted four years before
FY2011 Survey respondents	15.8%	This question was not asked.
FY2012 Survey respondents	18.2%	15.4%
FY2013 Survey respondents	16.7%	17.5%

Reference: In Children's Health Survey conducted in FY2010, the proportion of mothers who had a four-year old child and responded that they sometimes lose confidence in child rearing was 23.0%.

2.5 Insecurity regarding effects of radiation (See Table 7)

Mothers who checked at least one box among those for matters of insecurity regarding the effects of radiation accounted for 87.5%. Among them, the proportion of those who checked the box for the child's health was 66.3% (Q5).

[For reference]

Year surveyed	Survey name	Those who checked at least one box	Those who checked "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%

2.6 Children's health conditions and mothers' insecurity regarding their child's health (See Tables 8-1, 8-2, 9)

A. The proportion of mothers whose children have caught diseases subject to hospitalization was 23.7%. Major diseases for hospitalization included pneumonia, respiratory syncytial virus infection and bronchitis (Q6).

[For reference]

Year surveyed	Survey name	Mother with a child had been admitted to hospital
FY2015	Follow-up for FY2011	24.7%
FY2016	Follow-up for FY2012	24.4%
FY2017	Follow-up for FY2013	23.7%

B. The proportion of mothers who checked at least one box for matters of insecurity regarding their child accounted for 61.2% (Q7).

[For reference]

Year surveyed	Survey name	Those who checked at least one box	Those who checked "physical and mental development"	Those who checked "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%

2.7 Content of free comments (See Tables 10-1, 10-2)

A total of 208 respondents (7.7%) wrote comments in the free comment section. The most frequently raised topics were "positive comments about this survey," "opinions or complaints about this survey," and "anxiety about radidation effects on the fetus orchild."

[For reference]

Year surveyed	Survey name	Respondents who wrote comments (Proportion)	No. 1 topic	No. 2 topic	No. 3 topic	No. 4 topic	No. 5 topic
FY2015	Follow-up for FY2011	383 (15.0%)	Anxiety about radiation effects on fetus/child 53(13.8%)	Positive comments about this survey 47(12.3%)	Opinions/ complaints about this survey 44(11.5%)	Request for information on radiation and survey results 37(9.7%)	Request regarding thyroid ultrasound examination 23(6.0%)
FY2016	Follow-up for FY2012	186 (9.2%)	Positive comments about this survey 33(17.7%)	Opinions/ complaints about this survey 24(12.9%)	Anxiety about radiation effects on fetus/child 23(12.4%)	Consultation regarding child rearing 17(9.1%)	Request for improved parenting support services 14(7.5%)
FY2017	Follow-up for FY2013	208 (7.7%)	Positive comments about this survey 36(17.3%)	Opinions/complaints on the survey 25(12.0%)	Anxiety about radiation effects on fetus/child 24(11.5%)	Complaint of their own poor mental health 16(7.7%)	Request for improved parenting support services 15(7.5%)

2.8 Conclusion

A. The response rate was 47.2%, which is higher than thosee in the previous follow-up surveys.
B. The proportion of mothers who had poor subjective health (those who responded "not so healthy" or "not healthy") was 7.9%, which was lower than those in the follow-up surveys for FY2011 and FY2012.
C. The proportion of mothers feeling depressed was 23.5%, which was lower than those in the follow-up surveys for FY2011 and for FY2012 and the FY 2013 survey conducted four years before.
D. The proportion of mothers who checked at least one box among those for matters of insecurity regarding the effects of radiation was 87.5%, which was lower than those in the previous follow-up surveys.

E. The proportion of mothers who checked the box for the "child's health" was 61.2%, which was lower than those in the previous follow-up surveys. Among the matters of insecurity, the proportion of "mental and physical development" was the highest (57.4%).
F. The proportion of mothers who wrote comments in the free comments section was 7.7%, which was slightly lower than those in the previous follow-up surveys.

To sum up, the proportions of respondents who had poor subjective health, depressive symptoms, and insecure feelings about radiation effects were lower in the Follow-up for FY2013 than those in the Follow-ups for FY2011 and for FY2012.

3. Outline of Post-Survey Support

3.1 Purpose

In order to address anxieties of the respondents who were deemed as requiring counselling and support in the Follow-up for FY2013 by providing telephone/online counselling and support by midwives and public health nurses.

3.2 Target population for support (See Table 11)

Among the respondents of the Follow-up for FY 2013 (who returned their response between 12 January 2018 to 31 August 2018), those who were deemed as requiring telephone counselling and support (herein after "support-requiring mothers").

3.3 Criteria for providing support (See Table 12)

Respondents who fall under either A or B below:

A. Those who responded "yes" to the two questions regarding depressive symptoms (Q2, Q3)
B. Those who wrote comments that suggest the need for support (in the free comments section or other parts of the questionnaire)
   e.g. Comments suggesting severe depression, the need for support in child rearing, anxieties about the radiation levels, poor health conditions, request for direct response or concrete information, or request for support

3.4 Methods

Counseing and support via telephone and email

4 Summary of Results of Post-Survey Support

Results of post-survey support are as shown in “5.4 Status of Post-survey Support” in "5. Tabulated Results of the Follow-up Survey for FY 2013" below.

4.1 Number of support-requring mothers (See Tables 11 and 12)

The number of those who were deemed as requiring telephone counselling and support was 393 out of 2,706 respondents who returned their response between12 January 2018 and 31 August 2018.

As for those who were deemed as requiring support based on the content of their comments, the coverage was expanded to include those who wrote about their insecure feelings in concrete terms in the sections other than the free comments section. As a result, the proportion of mothers who were deemed as requiring support due to their depressive symptoms was 10.2% while the proportion of mothers who were deemed as requiring support based on their comments was 4.3%, additing up to 14.5%.

[For reference]

Year surveyed	Survey name	No. of respondents	No. of respondents deemed as requiring support based on depressive symptoms (Support requiring rate)	Those deemed as requiring support based on comments (Support requiring rate)		Total (Support requiring rate)
				In free comments section	In other sections	
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%)

4.2 Topics mentioned during support provision (See Table 13)

The most common topics mentioned by respondents were “physical and mental health of mothers” (36.0%), followed by “child rearing” (27.7%), based on the same support criteria as those in the previous follow-up surveys. The proportion of respondents who mentioned “questions and worries about radiation effects” was 13.1%, which is about the same level as that in the previous year.

[For reference]

Year surveyed	Survey name	No. 1 topic	No. 2 topic	No. 3 topic	No. 4 topic	No. 5 topic	No. of support-requiring mothers	
FY 2015	Follow-up for FY2011 (Depressive symptoms and comments in the free comment section)	Mother’s mental and physical health 129(34.4%)	Questions or worries about radiation effects 96(25.6%)	Child rearing (daily life) 81(21.6%)	Child’s mental and physical health 68(18.1%)	Family life 52(13.9%)	375	
FY 2016	Follow-up for FY2012 (Depressive symptoms and comments in the free comment section)	Mother’s mental and physical health 115(44.9%)	Child rearing (daily life) 59(23.0%)	Child’s mental and physical health 58(22.7%)	Questions or worries about radiation effects 34(13.3%)	Family life 27(10.5%)	256	
FY 2017 *1	Follow-up for FY2013 (Depressive symptoms and comments in the free comment section)	Mother’s mental and physical health 118(36.0%)	Child rearing (daily life) 91(27.7%)	Family life 48(14.6%)	Questions or worries about radiation effects 43(13.1%)	Child’s mental and physical health 32(9.8%)	328	393
	*2 (Comments in other sections)	Child rearing (daily life) 30(46.2%)	Questions or worries about radiation effects 17(26.2%)	Child’s mental and physical health 6(9.2%)	Mother’s mental and physical health 4(6.2%)	Family life 2(3.1%)	65	

*1 Support criteria and methods of entry (questionnaire format, designated respondent, 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.

4.3 Reasons for terminating support (See Table 14)

The most common reasons for terminaing support were “listened carefully” (Support was terminated after listening carefully to what mothers said and helping to sort out their problems) in 245 cases (62.3%), followed by “information provided (Support was terminated after relevant information and administrative service contact information were provided) in 133 cases (33.8%). Support was terminated because target mothers were “absent” at the time of phone call in 119 cases (30.3%). (Note: Multiple answers allowed. The denominator of percentages is the total number of support-requiring mothers.

[For reference]

Year surveyed	Survey name	No. 1 reason	No. 2 reason	No. 3 reason	Absent
FY 2015	Follow-up for FY2011	Listened carefully *1 197 (52.5%)	Information provided *2 105 (28.0%)	Already consulted *3 29 (7.7%)	131 (34.9%)
FY 2016	Follow-up for FY2012	Listened carefully 159 (62.1%)	Information provided 53 (20.7%)	Already consulted 26 (10.2%)	70 (27.3%)
FY 2017	Follow-up for FY2013	Listened carefully 245 (62.3%)	Information provided 133(33.8%)	Already consulted 66 (16.8%)	119 (30.3%)

*1 Support was terminated after listening carefully to what mothers said and helping to sort out their problems.
*2 Support was terminated after relevant information and administrative service contact information were provided.
*3 Support was terminated after confirming that mothers had already consulted with medical or other institutions.

4.4 Conclusion

A. The proportion of support-requiring mothers was 10.2%, which is the same level as that in the previous follow-up survey.
B. The most frequently mentioned topics during support was “mother’s physical and mental health” according to the same criteria for support that were used in the previous follow-up surveys. “Questions and worries about radiation effects” ranked fourth.
C. The most common reason for termination of support was that problems were sorted out through careful listening to mothers. The proportion of those who were absent when telephone support was provided was 30.3%, which was higher than that in the FY2013 Survey conducted four years before.

5. Tabulated Results of the Follow-up Survey for FY2013

Survey population: 5,734 respondents of the FY2013 Pregnancy and Birth Survey, who gave a live birth and were confirmed to be alive along with their children as of May 2017.

Target population: 2,706 respondents to whom questionnaires were sent on 12 January 2018 and who returned theire responses between 12 January 2018 and 31 August 2018.

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

5.1 Number of questionnaires distributed and returned

[Table 1]

Area	Survey population		Number of responses (respondents)					
			Total (Response rate)		Breakdown by response method			
					By post		Online	
Kempoku	1,558	27.2%	770	(49.4%)	585	76.0%	185	24.0%
Kenchu	1,520	26.5%	716	(47.1%)	535	74.7%	181	25.3%
Kennan	464	8.1%	204	(44.0%)	162	79.4%	42	20.6%
Soso	412	7.2%	192	(46.6%)	154	80.2%	38	19.8%
Iwaki	1,041	18.2%	479	(46.0%)	355	74.1%	124	25.9%
Aizu	671	11.7%	315	(46.9%)	246	78.1%	69	21.9%
Minami-Aizu	68	1.2%	30	(44.1%)	25	83.3%	5	16.7%
Total	5,734	100.0%	2,706	(47.2%)	2,062	76.2%	644	23.8%

5.2 Tabulated results by question item

Responses from 2,706 respondents were tabulated (invalid response: 0). Individual question items may contain non-responses or invalid responses.

[Table 2] Do you think of yourself as healthy? (Q1)

The proportion of those with poor subjective health (those who answered “not so healthy” or “not healthy”) was 7.9%.

Area	Very healthy		Somewhat healthy		Not so healthy		Not healthy		Non-response/ invalid response		Total
Kempoku	134	17.4%	578	75.1%	51	6.6%	6	0.8%	1	0.1%	770
Kenchu	142	19.8%	513	71.6%	54	7.5%	5	0.7%	2	0.3%	716
Kennan	29	14.2%	152	74.5%	20	9.8%	3	1.5%	0	0.0%	204
Soso	40	20.8%	137	71.4%	11	5.7%	3	1.6%	1	0.5%	192
Iwaki	107	22.3%	335	69.9%	33	6.9%	4	0.8%	0	0.0%	479
Aizu	57	18.1%	239	75.9%	18	5.7%	1	0.3%	0	0.0%	315
Minami-Aizu	3	10.0%	23	76.7%	4	13.3%	0	0.0%	0	0.0%	30
Total	512	18.9%	1,977	73.1%	191	7.1%	22	0.8%	4	0.1%	2,706

[Table 3] Have you often been feeling down or depressed for the past month? (Q2)

Area	Yes		No		Non-response/ invalid response		Total
Kempoku	172	22.3%	588	76.4%	10	1.3%	770
Kenchu	153	21.4%	555	77.5%	8	1.1%	716
Kennan	37	18.1%	164	80.4%	3	1.5%	204
Soso	41	21.4%	149	77.6%	2	1.0%	192
Iwaki	96	20.0%	381	79.5%	2	0.4%	479
Aizu	66	21.0%	246	78.1%	3	1.0%	315
Minami-Aizu	8	26.7%	22	73.3%	0	0.0%	30
Total	573	21.2%	2,105	77.8%	28	1.0%	2,706

[Table 4] Have you lost interest in activities or found things unpleasurable for the past month? (Q3)

Area	Yes		No		Non-response/ invalid response		Total
Kempoku	97	12.6%	663	86.1%	10	1.3%	770
Kenchu	89	12.4%	619	86.5%	8	1.1%	716
Kennan	29	14.2%	172	84.3%	3	1.5%	204
Soso	29	15.1%	161	83.9%	2	1.0%	192
Iwaki	54	11.3%	423	88.3%	2	0.4%	479
Aizu	36	11.4%	276	87.6%	3	1.0%	315
Minami-Aizu	6	20.0%	24	80.0%	0	0.0%	30
Total	340	12.6%	2,338	86.4%	28	1.0%	2,706

[Table 5] Those with depressive symptoms (Those who answered “yes” to Q2 and/or Q3)

Area	Yes to both questions		Yes to either of the questions		No to both questions		Non-response/ invalid response		Total
Kempoku	81	10.5%	107	13.9%	572	74.3%	10	1.3%	770
Kenchu	72	10.1%	98	13.7%	538	75.1%	8	1.1%	716
Kennan	20	9.8%	26	12.7%	155	76.0%	3	1.5%	204
Soso	23	12.0%	24	12.5%	143	74.5%	2	1.0%	192
Iwaki	45	9.4%	60	12.5%	372	77.7%	2	0.4%	479
Aizu	30	9.5%	42	13.3%	240	76.2%	3	1.0%	315
Minami-Aizu	6	20.0%	2	6.7%	22	73.3%	0	0.0%	30
Total	277	10.2%	359	13.3%	2,042	75.5%	28	1.0%	2,706

*Proportion of those with depressive symptoms: 23.5% [636 (277 answered “yes” to both questions + 359 answered “yes” to one of the two questions / total of 2,706)]

[Table 6] Do you sometimes lose confidence in child rearing? (Q4)

Area	Yes		No		Not sure		Non-response/ invalid response		Total
Kempoku	139	18.1%	291	37.8%	334	43.4%	6	0.8%	770
Kenchu	127	17.7%	304	42.5%	282	39.4%	3	0.4%	716
Kennan	38	18.6%	86	42.2%	79	38.7%	1	0.5%	204
Soso	34	17.7%	84	43.8%	73	38.0%	1	0.5%	192
Iwaki	66	13.8%	237	49.5%	176	36.7%	0	0.0%	479
Aizu	39	12.4%	142	45.1%	130	41.3%	4	1.3%	315
Minami-Aizu	8	26.7%	10	33.3%	12	40.0%	0	0.0%	30
Total	451	16.7%	1,154	42.6%	1,086	40.1%	15	0.6%	2,706

[Table 7] Check boxes for all matters of insecurity regarding the effects of radiation. (Q5)

Area	Child's health		Prejudice		Food		Genetic influences		Water		Child's outdoor play		Other		Valid responses
Kempoku	446	67.2%	303	45.6%	223	33.6%	240	36.1%	182	27.4%	192	28.9%	7	1.1%	664
Kenchu	442	69.1%	301	47.0%	228	35.6%	240	37.5%	200	31.3%	206	32.2%	7	1.1%	640
Kennan	133	72.3%	85	46.2%	79	42.9%	61	33.2%	72	39.1%	56	30.4%	2	1.1%	184
Soso	89	53.9%	84	50.9%	58	35.2%	51	30.9%	54	32.7%	33	20.0%	2	1.2%	165
Iwaki	266	63.8%	168	40.3%	190	45.6%	126	30.2%	172	41.2%	117	28.1%	6	1.4%	417
Aizu	174	64.2%	119	43.9%	111	41.0%	79	29.2%	77	28.4%	67	24.7%	1	0.4%	271
Minami-Aizu	19	73.1%	11	42.3%	12	46.2%	9	34.6%	6	23.1%	11	42.3%	0	0.0%	26
Total	1,569	66.3%	1,071	45.2%	901	38.1%	806	34.1%	763	32.2%	682	28.8%	25	1.1%	2,367

The denominator of percentages is the number of valid responses (the number of those who checked at least one box). The sum of individual percentages may not add up to 100% due to multiple answers.

The following two questions are about children born between 1 August 2012 and 9 April 2014.

[Table 8-1] Has your child caught any disease subjected to hospitalization? (Q6)

Area	Yes		No		Non-response/ invalid response		Total
Kempoku	191	24.8%	570	74.0%	9	1.2%	770
Kenchu	178	24.9%	518	72.3%	20	2.8%	716
Kennan	55	27.0%	146	71.6%	3	1.5%	204
Soso	40	20.8%	146	76.0%	6	3.1%	192
Iwaki	92	19.2%	381	79.5%	6	1.3%	479
Aizu	72	22.9%	235	74.6%	8	2.5%	315
Minami-Aizu	13	43.3%	17	56.7%	0	0.0%	30
Total	641	23.7%	2,013	74.4%	52	1.9%	2,706

[Table 8-2] Breakdown of diseases cited by respondents who answered yes to Q6 (Multiple answers were allowed)

pneumonia	144	aural fistula	3	lymphoma	1	hydrocephalus	1
RS (respiratory syncytial) virus infection	100	EB virus infection	2	rotavirus gastroenteritis	1	meningitis	1
bronchitis	62	viral gastroenteritis	2	consciousness disorder	1	median cervical cyst	1
febrile convulsion	41	cold syndrome	2	gastroesophageal reflux disease	1	testicular tumor	1
Kawasaki disease	38	epilepsy	2	hydrocele testis	1	testicular torsion	1
asthma	28	human metapneumo-virus infection	2	pyriform sinus fistula	1	ankyloglossia	1
gastroenteritis	23	human metapneumo-virus pneumonia	2	purulent lymphadenitis	1	congenital mesoblastic nephroma	1
rotavirus infection	20	Hirschsprung's disease	2	suppurative tonsillitis	1	congenital deafness	1
RS virus pneumonia	16	migratory testis	2	pseudocroup	1	congenital chylothorax	1
bronchial asthma	12	jaundice	2	hyperpnea	1	premature birth	1
inguinal hernia	11	hand, foot and mouth disease	2	terminal ileitis	1	total anomalous pulmonary venous connection	1
adenovirus infection	11	upper respiratory inflammation	2	keratocystic odontogenic tumor	1	syndactyly/polydactyly (fingers)	1
bronchial pneumonia	11	congenital heart disease	2	hepatitis	1	syndactyly/polydactyly (toes)	1
roseola infantum	9	hypoglycemia	2	entropion	1	polydactyly (fingers)	1
RS virus bronchitis	8	cryptorchidism	2	status asthmaticus	1	polydactyly (toes)	1
norovirus infection	8	patent ductus arteriosus	2	balanoposthitis	1	colorectal polyp	1
mycoplasma pneumonia	8	Idiopathic thrombo-cytopenic purpura	2	acute gastric mucosal lesion	1	coarctation complex	1
pharyngitis	8	hypospadia	2	acute encephalopathy	1	hyponatremia	1
influenza	7	apnea syndrome	2	acute pancreatitis	1	hypothermia	1
croup syndrome	7	yolk sac tumor	2	pleuropulmonary blastoma	1	iron deficiency anemia	1
spasm	7	vesicoureteral reflux	2	bacteremia	1	scull fracture	1
otitis media	7	umbilical hernia	2	fulminant hepatitis	1	cephalocele	1
croup	5	asthmatic bronchitis	2	hemangioma	1	club foot	1
urinary tract infection	5	Type I diabetes	1	vascular purpura	1	intractable diarrhea	1
streptococcal infection	5	Haemophilus influenza type b	1	respiratory acidosis	1	spina bifida	1
Tonsillar hypertrophy	5	Hoffa's disease	1	aspiration pneumonia/ pneumonitis	1	infantile hemangioma	1
RS virus bronchiolitis	4	RS virus bronchial pneumonia	1	oral tumor	1	pulmonary hypertension	1
mycoplasma infection	4	allergy	1	cleft lip and palate	1	developmental disorder	1
artrial septal defect	4	allergic purpura	1	cleft lip	1	pertussis	1
dehydration	4	ileus	1	Imperforate anus	1	arrhythmia	1
bowel obstruction	4	Haemophilus influenzae pneumonia	1	cortriatriatum	1	cellulitis	1
cryptorchidism	4	viral enteritis	1	strabismus	1	paralytic bowel obstruction	1
complex febrile seizure	4	status epilepticus	1	juvenile polyp	1	buried penis	1
anaphylactic shock	4	CMV infection	1	juvenile myelo-monocytic leukemia	1	asthma attack	1
tonsillitis	4	Down syndrome	1	gastrointestinal food allergy	1	incarcerated hernia	1
adenoiditis	3	HPeV infection	1	symptomatic hypoglycemia	1	tonsillectomy	1
infectious gastroenteritis	3	hernia	1	incontinentia pigmenti	1	cystitis	1
intussusception	3	herpangina	1	food allergies	1	urinary bladder hemangioma	1
low birth weight	3	milk allergy	1	icterus precox	1	cervical lymphadenitis	1
laryngitis	3	mumps	1	neuroblastoma	1		
bronchiolitis	3	metachondromatosis	1	pyelonephritis	1		

[Table 9] Check boxes for all matters of concern regarding your child. (Q7)

Area	Physical and mental development		Lifestyle		Diseases		Other		Valid responses
Kempoku	296	59.7%	233	47.0%	175	35.3%	28	5.6%	496
Kenchu	266	57.6%	222	48.1%	194	42.0%	15	3.2%	462
Kennan	76	61.3%	56	45.2%	48	38.7%	5	4.0%	124
Soso	54	48.6%	55	49.5%	45	40.5%	2	1.8%	111
Iwaki	146	55.5%	102	38.8%	117	44.5%	13	4.9%	263
Aizu	96	54.5%	86	48.9%	82	46.6%	7	4.0%	176
Minami-Aizu	16	69.6%	14	60.9%	8	34.8%	0	0.0%	23
Total	950	57.4%	768	46.4%	669	40.4%	70	4.2%	1,655

*The denominator of percentages is the number of valid responses. Percentages do not total to 100.0% due to multiple answers.

5.3 Free comments

[Table 10-1] Proportion of those who wrote comments in the free comments section

Area	With comments		Without comments		Total
Kempoku	71	9.2%	699	90.8%	770
Kenchu	59	8.2%	657	91.8%	716
Kennan	12	5.9%	192	94.1%	204
Soso	12	6.3%	180	93.8%	192
Iwaki	36	7.5%	443	92.5%	479
Aizu	16	5.1%	299	94.9%	315
Minami-Aizu	2	6.7%	28	93.3%	30
Total	208	7.7%	2,498	92.3%	2,706

[Table 10-2] Content of free comments

Content	Number	Proportion
Positive comments about this survey	36	17.3%
Opinions or complaints about this survey	25	12.0%
Anxiety about radiation effects on fetus and child health	24	11.5%
Complaints of their own poor mental health	16	7.7%
Request for improved pareting support services	15	7.2%
Consultation regarding child rearing	15	7.2%
Anxiety and dissatisfaction about insufficient medical services	10	4.8%
Request regarding information dissemination and publication of research results	9	4.3%
Request for decontamination and provision of safe playgrounds	8	3.8%
Request regarding Thyroid Ultrasound Examination	7	3.4%
Complaints of their own poor physical health	5	2.4%
Request for improved medical services and physical care	5	2.4%
Anxiety about radiation effects on baby and general foods	4	1.9%
Anxiety and dissatisfaction about reliability or lack of information	4	1.9%
Request for financial support	4	1.9%
Comments regarding financial anxiety and burden	3	1.4%
Comments regarding external exposure	2	1.0%
Anxiety about radiation effects on water	1	0.5%
Anxiety about radiation exposure to children when outside	1	0.5%
Anxiety related with the outcome of the latest pregnancy	1	0.5%
Anxiety about the effects on the next pregnancy	1	0.5%
Request for Fukushima Health Management Survey	1	0.5%
Request to implement breast milk test	1	0.5%
Comments regarding other examinations and surveys	1	0.5%
Support for evacuation	1	0.5%
Mental health care	1	0.5%
Personal relationship	1	0.5%
Other	81	38.9%

5.4 Status of post-survey support

Number of support-requiring mothers in the Follow-up for FY2013: 393 (out of 2,706 respondents) (Support requiring rate: 14.5%)

Tabulation of data regarding post-survey support is based on 2,706 responses returned between 12 January 2018 and 31 August 2018.

[Table 11] Number and proportion of support-requiring mothers

Area	Number of responses (respondents)	Support-requiring mothers	
Kempoku	770	123	16.0%
Kenchu	716	104	14.5%
Kennan	204	28	13.7%
Soso	192	28	14.6%
Iwaki	479	66	13.8%
Aizu	315	36	11.4%
Minami-Aizu	30	8	26.7%
Total	2,706	393	14.5%

＊The denominator of percentages is the total number of respondents.

[Table 12] Support-requiring mothers by area

Area	Support based on depression symptoms		Support based on the content of free comments		Total
Kempoku	81	65.9%	42	34.1%	123
Kenchu	72	69.2%	32	30.8%	104
Kennan	20	71.4%	8	28.6%	28
Soso	23	82.1%	5	17.9%	28
Iwaki	45	68.2%	21	31.8%	66
Aizu	30	83.3%	6	16.7%	36
Minami-Aizu	6	75.0%	2	25.0%	8
Total	277	70.5%	116	29.5%	393

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

[Table 13] Main content of consultation by area

Area	Physical and mental health of mothers		Child rearing (daily life)		Anxiety about radiation effects		Family life		Physical and mental health of children		Matters regarding evacuation		Other		Number of support-requiring mothers
Kempoku	36	29.3%	38	30.9%	25	20.3%	20	16.3%	14	11.4%	0	0.0%	47	38.2%	123
Kenchu	30	28.8%	31	29.8%	16	15.4%	14	13.5%	11	10.6%	0	0.0%	47	45.2%	104
Kennan	13	46.4%	10	35.7%	4	14.3%	3	10.7%	2	7.1%	0	0.0%	12	42.9%	28
Soso	10	35.7%	9	32.1%	5	17.9%	4	14.3%	4	14.3%	2	7.1%	11	39.3%	28
Iwaki	19	28.8%	21	31.8%	8	12.1%	5	7.6%	4	6.1%	0	0.0%	30	45.5%	66
Aizu	10	27.8%	10	27.8%	2	5.6%	2	5.6%	3	8.3%	0	0.0%	16	44.4%	36
Minami-Aizu	4	50.0%	2	25.0%	0	0.0%	2	25.0%	0	0.0%	0	0.0%	3	37.5%	8
Total	122	31.0%	121	30.8%	60	15.3%	50	12.7%	38	9.7%	2	0.5%	166	42.2%	393

＊ The denominator of percentages is the number of support-requiring mothers. Percentages may not add up to 100% due to multiple answers.

[Table 14] Reasons for terminating support

	Listened carefully [1]		Information provided [2]		Already consulted [3]		Questions answered [4]		Medical care Recommended [5]		Referred them to municipalities [6]		Referred them to Mental Health Support Team [7]	
Kempoku	82	66.7%	46	37.4%	15	12.2%	16	13.0%	5	4.1%	2	1.6%	0	0.0%
Kenchu	61	58.7%	33	31.7%	20	19.2%	7	6.7%	3	2.9%	0	0.0%	0	0.0%
Kennan	16	57.1%	9	32.1%	1	3.6%	4	14.3%	0	0.0%	0	0.0%	0	0.0%
Soso	18	64.3%	11	39.3%	7	25.0%	2	7.1%	3	10.7%	0	0.0%	0	0.0%
Iwaki	41	62.1%	19	28.8%	12	18.2%	4	6.1%	3	4.5%	0	0.0%	1	1.5%
Aizu	21	58.3%	12	33.3%	8	22.2%	1	2.8%	0	0.0%	0	0.0%	0	0.0%
Minami-Aizu	6	75.0%	3	37.5%	3	37.5%	0	0.0%	1	12.5%	0	0.0%	0	0.0%
Total	245	62.3%	133	33.8%	66	16.8%	34	8.7%	15	3.8%	2	0.5%	1	0.3%

	Referred them to radiation consulation service [8]		Referred them to medical specialist [9]		Absent		Phone number not shown		Support declined		Other		Number of support requiring mothers
Kempoku	0	0.0%	0	0.0%	32	26.0%	6	4.9%	0	0.0%	1	0.8%	123
Kenchu	0	0.0%	0	0.0%	34	32.7%	7	6.7%	1	1.0%	0	0.0%	104
Kennan	0	0.0%	0	0.0%	10	35.7%	0	0.0%	0	0.0%	2	7.1%	28
Soso	0	0.0%	0	0.0%	8	28.6%	2	7.1%	0	0.0%	0	0.0%	28
Iwaki	0	0.0%	0	0.0%	20	30.3%	4	6.1%	0	0.0%	1	1.5%	66
Aizu	0	0.0%	0	0.0%	14	38.9%	1	2.8%	0	0.0%	0	0.0%	36
Minami-Aizu	0	0.0%	0	0.0%	1	12.5%	1	12.5%	0	0.0%	0	0.0%	8
Total	0	0.0%	0	0.0%	119	30.3%	21	5.3%	1	0.3%	4	1.0%	393

＊ The denominator of percentages is the number of support-equiring mothers. All the ficures are cumulative totals. Percentages do not total to 100.0% due to multiple answers.

[1] Support was terminated after listening carefully to what they said and helping to sort out their problems
[2] Support was terminated after relevant information and administrative service contact information were provided to them.
[3] Support was terminated after confirming that they had already consulted with medical or other institutions.
[4] Support was terminated after providing adequate information and answers to questions from them.
[5] Support was terminated after recommending that they seek medical care.
[6] Support was terminated after referring them to relevant sections of municipalities upon their consent.
[7] Support was terminated after referring them to the mental health support team at FMU upon their consent.
[8] Support was terminated after referring them to the radiation consultation service at FMU upon their consent.
[9] Support was terminated after referring them to medical specialists at FMU.

Progress Report of the Comprehensive Health Check (FY2011-FY2017)

1. Summary of Comprehensive Health Check

1.1 Purpose

The Fukushima Daiichi Nuclear Power Plant accident caused by the Great East Japan Earthquake of March 2011 led to a large-scale evacuation of residents in surrounding areas. Many of the Fukushima evacuees have since been concerned about their own health, due primarily to the sudden and notable changes in their lifestyle, diet and exercise habits, in addition to the loss of opportunity to undergo necessary health check-ups. To respond this situation, the Comprehensive Health Check (hereafter "the Health Check") is conducted to assess their current health status, to prevent lifestyle diseases, and allow early detection and early treatment of various illnesses.

1.2 Survey Population

- Those who had resident registration in designated areas* between 11 March 2011 and 1 April 2012 (These residents remain eligible for the Health Check after moving from relevant municipalities.)
- Those who have resident registration in the government-designated evacuation zones as of 1 April of the year in which the Health Check is conducted.
- Those who were deemed to require the Health Check based on the Basic Survey results

*Designated areas: municipalities that were designated as evacuation zones in 2011
Hirono Town, Naraha Town, Tomioka Town, Kawauchi Village, Okuma Town, Futaba Town, Namie Town, Katsurao Village, Iitate Village, Minamisoma City, Tamura City, Kawamata Town, and part of Date City (area containing specific evacuation-recommended spots)

1.3 Examination Items

Age group (years)	Examination Items
0-6 (Infant before entering school)	Height, weight, [Additional items on request] CBC (Number of red blood cells, hematocrit, hemoglobin, platelet count, number of white blood cells, differential white blood count.)
7-15 (From 1st to 9th grade)	Height, weight, blood pressure, CBC (Number of red blood cells, hematocrit, hemoglobin, platelet count, number of white blood cells, differential white blood count.) [Additional items on request] Blood biochemistry (AST, ALT, γ-GT, TG, HDL-C, LDL-C, HbA1c, plasma glucose, serum creatinine, uric acid)
16 and older	Height, weight, abdominal circumference or BMI, blood pressure CBC (Number of red blood cells, hematocrit, hemoglobin, platelet count, number of white blood cells, differential white blood count.) Urinary test (urine protein, urinary sugar, urine occult blood) Blood biochemistry (AST, ALT, γ-GT, TG, HDL-C, LDL-C, HbA1c, plasma glucose, serum creatinine, estimated glomerular filtration rate [eGFR], uric acid) ・The underlined values are not routinely measured during regular health exams.

2. The implementation status in FY 2011-2017

2.1 Methods

Age group	Area	Methods	Number of cooperating medical institutions in FY 2017	Aggregate Group
≥16 years old	Within the prefecture	Additional check-ups in specific health examinations held by target municipalities	–	Health Check conducted by municipalities within the prefecture
		Individual health examinations at designated medical institutions within the prefecture	476	Individual health examinations within the prefecture
		Group health examinations conducted by FMU	29 locations within the prefecture (conducted 49 times)	Group health examinations within the prefecture
	Outside the prefecture	Additional check-ups in specific health examinations held by target municipalities	-	(Other[2])
		Individual health examinations at designated medical institutions outside the prefecture	669 (including 270 medical institutions that could accommodate ≤ 15 yrs old)	Individual health examinations outside the prefecture
≤15 years old	Within the prefecture	Children's health examinations at designated medical institutions within the prefecture	94	Children's health examinations within the prefecture
	Outside the prefecture	Children's health examinations at designated medical institutions outside the prefecture	400 (including 270 medical institutions that could accommodate ≥ 16 yrs old)	Children's health examinations outside the prefecture

2.2 Situation of the participants

A. Number of examinees by implementation method and by institution

(a)Age 16 and older

The participation rate of examinees age 16 and older was 20.5% in FY 2017.
Compared to 20.9% in FY 2016, it has decreased by 0.4 points.

(Unit: person, percentage)

	FY 2011 Revised value as of 11 Sep 2012	FY 2012 Revised value as of 5 Jul 2013	FY 2013 Revised value as of 1 Sep 2014	FY 2014 Revised value as of 1 Sep 2015	FY 2015 Revised value as of 1 Sep 2016	FY 2016 Revised value as of 1 Dec 2017	FY 2017 Revised value as of 31 Mar 2018
Survey population	182,370	184,910	186,970	188,328	190,019	191,101	191,636
Health Check conducted by municipalities within the prefecture	8,798	23,907	25,604	25,913	26,195	26,636	26,411
Individual examinations conducted within the prefecture	—	6,692	5,806	4,927	4,443	3,941	3,782
Group examinations conducted within the prefecture	41,949	10,603	6,767	5,808	5,183	4,341	3,963
Individual examinations conducted outside the prefecture	3,815	3,055	3,205	3,418	3,332	2,118	2,102
Other [1,2]	2,045	3,206	2,017	1,846	2,113	3,011	3,154
Number of overlapping examinees within and outside the prefecture	208	454	359	38	55	57	45
Total (Excluding the number of overlapping examinees)	56,399	47,009	43,040	41,874	41,211	39,990	39,367
Proportion of participants (%)	30.9%	25.4%	23.0%	22.2%	21.7%	20.9%	20.5%

[1] Conducted within the prefecture (cases where the municipality delegated the examination to medical institutions or county/city medical associations)

[2] Conducted outside the prefecture (cases where the municipality delegated the examination to examination agencies)

(b)Age 15 and younger

The participation rate of examinees age 15 and younger was 22.8% in FY 2017.
Compared to 26.1% in FY 2016, it has decreased by 3.3 points.

(Unit: person, percentage)

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
	Revised value as of 11 Sep 2012	Revised value as of 5 Jul 2013	Revised value as of 1 Sep 2014	Revised value as of 1 Sep 2015	Revised value as of 1 Sep 2016	Revised value as of 1 Dec 2017	Revised value as of 31 Mar 2018
Survey population	27,819	27,077	26,474	25,883	25,296	24,600	23,660
Children's health examination within the prefecture	15,002	9,534	8,432	7,432	6,206	5,193	4,474
Children's health examination outside the prefecture	2,949	2,283	1,822	1,792	1,403	1,226	929
Number of overlapping examinees within and outside the prefecture	17	37	6	8	6	6	0
Total (excluding the number of overlapping examinees)	17,934	11,780	10,248	9,216	7,603	6,413	5,403
Proportion of participants (%)	64.5%	43.5%	38.7%	35.6%	30.1%	26.1%	22.8%

【Reference】 Number of examinees by postal address to which the notification was sent in FY 2017

≥ 16 years old	Within the prefecture	Outside the prefecture	Total
Survey population (persons)	161,841	29,795	191,636
Number of examinees (persons)	35,634	3,733	39,367
Participation rate	22.0%	12.5%	20.5%

≤ 15 years old	Within the prefecture	Outside the prefecture	Total
Survey population (persons)	18,854	4,806	23,660
Number of examinees (persons)	4,398	1,005	5,403
Participation rate	23.3%	20.9%	22.8%

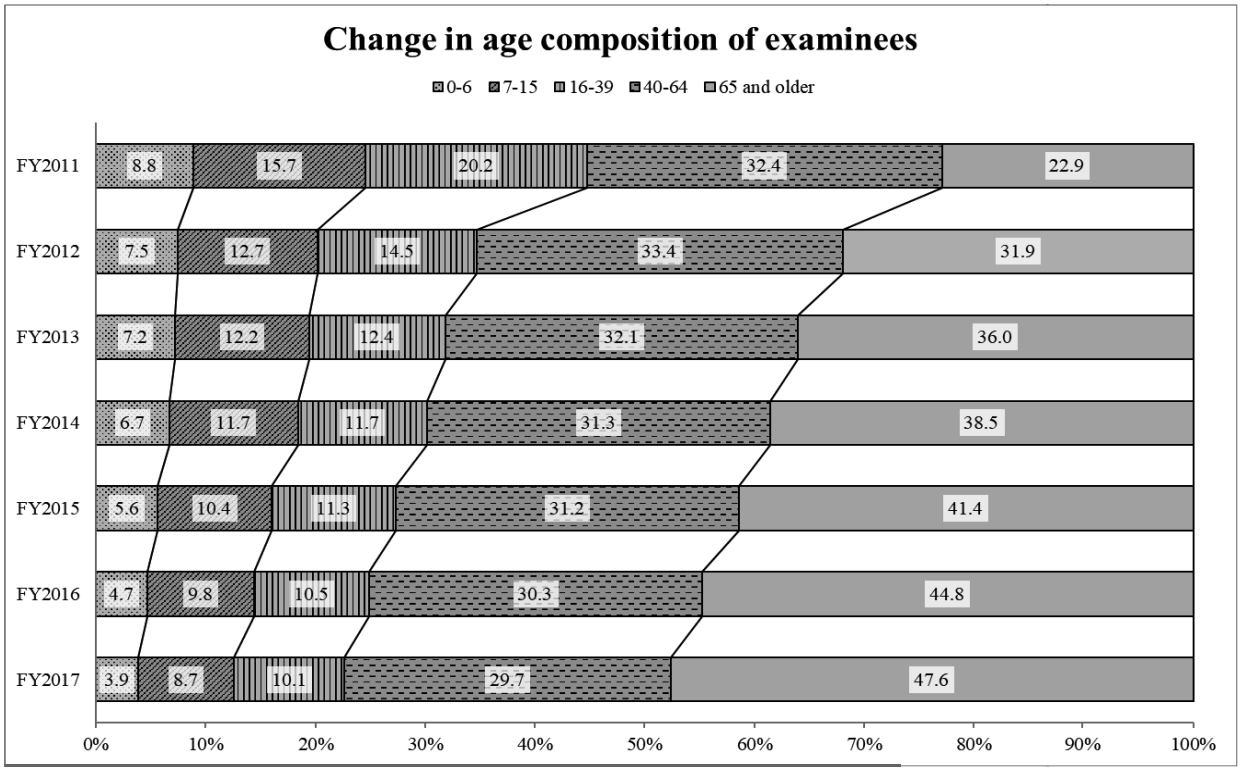
*Examinees were classified according to postal addresses (within or outside the prefecture) to which the Health Check notifications were sent. The above figures differ from the number of examinees classified by implementation method and by institution.

B. Transition of the number of examinees by age group

The number of examinees aged between 0-6, 7-15, 16-39 and 40-64 has decreased year by year, while examinees aged 65 and older has been increasing.

(person)

	Age group 0-6	Age group 7-15	Age group 16-39	Age group 40-64	Age group 65 and older
FY2011	6,462	11,481	14,762	23,651	16,726
FY2012	4,365	7,437	8,480	19,553	18,642
FY2013	3,802	6,429	6,536	16,922	18,969
FY2014	3,328	5,840	5,843	15,594	19,166
FY2015	2,655	4,903	5,354	14,748	19,559
FY2016	2,057	4,315	4,632	13,386	19,768
FY2017	1,647	3,712	4,309	12,677	20,299



（Figures in the graph may not total to 100% due to rounding.）

【Reference】Participation rate in 2017 by age group

	0-6	7-15	16-39	40-64	65-
Survey population (persons)	7,419	16,241	57,066	68,587	65,983
Number of examinees (persons)	1,647	3,712	4,309	12,677	20,299
Participation rate	22.2%	22.9%	7.6%	18.5%	30.8%

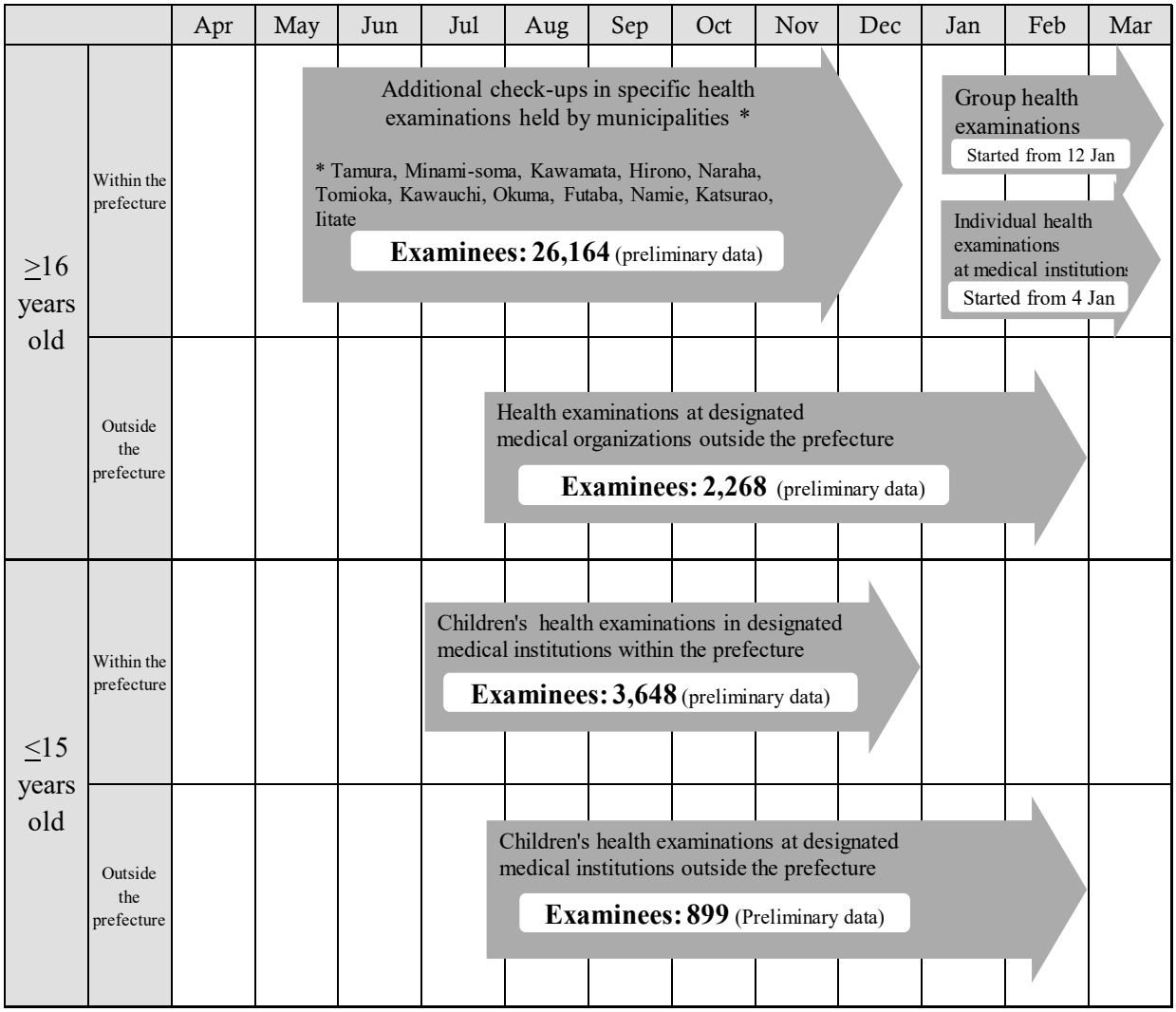
Quoted from: FY2011-2014: document 3-2 of the 21st prefectural oversight committee meeting for FHMS
FY2015: document 3-2 of the 26th prefectural oversight committee meeting for FHMS
FY2016: document 2-3 of the 30th prefectural oversight committee meeting for FHMS

Number of examinees: Examinees who received at least one examination item.

3. Progress Report of FY 2018

Survey Population: 214,718 (≤15: 22,744 , ≥ 16: 191,974)

As of 31 December 2018



3.1 Survey Population residing within the prefecture

A. Age 16 and older

Same as the previous year, with additional health check items added to the specific health examinations of 12 municipalities excluding Date city.

Also, we have been conducting group health examinations and individual health examinations at medical institutions for those who could not receive the above-mentioned examinations since January 2019 (471 medical institutions cooperated in individual health exams).

B. Age 15 and younger

Same as the previous year, the health examinations were conducted over about 6-months from Jul to Dec 2018 (94 medical institutions cooperated).

3.2 Survey Population residing outside the prefecture

We have been striving to make the health examinations available in each prefecture, and sending out notification since late June.

3.3 Utilization of the Health Check results

A. Feedback to target municipalities

Overall results of the Health Check, including health trends over 7 years since around the time of the earthquake, are compiled in a report to provide feedback to each target municipality.

Health Check results, interpretation, and analysis are explained to residents of target municipalities through lectures by doctors and others at health seminars

B. Health Seminars

Health Seminars have been held as part of events organized by municipalities. In these health seminars, medical doctors provide health talks using the Health Check results, and health specialists provide consultation and blood pressure/blood sugar measurement services, etc.

Month	No. of venues	Contents (Cooperating Organization)
May	5	• Health talk by doctors • Private consultation by health specialists • Blood pressure measurement • Blood sugar measurement (Fukushima Association of Medical Technologists) • Mental health support
July	4	
September	8	
October	4	
November	3	
December	1	
January	1	

C. Activities to raise awareness of residents

Leaflets summarizing what was learned from the results of the Health Check have been created and sent as an enclosure with the notification of the Health Check to relevant residents.

FY2018 version of the leaflet was featured on diabetes, explaining about the current situation and characteristics of the disease and providing practical advice for everyday life.

3.4 Efforts to increase participation in the Health Check

A. Countermeasure against Lifestyle Diseases

“Fukushima Kenmin App” is utilized to give people insight to improve their lifestyle by making them more health conscious, helping them develop exercise habits, etc.

B. Securing Group Health Examination Venues

Since the start of the Health Check program, group examination venues have been set up in the area where survey population is concentrated. To secure venues in convenient locations for residents, we also strive to set up new venues in the area where evacuation order has been lifted and, if there is only a small proportion of survey population in the area, change locations of venues within that area.

C. Reminders for the Health Check

We actively disseminate information on the Health Check by having a reminder printed in municipal newsletters and through opportunities described in (3)c above.

Fukushima Health Management Survey from FY2011 to FY2017
Results of Height and Weight Measurement in Children's Health Examination (CHE)

Fukushima Health Management Survey Children's Health Examination from FY2011 to FY2017
Comparison of height and weight (age 0 to less than 6)

Fukushima Health Management Survey Children's Health Examination from FY2011 to FY2017
Comparison with MEXT's school health statistics research (age 6 to 15)
※Age groups are formed based on the age as of health examination

【Results】

◆Height

Comparing the height of pre-school age boys in FY 2017 versus FY 2011, groups aged 10 months to less than 1 year 8 months, 1 year 10 months to less than 2 years, 3 years 6 months to less than 4 years, and 4 years 6 months to less than 5 years 6 months were shorter in FY2017. The group aged 2 years 6 months to less than 3 years showed no change and groups aged 1 year 8 months to less than 1 year 10 months, 2 years to less than 2 years 6 months, 3 years to 3 years 6 months, 4 years to less than 4 years 6 months, and 5 years 6 months to less than 6 years were taller in FY2017.

Comparing the height of pre-school age girls in FY 2017 versus FY2011, groups aged 10 months to less than 1 year 6 months and 4 years to less than 4 years 6 months were shorter, whereas groups aged 1 year 6 months to less than 4 years, and 4 years 6 months to less than 6 years were taller in FY2017.

Comparing the height of elementary and junior high school boys in FY 2017 versus FY 2011, groups aged 6 years and 9 to 14 years were taller; the group aged 8 years showed no change; the group aged 7 years was slightly shorter in FY2017. All age groups other than 8 years were taller in FY2017 than the national average. Fukushima high school boys (15 years) were shorter than the national average in FY2017 and shorter than in FY 2011.

Comparing the height of elementary and junior high school girls in FY 2017 versus FY 2011, groups aged 6 years, 10 years, and 13 to 14 years were taller, whereas groups aged 7 to 9 years and 11 to 12 years were shorter in FY2017. Compared to the national average, groups aged 6 years, 8 years, 10 years, and 12 to 14 years were taller, while groups aged 7 years, 9 years, and 11 years were shorter in FY2017. Fukushima high school girls (15 years) were slightly shorter than the national average in FY2017, but showed no change from FY 2011.

◆Weight

Comparing the weight of pre-school age boys in FY 2017 versus FY 2011, those aged 10 months to less than 5 years 6 months weighed less while those aged 5 years 6 months to less than 6 years weighed slightly more in FY2017.

Comparing the weight of pre-school age girls in FY 2017 versus FY 2011, those aged 10 months to less than 4 years 6 months weighed less, while those aged 4 years 6 months to less than 6 years weighed more in FY2017.

Comparing the weight of elementary and junior high school boys in FY 2017 versus FY 2011, boys of all ages other than 9 and 11 years weighed less, but at all ages weighed more than the national average in FY2017. Fukushima high school boys (15 years) weighed more than the national average in FY 2017 and more than in FY 2011.

Comparing the weight of elementary and junior high school girls in FY 2017 versus FY 2011, girls of all ages weighed less in FY2017. Compared to the national average, girls of all ages weighed more in FY2017. Fukushima high school girls (15 years) weighed more than the national average in FY2017, but weighed less than in FY 2011.

【Summary】

Comparing the results of FY 2017 versus FY 2011, the height of small children, both boys and girls, in the survey area, including the nationally designated evacuation zones, showed no apparent trend, but the weight tended to be less. As for the school-age children, most of them tended to weigh more and were taller than the national average.

Children's Health Examination in FY 2011 - 2017 Height and Weight (Aged 0 - < 6) --Boys--

Boys' height	FY 2011		FY 2012		FY 2013		FY 2014		FY 2015		FY 2016		FY 2017		Difference
Age	n	Mean(cm)(a)	n	Mean(cm)(b)	n	Mean(cm)(c)	n	Mean(cm)(d)	n	Mean(cm)(e)	n	Mean(cm)(f)	n	Mean(cm)(g)	(g)-(a)
10 mo - < 1 y	44	73.6	46	73.3	42	72.7	41	72.9	36	72.2	23	72.3	34	72.5	△ 1.1
1 y -	77	74.8	52	74.1	47	74.4	44	75.2	40	74.7	25	75.0	31	74.3	△ 0.5
1 y 2 mo -	68	76.5	64	77.2	35	77.0	35	77.3	24	77.1	27	76.1	24	75.0	△ 1.5
1 y 4 mo -	93	78.7	54	79.1	43	78.1	32	79.2	33	78.9	31	77.5	17	77.7	△ 1.0
1 y 6 mo -	80	81.2	59	80.2	30	79.8	45	80.0	39	79.8	38	80.5	12	78.5	△ 2.7
1 y 8 mo -	73	82.1	56	82.5	32	82.6	32	81.1	26	82.9	26	82.1	25	82.8	0.7
1 y 10 mo - < 2 y	83	83.8	52	83.7	44	83.4	21	84.3	22	84.2	27	83.1	19	82.4	△ 1.4
2 y -	281	86.6	181	87.4	177	87.1	111	86.1	87	86.3	80	86.7	65	87.2	0.6
2 y 6 mo -	269	90.7	196	91.4	170	91.4	105	90.9	92	90.8	73	90.7	71	90.7	0.0
3 y -	281	94.8	193	94.9	179	95.3	148	94.8	76	94.5	67	95.2	62	95.1	0.3
3 y 6 mo -	257	98.6	170	99.0	176	98.2	150	98.4	89	98.3	70	97.3	62	98.3	△ 0.3
4 y -	258	101.7	203	102.3	172	101.8	162	102.5	123	101.9	72	101.7	62	102.7	1.0
4 y 6 mo -	280	105.7	193	105.7	177	105.6	176	105.2	122	105.6	81	105.2	64	104.6	△ 1.1
5 y -	286	108.5	182	108.9	175	108.9	187	108.4	135	108.8	119	108.8	56	107.8	△ 0.7
5 y 6 mo - < 6 y	293	111.4	199	111.9	180	111.9	155	112.0	147	112.1	96	112.5	75	112.6	1.2
Total	2,723		1,900		1,679		1,444		1,091		855		679		

Boys' weight	FY 2011		FY 2012		FY 2013		FY 2014		FY 2015		FY 2016		FY 2017		Difference
Age	n	Mean(kg)(a)	n	Mean(kg)(b)	n	Mean(kg)(c)	n	Mean(kg)(d)	n	Mean(kg)(e)	n	Mean(kg)(f)	n	Mean(kg)(g)	(g)-(a)
10 mo - < 1 y	44	9.8	46	9.4	42	9.3	41	9.2	36	9.2	23	9.1	34	9.1	△ 0.7
1 y -	77	9.9	52	9.5	47	9.4	44	9.7	40	9.5	25	9.7	31	9.3	△ 0.6
1 y 2 mo -	68	10.4	64	10.2	35	10.1	35	10.2	24	10.0	27	9.9	24	9.9	△ 0.5
1 y 4 mo -	93	10.9	54	10.5	44	10.3	32	10.6	33	10.6	31	10.1	17	10.2	△ 0.7
1 y 6 mo -	80	11.2	59	11.2	30	11.0	45	10.9	39	10.6	38	10.9	12	10.0	△ 1.2
1 y 8 mo -	73	11.6	56	11.4	32	11.4	32	11.0	26	11.5	26	11.0	25	11.5	△ 0.1
1 y 10 mo - < 2 y	83	12.0	52	11.6	44	11.6	21	11.9	22	12.0	27	11.3	19	11.0	△ 1.0
2 y -	281	12.7	181	12.8	177	12.5	111	12.1	87	12.2	80	12.4	65	12.4	△ 0.3
2 y 6 mo -	269	13.8	196	13.5	170	13.6	105	13.3	92	13.4	73	13.4	71	13.2	△ 0.6
3 y -	281	14.8	193	14.6	179	14.6	148	14.5	76	14.3	67	14.7	62	14.4	△ 0.4
3 y 6 mo -	257	15.9	170	15.7	176	15.7	150	15.5	89	15.2	70	15.0	62	15.3	△ 0.6
4 y -	258	16.8	203	16.6	172	16.5	162	16.6	123	16.6	72	16.3	62	16.6	△ 0.2
4 y 6 mo -	280	17.9	193	17.8	177	17.7	176	17.5	122	17.8	81	17.5	64	17.2	△ 0.7
5 y -	286	18.7	182	18.5	175	19.0	187	18.7	135	18.7	119	18.6	56	18.1	△ 0.6
5 y 6 mo - < 6 y	293	20.0	199	19.9	180	20.2	155	19.7	147	20.0	96	20.1	75	20.1	0.1
Total	2,723		1,900		1,680		1,444		1,091		855		679		

Children's Health Examination in FY 2011 - 2017 Height and Weight (Aged 0 - < 6) --Girls--

Girls' height	FY 2011		FY 2012		FY 2013		FY 2014		FY 2015		FY 2016		FY 2017		Difference
Age	n	Mean(cm)(a)	n	Mean(cm)(b)	n	Mean(cm)(c)	n	Mean(cm)(d)	n	Mean(cm)(e)	n	Mean(cm)(f)	n	Mean(cm)(g)	(g)-(a)
10 mo - < 1 y	36	71.5	49	72.0	45	72.6	39	71.3	22	70.4	27	71.1	24	70.3	△ 1.2
1 y -	79	73.7	60	73.4	45	74.0	33	73.3	33	73.2	37	73.3	26	73.6	△ 0.1
1 y 2 mo -	85	75.1	41	75.2	43	75.9	34	74.5	34	74.3	17	75.6	21	74.6	△ 0.5
1 y 4 mo -	80	77.4	54	77.8	28	78.7	26	77.9	39	76.9	18	77.5	23	76.9	△ 0.5
1 y 6 mo -	78	78.9	53	78.9	23	79.6	34	79.0	26	78.3	18	77.9	28	79.3	0.4
1 y 8 mo -	86	81.2	49	81.1	47	80.9	35	81.2	30	80.8	16	80.9	12	81.9	0.7
1 y 10 mo - < 2 y	98	82.0	52	81.8	51	82.9	38	82.5	33	82.0	21	81.5	22	82.4	0.4
2 y -	263	85.4	178	85.6	148	85.8	107	85.3	86	85.0	90	85.5	64	85.7	0.3
2 y 6 mo -	288	89.9	199	89.7	166	90.3	125	89.9	94	90.6	61	89.8	69	90.3	0.4
3 y -	255	93.5	208	94.0	164	94.0	134	93.5	83	93.8	77	92.8	78	93.7	0.2
3 y 6 mo -	246	97.3	181	97.4	155	97.4	143	97.7	114	98.1	73	98.2	55	97.7	0.4
4 y -	275	100.6	175	100.8	197	101.3	163	101.1	111	100.8	60	101.4	64	100.3	△ 0.3
4 y 6 mo -	253	104.2	192	103.9	175	104.5	161	104.3	119	104.9	94	105.1	59	105.3	1.1
5 y -	286	107.6	197	107.5	168	107.8	174	108.2	152	107.7	103	107.6	66	108.7	1.1
5 y 6 mo - < 6 y	296	110.3	191	111.1	153	111.0	150	111.4	152	110.5	119	111.5	92	111.8	1.5
Total	2,704		1,879		1,608		1,396		1,128		831		703		

Girls' weight	FY 2011		FY 2012		FY 2013		FY 2014		FY 2015		FY 2016		FY 2017		Difference
Age	n	Mean(kg)(a)	n	Mean(kg)(b)	n	Mean(kg)(c)	n	Mean(kg)(d)	n	Mean(kg)(e)	n	Mean(kg)(f)	n	Mean(kg)(g)	(g)-(a)
10 mo - < 1 y	36	8.9	49	8.7	45	8.9	39	8.6	22	8.4	27	8.5	24	8.5	△ 0.4
1 y -	79	9.4	60	9.1	45	9.0	33	9.0	33	9.0	37	9.2	26	9.1	△ 0.3
1 y 2 mo -	85	9.7	41	9.4	43	9.5	34	9.0	34	9.1	17	9.5	21	9.2	△ 0.5
1 y 4 mo -	80	10.3	54	10.1	28	10.7	26	10.0	39	10.0	18	9.7	23	9.9	△ 0.4
1 y 6 mo -	79	10.5	53	10.4	23	10.8	34	10.0	26	10.0	18	10.0	28	10.2	△ 0.3
1 y 8 mo -	86	11.0	49	10.5	47	10.7	35	11.1	30	10.8	16	10.6	12	10.7	△ 0.3
1 y 10 mo - < 2 y	98	11.2	52	10.8	51	11.0	38	11.2	33	10.8	21	10.9	22	11.0	△ 0.2
2 y -	263	12.1	178	11.9	148	11.9	107	11.8	86	11.6	90	11.8	64	11.7	△ 0.4
2 y 6 mo -	288	13.2	199	12.9	166	13.0	125	13.0	94	13.3	61	12.9	69	13.1	△ 0.1
3 y -	255	14.1	208	14.1	164	13.8	134	13.8	83	14.3	77	13.6	78	13.8	△ 0.3
3 y 6 mo -	246	15.2	181	15.0	155	15.0	143	15.0	114	15.3	73	15.3	55	15.1	△ 0.1
4 y -	275	16.4	175	16.0	197	16.2	163	16.0	111	16.0	60	16.3	64	15.9	△ 0.5
4 y 6 mo -	253	17.2	193	17.0	175	17.1	161	17.1	119	17.2	94	17.4	59	17.8	0.6
5 y -	286	18.4	197	18.2	168	18.5	174	18.4	152	18.0	103	18.4	66	19.0	0.6
5 y 6 mo - < 6 y	296	19.3	191	19.6	153	19.6	150	19.6	152	19.1	119	19.7	92	19.9	0.6
Total	2,705		1,880		1,608		1,396		1,128		831		703		

Children's Health Examination in FY 2011 - 2017

Comparison with the statistical study of school health conducted by the Ministry of Education, Culture, Science and Technology in Japan (6-15 years) --Boys--

Boys [Height] (cm)

		Statistical study of school health conducted by the Ministry of Education						Fukushima Health Management Survey, Children's Health Examination							Difference	
	Age (years)	Nationwide Survey FY 2010	Nationwide Survey FY 2017	Difference	Fukushima Prefecture FY 2010	Fukushima Prefecture FY 2017	Difference	Comprehensive Health Check for Children FY 2011	Comprehensive Health Check for Children FY 2012	Comprehensive Health Check for Children FY 2013	Comprehensive Health Check for Children FY 2014	Comprehensive Health Check for Children FY 2015	Comprehensive Health Check for Children FY 2016	Comprehensive Health Check for Children FY 2017	(FY 2017)-(FY 2011)	(FY 2017)-(FY 2017 nationwide)
		Mean (a)	Mean (b)	(b)-(a)	Mean (c)	Mean (d)	(d)-(c)	Mean (e)	Mean (f)	Mean (g)	Mean (h)	Mean (i)	Mean (j)	Mean (k)	(k) - (e)	(k) - (b)
Primary school	6	116.7	116.5	△ 0.2	116.6	116.4	△ 0.2	116.6	116.6	117.3	116.8	116.5	116.5	117.1	0.5	0.6
	7	122.5	122.5	0.0	122.3	122.8	0.5	122.8	123.0	122.8	123.4	122.7	122.8	122.7	△ 0.1	0.2
	8	128.2	128.2	0.0	128.3	128.4	0.1	128.1	128.5	128.3	128.9	128.9	128.6	128.1	0.0	△ 0.1
	9	133.5	133.5	0.0	133.7	133.4	△ 0.3	133.4	133.9	134.2	133.7	134.2	133.9	134.3	0.9	0.8
	10	138.8	139.0	0.2	138.8	138.9	0.1	139.3	139.4	139.1	139.8	139.5	140.4	139.7	0.4	0.7
	11	145.0	145.0	0.0	145.6	145.4	△ 0.2	145.5	145.8	146.0	146.0	146.1	145.5	146.7	1.2	1.7
Middle school	12	152.4	152.8	0.4	153.3	152.9	△ 0.4	153.2	153.3	153.6	153.9	153.5	153.8	153.3	0.1	0.5
	13	159.7	160.0	0.3	160.1	160.5	0.4	160.1	160.6	160.0	161.0	161.3	160.5	160.7	0.6	0.7
	14	165.1	165.3	0.2	165.2	165.7	0.5	165.3	165.7	165.6	165.7	165.8	166.2	165.7	0.4	0.4
High school	15	168.2	168.2	0.0	168.6	168.3	△ 0.3	168.4	168.2	167.6	168.2	167.3	168.0	168.1	△ 0.3	△ 0.1

Boys [Weight] (kg)

		Statistical study of school health conducted by the Ministry of Education						Fukushima Health Management Survey, Children's Health Examination							Difference	
	Age (years)	Nationwide Survey FY 2010	Nationwide Survey FY 2017	Difference	Fukushima Prefecture FY 2010	Fukushima Prefecture FY 2017	Difference	Comprehensive Health Check for Children FY 2011	Comprehensive Health Check for Children FY 2012	Comprehensive Health Check for Children FY 2013	Comprehensive Health Check for Children FY 2014	Comprehensive Health Check for Children FY 2015	Comprehensive Health Check for Children FY 2016	Comprehensive Health Check for Children FY 2017	(FY 2017)-(FY 2011)	(FY 2017)-(FY 2017 nationwide)
		Mean (a)	Mean (b)	(b)-(a)	Mean (c)	Mean (d)	(d)-(c)	Mean (e)	Mean (f)	Mean (g)	Mean (h)	Mean (i)	Mean (j)	Mean (k)	(k) - (e)	(k) - (b)
Primary school	6	21.4	21.4	0.0	21.7	21.6	△ 0.1	22.1	21.5	22.1	22.0	21.9	21.7	22.0	△ 0.1	0.6
	7	24.0	24.1	0.1	24.3	24.6	0.3	24.8	24.8	24.8	25.2	25.2	25.1	24.7	△ 0.1	0.6
	8	27.2	27.2	0.0	27.5	28.7	1.2	28.4	28.0	28.1	28.1	28.4	28.6	28.3	△ 0.1	1.1
	9	30.5	30.5	0.0	31.6	31.6	0.0	32.6	32.2	32.0	31.1	32.2	31.5	32.7	0.1	2.2
	10	34.1	34.2	0.1	34.3	35.5	1.2	36.0	35.9	35.9	35.8	35.3	36.3	35.9	△ 0.1	1.7
	11	38.4	38.2	△ 0.2	39.7	39.7	0.0	40.5	40.7	40.6	41.0	40.4	39.2	40.5	0.0	2.3
Middle school	12	44.1	44.0	△ 0.1	45.7	44.9	△ 0.8	46.9	45.4	45.8	45.9	44.9	45.0	44.8	△ 2.1	0.8
	13	49.2	49.0	△ 0.2	50.6	50.6	0.0	51.2	51.5	50.5	50.2	51.0	49.8	50.7	△ 0.5	1.7
	14	54.4	53.9	△ 0.5	55.1	55.3	0.2	56.1	56.1	56.2	55.3	54.8	56.0	55.1	△ 1.0	1.2
High school	15	59.5	58.9	△ 0.6	61.7	59.6	△ 2.1	60.0	58.7	59.3	59.5	58.9	58.5	60.3	0.3	1.4

Excerpt from FY2010 and FY2017 Statistical studies of school health conducted by the Ministry of Education

Children's Health Examination in FY 2011 - 2017

Comparison with the statistical study of school health conducted by the Ministry of Education, Culture, Science and Technology in Japan (6-15 years) --Girls--

Girls [Height] (cm)

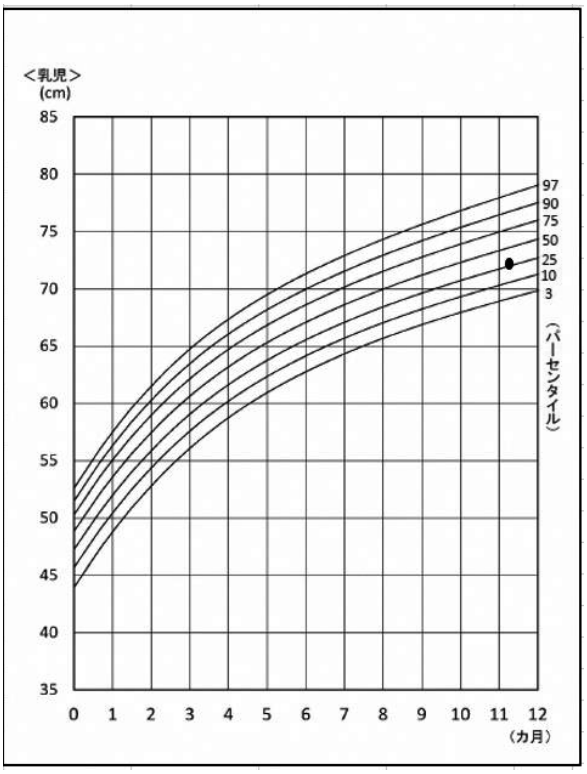
	Age (years)	Statistical study of school health conducted by the Ministry of Education						Fukushima Health Management Survey, Children's Health Examination							Difference	
		Nationwide Survey FY 2010	Nationwide Survey FY 2017	Difference	Fukushima Prefecture FY 2010	Fukushima Prefecture FY 2017	Difference	Comprehensive Health Check for Children FY 2011	Comprehensive Health Check for Children FY 2012	Comprehensive Health Check for Children FY 2013	Comprehensive Health Check for Children FY 2014	Comprehensive Health Check for Children FY 2015	Comprehensive Health Check for Children FY 2016	Comprehensive Health Check for Children FY 2017	(FY 2017)-(FY 2011)	(FY 2017)-(FY 2017 nationwide)
		Mean (a)	Mean (b)	(b)-(a)	Mean (c)	Mean (d)	(d)-(c)	Mean (e)	Mean (f)	Mean (g)	Mean (h)	Mean (i)	Mean (j)	Mean (k)	(k) - (e)	(k) - (b)
Primary school	6	115.8	115.7	△ 0.1	115.7	116.0	0.3	115.6	115.6	115.8	115.2	115.9	115.2	115.8	0.2	0.1
	7	121.7	121.5	△ 0.2	122.0	121.4	△ 0.6	121.5	121.6	121.8	122.0	120.9	121.6	121.1	△ 0.4	△ 0.4
	8	127.4	127.3	△ 0.1	128.1	127.5	△ 0.6	127.5	127.9	127.2	127.6	127.9	127.5	127.4	△ 0.1	0.1
	9	133.5	133.4	△ 0.1	133.5	133.7	0.2	133.6	133.9	133.8	133.7	133.6	134.2	133.4	△ 0.2	△ 0.0
	10	140.2	140.1	△ 0.1	139.7	140.3	0.6	140.4	140.0	140.8	140.8	140.5	139.9	140.9	0.5	0.8
	11	146.8	146.7	△ 0.1	146.9	147.0	0.1	146.9	147.4	147.3	147.6	147.6	147.3	146.2	△ 0.7	△ 0.5
Middle school	12	151.9	151.8	△ 0.1	151.6	151.5	△ 0.1	152.2	152.1	151.7	152.0	152.1	152.0	151.9	△ 0.3	0.1
	13	155.0	154.9	△ 0.1	155.1	154.7	△ 0.4	154.6	154.9	155.2	154.1	154.7	155.2	155.3	0.7	0.4
	14	156.5	156.5	0.0	156.2	156.3	0.1	156.4	156.4	156.1	156.4	155.8	156.7	156.8	0.4	0.3
High school	15	157.1	157.1	0.0	156.7	156.5	△ 0.2	157.0	157.3	157.1	157.1	157.2	155.9	157.0	0.0	△ 0.1

Girls [Weight] (kg)

	Age (years)	Statistical study of school health conducted by the Ministry of Education						Fukushima Health Management Survey, Children's Health Examination							Difference	
		Nationwide Survey FY 2010	Nationwide Survey FY 2017	Difference	Fukushima Prefecture FY 2010	Fukushima Prefecture FY 2017	Difference	Comprehensive Health Check for Children FY 2011	Comprehensive Health Check for Children FY 2012	Comprehensive Health Check for Children FY 2013	Comprehensive Health Check for Children FY 2014	Comprehensive Health Check for Children FY 2015	Comprehensive Health Check for Children FY 2016	Comprehensive Health Check for Children FY 2017	(FY 2017)-(FY 2011)	(FY 2017)-(FY 2017 nationwide)
		Mean (a)	Mean (b)	(b)-(a)	Mean (c)	Mean (d)	(d)-(c)	Mean (e)	Mean (f)	Mean (g)	Mean (h)	Mean (i)	Mean (j)	Mean (k)	(k) - (e)	(k) - (b)
Primary school	6	21.0	21.0	0.0	21.0	21.6	0.6	21.7	21.1	21.1	21.1	21.4	20.9	21.3	△ 0.4	0.3
	7	23.5	23.5	0.0	24.1	23.9	△ 0.2	24.1	24.0	24.0	24.0	23.6	23.7	23.6	△ 0.5	0.1
	8	26.5	26.4	△ 0.1	27.2	27.2	0.0	27.4	27.2	27.1	26.9	27.4	27.5	26.8	△ 0.6	0.4
	9	30.0	29.9	△ 0.1	30.2	30.5	0.3	31.0	31.3	30.8	31.1	30.7	31.7	31.0	△ 0.0	1.1
	10	34.1	34.0	△ 0.1	34.0	35.3	1.3	35.7	34.8	35.6	35.0	35.2	34.2	35.1	△ 0.6	1.1
	11	39.0	39.0	0.0	40.0	40.5	0.5	40.5	40.7	40.6	40.2	40.1	40.4	39.2	△ 1.3	0.2
Middle school	12	43.8	43.6	△ 0.2	45.1	44.7	△ 0.4	45.8	44.0	43.8	44.4	44.2	43.9	44.5	△ 1.3	0.9
	13	47.3	47.2	△ 0.1	48.7	48.4	△ 0.3	48.5	47.4	47.8	46.7	48.3	48.0	47.5	△ 1.0	0.3
	14	50.0	50.0	0.0	51.2	51.6	0.4	51.8	50.7	49.7	49.7	49.7	51.3	51.2	△ 0.6	1.2
High school	15	51.6	51.6	0.0	53.1	52.9	△ 0.2	53.5	51.7	50.9	52.1	52.0	51.1	53.0	△ 0.5	1.4

Excerpt from FY2010 and FY2017 Statistical studies of school health conducted by the Ministry of Education

FY2017 Comprehensive Health Check for Children: 0 - less than 6 years old, Boys [Height]



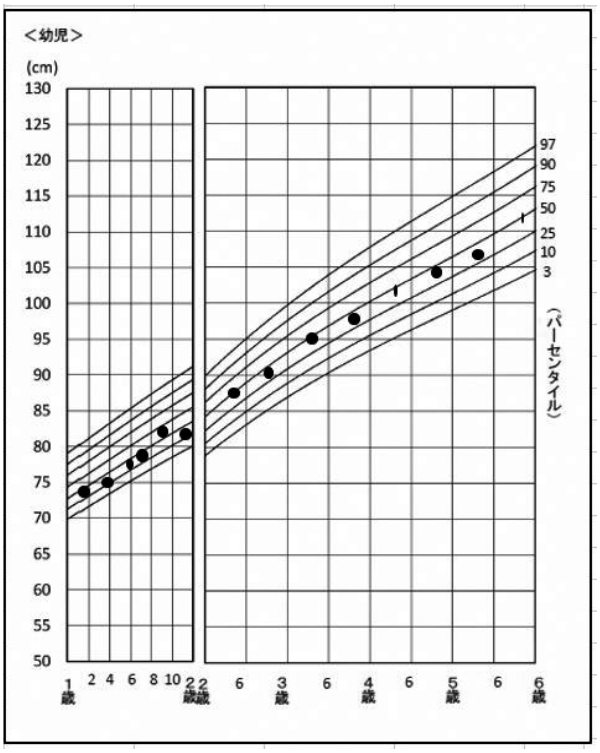
FY2017 Children's Health Examination Results [Height]

10 months old to less than 1 year old (Boys)

Age class	Subjects	Mean (cm)	Median (cm)
10 months - less than 1 year old	34	72.5	72.2
Total	34		

◆Growth curves are from FY2010 Survey on children's physical development conducted by the Ministry of Health, Labor and Welfare.

◆The dots on the graph show the mean values in the right table.



FY2017 Children's Health Examination Results [Height]

1 - less than 2 years old (Boys)

Age class	Subjects	Mean (cm)	Median (cm)
1 year 0 month -	31	74.3	74.5
1 year 2 months -	24	75.0	75.4
1 year 4 months -	17	77.7	77.9
1 year 6 months -	12	78.5	78.3
1 year 8 months -	25	82.8	83.4
1 year 10 months - less than 2 years	19	82.4	83.2
Total	128		

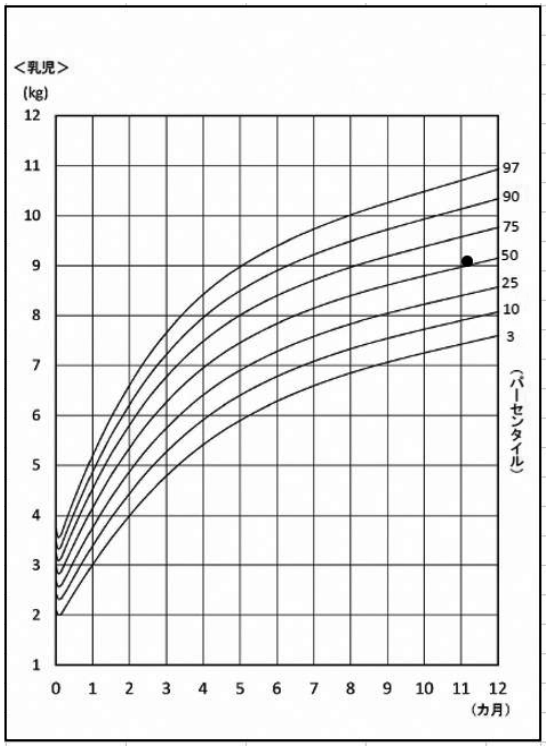
2 to less than 6 years old (Boys)

Age class	Subjects	Mean (cm)	Median (cm)
2 years 0 month -	65	87.2	87.4
2 years 6 months -	71	90.7	90.8
3 years 0 month -	62	95.1	95.6
3 years 6 months -	62	98.3	98.1
4 years 0 month -	62	102.7	102.5
4 years 6 months -	64	104.6	104.3
5 years 0 month -	56	107.8	106.9
5 years 6 months - less than 6 years	75	112.6	112.6
Total	517		

◆Growth curves are from FY2010 Survey on children's physical development conducted by the Ministry of Health, Labor and Welfare.

◆The dots on the graph show the mean values in the right table.

FY2017 Comprehensive Health Check for Children: 0 - less than 6 years old, Boys [Weight]



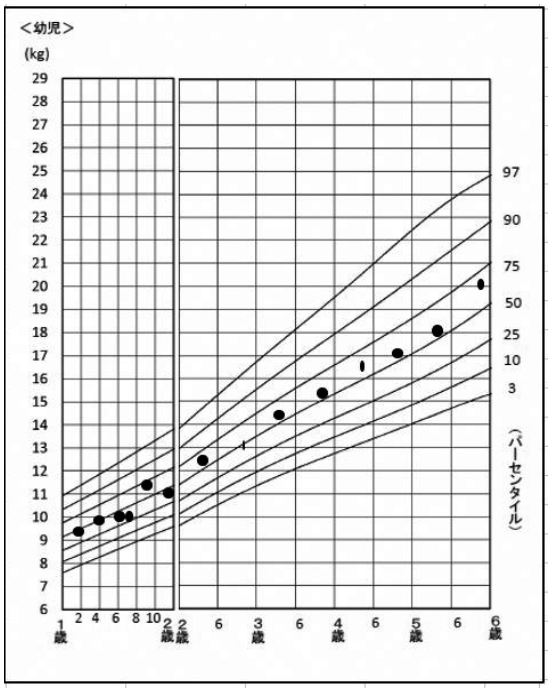
FY2017 Children's Health Examination Results [Weight]

10 months old to less than 1 year old (Boys)

Age class	Subjects	Mean (kg)	Median (kg)
10 - less than 1 year old	34	9.1	9.2
Total	34		

◆Growth curves are from FY2010 Survey on children's physical development conducted by the Ministry of Health, Labor and Welfare.

◆The dots on the graph show the mean values in the right table.



FY2017 Children's Health Examination Results [Weight]

1 - less than 2 years old (Boys)

Age class	Subjects	Mean (kg)	Median (kg)
1 year 0 month -	31	9.3	9.4
1 year 2 months -	24	9.9	9.9
1 year 4 months -	17	10.2	9.9
1 year 6 months -	12	10.0	9.7
1 year 8 months -	25	11.5	11.5
1 year 10 months - less than 2 years	19	11.0	11.1
Total	128		

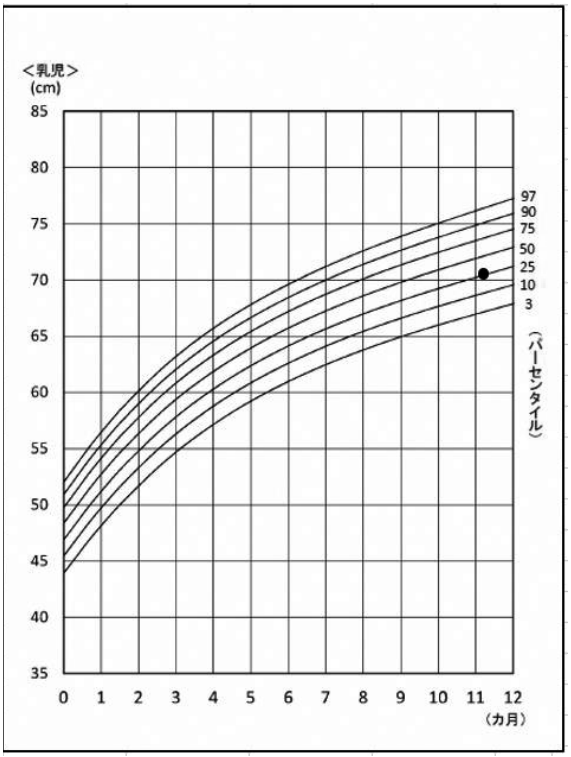
2 to less than 6 years old (Boys)

Age class	Subjects	Mean (kg)	Median (kg)
2 years 0 month -	65	12.4	12.4
2 years 6 months -	71	13.2	13.0
3 years 0 month -	62	14.4	14.2
3 years 6 months -	62	15.3	15.1
4 years 0 month -	62	16.6	16.6
4 years 6 months -	64	17.2	17.0
5 years 0 month -	56	18.1	17.6
5 years 6 months - less than 6 years	75	20.1	19.9
Total	517		

◆Growth curves are from FY2010 Survey on children's physical development conducted by the Ministry of Health, Labor and Welfare.

◆The dots on the graph show the mean values in the right table.

FY2017 Comprehensive Health Check for Children: 0 - less than 6 years old, Girls [Height]



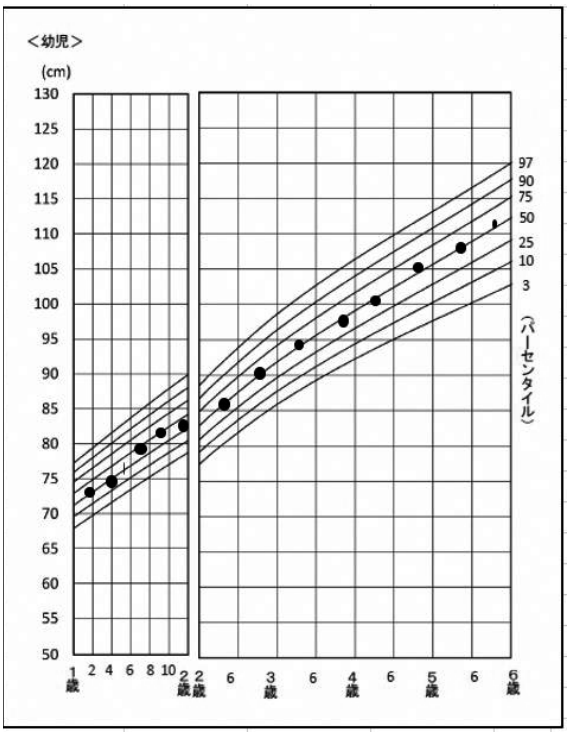
FY2017 Children's Health Examination Results [Height]

10 months old to less than 1 year old (Girls)

Age class	Subjects	Mean (cm)	Median (cm)
10 months - less than 1 year old	24	70.3	70.3
Total	24		

◆Growth curves are from FY2010 Survey on children's physical development conducted by the Ministry of Health, Labor and Welfare.

◆The dots on the graph show the mean values in the right table.



FY2017 Children's Health Examination Results [Height]

1 - less than 2 years old (Girls)

Age class	Subjects	Mean (cm)	Median (cm)
1 year 0 month -	26	73.6	73.9
1 year 2 months -	21	74.6	74.5
1 year 4 months -	23	76.9	77.3
1 year 6 months -	28	79.3	79.8
1 year 8 months -	12	81.9	82.3
1 year 10 months - less than 2 years	22	82.4	82.5
Total	132		

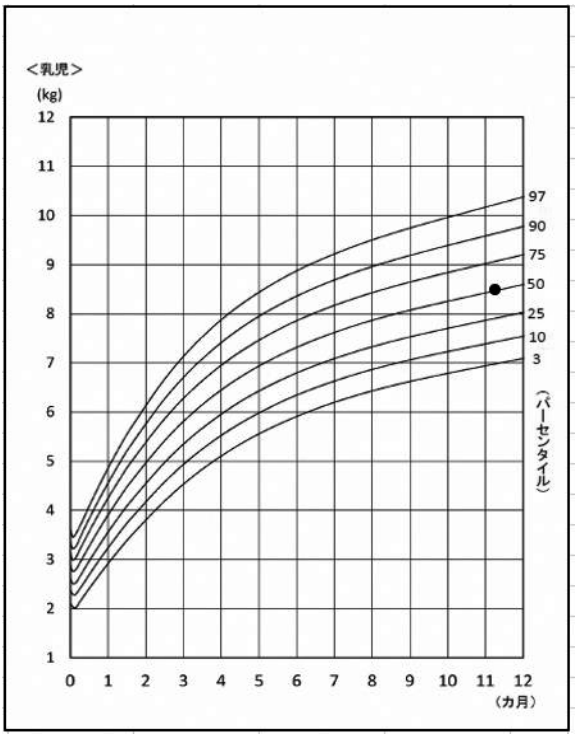
2 to less than 6 years old Girls)

Age class	Subjects	Mean (cm)	Median (cm)
2 years 0 month -	64	85.7	86.0
2 years 6 months -	69	90.3	90.4
3 years 0 month -	78	93.7	94.0
3 years 6 months -	55	97.7	98.0
4 years 0 month -	64	100.3	100.3
4 years 6 months -	59	105.3	105.3
5 years 0 month -	66	108.7	108.1
5 years 6 months - less than 6 years	92	111.8	112.2
Total	547		

◆Growth curves are from FY2010 Survey on children's physical development conducted by the Ministry of Health, Labor and Welfare.

◆The dots on the graph show the mean values in the right table.

FY2017 Comprehensive Health Check for Children: 0 - less than 6 years old, Girls [Weight]



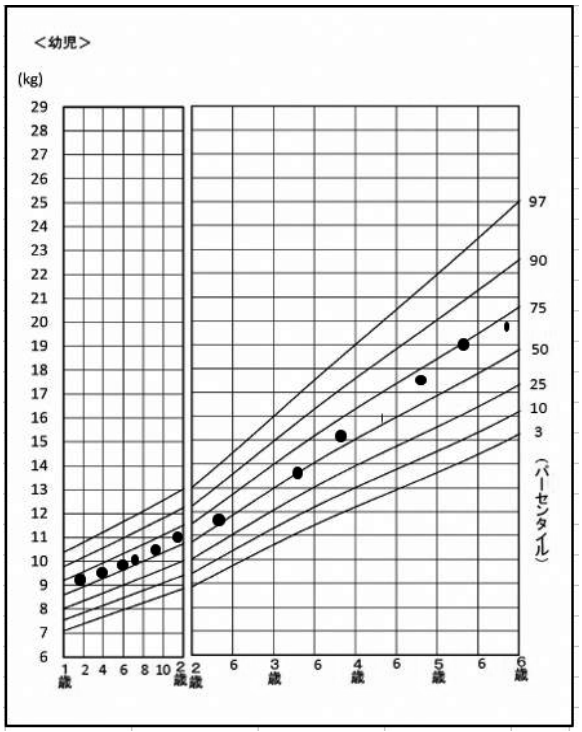
FY2017 Children's Health Examination Results [Weight]

10 months old to less than 1 year old (Girls)

Age class	Subjects	Mean (kg)	Median (kg)
10 - less than 1 year old	24	8.5	8.6
Total	24		

◆Growth curves are from FY2010 Survey on children's physical development conducted by the Ministry of Health, Labor and Welfare.

◆The dots on the graph show the mean values in the right table.



FY2017 Children's Health Examination Results [Weight]

1 - less than 2 years old (Girls)

Age class	Subjects	Mean (kg)	Median (kg)
1 year 0 month -	26	9.1	9.1
1 year 2 months -	21	9.2	9.3
1 year 4 months -	23	9.9	9.9
1 year 6 months -	28	10.2	10.1
1 year 8 months -	12	10.7	10.5
1 year 10 months - less than 2 years	22	11.0	10.9
Total	132		

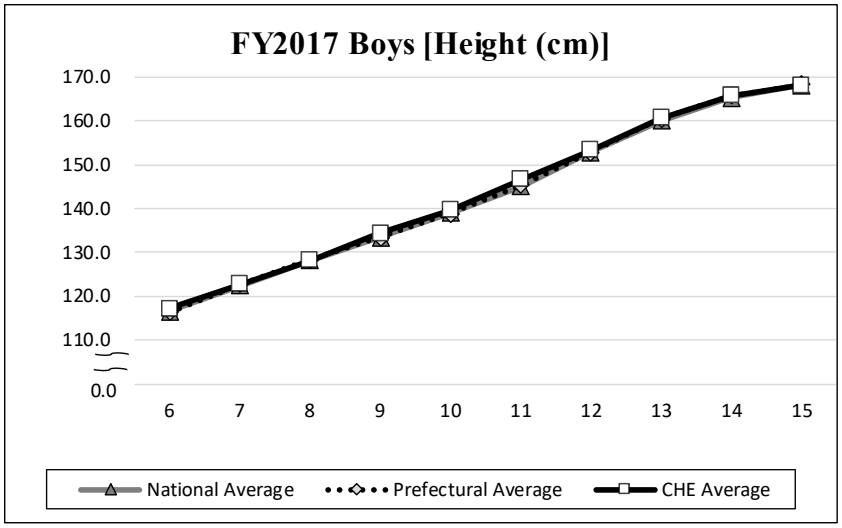
2 to less than 6 years old (Girls)

Age class	Subjects	Mean (kg)	Median (kg)
2 years 0 month -	64	11.7	11.8
2 years 6 months -	69	13.1	12.8
3 years 0 month -	78	13.8	13.6
3 years 6 months -	55	15.1	15.0
4 years 0 month -	64	15.9	15.5
4 years 6 months -	59	17.8	17.3
5 years 0 month -	66	19.0	18.6
5 years 6 months - less than 6 years	92	19.9	19.5
Total	547		

◆Growth curves are from FY2010 Survey on children's physical development conducted by the Ministry of Health, Labor and Welfare.

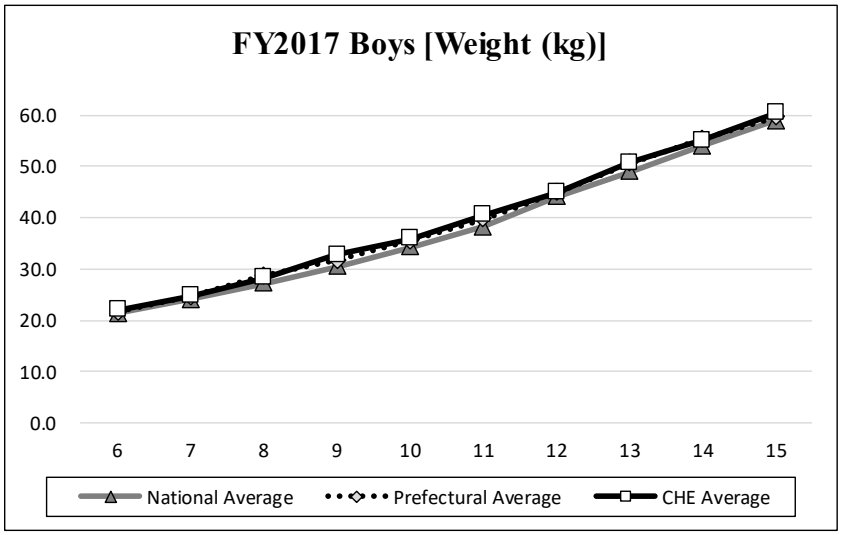
◆The dots on the graph show the mean values in the right table.

Comparison of FY2017 national, prefectural, and CHE averages (Height and Weight)
6 - 15 years old (Boys)



FY2017 Boys Height (cm)

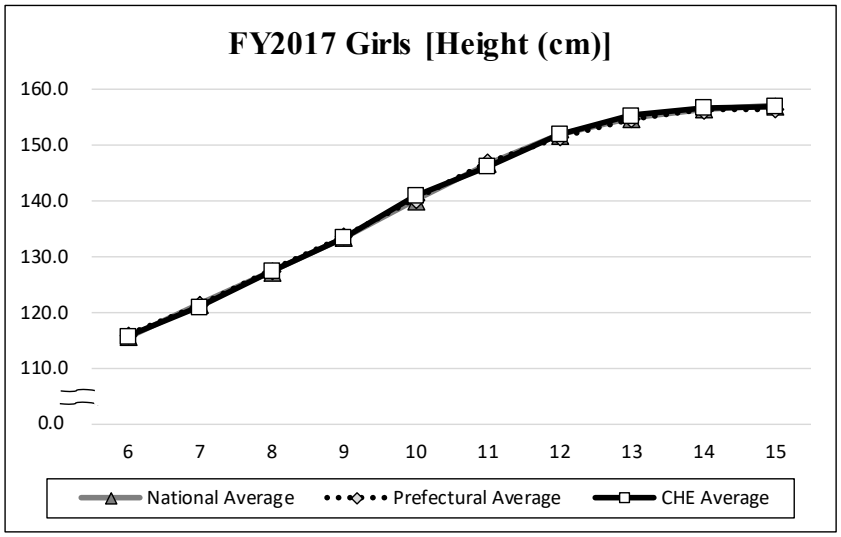
Age	National Average	Prefectural Average	CHE Average
6	116.5	116.4	117.1
7	122.5	122.8	122.7
8	128.2	128.4	128.1
9	133.5	133.4	134.3
10	139.0	138.9	139.7
11	145.0	145.4	146.7
12	152.8	152.9	153.3
13	160.0	160.5	160.7
14	165.3	165.7	165.7
15	168.2	168.3	168.1



FY2017 Boys Weight (kg)

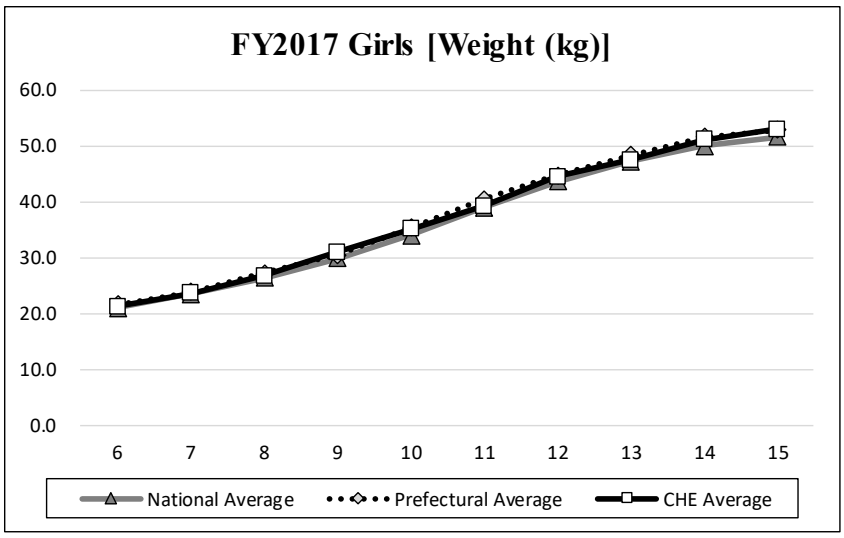
Age	National Average	Prefectural Average	CHE Average
6	21.4	21.6	22.0
7	24.1	24.6	24.7
8	27.2	28.7	28.3
9	30.5	31.6	32.7
10	34.2	35.5	35.9
11	38.2	39.7	40.5
12	44.0	44.9	44.8
13	49.0	50.6	50.7
14	53.9	55.3	55.1
15	58.9	59.6	60.3

Comparison of FY2017 national, prefectural, and CHE averages (Height and Weight)
6 - 15 years old (Girls)



FY2017 Girls Height (cm)

Age	National Average	Prefectural Average	CHE Average
6	115.7	116.0	115.8
7	121.5	121.4	121.1
8	127.3	127.5	127.4
9	133.4	133.7	133.4
10	140.1	140.3	140.9
11	146.7	147.0	146.2
12	151.8	151.5	151.9
13	154.9	154.7	155.3
14	156.5	156.3	156.8
15	157.1	156.5	157.0



FY2017 Girls Weight (kg)

Age	National Average	Prefectural Average	CHE Average
6	21.0	21.6	21.3
7	23.5	23.9	23.6
8	26.4	27.2	26.8
9	29.9	30.5	31.0
10	34.0	35.3	35.1
11	39.0	40.5	39.2
12	43.6	44.7	44.5
13	47.2	48.4	47.5
14	50.0	51.6	51.2
15	51.6	52.9	53.0

FY 2011-2017　Comprehensive Health Check
Basic Statistics of Results by Examination Item

【Survey Population】

- Those who had resident registration in designated areas* between 11 March 2011 and 1 April 2012 (These residents remain eligible for the Health Check after moving from relevant municipalities.)
- Those who have resident registration in the government-designated evacuation zones as of 1 April of the year in which the Health Check is conducted.
- Those who were deemed to require the Health Check based on the Basic Survey results

*Designated areas: municipalities that were designated as evacuation zones in 2011
Hirono Town, Naraha Town, Tomioka Town, Kawauchi Village, Okuma Town, Futaba Town, Namie Town, Katsurao Village, Iitate Village, Minamisoma City, Tamura City, Kawamata Town, and part of Date City (area containing specific evacuation-recommended spots)

【Examination items】

Age group (years)	Examination Items
0-6 (Infant before entering school)	Height, weight, [Additional items on request] CBC (Number of red blood cells, hematocrit, hemoglobin, platelet count, number of white blood cells, differential white blood count.)
7-15 (From 1st to 9th grade)	Height, weight, blood pressure, CBC (Number of red blood cells, hematocrit, hemoglobin, platelet count, number of white blood cells, differential white blood count.) [Additional items on request] Blood biochemistry (AST, ALT, γ-GT, TG, HDL-C, LDL-C, HbA1c, plasma glucose, serum creatinine, uric acid)
16 and older	Height, weight, abdominal circumference or BMI, blood pressure CBC (Number of red blood cells, hematocrit, hemoglobin, platelet count, number of white blood cells, differential white blood count.) Urinary test (urine protein, urinary sugar, urine occult blood) Blood biochemistry (AST, ALT, γ-GT, TG, HDL-C, LDL-C, HbA1c, plasma glucose, serum creatinine, estimated glomerular filtration rate [eGFR], uric acid) ・The underlined values are not routinely measured during regular health exams.

- Health Check results in FY2011-2017 are divided into 5 groups by age and examination item: 0-6 years old, 7-15 years old, 16-39 years old, 40-64 years old, and 65 years old and above. The results are visualized by graphs for each examination item.
- The results of FY2017 are aggregated by age group and by gender for each examination item.
- Results include individuals who received examination twice or more in the same year. (overlapping examinees)
- Symbols used in the tables represent in the same way as in Vital Statistics of the Ministry of Health, Labor and Welfare:
  When there are no figures (-)
  When there are no items (no examination items due to age category) (・)
  When it is not appropriate to express figures (…)
  When the percentage is small (less than 0.05)　(0.0%)

- For statistical analysis, we used a software suite called SAS 9.4 (SAS Institute Inc., Cary, NC, USA).

Results for each examination item are shown in mean values or percentages. Each fiscal year's results for each variant were compared in terms of gender (male, female) and age group (7-15, 16-39, 40-64, 65-). For each examination item, multiple comparison was performed using the Kruskal-Wallis test, followed by a post-hoc test. P-values < 0.05 are considered as statistically significant.

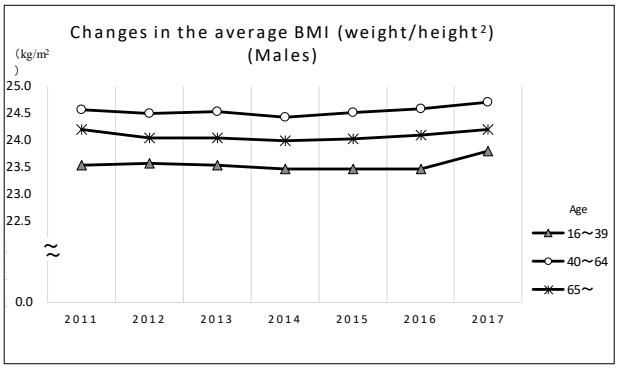
- The timing of examinations differs between FY2011 and FY2012-FY2017.

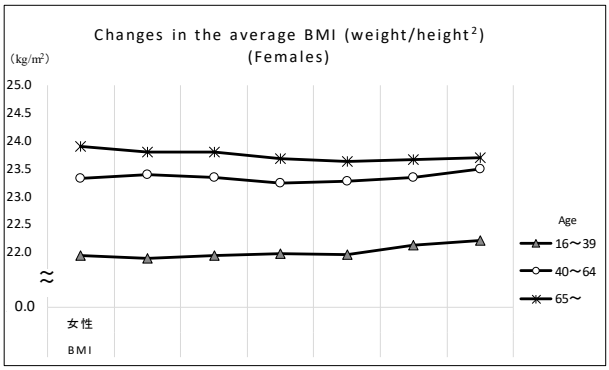
Note: Exam schedule for participants aged 0-15 years old
FY 2011: Jan-Mar 2012
FY 2012-FY2017: Jul-Dec of the relevant year

※ Reference materials
FY2011-2014: Document 3-2 of the 21st Prefectural Oversight Committee meeting for the Fukushima Health Management Survey.
FY2015: Document 3-2 of the 26th Prefectural Oversight Committee meeting for the Fukushima Health Management Survey.
FY2016- : Document 2-3 of the 30th Prefectural Oversight Committee meeting for the Fukushima Health Management Survey

[Summary of the Comprehensive Health Check Results]

1. Physical Examination (1) BMI

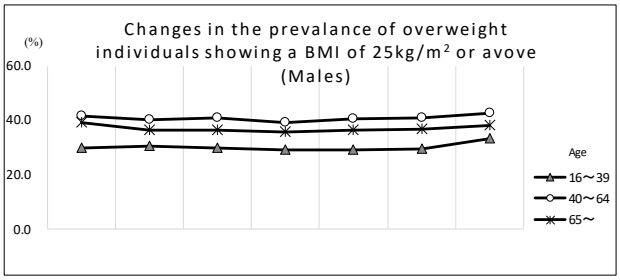


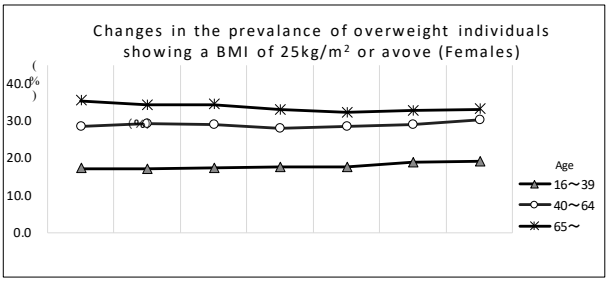


Age Group	2011	2012	2013	2014	2015	2016	2017
16～39	23.5	23.6	23.5	23.5	23.5	23.5	23.8
40～64	24.6	24.5	24.5	24.4	24.5	24.6	24.7
65～	24.2	24.0	24.0	24.0	24.0	24.1	24.2

Age Group	2011	2012	2013	2014	2015	2016	2017
16～39	21.9	21.9	21.9	22.0	22.0	22.1	22.2
40～64	23.3	23.4	23.3	23.2	23.3	23.3	23.5
65～	23.9	23.8	23.8	23.7	23.6	23.7	23.7

Prevalence of overweight individuals showing a BMI of 25 kg/m^2 or above





Age Group	2011	2012	2013	2014	2015	2016	2017
16～39	29.8	30.7	30.0	29.0	29.3	29.4	33.4
40～64	41.6	40.3	40.9	39.3	40.6	40.9	42.5
65～	39.1	36.4	36.3	35.8	36.3	36.8	38.0

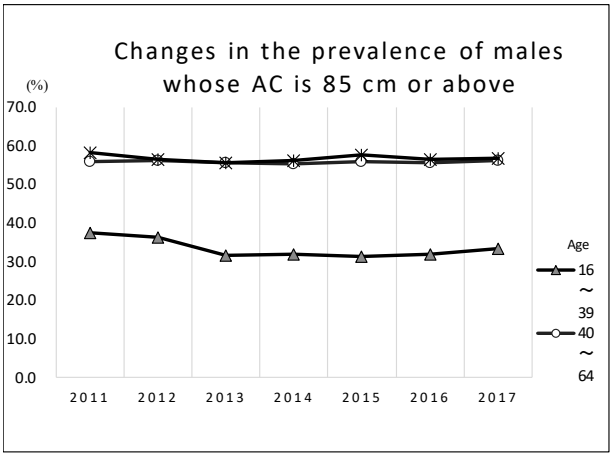
Age Group	2011	2012	2013	2014	2015	2016	2017
16～39	17.2	17.1	17.3	17.6	17.6	18.8	19.1
40～64	28.4	29.2	28.9	27.9	28.4	29.0	30.2
65～	35.4	34.3	34.4	33.0	32.2	32.8	33.1

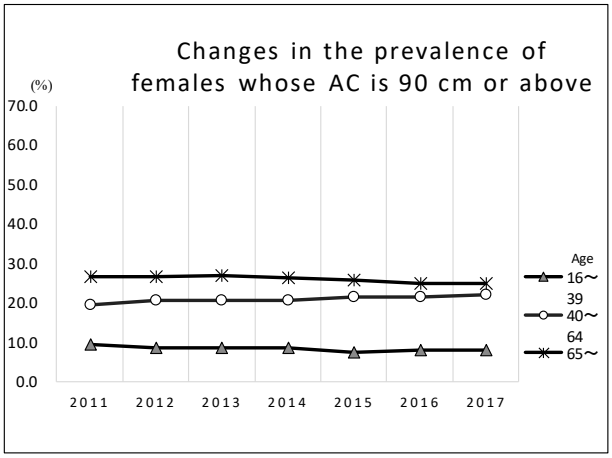
◆Summary of analysis (multiple comparison) results◆ * P-values < 0.05 are statistically significant.

The percentage of overweight males with BMI of 25 kg/m^2 or above is higher in each survey year compared with overweight females. No significant change was seen in the percentage of overweight males in all age groups between FY2011 and FY2017.

On the other hand, the percentage of overweight females aged 65 years or over significantly decreased in FY2017 from FY2011, but no significant change was seen when compared with FY2016.

1. Physical Examination (2) Abdominal Circumferenc





Age Group	2011	2012	2013	2014	2015	2016	2017
16～39	37.3	36.3	31.7	32.0	31.3	31.8	33.4
40～64	56.0	56.2	55.6	55.3	55.8	55.7	56.3
65～	58.2	56.4	55.6	56.2	57.7	56.4	56.7

Age Group	2011	2012	2013	2014	2015	2016	2017
16～39	9.5	8.6	8.6	8.5	7.5	8.1	8.0
40～64	19.5	20.8	20.7	20.7	21.4	21.5	22.2
65～	26.7	26.6	26.9	26.4	25.9	25.0	25.0

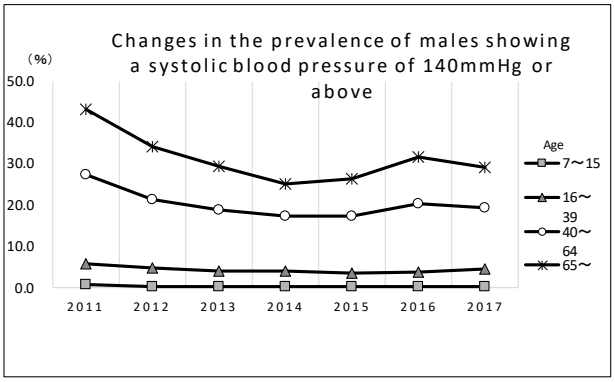
◆Summary of analysis (multiple comparison) results◆ * P-values < 0.05 are statistically significant.

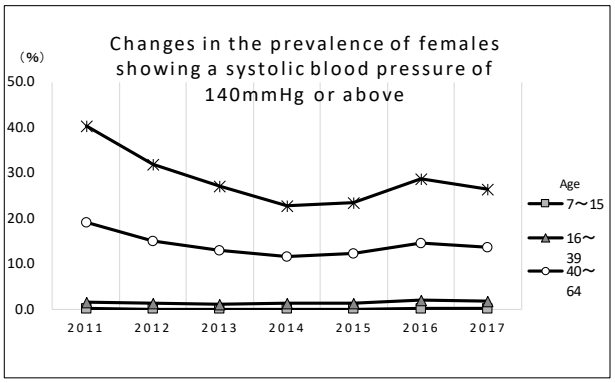
No significant change was seen in the percentage of abdominally obese males (with abdominal circumference of 85 cm or over) in all age groups in each survey year from FY2011 to FY2017.

In females (with abdominal circumference of 90 cm or over) aged 40-64 years, there was a significant increase in FY2017 compared to FY2011, but no significant change was seen when compared to FY 2016.

1. Physical Examination (3) Blood Pressure

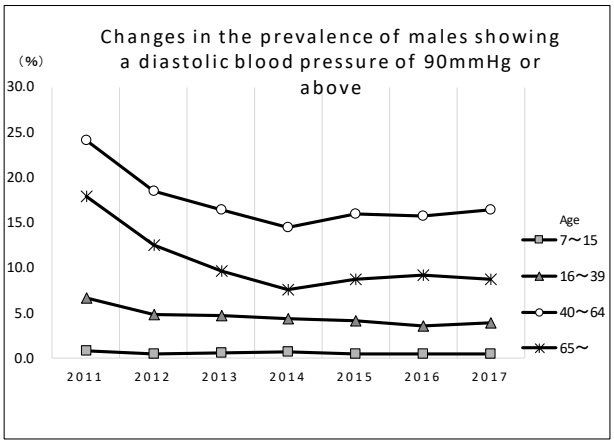
Prevalence of hypertensive individuals

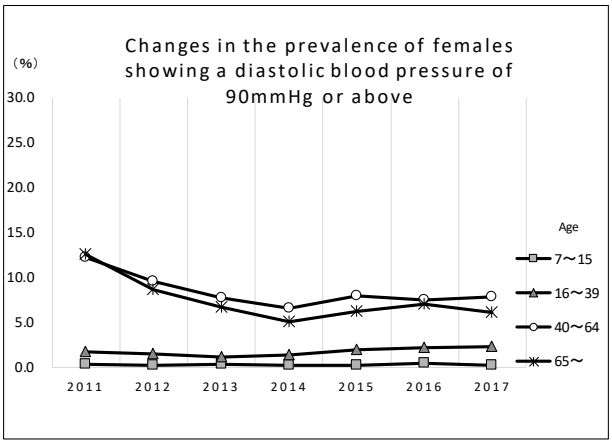




Age Group	2011	2012	2013	2014	2015	2016	2017
7～15	0.9	0.4	0.3	0.4	0.3	0.3	0.4
16～39	5.8	4.9	4.2	4.1	3.5	3.9	4.5
40～64	27.5	21.5	19.0	17.4	17.4	20.5	19.4
65～	43.1	34.2	29.4	25.1	26.5	31.6	29.2

Age Group	2011	2012	2013	2014	2015	2016	2017
7～15	0.2	0.1	0.1	0.1	0.1	0.2	0.2
16～39	1.6	1.3	1.0	1.3	1.4	1.9	1.7
40～64	19.1	14.9	12.9	11.5	12.3	14.5	13.6
65～	40.4	31.8	27.0	22.7	23.4	28.6	26.3





Age Group	2011	2012	2013	2014	2015	2016	2017
7～15	0.8	0.4	0.6	0.7	0.4	0.4	0.4
16～39	6.6	4.8	4.7	4.3	4.1	3.5	3.9
40～64	24.1	18.5	16.4	14.4	15.9	15.7	16.4
65～	17.9	12.5	9.6	7.6	8.7	9.2	8.7

Age Group	2011	2012	2013	2014	2015	2016	2017
7～15	0.4	0.3	0.4	0.2	0.3	0.5	0.3
16～39	1.7	1.5	1.2	1.4	2.0	2.2	2.3
40～64	12.2	9.6	7.7	6.6	8.0	7.5	7.9
65～	12.6	8.7	6.7	5.1	6.2	7.0	6.1

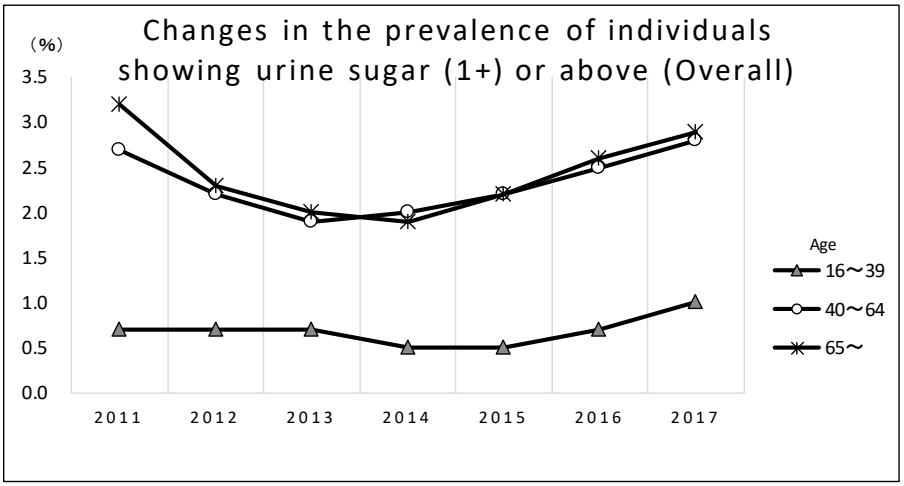
◆Summary of analysis (multiple comparison) results◆ * P-values < 0.05 are statistically significant.

The percentage of individuals with systolic blood pressure of 140 mmHg or above showed a significant drop in both males and females aged 40 years or over in FY2017 from FY2011, but no significant change was seen when compared with FY2016.

A similar trend was seen with the percentage of individuals with diastolic pressure of 90 mmHg or above. The percentage of males aged 16-39 years decreased significantly in FY2017 compared with FY2011, but no significant change was seen when compared with FY2016.

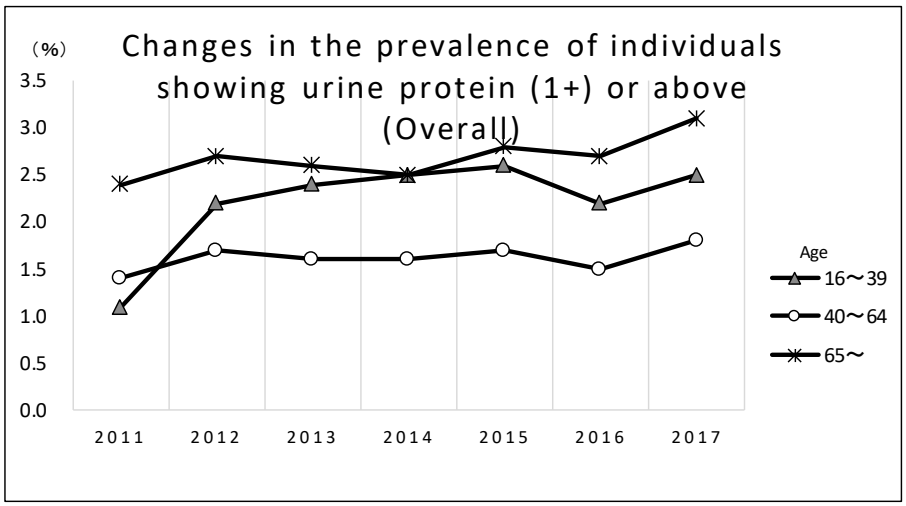
2. Urine Test (1) Urine Sugar, (2) Urine Protein, (3) Urine Occult Blood

(1) Prevalence of individuals showing urine sugar (1+) or above



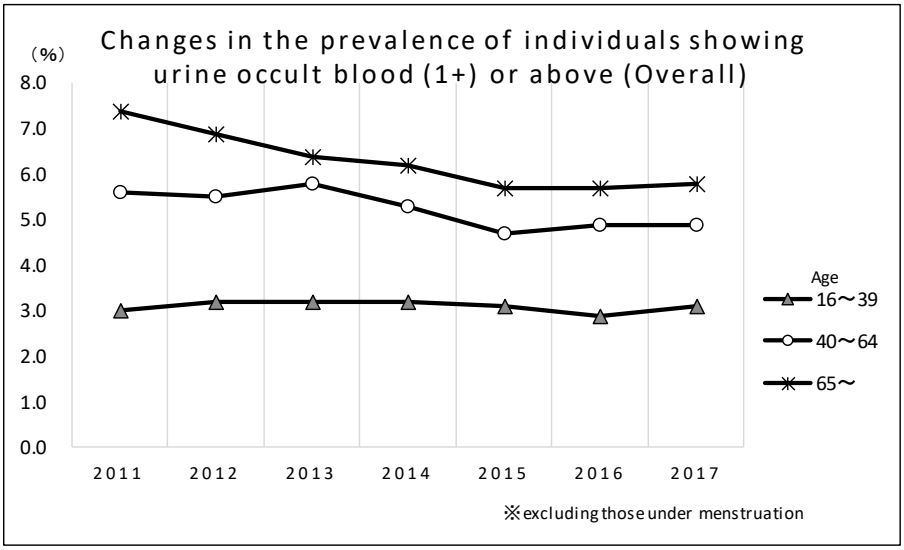
Age Group	2011	2012	2013	2014	2015	2016	2017
16～39	0.7	0.7	0.7	0.5	0.5	0.7	1.0
40～64	2.7	2.2	1.9	2.0	2.2	2.5	2.8
65～	3.2	2.3	2.0	1.9	2.2	2.6	2.9

(2) Prevalence of individuals showing urine protein (1+) or above



Age Group	2011	2012	2013	2014	2015	2016	2017
16～39	1.1	2.2	2.4	2.5	2.6	2.2	2.5
40～64	1.4	1.7	1.6	1.6	1.7	1.5	1.8
65～	2.4	2.7	2.6	2.5	2.8	2.7	3.1

(3) Prevalence of individuals showing urine occult blood (1+) or above



Age Group	2011	2012	2013	2014	2015	2016	2017
16～39	3.0	3.2	3.2	3.2	3.1	2.9	3.1
40～64	5.6	5.5	5.8	5.3	4.7	4.9	4.9
65～	7.4	6.9	6.4	6.2	5.7	5.7	5.8

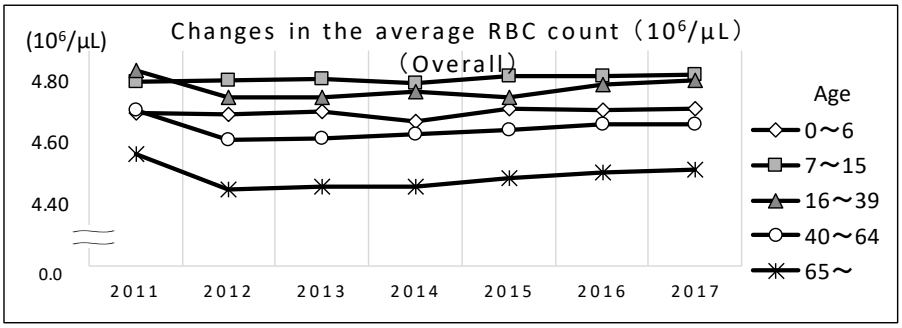
◆Summary of analysis (multiple comparison) results◆ * P-values < 0.05 are statistically significant.

The prevalence of those with urine sugar levels of 1+ or above did not have any significant change from FY2011 to FY2017 in any age group.

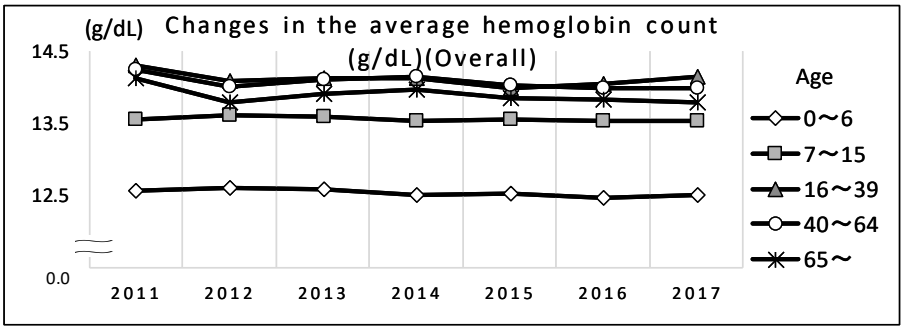
The prevalence of those with urinary protein levels of 1+ or above increased significantly in FY2017 in age groups of 16-39 years and 65 years or over, but no significant change was seen when compared with FY2016.

The prevalence of those with urine occult blood levels of 1+ or above decreased significantly in 2017 in those aged 40 years or over, but no significant change was seen when compared with FY2016.

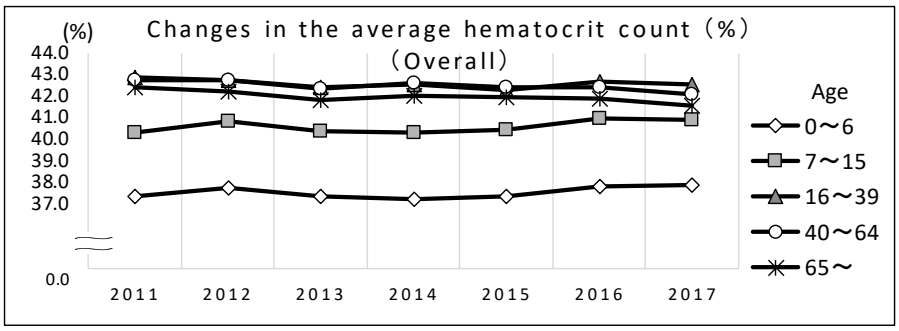
3. Peripheral Blood Diagnostic Test (1) RBC, Hemoglobin, Hematocrit



Age Group	2011	2012	2013	2014	2015	2016	2017
0～6	4.70	4.69	4.70	4.67	4.71	4.71	4.71
7～15	4.80	4.80	4.81	4.80	4.82	4.82	4.82
16～39	4.84	4.75	4.75	4.77	4.75	4.79	4.81
40～64	4.71	4.61	4.62	4.63	4.64	4.66	4.66
65～	4.56	4.45	4.46	4.46	4.49	4.51	4.51



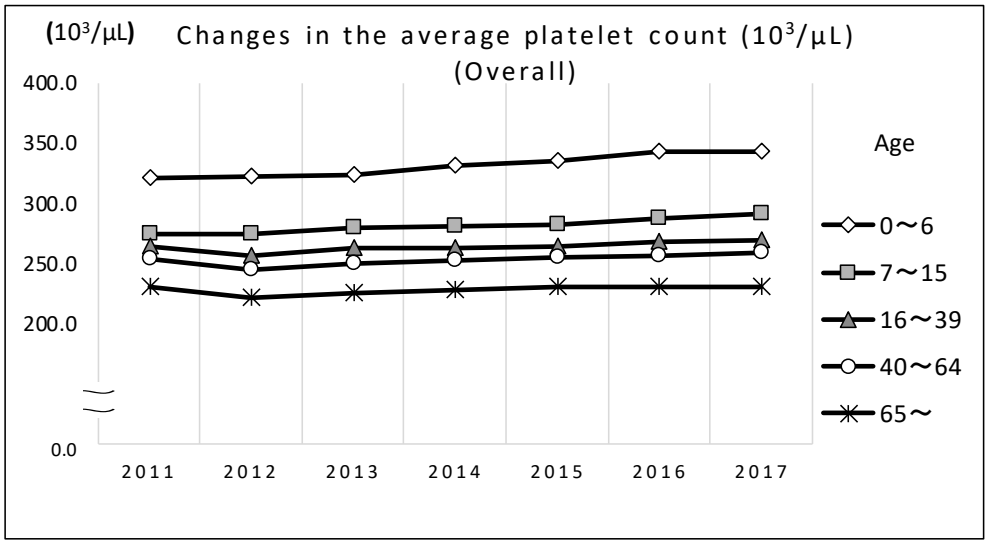
Age Group	2011	2012	2013	2014	2015	2016	2017
0～6	12.6	12.6	12.6	12.5	12.5	12.5	12.5
7～15	13.6	13.6	13.6	13.5	13.5	13.5	13.5
16～39	14.3	14.1	14.1	14.1	14.0	14.0	14.1
40～64	14.3	14.0	14.1	14.2	14.0	14.0	14.0
65～	14.1	13.8	13.9	14.0	13.9	13.8	13.8



Age Group	2011	2012	2013	2014	2015	2016	2017
0～6	37.3	37.7	37.3	37.2	37.3	37.8	37.9
7～15	40.3	40.8	40.3	40.3	40.4	40.9	40.9
16～39	42.9	42.7	42.4	42.6	42.3	42.7	42.5
40～64	42.8	42.7	42.3	42.6	42.4	42.4	42.1
65～	42.4	42.2	41.8	42.0	41.9	41.9	41.5

The average RBC count and hemoglobin count decreased among individuals aged 16 years and over from FY2011 to FY2012, but showed increases in FY2013 onward and since then, there have been no great changes in any age group.

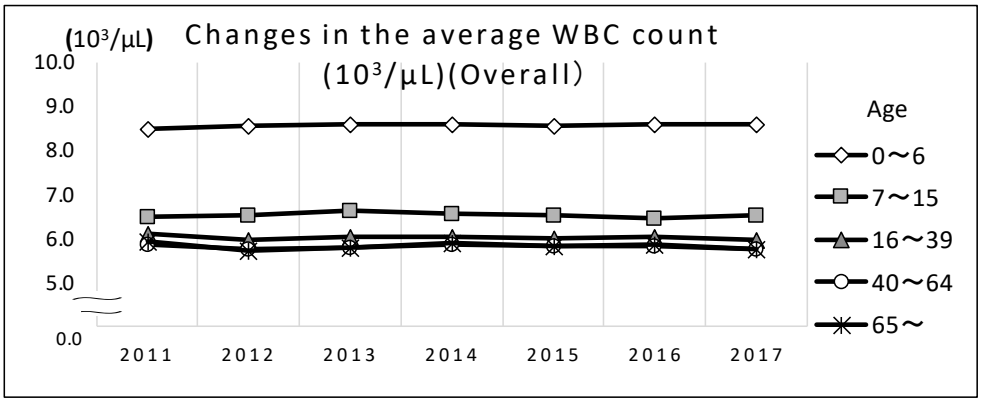
3. Peripheral Blood Diagnostic Test (2) Platelet count



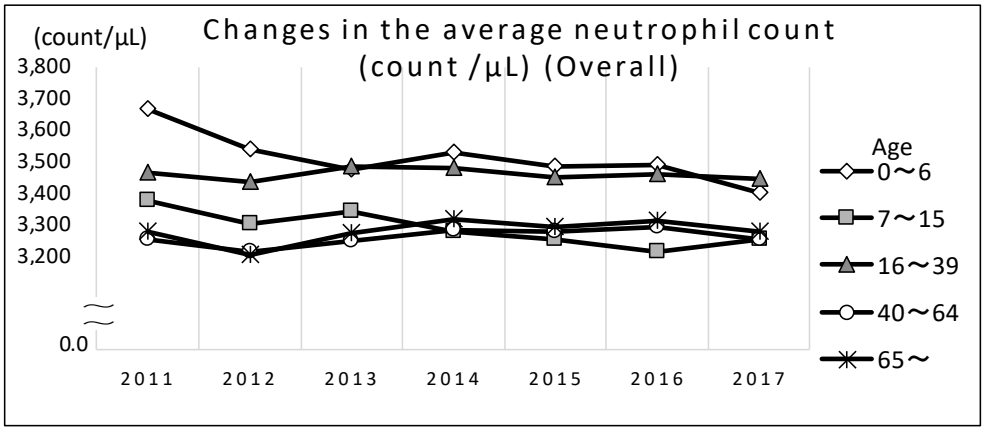
Age Group	2011	2012	2013	2014	2015	2016	2017
0～6	321.9	323.3	324.7	332.1	335.6	343.5	343.3
7～15	275.4	275.0	279.5	280.7	283.2	288.1	291.7
16～39	263.9	257.0	262.6	263.7	264.5	268.1	269.1
40～64	254.2	244.9	249.7	252.9	255.6	256.3	258.7
65～	230.9	221.6	225.1	228.0	230.8	230.6	231.3

No great change was seen in the average platelet count in any age group from FY2011 to FY2017.

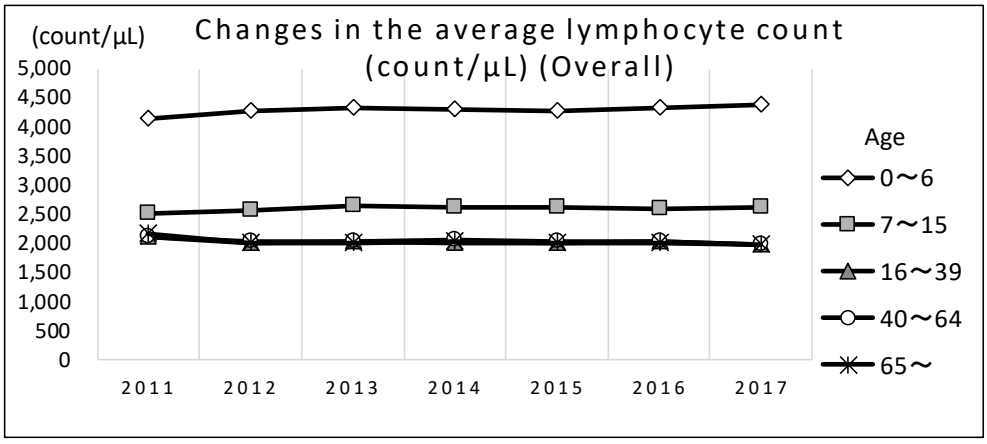
3. Peripheral Blood Diagnostic Test (3) WBC, Differential white blood count (neutrophil)



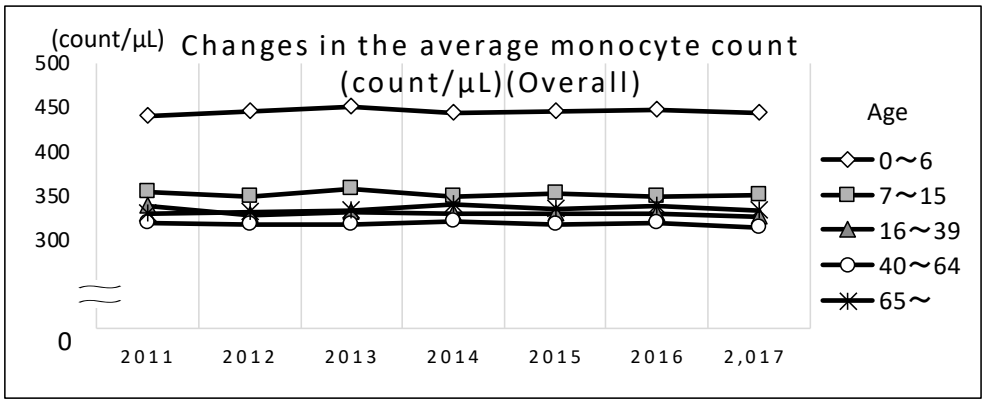
Age Group	2011	2012	2013	2014	2015	2016	2017
0～6	8.5	8.6	8.6	8.6	8.6	8.6	8.6
7～15	6.5	6.5	6.6	6.6	6.5	6.5	6.5
16～39	6.1	6.0	6.1	6.0	6.0	6.0	6.0
40～64	5.9	5.8	5.8	5.9	5.8	5.8	5.8
65～	5.9	5.7	5.8	5.9	5.8	5.9	5.8



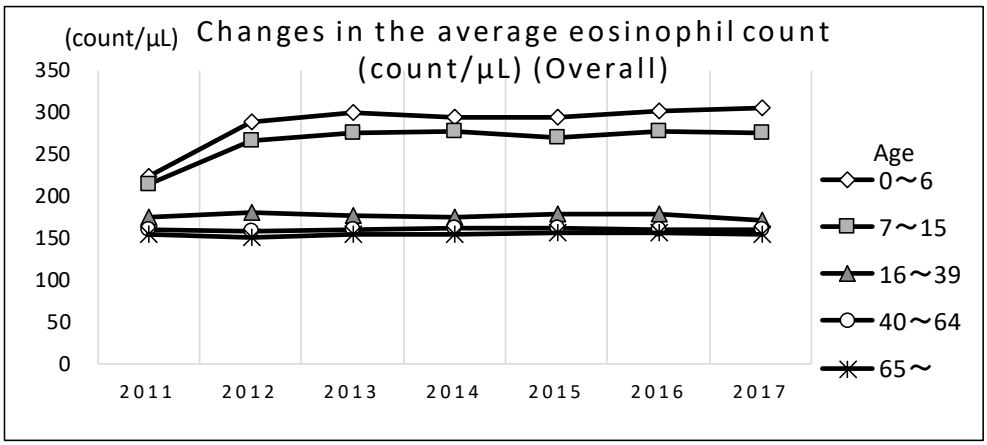
Age Group	2011	2012	2013	2014	2015	2016	2017
0～6	3,666	3,538	3,476	3,526	3,481	3,489	3,402
7～15	3,373	3,299	3,341	3,279	3,253	3,214	3,250
16～39	3,465	3,437	3,482	3,479	3,451	3,461	3,447
40～64	3,250	3,213	3,247	3,282	3,278	3,293	3,252
65～	3,275	3,204	3,270	3,314	3,294	3,311	3,277



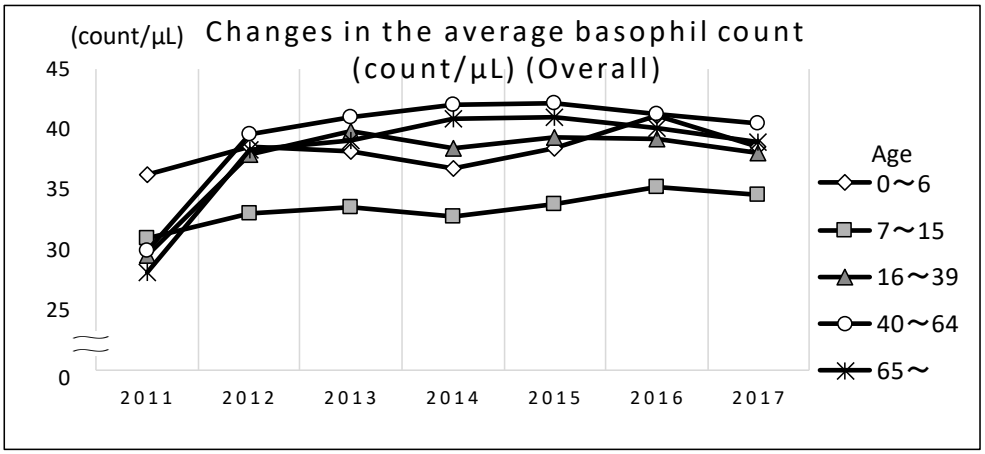
Age Group	2011	2012	2013	2014	2015	2016	2017
0～6	4,134	4,261	4,330	4,299	4,283	4,323	4,386
7～15	2,524	2,575	2,633	2,624	2,617	2,585	2,611
16～39	2,105	2,002	2,020	2,018	2,006	2,019	1,990
40～64	2,125	2,023	2,042	2,057	2,026	2,032	1,987
65～	2,153	2,003	2,017	2,040	2,006	2,014	1,969



Age Group	2011	2012	2013	2014	2015	2016	2,017
0～6	440	445	450	445	446	448	444
7～15	355	350	357	350	352	350	352
16～39	338	329	332	330	330	330	326
40～64	319	317	318	322	317	319	314
65～	330	332	334	341	336	338	333



Age Group	2011	2012	2013	2014	2015	2016	2017
0～6	223	288	301	294	293	302	306
7～15	214	266	275	277	269	277	276
16～39	175	180	176	176	178	178	171
40～64	160	158	160	161	161	160	159
65～	153	150	153	154	155	157	155



Age Group	2011	2012	2013	2014	2015	2016	2017
0～6	36	39	38	37	38	41	39
7～15	31	33	34	33	34	35	35
16～39	30	38	40	39	39	39	38
40～64	30	40	41	42	42	41	40
65～	28	38	39	41	41	40	39

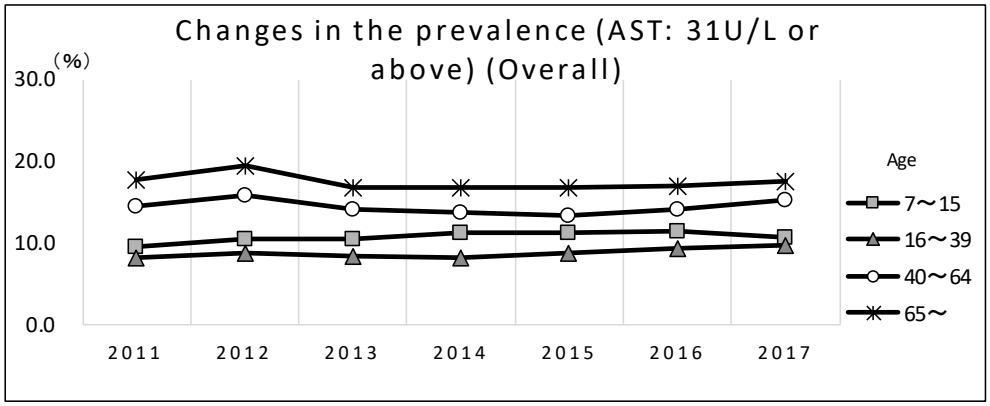
The average WBC count shows no great change in any age group from FY2011 to FY2017.

Regarding WBC differential counts, the average neutrophil count, lymphocyte count, monocyte count, eosinophil count and basophil count did not show any great change in any age groups from FY2011 to FY2017.

No changes were observed in the average RBC count, WBC count, and platelet count among children from FY2012 to FY2017 compared with FY2011.

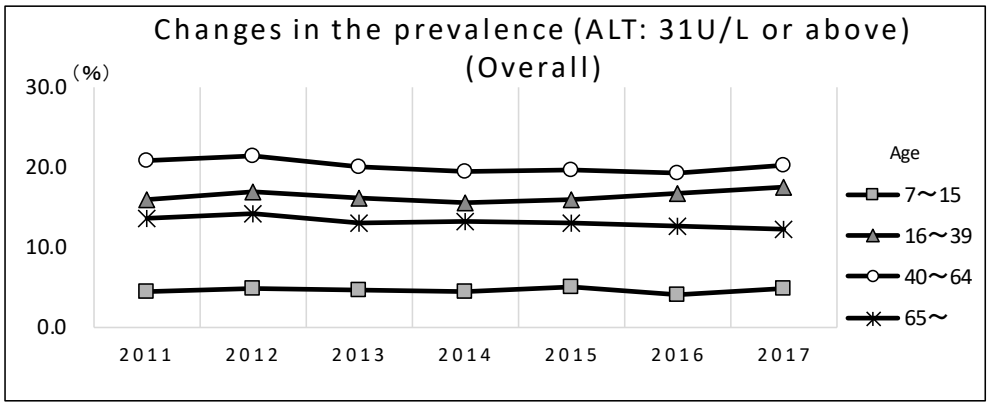
4. Serum Chemistry (1) Hepatic Function (AST, ALT, γ-GT)

Prevalence of hepatic dysfunction (AST≥31U/L)



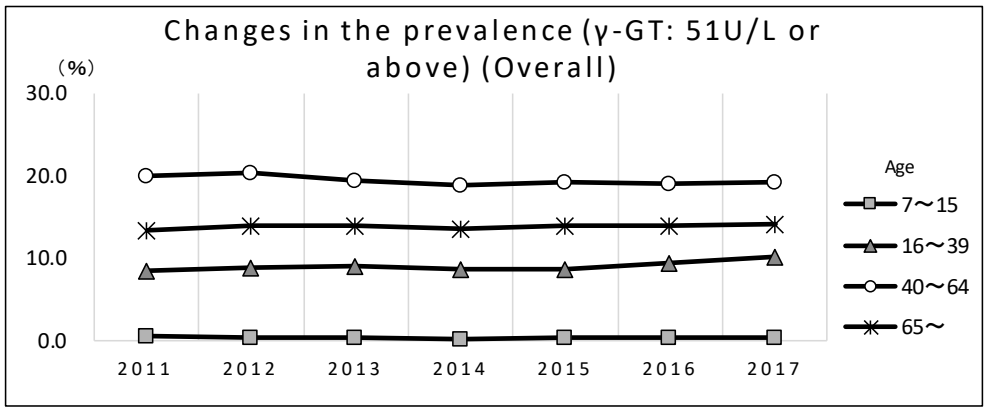
Age Group	2011	2012	2013	2014	2015	2016	2017
7～15	9.6	10.6	10.5	11.2	11.2	11.5	10.7
16～39	8.2	8.7	8.4	8.3	8.8	9.3	9.8
40～64	14.5	15.8	14.1	13.7	13.4	14.1	15.3
65～	17.7	19.5	16.8	16.8	16.8	17.0	17.6

Prevalence of hepatic dysfunction (ALT≥31U/L)



Age Group	2011	2012	2013	2014	2015	2016	2017
7～15	4.5	4.8	4.7	4.4	5.0	4.0	4.9
16～39	15.9	16.9	16.1	15.5	16.0	16.7	17.5
40～64	20.8	21.4	20.0	19.5	19.7	19.3	20.2
65～	13.6	14.2	13.0	13.3	13.1	12.7	12.2

Prevalence of hepatic dysfunction (γ-GT ≥51U/L)



Age Group	2011	2012	2013	2014	2015	2016	2017
7～15	0.6	0.4	0.4	0.2	0.4	0.4	0.4
16～39	8.5	8.8	9.1	8.7	8.7	9.5	10.1
40～64	19.9	20.4	19.5	18.9	19.3	19.0	19.3
65～	13.4	14.0	13.9	13.5	13.9	14.0	14.1

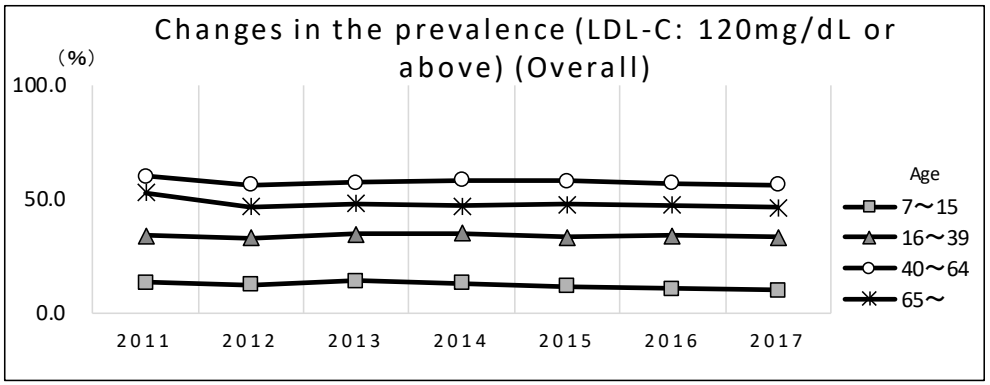
◆Summary of analysis (multiple comparison) results◆ * P-values < 0.05 are statistically significant.
The prevalence of those with hepatic dysfunction (AST ≥ 31U/L) was significantly higher in FY2017 than FY2011 in the age group of 16-39 years, but no significant change was seen when compared with FY2016.

The prevalence of those with hepatic dysfunction (ALT ≥ 31U/L) was significantly lower in FY2017 than FY2011 in the age group of 65 years or over, but no significant change was seen when compared with FY2016.

The prevalence of those with hepatic dysfunction (γ -GT≥ 51U/L) was significantly higher in FY2017 than FY2011 in the age group of 16-39 years, but no significant change was seen when compared with FY2016.

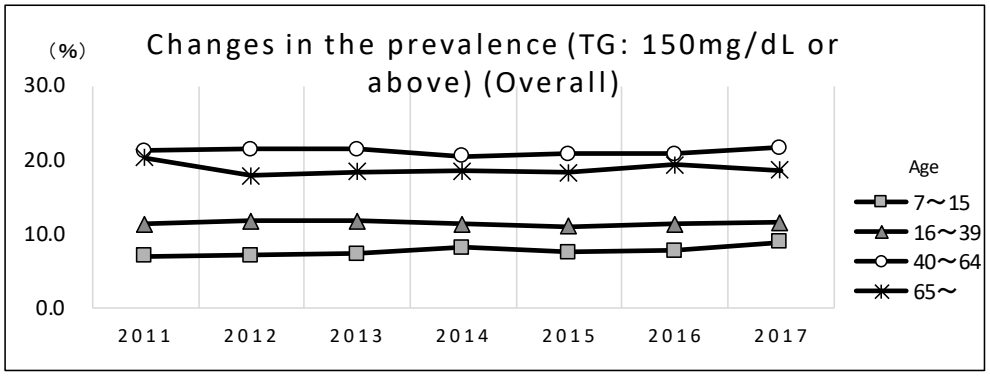
4. Serum Chemistry (2) Lipid (LDL Cholesterol, Triglyceride, HDL Cholesterol)

Prevalence of abnormal lipid metabolism (LDL-C≥120mg/dL)



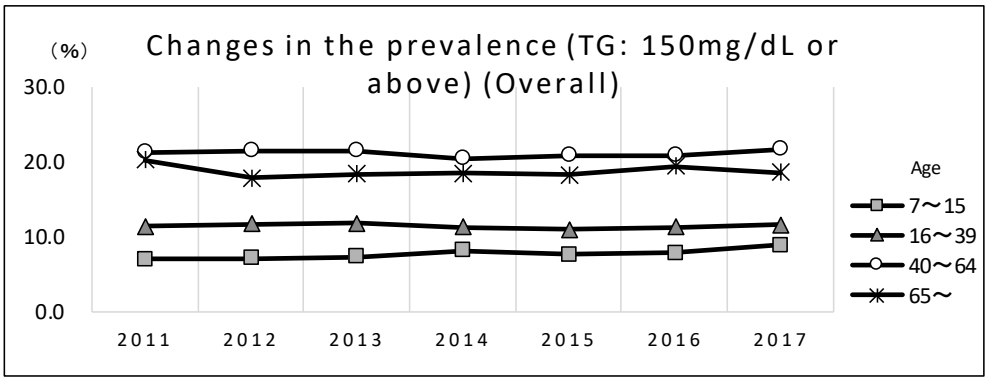
Age Group	2011	2012	2013	2014	2015	2016	2017
7～15	13.2	12.2	13.8	12.9	11.7	10.6	9.7
16～39	33.9	32.7	34.5	35.0	33.0	34.0	33.1
40～64	59.8	56.0	57.2	58.3	57.8	56.8	56.2
65～	52.8	46.7	47.9	46.8	47.6	47.1	46.1

Prevalence of abnormal lipid metabolism (Triglyceride≥150mg/dL)



Age Group	2011	2012	2013	2014	2015	2016	2017
7～15	7.0	7.1	7.3	8.2	7.6	7.8	8.9
16～39	11.4	11.7	11.8	11.3	11.0	11.3	11.6
40～64	21.3	21.5	21.5	20.5	20.9	20.9	21.7
65～	20.3	17.9	18.4	18.5	18.3	19.4	18.6

Prevalence of abnormal lipid metabolism (HDL-C<40mg/dL)



Age Group	2011	2012	2013	2014	2015	2016	2017
7～15	7.0	7.1	7.3	8.2	7.6	7.8	8.9
16～39	11.4	11.7	11.8	11.3	11.0	11.3	11.6
40～64	21.3	21.5	21.5	20.5	20.9	20.9	21.7
65～	20.3	17.9	18.4	18.5	18.3	19.4	18.6

◆Summary of analysis (multiple comparison) results◆ * P-values < 0.05 are statistically significant.

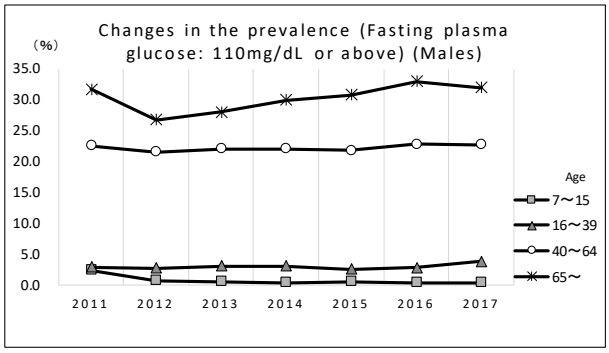
The prevalence of those with LDL-C ≥ 120 mg/dL decreased significantly in FY2017 from FY2011 in the age groups of 7-15 years and 40 years or over, but no significant change was seen when compared with FY2016.

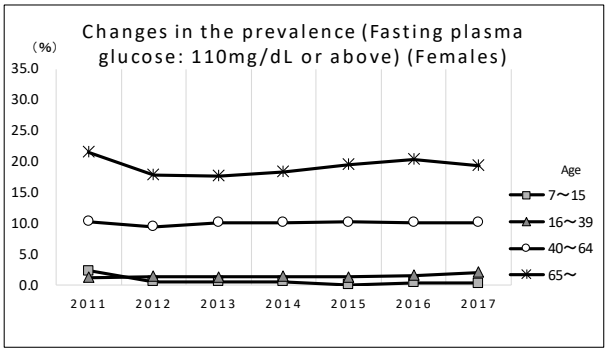
The prevalence of those with TG ≥ 150 mg/dL increased significantly in FY2017 from FY2011 in the age group of 7-15 years, but no significant change was seen when compared with FY2016.

The prevalence of those with HDL-C< 40 mg/dL decreased significantly in FY2017 from FY2011 in the age group of 40-64 years, but no significant change was seen when compared with FY2016. In the age group of 65 years or over, the prevalence decreased significantly in FY2017 from 2011, and also from FY2016.

4. Serum Chemistry (3) Sugar (Fasting plasma glucose, HbA1c)

Prevalence of impaired glucose tolerance (Fasting plasma glucose≥110mg/dL)

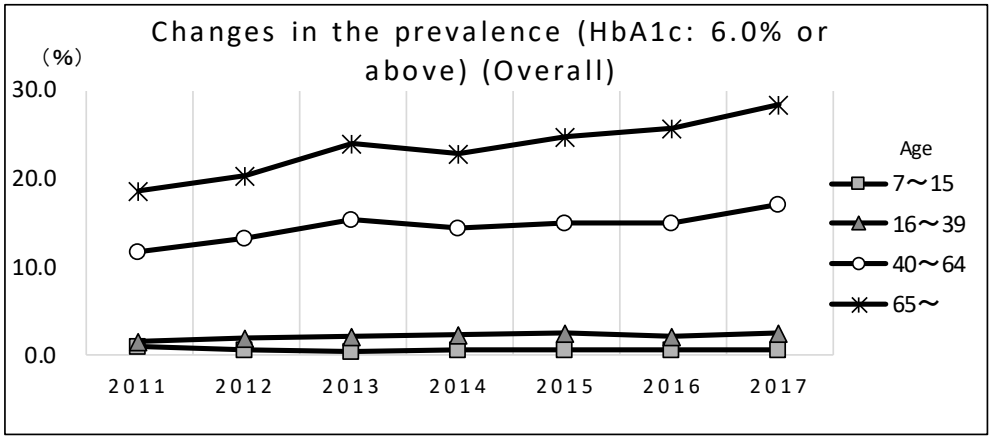




Age Group	2011	2012	2013	2014	2015	2016	2017
7～15	2.4	0.7	0.6	0.3	0.6	0.3	0.4
16～39	2.9	2.7	3.0	3.1	2.6	2.8	3.8
40～64	22.5	21.5	22.1	22.0	21.8	22.8	22.7
65～	31.7	26.7	28.0	29.9	30.8	32.9	32.0

Age Group	2011	2012	2013	2014	2015	2016	2017
7～15	2.3	0.6	0.5	0.5	0.1	0.4	0.3
16～39	1.2	1.4	1.3	1.4	1.3	1.6	2.1
40～64	10.3	9.5	10.1	10.1	10.2	10.1	10.1
65～	21.6	17.8	17.7	18.3	19.5	20.3	19.4

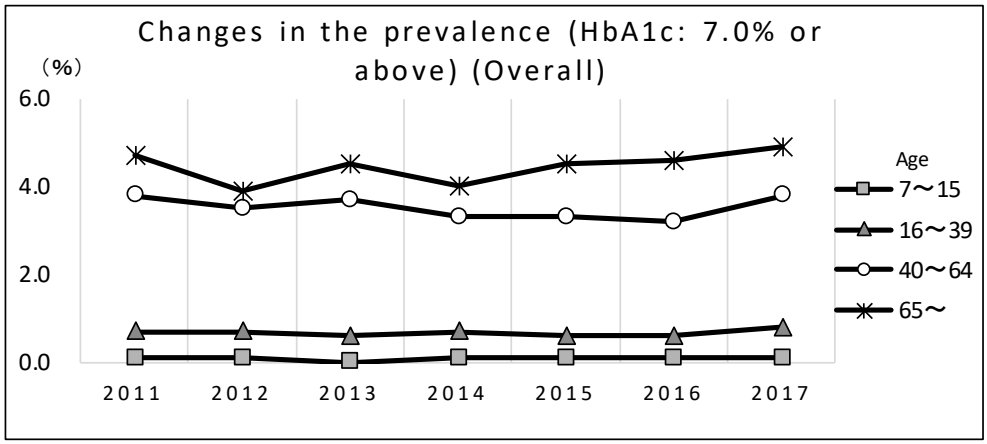
Prevalence of impaired glucose tolerance (HbA1c≥6.0%)



Age Group	2011	2012	2013	2014	2015	2016	2017
7～15	1.0	0.6	0.5	0.6	0.6	0.7	0.7
16～39	1.6	2.0	2.2	2.3	2.5	2.1	2.6
40～64	11.8	13.2	15.4	14.4	14.9	14.9	17.0
65～	18.7	20.3	24.0	22.9	24.7	25.7	28.4

◆Summary of analysis (multiple comparison) results◆ * P-values < 0.05 are statistically significant.

Prevalence of poor blood sugar control (HbA1c≥7.0%)



Age Group	2011	2012	2013	2014	2015	2016	2017
7～15	0.1	0.1	0.0	0.1	0.1	0.1	0.1
16～39	0.7	0.7	0.6	0.7	0.6	0.6	0.8
40～64	3.8	3.5	3.7	3.3	3.3	3.2	3.8
65～	4.7	3.9	4.5	4.0	4.5	4.6	4.9

The prevalence of males with fasting plasma glucose ≥110 mg/dL decreased significantly in FY2017 from FY2011 in the age group of 7-15 years, but no significant change was seen when compared with FY2016. In other age groups, there was no significant change from FY2011 to FY2017.

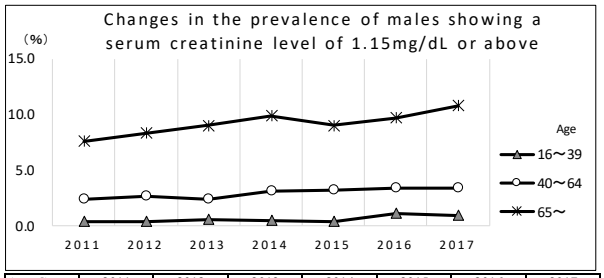
The prevalence of females with fasting plasma glucose ≥110 mg/dL decreased significantly in FY2017 from FY2011 in the age groups of 7-39 years and 65 years or over, but no significant change was seen when compared with FY2016. In the age group of 40-64 years, there was no significant change from FY2011 to FY2017.

The prevalence of those with HbA1c ≥ 6% increased significantly in FY2017 from FY2011 in the age group of 16-39 years, but no significant change was seen when compared with FY2016. In the age group of 40 year or over, the prevalence in FY2017 increased significantly from FY2011, and also from FY2016.

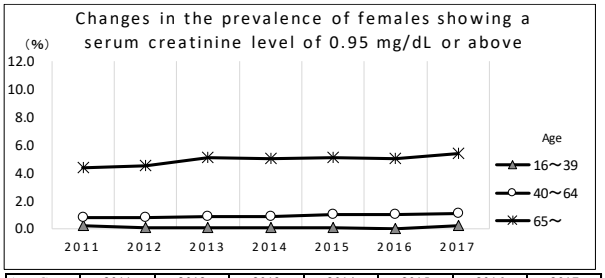
The prevalence of those with HbA1c ≥ 7% did not show any significant change in any age group.

4. Serum Chemistry (4) Renal Function (Serum creatinine, eGFR, Uric Acid)

Prevalence of males with serum creatinine ≥ 1.15 mg/dL and females with serum creatinine ≥ 0.95 mg/dL



Age Group	2011	2012	2013	2014	2015	2016	2017
16～39	0.4	0.4	0.6	0.5	0.4	1.1	0.9
40～64	2.4	2.7	2.4	3.1	3.2	3.4	3.4
65～	7.6	8.3	9.0	9.9	9.0	9.7	10.8

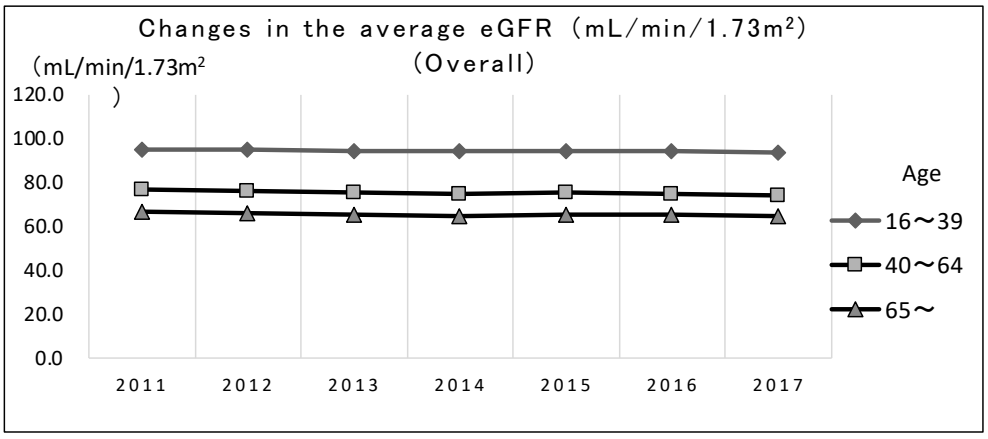


Age Group	2011	2012	2013	2014	2015	2016	2017
16～39	0.2	0.1	0.1	0.1	0.1	0.0	0.2
40～64	0.8	0.8	0.9	0.9	1.0	1.0	1.1
65～	4.4	4.5	5.1	5.0	5.1	5.0	5.4

◆Summary of analysis (multiple comparison) results◆ * P-values < 0.05 are statistically significant.

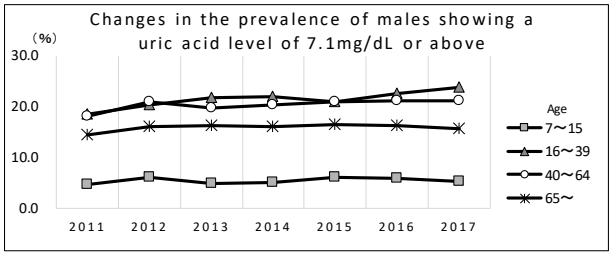
The prevalence of those with elevated serum creatinine (≥ 1.15 mg/dL) increased significantly in males aged 40 year or over in FY2017 from FY2011, but no significant change was seen when compared with FY2016.

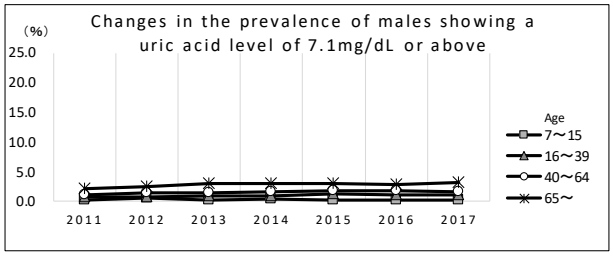
In females aged 65 years or over, the prevalence increased significantly in 2017 from 2011, but no significant change was seen when compared with FY2016.



Age Group	2011	2012	2013	2014	2015	2016	2017
16～39	94.8	95.0	94.3	94.3	94.4	93.9	93.5
40～64	76.9	75.9	75.4	74.6	75.0	74.5	74.0
65～	66.6	66.2	65.5	64.8	65.2	65.1	64.4

Prevalence of hyperuricemia with uric acid ≥7.1 mg/dL (*1)

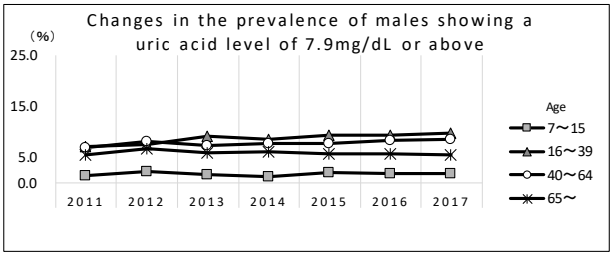


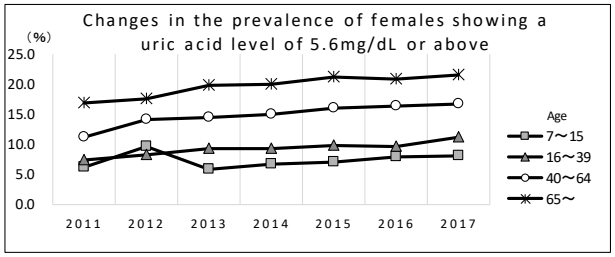


Age Group	2011	2012	2013	2014	2015	2016	2017
7～15	4.7	6.1	4.9	5.0	6.0	5.9	5.3
16～39	18.5	20.3	21.8	22.0	20.9	22.6	23.8
40～64	18.1	20.9	19.7	20.3	20.9	21.2	21.2
65～	14.4	16.0	16.3	16.1	16.4	16.3	15.7

Age Group	2011	2012	2013	2014	2015	2016	2017
7～15	0.3	0.6	0.2	0.4	0.3	0.3	0.2
16～39	0.7	0.7	1.0	1.0	1.3	1.2	1.1
40～64	1.1	1.5	1.4	1.6	1.8	1.9	1.7
65～	2.1	2.6	3.0	3.0	3.1	2.9	3.2

Prevalence of males with uric acid ≥7.9 mg/dL and females with uric acid ≥5.6 mg/dL (*2)





Age Group	2011	2012	2013	2014	2015	2016	2017
7～15	1.4	2.3	1.7	1.1	2.0	1.8	1.8
16～39	7.2	7.6	9.1	8.6	9.3	9.4	9.8
40～64	7.0	8.2	7.3	7.7	7.7	8.3	8.6
65～	5.4	6.8	5.8	6.1	5.6	5.7	5.4

Age Group	2011	2012	2013	2014	2015	2016	2017
7～15	6.2	9.6	5.9	6.7	7.1	7.9	8.1
16～39	7.5	8.3	9.3	9.4	9.8	9.7	11.2
40～64	11.3	14.1	14.6	15.1	16.1	16.5	16.8
65～	17.0	17.7	19.8	20.0	21.2	20.9	21.6

◆Summary of analysis (multiple comparison) results◆ * P-values < 0.05 are statistically significant.

The prevalence of those with uric acid level of 7.1 mg/dL or above increased significantly in FY2017 from FY2011 in males aged 16-64 years, but no significant change was seen when compared with FY2016.

In females aged 40 years or over, a significant increase was observed in FY2017 compared with FY2011, but no significant change when compared with FY2016.

The prevalence of males with elevated uric acid level (≥7.9 mg/dL) increased significantly in FY2017 from FY2011 in those aged 16-64 years, but no significant change was seen when compared with FY2016.

The prevalence of females with elevated uric acid level (≥5.6 mg/dL) increased significantly in FY2017 from FY2011 in those aged 16 years or over, but no significant change was seen when compared with FY2016.

*1 Definition in the Treatment Guidelines for Hyperuricemia and Gout, published by the Japanese Society of Gout and Uric & Nucleic Acids

*2 Common reference intervals defined by the Japanese Committee For Clinical Laboratory Standards

Details of FY2017 Comprehensive Health Check results

Height

Height (cm) (overall)			
Age	Examinees	Average age	Average height
0-6	1,647	3.6	95.0
7-15	3,712	10.8	141.6
16-39	4,309	29.2	163.1
40-64	12,677	55.1	160.4
65-	20,296	73.3	155.3

Height (cm) (male)					
Age	Examinees	Average age	Average height	≤ 150 cm	≥ 170 cm
0-6	817	3.5	95.0	…	…
7-15	1,886	10.9	143.1	…	…
16-39	1,671	28.0	171.1	0.6%	58.1%
40-64	4,622	55.3	168.5	0.2%	40.7%
65-	9,333	73.4	162.3	2.6%	10.8%

Height (cm) (female)					
Age	Examinees	Average age	Average height	≤ 140 cm	≥ 160 cm
0-6	830	3.6	95.0	…	…
7-15	1,826	10.8	140.0	…	…
16-39	2,638	29.9	158.0	0.2%	36.8%
40-64	8,055	54.9	155.7	0.4%	22.6%
65-	10,963	73.2	149.4	5.8%	3.2%

Weight

Weight (kg) (overall)			
Age	Examinees	Average age	Average weight
0-6	1,647	3.6	14.8
7-15	3,712	10.8	37.6
16-39	4,308	29.2	61.0
40-64	12,676	55.1	61.7
65-	20,296	73.3	57.9

Weight (kg) (male)					
Age	Examinees	Average age	Average weight	≤ 50 kg	≥ 70 kg
0-6	817	3.5	14.9	…	…
7-15	1,886	10.9	38.8	…	…
16-39	1,671	28.0	69.7	4.5%	42.5%
40-64	4,621	55.3	70.1	1.9%	46.7%
65-	9,333	73.4	63.8	6.6%	24.2%

Weight (kg) (female)					
Age	Examinees	Average age	Average weight	≤ 45 kg	≥ 65 kg
0-6	830	3.6	14.8	…	…
7-15	1,826	10.8	36.4	…	…
16-39	2,637	29.9	55.4	13.2%	15.8%
40-64	8,055	54.9	56.9	9.0%	18.6%
65-	10,963	73.2	52.9	17.6%	8.8%

1. Physical Examination (1) BMI

BMI (weight/height^2) (overall)					
Age	Examinees	Average age	Average BMI	< 18	≥ 25
0-6	·	·	·	·	·
7-15	·	·	·	·	·
16-39	4,308	29.2	22.8	8.6%	24.7%
40-64	12,676	55.1	23.9	3.6%	34.7%
65-	20,296	73.3	23.9	3.0%	35.3%

BMI (weight/height^2) (male)					
Age	Examinees	Average age	Average BMI	< 18	≥ 25
0-6	·	·	·	·	·
7-15	·	·	·	·	·
16-39	1,671	28.0	23.8	5.7%	33.4%
40-64	4,621	55.3	24.7	1.5%	42.5%
65-	9,333	73.4	24.2	2.0%	38.0%

BMI (weight/height^2) (female)					
Age	Examinees	Average age	Average BMI	< 18	≥ 25
0-6	·	·	·	·	·
7-15	·	·	·	·	·
16-39	2,637	29.9	22.2	10.5%	19.1%
40-64	8,055	54.9	23.5	4.7%	30.2%
65-	10,963	73.2	23.7	3.8%	33.1%

1. Physical Examination (2) Abdominal Circumference

AC (cm) (overall)			
Age	Examinees	Average age	Average AC
0-6	·	·	·
7-15	·	·	·
16-39	936	29.0	77.6
40-64	12,675	55.1	84.0
65-	13,198	69.5	85.1

AC (cm) (male)				
Age	Examinees	Average age	Average AC	≥ 85 cm
0-6	·	·	·	·
7-15	·	·	·	·
16-39	413	28.6	80.7	33.4%
40-64	4,621	55.3	86.8	56.3%
65-	6,040	69.6	86.4	56.7%

AC (cm) (female)				
Age	Examinees	Average age	Average AC	≥ 90 cm
0-6	·	·	·	·
7-15	·	·	·	·
16-39	523	29.3	75.1	8.0%
40-64	8,054	54.9	82.4	22.2%
65-	7,158	69.5	84.0	25.0%

1. Physical Examination（3）Blood pressure

Systolic blood pressure (mmHg) (overall)				
Age	Examinees	Average age	Average systolic blood pressure	≥ 140 mmHg
0-6	·	·	·	·
7-15	3,702	10.8	104.4	0.3%
16-39	4,309	29.2	112.0	2.8%
40-64	12,678	55.1	124.0	15.7%
65-	20,299	73.3	131.1	27.6%

Systolic blood pressure (mmHg) (male)				
Age	Examinees	Average age	Average systolic blood pressure	≥ 140 mmHg
0-6	·	·	·	·
7-15	1,880	10.9	105.6	0.4%
16-39	1,671	28.0	117.2	4.5%
40-64	4,622	55.3	127.0	19.4%
65-	9,336	73.4	131.8	29.2%

Systolic blood pressure (mmHg) (female)				
Age	Examinees	Average age	Average systolic blood pressure	≥ 140 mmHg
0-6	·	·	·	·
7-15	1,822	10.8	103.1	0.2%
16-39	2,638	29.9	108.6	1.7%
40-64	8,056	54.9	122.2	13.6%
65-	10,963	73.2	130.5	26.3%

Diastolic blood pressure (mmHg) (overall)				
Age	Examinees	Average age	Average diastolic blood pressure	≥ 90 mmHg
0-6	·	·	·	·
7-15	3,702	10.8	60.9	0.4%
16-39	4,309	29.2	67.0	2.9%
40-64	12,678	55.1	75.3	11.0%
65-	20,299	73.3	73.6	7.3%

Diastolic blood pressure (mmHg) (male)				
Age	Examinees	Average age	Average diastolic blood pressure	≥ 90 mmHg
0-6	·	·	·	·
7-15	1,880	10.9	61.2	0.4%
16-39	1,671	28.0	69.8	3.9%
40-64	4,622	55.3	78.6	16.4%
65-	9,336	73.4	74.6	8.7%

Diastolic blood pressure (mmHg) (female)				
Age	Examinees	Average age	Average diastolic blood pressure	≥ 90 mmHg
0-6	·	·	·	·
7-15	1,822	10.8	60.6	0.3%
16-39	2,638	29.9	65.3	2.3%
40-64	8,056	54.9	73.3	7.9%
65-	10,963	73.2	72.7	6.1%

2. Urine Test (1) Urinary sugar

Urinary sugar (overall)			
Age	Examinees	Average age	≥ (1+)
0-6	·	·	·
7-15	·	·	·
16-39	4,288	29.2	1.0%
40-64	12,647	55.1	2.8%
65-	20,235	73.3	2.9%

Urinary sugar (male)			
Age	Examinees	Average age	≥ (1+)
0-6	·	·	·
7-15	·	·	·
16-39	1,671	28.0	1.6%
40-64	4,613	55.3	4.9%
65-	9,314	73.4	4.5%

Urinary sugar (female)			
Age	Examinees	Average age	≥ (1+)
0-6	·	·	·
7-15	·	·	·
16-39	2,617	30.0	0.6%
40-64	8,034	55.0	1.6%
65-	10,921	73.2	1.5%

2. Urine Test (2) Urine Protein

Urine protein (overall)			
Age	Examinees	Average age	≥ (1+)
0-6	·	·	·
7-15	·	·	·
16-39	4,288	29.2	2.5%
40-64	12,647	55.1	1.8%
65-	20,235	73.3	3.1%

Urine protein (male)			
Age	Examinees	Average age	≥ (1+)
0-6	·	·	·
7-15	·	·	·
16-39	1,671	28.0	2.9%
40-64	4,613	55.3	2.6%
65-	9,314	73.4	4.5%

Urine protein (female)			
Age	Examinees	Average age	≥ (1+)
0-6	·	·	·
7-15	·	·	·
16-39	2,617	30.0	2.3%
40-64	8,034	55.0	1.3%
65-	10,921	73.2	1.8%

2. Urine Test (3) Urine Occult Blood

Urine occult blood (overall)				
Age	Examinees	Average age	≥ (1+)	≥ (1+) excluding those under menstruation
0-6	•	•	•	•
7-15	•	•	•	•
16-39	4,286	29.2	7.2%	3.1%
40-64	12,645	55.1	6.1%	4.9%
65-	20,233	73.3	5.8%	5.8%

Urine occult blood (male)			
Age	Examinees	Average age	≥ (1+)
0-6	•	•	•
7-15	•	•	•
16-39	1,670	28.0	1.0%
40-64	4,613	55.3	2.6%
65-	9,313	73.4	4.0%

Urine occult blood (female)				
Age	Examinees	Average age	≥ (1+)	≥ (1+) excluding those under menstruation.
0-6	•	•	•	•
7-15	•	•	•	•
16-39	2,616	30.0	11.1%	4.4%
40-64	8,032	55.0	8.0%	6.2%
65-	10,920	73.2	7.4%	7.4%

3. Peripheral Blood Diagnostic Test (1) -1 RBC

RBC (10^6/μL) (overall)			
Age	Examinees	Average age	Average RBC
0-6	1,526	3.6	4.71
7-15	3,696	10.8	4.82
16-39	4,306	29.2	4.81
40-64	12,675	55.1	4.66
65-	20,291	73.3	4.51

RBC (10^6/μL) (male)						
Age	Examinees	Average age	Average RBC	≤ 3.69x10^6/μL	≤ 3.99x10^6/μL	≥ 5.80x10^6/μL
0-6	756	3.6	4.74	-	-	0.1%
7-15	1,880	10.9	4.94	-	0.1%	1.0%
16-39	1,670	28.0	5.22	-	0.1%	4.9%
40-64	4,622	55.3	4.94	0.7%	1.7%	2.9%
65-	9,334	73.4	4.68	2.7%	7.5%	1.0%

RBC (10^6/μL) (female)						
Age	Examinees	Average age	Average RBC	≤ 3.69x10^6/μL	≤ 3.99x10^6/μL	≥ 5.80x10^6/μL
0-6	770	3.7	4.69	-	-	0.4%
7-15	1,816	10.8	4.71	-	-	0.4%
16-39	2,636	29.9	4.54	0.1%	0.9%	0.5%
40-64	8,053	54.9	4.50	0.3%	1.3%	0.6%
65-	10,957	73.2	4.37	1.1%	4.8%	0.2%

3. Peripheral Blood Diagnostic Test (1) -2 Hemoglobin

Hemoglobin (g/dL) (overall)			
Age	Examinees	Average age	Average hemoglobin
0-6	1,526	3.6	12.5
7-15	3,696	10.8	13.5
16-39	4,306	29.2	14.1
40-64	12,675	55.1	14.0
65-	20,291	73.3	13.8

Hemoglobin (g/dL) (male)						
Age	Examinees	Average age	Average hemoglobin	≤ 12.0 g/dL	≤ 13.0 g/dL	≥ 18.0 g/dL
0-6	756	3.6	12.5	26.7%	74.7%	-
7-15	1,880	10.9	13.8	3.8%	23.1%	0.1%
16-39	1,670	28.0	15.7	0.1%	0.7%	1.1%
40-64	4,622	55.3	15.2	1.0%	3.3%	1.3%
65-	9,334	73.4	14.5	4.6%	13.4%	0.7%

Hemoglobin (g/dL) (female)						
Age	Examinees	Average age	Average hemoglobin	≤ 11.0 g/dL	≤ 12.0 g/dL	≥ 16.0 g/dL
0-6	770	3.7	12.5	4.5%	25.8%	-
7-15	1,816	10.8	13.3	2.0%	8.0%	-
16-39	2,636	29.9	13.2	4.9%	13.4%	0.3%
40-64	8,053	54.9	13.3	4.3%	11.6%	0.7%
65-	10,957	73.2	13.2	3.3%	14.5%	0.4%

3. Peripheral Blood Diagnostic Test (1) -3 Hematocrit

Hematocrit (%) (overall)			
Age	Examinees	Average age	Average hematocrit
0-6	1,526	3.6	37.9
7-15	3,696	10.8	40.9
16-39	4,306	29.2	42.5
40-64	12,675	55.1	42.1
65-	20,291	73.3	41.5

Hematocrit (%) (male)						
Age	Examinees	Average age	Average hematocrit	≤ 35.9%	≤ 37.9%	≥ 55.0%
0-6	756	3.6	37.8	22.1%	54.4%	-
7-15	1,880	10.9	41.5	3.4%	13.0%	-
16-39	1,670	28.0	46.4	0.1%	0.4%	0.1%
40-64	4,622	55.3	45.1	0.7%	2.0%	0.3%
65-	9,334	73.4	43.4	3.8%	8.2%	0.2%

Hematocrit (%) (female)						
Age	Examinees	Average age	Average hematocrit	≤ 28.9%	≤ 32.9%	≥ 48.0%
0-6	770	3.7	38.0	-	2.1%	-
7-15	1,816	10.8	40.3	0.1%	0.8%	0.1%
16-39	2,636	29.9	40.1	0.2%	1.8%	0.3%
40-64	8,053	54.9	40.3	0.6%	2.3%	0.6%
65-	10,957	73.2	40.0	0.3%	2.0%	0.5%

3. Peripheral Blood Diagnostic Test (2) Platelet count

Platelet count (10^3/μL) (overall)							
Age	Examinees	Average age	Average platelet count	≤ 89x10^3/μL	≤ 129x10^3/μL	≥ 370x10^3/μL	≥ 450x10^3/μL
0-6	1,524	3.6	343.3	0.3%	0.3%	31.4%	9.5%
7-15	3,695	10.8	291.7	0.0%	0.2%	10.0%	1.1%
16-39	4,305	29.2	269.1	0.1%	0.3%	5.3%	0.7%
40-64	12,670	55.1	258.7	0.2%	0.7%	4.5%	0.7%
65-	20,279	73.3	231.3	0.3%	1.9%	1.6%	0.3%

Platelet count (10^3/μL) (male)							
Age	Examinees	Average age	Average platelet count	≤ 89x10^3/μL	≤ 129x10^3/μL	≥ 370x10^3/μL	≥ 450x10^3/μL
0-6	754	3.6	341.7	0.3%	0.3%	31.3%	9.7%
7-15	1,879	10.9	292.2	-	0.1%	10.5%	1.3%
16-39	1,669	28.0	260.7	-	0.2%	3.2%	0.4%
40-64	4,620	55.3	251.0	0.3%	1.0%	3.2%	0.3%
65-	9,329	73.4	223.4	0.4%	2.5%	1.4%	0.3%

Platelet count (10^3/μL) (female)							
Age	Examinees	Average age	Average platelet count	≤ 89x10^3/μL	≤ 129x10^3/μL	≥ 370x10^3/μL	≥ 450x10^3/μL
0-6	770	3.7	344.8	0.3%	0.3%	31.6%	9.4%
7-15	1,816	10.8	291.1	0.1%	0.2%	9.4%	0.9%
16-39	2,636	29.9	274.4	0.1%	0.4%	6.7%	0.8%
40-64	8,050	54.9	263.1	0.1%	0.5%	5.3%	0.9%
65-	10,950	73.2	238.0	0.3%	1.3%	1.8%	0.3%

3. Peripheral Blood Diagnostic Test (3)-1 WBC

WBC (10^3/μL) (overall)							
Age	Examinees	Average age	Average WBC	≤ 2.9x10^3/μL	≤ 3.9x10^3/μL	≥ 9.6x10^3/μL	≥ 11.1x10^3/μL
0-6	1,526	3.6	8.6	-	0.3%	28.8%	14.3%
7-15	3,696	10.8	6.5	0.1%	2.9%	5.6%	1.6%
16-39	4,306	29.2	6.0	0.5%	7.7%	3.4%	0.9%
40-64	12,675	55.1	5.8	1.0%	9.9%	2.5%	0.8%
65-	20,291	73.3	5.8	0.6%	8.2%	2.1%	0.6%

WBC (10^3/μL) (male)							
Age	Examinees	Average age	Average WBC	≤ 2.9x10^3/μL	≤ 3.9x10^3/μL	≥ 9.6x10^3/μL	≥11.1x10^3/μL
0-6	756	3.6	8.6	-	0.4%	28.4%	14.9%
7-15	1,880	10.9	6.5	0.1%	3.4%	5.7%	1.6%
16-39	1,670	28.0	6.1	0.2%	6.5%	3.5%	1.0%
40-64	4,622	55.3	6.2	0.3%	5.3%	4.1%	1.3%
65-	9,334	73.4	6.0	0.4%	6.1%	2.9%	0.9%

WBC (10^3/μL) (female)							
Age	Examinees	Average age	Average WBC	≤ 2.9x10^3/μL	≤ 3.9x10^3/μL	≥ 9.6x10^3/μL	≥11.1x10^3/μL
0-6	770	3.7	8.6	-	0.3%	29.1%	13.6%
7-15	1,816	10.8	6.6	0.1%	2.5%	5.4%	1.5%
16-39	2,636	29.9	5.9	0.7%	8.4%	3.3%	0.8%
40-64	8,053	54.9	5.5	1.3%	12.5%	1.6%	0.5%
65-	10,957	73.2	5.6	0.9%	10.0%	1.4%	0.3%

3. Peripheral Blood Diagnostic Test (3)-2 Differential white blood count (neutrophil)

Neutrophil (count/μL) (overall)			
Age	Examinees	Average age	Average neutrophil
0-6	1,526	3.6	3,402
7-15	3,696	10.8	3,250
16-39	4,302	29.2	3,447
40-64	12,666	55.1	3,252
65-	20,286	73.3	3,277

Neutrophil (count/μL) (male)			
Age	Examinees	Average age	Average neutrophil
0-6	756	3.6	3,323
7-15	1,880	10.9	3,184
16-39	1,668	28.0	3,379
40-64	4,620	55.3	3,497
65-	9,332	73.4	3,453

Neutrophil (count/μL) (female)			
Age	Examinees	Average age	Average neutrophil
0-6	770	3.7	3,478
7-15	1,816	10.8	3,318
16-39	2,634	29.9	3,489
40-64	8,046	54.9	3,111
65-	10,954	73.2	3,127

3. Peripheral Blood Diagnostic Test (3)-3 Differential white blood count (lymphocyte)

Lymphocyte (count/μL) (overall)			
Age	Examinees	Average age	Average lymphocyte count
0-6	1,526	3.6	4,386
7-15	3,696	10.8	2,611
16-39	4,302	29.2	1,990
40-64	12,666	55.1	1,987
65-	20,286	73.3	1,969

Lymphocyte (count/μL) (male)			
Age	Examinees	Average age	Average lymphocyte count
0-6	756	3.6	4,407
7-15	1,880	10.9	2,596
16-39	1,668	28.0	2,088
40-64	4,620	55.3	2,084
65-	9,332	73.4	1,970

Lymphocyte (count/μL) (female)			
Age	Examinees	Average age	Average lymphocyte count
0-6	770	3.7	4,365
7-15	1,816	10.8	2,627
16-39	2,634	29.9	1,927
40-64	8,046	54.9	1,931
65-	10,954	73.2	1,969

3. Peripheral Blood Diagnostic Test (3)-4 Differential white blood count (monocyte)

Monocyte (count/μL) (overall)			
Age	Examinees	Average age	Average monocyte count
ne	1,526	3.6	444
7-15	3,696	10.8	352
16-39	4,302	29.2	326
40-64	12,666	55.1	314
65-	20,286	73.3	333

Monocyte (count/μL) (male)			
Age	Examinees	Average age	Average monocyte count
0-6	756	3.6	450
7-15	1,880	10.9	362
16-39	1,668	28.0	347
40-64	4,620	55.3	358
65-	9,332	73.4	369

Monocyte (count/μL) (female)			
Age	Examinees	Average age	Average monocyte count
0-6	770	3.7	438
7-15	1,816	10.8	341
16-39	2,634	29.9	312
40-64	8,046	54.9	288
65-	10,954	73.2	303

3. Peripheral Blood Diagnostic Test (3)-5 Differential white blood count (eosinophil)

Eosinophil (count/μL) (overall)			
Age	Examinees	Average age	Average eosinophil count
0-6	1,526	3.6	306
7-15	3,696	10.8	276
16-39	4,302	29.2	171
40-64	12,666	55.1	159
65-	20,286	73.3	155

Eosinophil (count/μL) (male)			
Age	Examinees	Average age	Average eosinophil count
0-6	756	3.6	341
7-15	1,880	10.9	318
16-39	1,668	28.0	197
40-64	4,620	55.3	189
65-	9,332	73.4	179

Eosinophil (count/μL) (female)			
Age	Examinees	Average age	Average eosinophil count
0-6	770	3.7	271
7-15	1,816	10.8	233
16-39	2,634	29.9	154
40-64	8,046	54.9	142
65-	10,954	73.2	135

3. Peripheral Blood Diagnostic Test (3)-6 Differential white blood count (basophil)

Basophil (count/μL) (overall)			
Age	Examinees	Average age	Average basophil count
0-6	1,526	3.6	39
7-15	3,696	10.8	35
16-39	4,302	29.2	38
40-64	12,666	55.1	40
65-	20,286	73.3	39

Basophil (count/μL) (male)			
Age	Examinees	Average age	Average basophil count
0-6	756	3.6	42
7-15	1,880	10.9	37
16-39	1,668	28.0	39
40-64	4,620	55.3	44
65-	9,332	73.4	41

Basophil (count/μL) (female)			
Age	Examinees	Average age	Average basophil count
0-6	770	3.7	36
7-15	1,816	10.8	32
16-39	2,634	29.9	37
40-64	8,046	54.9	38
65-	10,954	73.2	37

4. Serum Chemistry (1)-1 Hepatic Function (AST)

AST (U/L) (overall)					
Age	Examinees	Average age	Average AST	≥ 31 U/L	≥ 51 U/L
0-6	·	·	·	·	·
7-15	3,621	10.9	24.2	10.7%	0.7%
16-39	4,307	29.2	21.3	9.8%	2.3%
40-64	12,676	55.1	24.5	15.3%	3.1%
65-	20,293	73.3	25.7	17.6%	2.7%

AST (U/L) (male)					
Age	Examinees	Average age	Average AST	≥ 31 U/L	≥ 51 U/L
0-6	·	·	·	·	·
7-15	1,841	10.9	25.7	14.3%	1.0%
16-39	1,671	28.0	25.3	18.8%	4.4%
40-64	4,622	55.3	27.4	23.0%	4.7%
65-	9,334	73.4	26.9	22.3%	3.4%

AST (U/L) (female)					
Age	Examinees	Average age	Average AST	≥ 31 U/L	≥ 51 U/L
0-6	·	·	·	·	·
7-15	1,780	10.8	22.7	6.9%	0.5%
16-39	2,636	29.9	18.8	4.2%	1.0%
40-64	8,054	54.9	22.9	10.8%	2.2%
65-	10,959	73.2	24.7	13.6%	2.0%

4. Serum Chemistry (1)-2 Hepatic Function (ALT)

ALT (U/L) (overall)					
Age	Examinees	Average age	Average ALT	≥ 31 U/L	≥ 51 U/L
0-6	·	·	·	·	·
7-15	3,621	10.9	15.9	4.9%	1.9%
16-39	4,307	29.2	22.8	17.5%	8.1%
40-64	12,676	55.1	24.0	20.2%	6.9%
65-	20,293	73.3	20.5	12.2%	3.2%

ALT (U/L) (male)					
Age	Examinees	Average age	Average ALT	≥ 31 U/L	≥ 51 U/L
0-6	·	·	·	·	·
7-15	1,841	10.9	18.3	7.6%	3.2%
16-39	1,671	28.0	33.6	34.5%	16.5%
40-64	4,622	55.3	30.0	33.3%	12.1%
65-	9,334	73.4	22.5	16.4%	4.3%

ALT (U/L) (female)					
Age	Examinees	Average age	Average ALT	≥ 31 U/L	≥ 51 U/L
0-6	·	·	·	·	·
7-15	1,780	10.8	13.3	2.1%	0.5%
16-39	2,636	29.9	16.0	6.8%	2.7%
40-64	8,054	54.9	20.6	12.7%	3.9%
65-	10,959	73.2	18.9	8.6%	2.3%

4. Serum Chemistry (1)-3 Hepatic Function (γ-GT)

γ-GT (U/L) (overall)					
Age	Examinees	Average age	Average γ-GT	≥ 51 U/L	≥ 101 U/L
0-6	·	·	·	·	·
7-15	3,621	10.9	14.5	0.4%	0.0%
16-39	4,307	29.2	26.9	10.1%	3.0%
40-64	12,676	55.1	40.1	19.3%	6.4%
65-	20,293	73.3	33.8	14.1%	3.8%

γ-GT (U/L) (male)					
Age	Examinees	Average age	Average γ-GT	≥ 51 U/L	≥ 101 U/L
0-6	·	·	·	·	·
7-15	1,841	10.9	15.8	0.8%	0.1%
16-39	1,671	28.0	39.9	21.0%	6.6%
40-64	4,622	55.3	60.5	34.9%	12.8%
65-	9,334	73.4	43.9	22.3%	6.6%

γ-GT (U/L) (female)					
Age	Examinees	Average age	Average γ-GT	≥ 51 U/L	≥ 101 U/L
0-6	·	·	·	·	·
7-15	1,780	10.8	13.1	0.1%	-
16-39	2,636	29.9	18.6	3.3%	0.7%
40-64	8,054	54.9	28.5	10.4%	2.7%
65-	10,959	73.2	25.2	7.0%	1.5%

4. Serum Chemistry (2)-1 Lipid (LDL Cholesterol)

LDL-C (mg/dL) (overall)					
Age	Examinees	Average age	Average LDL-C	≥ 120 mg/dL	≥ 140 mg/dL
0-6	·	·	·	·	·
7-15	3,621	10.9	91.7	9.7%	2.5%
16-39	4,307	29.2	109.7	33.1%	15.6%
40-64	12,676	55.1	126.0	56.2%	31.4%
65-	20,293	73.3	118.2	46.1%	22.6%

LDL-C (mg/dL) (male)					
Age	Examinees	Average age	Average LDL-C	≥ 120 mg/dL	≥ 140 mg/dL
0-6	·	·	·	·	·
7-15	1,841	10.9	90.0	8.5%	1.9%
16-39	1,671	28.0	114.5	40.8%	21.1%
40-64	4,622	55.3	123.9	54.2%	29.0%
65-	9,334	73.4	114.3	41.6%	19.3%

LDL-C (mg/dL) (female)					
Age	Examinees	Average age	Average LDL-C	≥ 120 mg/dL	≥ 140 mg/dL
0-6	·	·	·	·	·
7-15	1,780	10.8	93.5	11.0%	3.0%
16-39	2,636	29.9	106.7	28.2%	12.1%
40-64	8,054	54.9	127.3	57.3%	32.8%
65-	10,959	73.2	121.6	49.9%	25.4%

4. Serum Chemistry (2)-2 Lipid (Triglyceride)

Triglyceride（TG）(mg/dL) (overall)					
Age	Examinees	Average age	Average triglyceride	≥ 150 mg/dL	≥ 300 mg/dL
0-6	・	・	・	・	・
7-15	3,621	10.9	81.5	8.9%	0.9%
16-39	4,307	29.2	91.5	11.6%	2.0%
40-64	12,676	55.1	118.0	21.7%	3.0%
65-	20,293	73.3	112.2	18.6%	1.6%

Triglyceride（TG）(mg/dL) (male)					
Age	Examinees	Average age	Average triglyceride	≥ 150 mg/dL	≥ 300 mg/dL
0-6	・	・	・	・	・
7-15	1,841	10.9	80.5	9.7%	1.1%
16-39	1,671	28.0	116.0	19.4%	4.2%
40-64	4,622	55.3	143.7	33.0%	5.9%
65-	9,334	73.4	117.6	21.6%	2.2%

Triglyceride（TG）(mg/dL) (female)					
Age	Examinees	Average age	Average triglyceride	≥ 150 mg/dL	≥ 300 mg/dL
0-6	・	・	・	・	・
7-15	1,780	10.8	82.4	8.0%	0.6%
16-39	2,636	29.9	76.0	6.6%	0.5%
40-64	8,054	54.9	103.2	15.3%	1.4%
65-	10,959	73.2	107.6	15.9%	1.0%

4. Serum Chemistry (2)-3 Lipid (HDL Cholesterol)

HDL-C (mg/dL) (overall)				
Age	Examinees	Average age	Average HDL-C	< 40 mg/dL
0-6	·	·	·	·
7-15	3,621	10.9	60.5	3.1%
16-39	4,307	29.2	62.8	3.9%
40-64	12,676	55.1	63.8	3.9%
65-	20,293	73.3	61.1	5.2%

HDL-C (mg/dL) (male)				
Age	Examinees	Average age	Average HDL-C	< 40 mg/dL
0-6	·	·	·	·
7-15	1,841	10.9	60.8	3.4%
16-39	1,671	28.0	56.4	7.3%
40-64	4,622	55.3	57.5	8.1%
65-	9,334	73.4	57.5	8.4%

HDL-C (mg/dL) (female)				
Age	Examinees	Average age	Average HDL-C	< 40 mg/dL
0-6	·	·	·	·
7-15	1,780	10.8	60.2	2.9%
16-39	2,636	29.9	66.8	1.7%
40-64	8,054	54.9	67.5	1.5%
65-	10,959	73.2	64.2	2.5%

4. Serum Chemistry (3)-1 Sugar (Fasting plasma glucose)

Fasting plasma glucose (mg/dL) (overall)						
Age	Examinees	Average age	Average fasting plasma glucose	≥ 110 mg/dL	≥ 130 mg/dL	≥ 160 mg/dL
0-6	·	·	·	·	·	·
7-15	2,211	11.2	87.1	0.3%	0.1%	0.1%
16-39	3,849	29.2	89.5	2.7%	0.8%	0.3%
40-64	11,449	55.1	99.0	14.6%	5.0%	1.5%
65-	17,521	73.0	104.1	25.2%	8.3%	1.9%

Fasting plasma glucose (mg/dL) (male)						
Age	Examinees	Average age	Average fasting plasma glucose	≥ 110 mg/dL	≥ 130 mg/dL	≥ 160 mg/dL
0-6	·	·	·	·	·	·
7-15	1,139	11.2	87.9	0.4%	0.1%	0.1%
16-39	1,483	28.1	91.6	3.8%	1.5%	0.7%
40-64	4,119	55.3	103.8	22.7%	8.8%	2.6%
65-	8,061	73.2	107.5	32.0%	11.4%	2.7%

Fasting plasma glucose (mg/dL) (female)						
Age	Examinees	Average age	Average fasting plasma glucose	≥ 110 mg/dL	≥ 130 mg/dL	≥ 160 mg/dL
0-6	·	·	·	·	·	·
7-15	1,072	11.1	86.3	0.3%	0.1%	0.1%
16-39	2,366	29.9	88.3	2.1%	0.4%	0.1%
40-64	7,330	54.9	96.3	10.1%	2.9%	0.8%
65-	9,460	72.9	101.3	19.4%	5.7%	1.1%

4. Serum Chemistry (3)-2 Sugar (HbA1c)

HbA1c (%)（NGSP）(overall)						
Age	Examinees	Average age	Average HbA1c	≥ 6.0%	≥ 7.0%	≥ 8.0%
0-6	・	・	・	・	・	・
7-15	3,621	10.9	5.3	0.7%	0.1%	0.1%
16-39	4,307	29.2	5.3	2.6%	0.8%	0.4%
40-64	12,674	55.1	5.7	17.0%	3.8%	1.2%
65-	20,293	73.3	5.8	28.4%	4.9%	1.2%

HbA1c (%)（NGSP）(male)						
Age	Examinees	Average age	Average HbA1c	≥ 6.0%	≥ 7.0%	≥ 8.0%
0-6	・	・	・	・	・	・
7-15	1,841	10.9	5.3	0.9%	0.2%	0.2%
16-39	1,671	28.0	5.3	3.4%	1.4%	0.8%
40-64	4,621	55.3	5.7	20.2%	5.6%	2.0%
65-	9,334	73.4	5.9	31.0%	6.3%	1.6%

HbA1c (%)（NGSP）(female)						
Age	Examinees	Average age	Average HbA1c	≥ 6.0%	≥ 7.0%	≥ 8.0%
0-6	・	・	・	・	・	・
7-15	1,780	10.8	5.3	0.4%	0.1%	-
16-39	2,636	29.9	5.3	2.2%	0.4%	0.2%
40-64	8,053	54.9	5.6	15.1%	2.7%	0.8%
65-	10,959	73.2	5.8	26.2%	3.7%	0.8%

4. Serum Chemistry (4)-1 Renal Function (Serum creatinine)

Serum creatinine (mg/dL) (overall)			
Age	Examinees	Average age	Average serum creatinine
0-6	·	·	·
7-15	3,621	10.9	0.48
16-39	4,306	29.2	0.71
40-64	12,676	55.1	0.74
65-	20,290	73.3	0.81

Serum creatinine (mg/dL) (male)					
Age	Examinees	Average age	Average serum creatinine	≥ 1.15 mg/dL	≥ 1.35 mg/dL
0-6	·	·	·	·	·
7-15	1,841	10.9	0.49	-	-
16-39	1,670	28.0	0.84	0.9%	0.1%
40-64	4,622	55.3	0.88	3.4%	1.1%
65-	9,333	73.4	0.93	10.8%	3.8%

Serum creatinine (mg/dL) (female)					
Age	Examinees	Average age	Average serum creatinine	≥ 0.95 mg/dL	≥ 1.15 mg/dL
0-6	·	·	·	·	·
7-15	1,780	10.8	0.46	-	-
16-39	2,636	29.9	0.62	0.2%	-
40-64	8,054	54.9	0.66	1.1%	0.4%
65-	10,957	73.2	0.71	5.4%	1.5%

4. Serum Chemistry (4)-2 Renal Function (eGFR)

eGFR (mL/min/1.73 m^2) (overall)			
Age	Examinees	Average age	Average eGFR
0-6	·	·	·
7-15	·	·	·
16-39	4,306	29.2	93.5
40-64	12,676	55.1	74.0
65-	20,290	73.3	64.4

eGFR (mL/min/1.73 m^2) (male)			
Age	Examinees	Average age	Average eGFR
0-6	·	·	·
7-15	·	·	·
16-39	1,670	28.0	92.8
40-64	4,622	55.3	74.2
65-	9,333	73.4	64.9

eGFR (mL/min/1.73 m^2) (female)			
Age	Examinees	Average age	Average eGFR
0-6	·	·	·
7-15	·	·	·
16-39	2,636	29.9	93.9
40-64	8,054	54.9	73.8
65-	10,957	73.2	63.9

4. Serum Chemistry (4)-3 Renal Function (Uric Acid)

Uric acid (mg/dL) (overall)					
Age	Examinees	Average age	Average uric acid	≥ 7.1 mg/dL	≥ 8.0 mg/dL
0-6	·	·	·	·	·
7-15	3,616	10.9	4.6	2.8%	0.6%
16-39	4,306	29.2	5.1	9.9%	3.8%
40-64	12,676	55.1	5.1	8.8%	2.9%
65-	20,292	73.3	5.2	9.0%	2.6%

Uric acid (mg/dL) (male)						
Age	Examinees	Average age	Average uric acid	≥ 7.1 mg/dL	≥ 7.9 mg/dL	≥ 8.0 mg/dL
0-6	·	·	·	·	·	·
7-15	1,840	10.9	4.8	5.3%	1.8%	1.3%
16-39	1,670	28.0	6.2	23.8%	9.8%	9.2%
40-64	4,622	55.3	6.1	21.2%	8.6%	7.6%
65-	9,334	73.4	5.8	15.7%	5.4%	4.7%

Uric acid (mg/dL) (female)						
Age	Examinees	Average age	Average uric acid	≥ 5.6 mg/dL	≥ 7.1 mg/dL	≥ 8.0 mg/dL
0-6	·	·	·	·	·	·
7-15	1,776	10.8	4.3	8.1%	0.2%	-
16-39	2,636	29.9	4.3	11.2%	1.1%	0.4%
40-64	8,054	54.9	4.6	16.8%	1.7%	0.2%
65-	10,958	73.2	4.7	21.6%	3.2%	0.7%

【Comprehensive Health Check Criteria 】

※ Adult criteria used in group and individual health check.
※ Criteria for children vary with age.
※ The differential white blood count values are shown as percent, but absolute counts per microliter are used in our statistics.

	Item \ Category		Reference Range	Slightly Out of Range		Out of Range		Units
Obesity	BMI		18.5 - 24.9	18.4 or below	25.0 or above	—		kg/m^2
	Abdominal Circumference	Male	84.9 or below	85.0 or above		—		cm
		Female	89.9 or below	90.0 or above		—		
Blood Pressure	Systolic Blood Pressure		129 or below	130 - 139		140 or above		mmHg
	Diastolic Blood Pressure		84 or below	85 - 89		90 or above		
Renal Function	Serum Creatinine (Enzymatic method)	Male	0.45～1.14	1.15 - 1.34		1.35 or above		mg/dL
		Female	0.35～0.94	0.95 - 1.14		1.15 or above		
	eGFR		60 or above	50 - 59		49 or below		$mL/min./1.73m^2$
	Urine Protein		(-)	(±)		(+) or more		
	Urine Occult Blood		(-)	(±)		(+) or more		
Sugar Metablism	Urinary Glucose		(-)	(±)		(+) or more		
	Blood Glucose	Fasting	99 or below	100 - 125		126 or above		mg/dL
		Ad lib	139 or below	140 - 199		200 or above		
	HbA1c（NGSP）		5.5 or below	5.6 - 6.4		6.5 or above		%
Lipid Profile	HDL Cholesterol		40 or above	35 - 39		34 or below		mg/dL
	LDL Cholesterol		119 or below	120 - 139		140 or above		mg/dL
	Triglyceride		149 or below	150 - 299		300 or above		mg/dL
Hepatic Function	AST(GOT)		30 or below	31 - 50		51 or above		U/L
	ALT(GPT)		30 or below	31 - 50		51 or above		U/L
	γ-GT		50 or below	51 - 100		101 or above		U/L
Gout	Uric Acid (UA)		7.0 or below	7.1 - 7.9		8.0 or above		mg/dL
Hematology	RBC Count	Male	4.00 - 5.79	3.70 - 3.99	5.80 or above	3.69 or below		$\times 10^6/\mu L$
		Female	3.70 - 5.49	3.40 - 3.69	5.50 or above	3.39 or below		
	Hemoglobin	Male	13.1 - 17.9	12.1 - 13.0		12.0 or below	18.0 or above	g/dL
		Female	12.1 - 15.9	11.1 - 12.0		11.0 or below	16.0 or above	
	Hematocrit	Male	38.0 - 54.9	36.0 - 37.9	55.0 以上	35.9 or below		%
		Female	33.0 - 47.9	29.0 - 32.9	48.0 以上	28.9 or below		
	Platelet Count		130 - 369	90 - 129	370 - 449	89 or below	450 or above	$\times 10^3/\mu L$
	WBC Count		4.0 - 9.5	3.0 - 3.9	9.6 - 11.0	2.9 or below	11.1 or above	$\times 10^3/\mu L$
	Differential White Blood Count	Neutrophil	40.0 - 75.0					%
		Lymphocyte	20.0 - 55.0					
		Monocyte	0 - 12.0					
		Eosinophil	0 - 10.0					
		Basophil	0 - 3.0					

Recent Publications* on the Comprehensive Health Check in the Fukushima Health Management Survey (Impact of evacuation)

Office of the Comprehensive Health Check and Health Promotion

Radiation Medical Science Center

for the Fukushima Health Management Survey

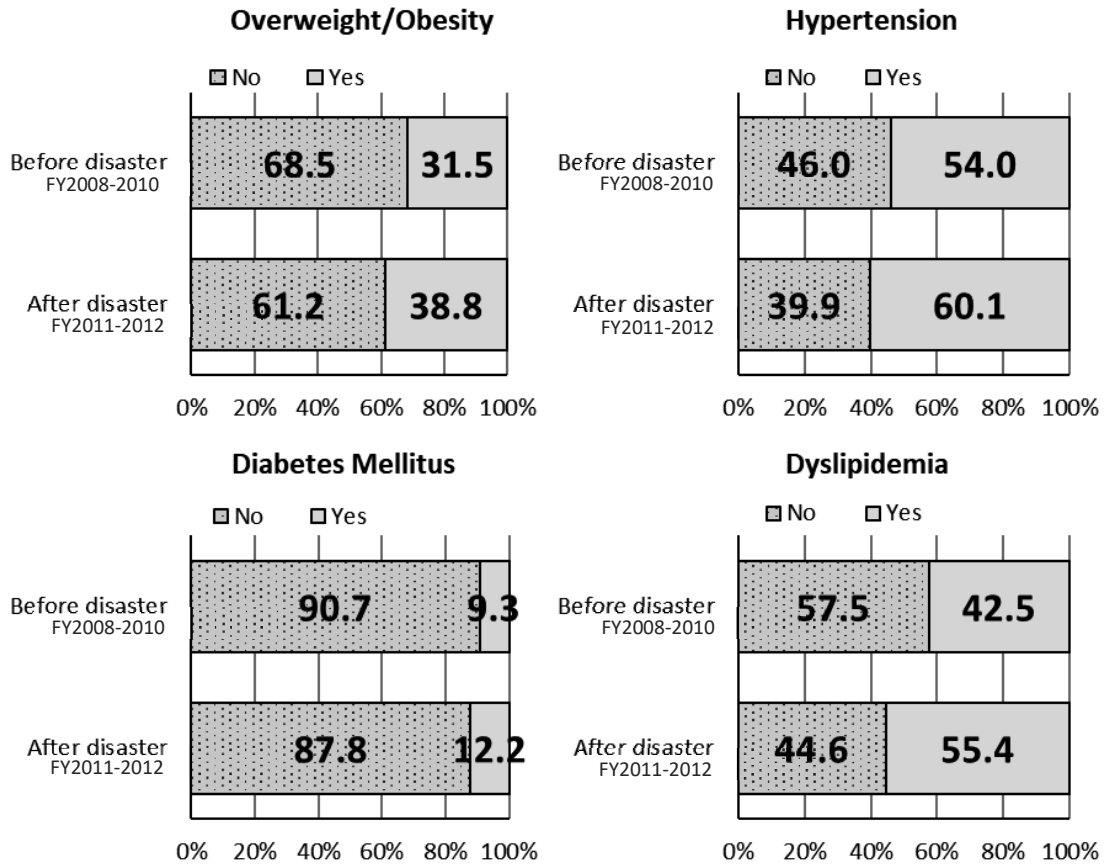
*Published after the 30th Prefectural Oversight Committee Meeting

Reference Paper1

Trends in lifestyle-related diseases before and after the Great East Japan Earthquake: the Fukushima Health Management Survey

"Journal of National Institute of Public Health"（2018）

Tetsuya OHIRA, et al



The Great East Japan Earthquake that occurred on March 11, 2011, was followed by a nuclear accident at the Fukushima Daiichi Nuclear Power Plant. Many residents of the surrounding areas were forced to evacuate their homes and change their lifestyle. The potential influence of the evacuation on the risk factors for cardiovascular diseases (CVD) was investigated through the Fukushima Health Management Survey (FHMS). In the present study, we have reviewed the results of longitudinal studies of lifestyle-related diseases that are based on the FHMS. After the disaster, evacuated residents presented an increased proportion of overweight/obese people and a higher prevalence of hypertension, diabetes mellitus, dyslipidemia, liver dysfunction, atrial fibrillation, and polycythemia than those before the disaster.

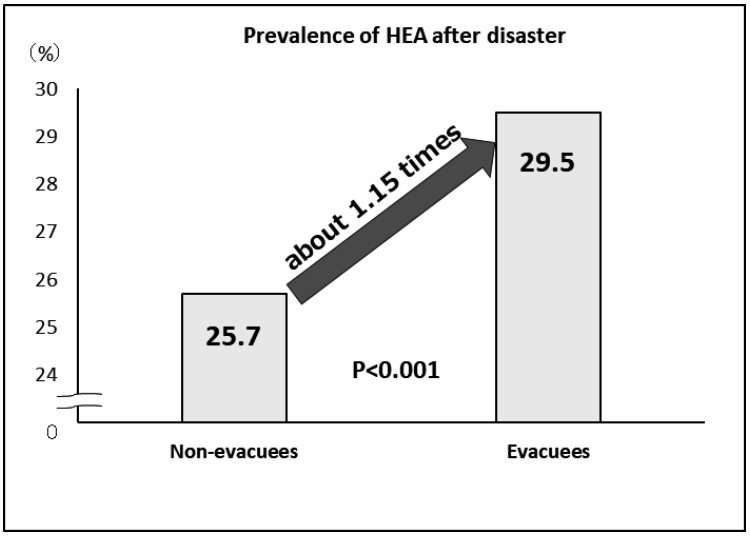
Furthermore, the prevalence of diabetes mellitus and dyslipidemia increased between FY2011–2012 and FY2013–2014, after the disaster. Results show that disaster evacuees may be more predisposed to CVDs, such as myocardial infarction and stroke. Preventive programs for obesity, hypertension, diabetes mellitus, and dyslipidemia should be implemented in collaboration with local governments and communities.

Reference Paper 2

Effects of lifestyle on hepatobiliary enzyme abnormalities following the Fukushima Daiichi Nuclear Power Plant accident: The Fukushima Health Management Survey

Atsushi TAKAHASHI, et al

“Medicine”（2018）. 2018，97(42):e12890.



Multivariable logistic regression analysis of factors influencing hepatobiliary enzyme abnormality after the disaster among 22,246 participants.

	Control (12,705)		Evacuees (9541)	
	OR (95% CI)	P	OR (95% CI)	P
Age (+1 year)	1.01 (1.01–1.01)	<.001	1.01 (1.01–1.02)	<.001
Sex (male)	3.63 (3.29–4.00)	<.001	3.74 (3.35–4.16)	<.001
Smoking (yes)	1.06 (0.95–1.18)	0.32	1.06 (0.94–1.19)	0.345
Alcohol intake				
Light drinkers	0.99 (0.89–1.10)	0.846	1.10 (0.98–1.23)	0.109
Moderate/Heavy drinkers	1.83 (1.62–2.06)	<.001	1.80 (1.58–2.05)	<.001
Physical activities				
2–4 times a week	1.21 (1.04–1.41)	0.014	1.20 (1.02–1.42)	0.03
Once a week	1.33 (1.13–1.56)	<.001	1.31 (1.09–1.57)	0.004
None	1.35 (1.18–1.55)	<.001	1.39 (1.19–1.61)	<.001
Change of job	1.16 (1.05–1.28)	0.002	1.15 (1.02–1.29)	0.021
Unemployment	0.98 (0.85–1.13)	0.734	1.18 (1.05–1.32)	0.005
Sleep dissatisfaction (yes)	1.04 (0.97–1.13)	0.462	1.04 (0.94–1.16)	0.462
Psychological distress (K6 ≥13)	0.96 (0.81–1.13)	0.591	1.05 (0.90–1.22)	0.569
Post-traumatic stress disorder (PCL-S ≥44)	1.02 (0.89–1.18)	0.747	0.99 (0.87–1.14)	0.922

Logistic regression analysis was used (dependent variable: hepatobiliary enzyme abnormality, independent variable of interest: presence versus absence of each life styles, adjustment variables: age, sex, evacuation, smoking, alcohol intake, physical activities, change of job, unemployment, sleep dissatisfaction, psychological distress and post-traumatic stress disorder.).

CI=confidence interval, K6=Kessler 6-item scale, OR = odds ratio, PCL-S=Post-traumatic Stress Disorder Checklist.

Since the Great East Japan Earthquake of 2011, a Comprehensive Health Check program and Mental Health and Lifestyle Survey have been conducted as part of the Fukushima Health Management Survey, targeting local residents of 13 municipalities, including evacuation zones. We have, in the past, reported that, based on the Comprehensive Health Check results, the rate of liver disorders (hepatobiliary enzyme abnormalities: HEA) increased after the earthquake, indicating the possibility that evacuation after the earthquake could be a risk to liver disease. This paper aims to clarify the factors associated with liver disorders by linking the results of the Comprehensive Health Check (FY2011) with the results of the Mental Health and Lifestyle Survey (FY2011). HEA was found in 27.3% of the survey population (22,246). The rate was higher among evacuees than non-evacuees (evacuees: 29.5%, non-evacuees: 25.7%, $P < 0.001$), while being a male, a moderate to heavy drinker, and having decreased physical activities were risk factors for liver disorders regardless of evacuation status. Furthermore, changing jobs was a risk factor for non-evacuees, and unemployment was that for evacuees. This paper shows various factors associated with liver disorders since the earthquake.

Implementation Plan of the "Comprehensive Health Check" of the Fukushima Health Management Survey for FY 2019 (Draft)

1 Purpose

The Fukushima Daiichi Nuclear Power Plant accident caused by the Great East Japan Earthquake of March 2011 led to a large-scale evacuation of residents in surrounding areas. Many of the Fukushima evacuees have since been concerned about their own health due primarily to the sudden and notable changes in their lifestyle, diet and exercise habits, in addition to the loss of opportunity to undergo necessary health checkups. To respond this situation, the Comprehensive Health Check (hereafter "the Health Check") is conducted to grasp their current health status, to prevent lifestyle diseases, and allow early detection and early treatment of various illnesses.

2 Survey Population

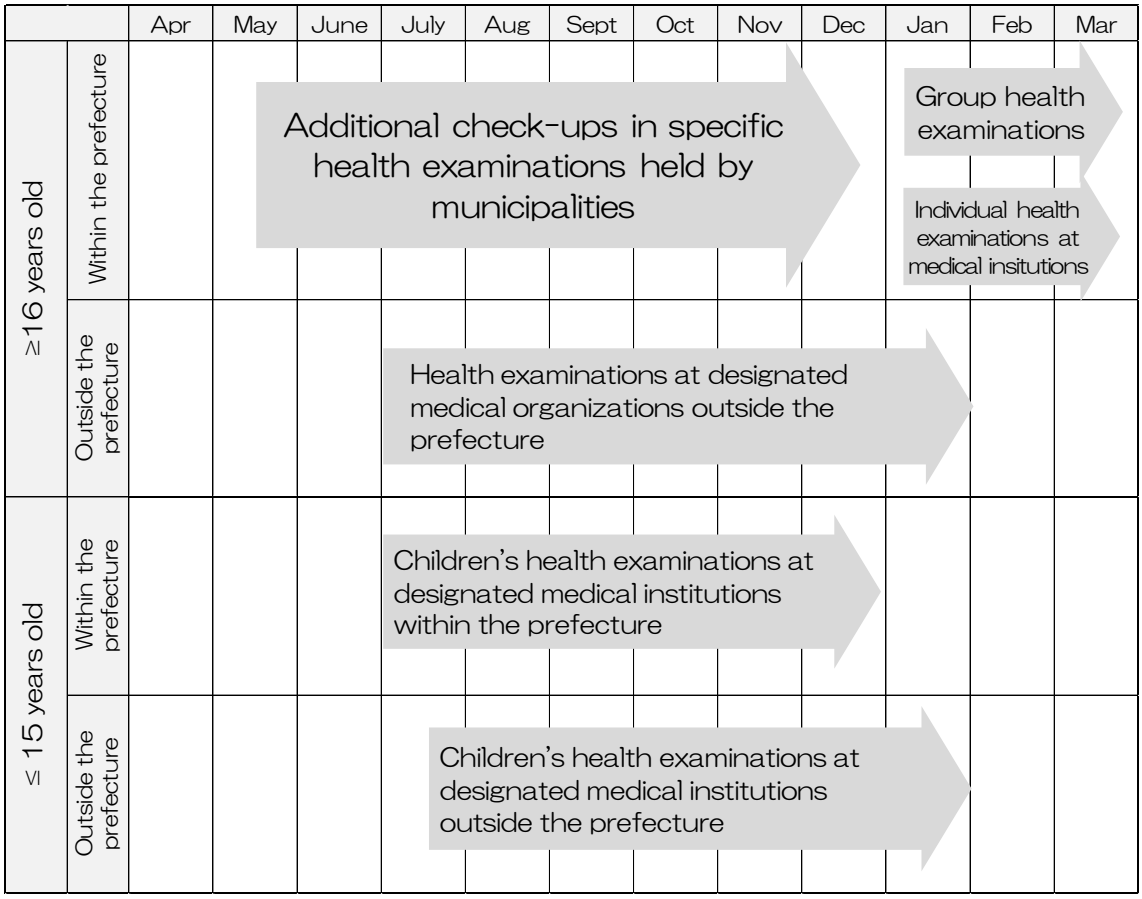
- Those who had resident registration in designated area* between 11 March 2011 and 1 April 2012 (These residents are still eligible for the Health Check after they moved out from relevant municipalities.)
- Those who have resident registration in the government-designated evacuation zones as of 1 April of the year in which the Health Check is conducted.
- Those who were deemed to require the Health Check based on the Basic Survey results

*Designated area: municipalities that were designated as evacuation zones in 2011 Hirono Town, Naraha Town, Tomioka Town, Kawauchi Village, Okuma Town, Futaba Town, Namie Town, Katsurao Village, Iitate Village, Minamisoma City, Tamura City, Kawamata Town, and part of Date City (area containing specific evacuation-recommended spots)

3 Examination Items

Age group (years)	Examination Items
0-6 (Infant before entering school)	Height, weight (Additional items on request) CBC (Number of red blood cells, hematocrit, hemoglobin, platelet count, number of white blood cells, differential white blood count.)
7-15 (From 1st to 9th grade)	Height, weight, blood pressure, CBC (Number of red blood cells, hematocrit, hemoglobin, platelet count, number of white blood cells, differential white blood count.) [Additional items on request] Blood biochemistry (AST, ALT, γGT, TG, HDL-C, LDL-C, HbA1c, plasma glucose, serum creatinine, uric acid)
16 and older	Height, weight, abdominal circumference or BMI, blood pressure CBC (Number of red blood cells, hematocrit, hemoglobin, platelet count, number of white blood cells, differential white blood count.) Urinary test (urine protein, urinary sugar, urine occult blood) Blood biochemistry (AST, ALT, γGT, TG, HDL-C, LDL-C, HbA1c, plasma glucose, serum creatinine, estimated glomerular filtration rate [eGFR], uric acid) The underlined values are not routinely measured during regular health exams.

4 Implementation Method



- **For survey population residing within the prefecture**
  As is the current year, some examination items will be added to those offered in specific health checkups and comprehensive health checkups conducted by municipalities. Group health examinations, individual health examinations at medical institutions, and children's health examinations will also be conducted.

- **For survey population residing outside the prefecture**
  As is the current year, individual health examinations at medical institutions outside the prefecture and children's health examinations will be conducted.

5 Efforts to increase participation in the Health Check

a Countermeasure against lifestyle diseases
b Securing group health examination venues
c Reminders for the Health Check

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 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 basis until 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 examinations in cooperation with organizations inside and outside Fukushima (the number of contracts is as of 31 December 2018).

1.4-1 The primary examination

Inside Fukushima Prefecture	77 medical facilities
Outside Fukushima Prefecture	116 medical facilities

1.4-2 The confirmatory examination

Inside Fukushima Prefecture	5 medical facilities including FMU
Outside Fukushima Prefecture	36 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.

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

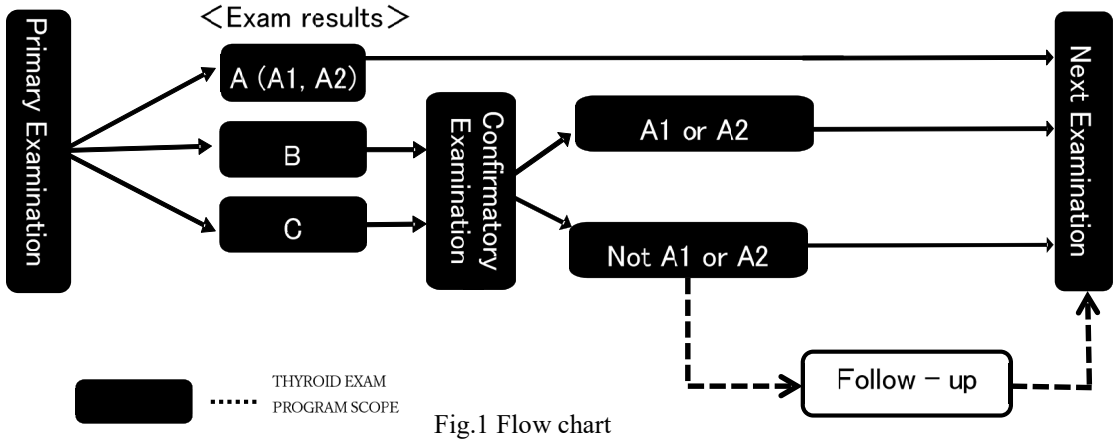


Fig.1 Flow chart

1.6 Municipalities Surveyed

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

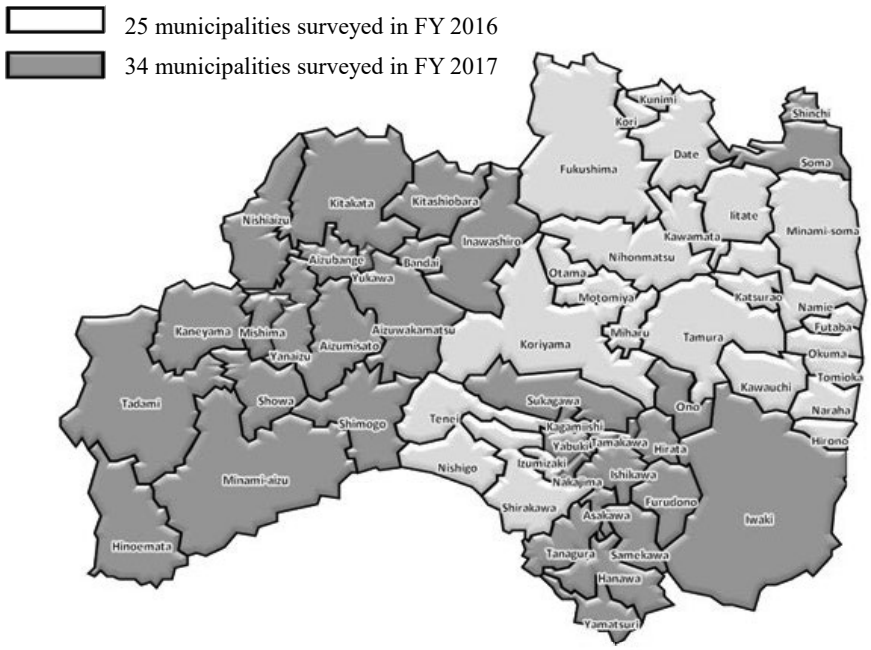


Fig. 2 Municipalities Surveyed in FY2016 and FY2017

2. Results as of 31 December2018

2.1 Results of the Primary Examination

2.1-1 Progress report

The primary examination started on 1 May 2016 for 336,669 people in 59 municipalities (25 municipalities in FY 2016 and 34 municipalities in FY 2017) and, so far, 217,676 people (64.7%) have participated. (Implementation status for each municipality and that of prefectures other than Fukushima is shown in Appendix 1 and Appendix 2)

Results of 217,530 participants (99.9%) have been confirmed and notifications were sent to them accordingly. (The result for each municipality is shown in Appendix 3)

Of these, 216,043 (99.3%) were classified as A (A1 or A2), 1,487 (0.7%) were B, and none was C.

Table 1. Progress and results of the primary examination As of 31 December 2018

	Survey population	Participants		Exam results				
		Proportion (%)	Outside Fukushima	Proportion (%)	Class (%)			
					A		Requiring confirmatory exam	
	a	b (b/a)		c (c/b)	A1 d (d/c)	A2 e (e/c)	B f (f/c)	C g (g/c)
FY 2016	191,876	126,247 (65.8)	8,874	126,177 (99.9)	43,937 (34.8)	81,444 (64.5)	796 (0.6)	0 (0.0)
FY 2017	144,793	91,429 (63.1)	3,575	91,353 (99.9)	32,306 (35.4)	58,356 (63.9)	691 (0.8)	0 (0.0)
Total	336,669	217,676 (64.7)	12,449	217,530 (99.9)	76,243 (35.0)	139,800 (64.3)	1,487 (0.7)	0 (0.0)

Table 2. Number and proportion of participants with nodules/cysts As of 31 December 2018

	Number of participants with confirmed results	Number and proportion of participants with nodules/cysts			
		Nodules		Cysts	
	a	≥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	126,177	796 (0.6)	427 (0.3)	0 (0.0)	81,823 (64.8)
FY 2017	91,353	688 (0.8)	396 (0.4)	3 (0.0)	58,655 (64.2)
Total	217,530	1,484 (0.7)	823 (0.4)	3 (0.0)	140,478 (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. Those born in FY1992 (approx.22,000) and FY1993 (approx. 22,000) will be covered in FY 2017 and FY2018 surveys, 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 16.9%.

The participation rate of the age group of 18 or older (age as of 1 April 2017) in municipalities surveyed in FY 2017 was 16.3%.

Table 3 Participation rates by age group

As of 31 December 2018

		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)	126,247	26,425	45,553	46,267	8,002
	Proportion (%) (b/a)	65.8	72.2	89.3	81.4	16.9
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)	91,429	14,957	33,947	34,966	7,559
	Proportion (%) (b/a)	63.1	77.4	91.3	83.3	16.3
Total	Survey population (a)	336,669	55,936	88,168	98,835	93,730
	Participants (b)	217,676	41,382	79,500	81,233	15,561
	Proportion (%) (b/a)	64.7	74.0	90.2	82.2	16.6

・ Age groups were formed with the age as of 1 April of each fiscal year.

2.1-3 Comparison of Full-Scale Thyroid Surveys

Comparison of the Third- and Second-Round Survey results is as shown in Table 4. Among 201,321 participants who were diagnosed as A1 or A2 in the Second-Round Survey, 200,629 (99.7%) had A1 or A2 results, and 692 (0.3%) were diagnosed as B in the Third-Round Survey.

Among 1,138 participants who were diagnosed as B in the Second-Round Survey, 438 (38.5%) had A1 or A2 results, and 700 (61.5%) were diagnosed as B in the Third-Round Survey.

Table 4. Comparison of Full-scale Thyroid Survey

As of 31 December 2018

			Results of the Second-Round Survey*1 (%) a	Results of the Third-Round Survey *2			
				A		B	C
				A1 b b/a (%)	A2 c c/a (%)	d d/a (%)	e e/a (%)
Results of the Second-round Survey	A	A1	79,669 (100.0)	57,561 (72.3)	21,973 (27.6)	135 (0.2)	0 (0.0)
		A2	121,652 (100.0)	12,143 (10.0)	108,952 (89.6)	557 (0.5)	0 (0.0)
	B		1,138 (100.0)	62 (5.4)	376 (33.0)	700 (61.5)	0 (0.0)
	C		0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
	No participation		15,071 (100.0)	6,477 (43.0)	8,499 (56.4)	95 (0.6)	0 (0.0)
Total			217,530 (100.0)	76,243 (35.0)	139,800 (64.3)	1,487 (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 (270,529).

*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 1,059 (71.2%) of 1,487 people who were recommended for a confirmatory examination as a result of the primary examination have received the examination and 995 (94.0%) have completed the entire procedure of the examination (Implementation status in each region is shown in Appendix 5).

Of the foregoing 995 participants, 104 (A1: 8, A2: 96) (10.5%) were confirmed to meet A1 or A2 diagnostic criteria by the primary examination standards (including those with other thyroid conditions). Remaining 891 (89.5%) people were confirmed to be non-equivalent to A1 or A2.

Table 5 Progress and results of the confirmatory examination As of 31 December 2018

	Number of those requiring confirmatory exam	Participants	Confirmed exam results				
		Proportion (%)	Confirmatory exam coverage (%)	A1	A2	Not A1 or A2	
	a	b (b/a)	c (c/b)	d (d/c)	e (e/c)	f (f/c)	FNAC g (g/f)
FY 2016	796	598 (75.1)	568 (95.0)	5 (0.9)	55 (9.7)	508 (89.4)	37 (7.3)
FY 2017	691	461 (66.7)	427 (92.6)	3 (0.7)	41 (9.6)	383 (89.7)	27 (7.0)
Total	1,487	1,059 (71.2)	995 (94.0)	8 (0.8)	96 (9.6)	891 (89.5)	64 (7.2)

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

Among those who underwent FNAC, 21 had nodules classified as malignant or suspicious for malignancy. Eight of them were male, and 13 were female. Participants' age at the time of the confirmatory examination ranged from 12 to 23 years (mean age: 16.7±2.8 years). The minimum and maximum tumor diameters were 5.6 mm and 33.0 mm. Mean tumor diameter was 14.2 ± 6.9 mm.

Results of these 21 participants in the Full-Scale Survey (the Second-Round Survey) were: 13 were classified as A (A1: 4, A2: 9), 5 as B and 3 did not participated in the survey.

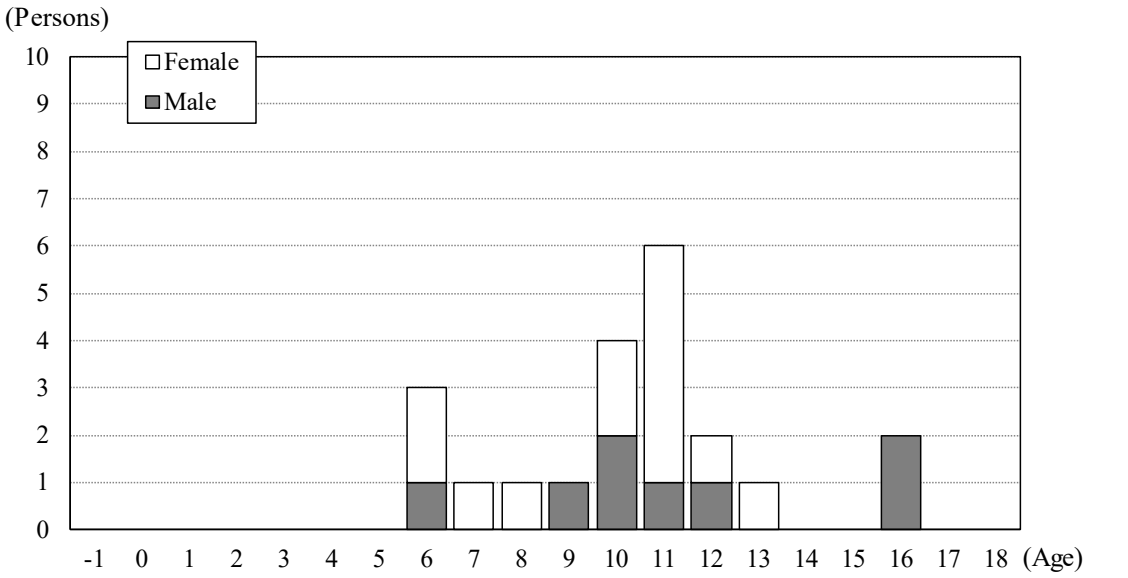
Table 6. Results of FNAC

A. Municipalities surveyed in FY 2016	
・Malignant or suspicious for malignancy：	12*)
・Male to female ratio：	6:6
B. Municipalities surveyed in FY 2017	
・Malignant or suspicious for malignancy：	9*)
・Male to female ratio：	2:7
C. Total	
・Malignant or suspicious for malignancy：	21*)
・Male to female ratio：	8:13
・Mean age (SD, min-max):	16.7 (2.8, 12-23), 10.3 (2.8, 6-16) at the time of disaster
・Mean tumor size:	14.2 mm (6.9 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 distribution of 21 people diagnosed as malignant or suspicious for malignancy by age as of 11 March 2011 is shown in Fig. 3, and by ages 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

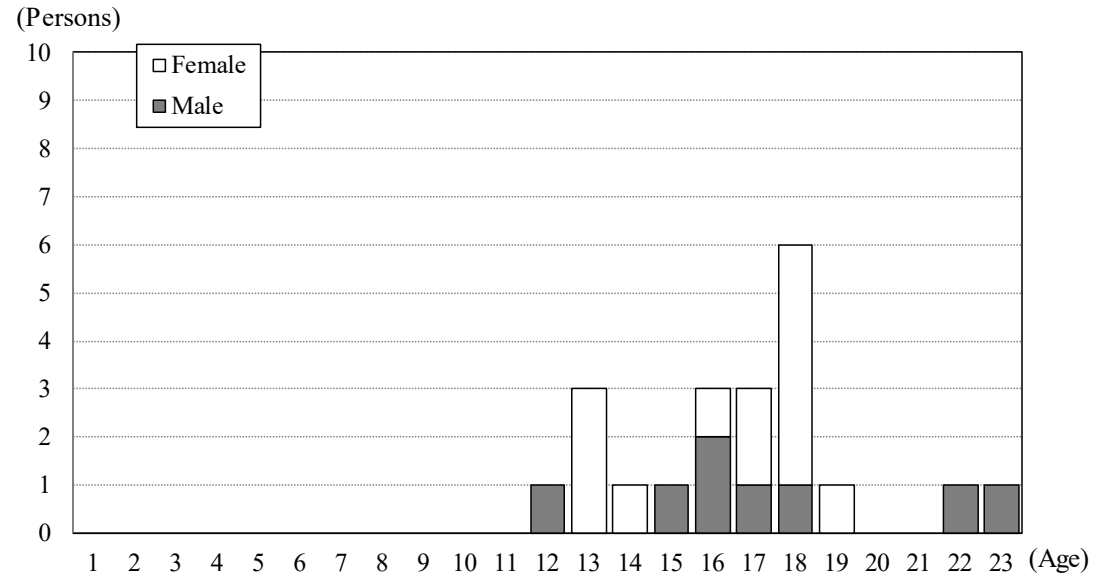


Fig. 4 Age as of the date of confirmatory examination

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

Seven (33.3%) of the 21 people participated in the Basic Survey (radiation dose estimates), and 7 received the results. The highest effective dose documented was 1.5 mSv.

Table 7. Breakdown of dose estimates for participants of the Basic Survey As of 31 December 2018

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

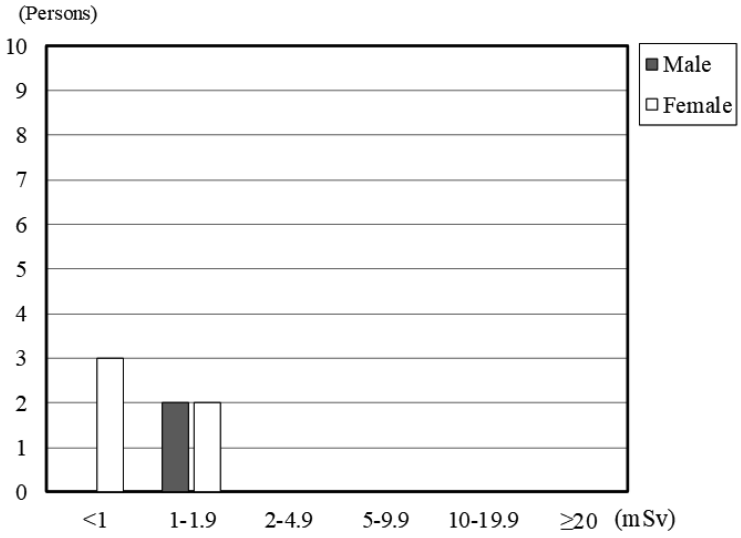


Fig. 5 Effective dose of the participants

2.2-5 Blood test and urinary iodine test results as of 31 December 2018

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
21 malignant orsuspicious	1.2 + 0.1 (4.8%)	3.5 + 0.7 (19.0%)	1.9 + 1.3 (23.8%)	29.3 + 39.0 (33.3%)	− (23.8%)	− (14.3%)
Other 943	1.2 + 0.2 (6.3%)	3.5 + 0.5 (6.4%)	1.3 + 4.5 (9.1%)	29.3 + 100.5 (14.2%)	− (8.2%)	− (13.1%)

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
21 malignant or suspicious	69	149	232	437	3510
Other 946	26	110	175	324	8910

2.2-6 Confirmatory examination results by area as of 31 December 2018

The proportion of malignancy or suspicious for malignancy was 0.02% in 13 municipalities in the nationally designated evacuation zone and 0.01% in Nakadori, Hamadori and Aizu.

Table 10 Confirmatory examination results by area

	Number of Participants	Participants who required confirmatory exam	Proportion who required confirmatory exam (%)*	Number who underwent confirmatory exam	Malignant or Suspicious cases	Proportion of malignant or suspicious cases (%)
13 municipalities 1)	27,053	211	0.8	158	5	0.02
Nakadori 2)	121,792	752	0.6	555	8	0.01
Hamadori 3)	41,246	321	0.8	213	6	0.01
Aizu 4)	27,585	203	0.7	133	2	0.01
Total	217,676	1,487	0.7	1,059	21	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, 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

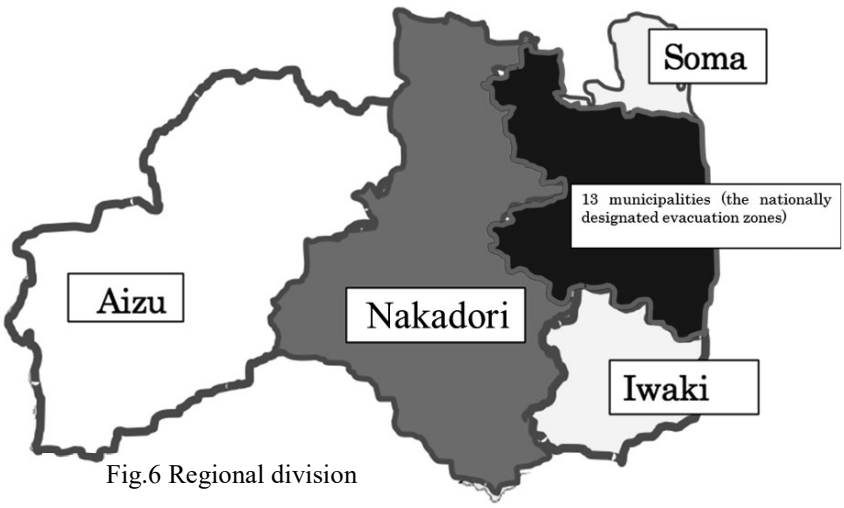


Fig.6 Regional division

2.3 Mental Health Care

2.3-1 Support for the 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 examination venue. As of 31 December 2018, 27,715 (84.8%) of 32,668 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 of the Second-Round Survey.

2.3-2 Support for the 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 the Full-Scale Thyroid Survey, 1,170 participants (411 males and 759 females) have received support as of 31 December 2018. The number of supports provided was 2,421 in total. Of these, 1,342 (55.4%) received support at their first examination and 1,014 (41.9%) at subsequent examinations (including 138 (5.7%) at FNAC) – and 65 (2.7%) at informed consent.

For those who have proceeded to regular insured 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 for the second time.

Appendix 1

Thyroid ultrasound examination (TUE) coverage by municipality As of 31 December 2018

	Survey population	Participants		Proportion (%)	Number and proportion*2 of participants by age group				Participants living outside Fukushima	Proportion (%)
			Outside Fukushima*1		4-9	10-14	15-19	≥20		
	a	b		b/a					c*3	c/b
Municipalities surveyed in FY 2016										
Kawamata	2,142	1,407	34	65.7	408	544	409	46	57	4.1
					29.0	38.7	29.1	3.3		
Namie	3,315	1,951	506	58.9	581	664	576	130	590	30.2
					29.8	34.0	29.5	6.7		
Iitate	987	603	23	61.1	174	261	151	17	32	5.3
					28.9	43.3	25.0	2.8		
Minami-soma	11,540	7,063	1,233	61.2	2,208	2,726	1,839	290	1,282	18.2
					31.3	38.6	26.0	4.1		
Date	10,210	7,084	242	69.4	2,028	2,674	2,095	287	264	3.7
					28.6	37.7	29.6	4.1		
Tamura	6,344	4,054	99	63.9	1,269	1,594	1,105	86	144	3.6
					31.3	39.3	27.3	2.1		
Hirono	975	542	64	55.6	163	185	154	40	64	11.8
					30.1	34.1	28.4	7.4		
Naraha	1,281	770	99	60.1	214	270	222	64	96	12.5
					27.8	35.1	28.8	8.3		
Tomioka	2,751	1,474	298	53.6	392	509	451	122	325	22.0
					26.6	34.5	30.6	8.3		
Kawauchi	297	171	15	57.6	47	72	49	3	15	8.8
					27.5	42.1	28.7	1.8		
Okuma	2,259	1,342	270	59.4	418	496	349	79	300	22.4
					31.1	37.0	26.0	5.9		
Futaba	1,133	463	117	40.9	139	184	117	23	126	27.2
					30.0	39.7	25.3	5.0		
Katsurao	211	129	4	61.1	36	50	32	11	8	6.2
					27.9	38.8	24.8	8.5		
Fukushima	49,340	34,076	2,090	69.1	10,279	12,202	10,178	1,417	2,391	7.0
					30.2	35.8	29.9	4.2		
Nihonmatsu	9,308	6,340	229	68.1	1,955	2,456	1,747	182	254	4.0
					30.8	38.7	27.6	2.9		
Motomiya	5,615	3,897	124	69.4	1,316	1,445	1,030	106	122	3.1
					33.8	37.1	26.4	2.7		
Otama	1,468	1,051	34	71.6	358	405	256	32	35	3.3
					34.1	38.5	24.4	3.0		
Koriyama	59,469	38,063	2,843	64.0	11,582	14,398	10,611	1,472	3,050	8.0
					30.4	37.8	27.9	3.9		
Kori	1,854	1,353	38	73.0	424	501	370	58	43	3.2
					31.3	37.0	27.3	4.3		
Kunimi	1,405	1,019	29	72.5	275	385	304	55	28	2.7
					27.0	37.8	29.8	5.4		
Tenei	966	634	24	65.6	191	258	164	21	24	3.8
					30.1	40.7	25.9	3.3		
Shirakawa	11,352	7,639	291	67.3	2,261	2,853	2,251	274	352	4.6
					29.6	37.3	29.5	3.6		
Nishigo	3,722	2,558	110	68.7	787	951	705	115	131	5.1
					30.8	37.2	27.6	4.5		
Izumizaki	1,163	798	12	68.6	239	310	222	27	21	2.6
					29.9	38.8	27.8	3.4		
Miharu	2,769	1,766	46	63.8	454	628	596	88	50	2.8
					25.7	35.6	33.7	5.0		
Subtotal	191,876	126,247	8,874	65.8	38,198	47,021	35,983	5,045	9,804	7.8
					30.3	37.2	28.5	4.0		

*1) The number of participants who received the examination at facilities outside Fukushima or by teams dispatched from FMU (as of 30 November 2018)

*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 Survey (the Third-Round Survey). This applies to other tables hereafter.

As of 31 December 2018

	Survey population	Participants		Proportion (%)	Number and proportion[*2] of participants by age group				Participants living outside Fukushima	Proportion (%)
			Outside Fukushima[*1]		4-9	10-14	15-19	≥20		
	a	b		b/a					c[*3]	c/b
Municipalities surveyed in FY 2017										
Iwaki	56,810	36,577	2,000	64.4	8,792	13,724	11,601	2,460	1,984	5.4
					24.0	37.5	31.7	6.7		
Sukagawa	14,113	9,241	273	65.5	2,570	3,476	2,699	496	291	3.1
					27.8	37.6	29.2	5.4		
Soma	6,252	3,820	255	61.1	1,137	1,410	1,110	163	284	7.4
					29.8	36.9	29.1	4.3		
Kagamiishi	2,417	1,589	44	65.7	436	614	470	69	46	2.9
					27.4	38.6	29.6	4.3		
Shinchi	1,320	849	34	64.3	212	333	263	41	44	5.2
					25.0	39.2	31.0	4.8		
Nakajima	972	645	6	66.4	177	240	202	26	7	1.1
					27.4	37.2	31.3	4.0		
Yabuki	3,041	1,960	42	64.5	632	736	519	73	57	2.9
					32.2	37.6	26.5	3.7		
Ishikawa	2,530	1,607	36	63.5	485	591	470	61	52	3.2
					30.2	36.8	29.2	3.8		
Yamatsuri	930	578	16	62.2	187	219	148	24	14	2.4
					32.4	37.9	25.6	4.2		
Asakawa	1,210	819	27	67.7	214	316	251	38	39	4.8
					26.1	38.6	30.6	4.6		
Hirata	1,101	691	8	62.8	208	268	196	19	13	1.9
					30.1	38.8	28.4	2.7		
Tanagura	2,749	1,748	40	63.6	536	677	479	56	47	2.7
					30.7	38.7	27.4	3.2		
Hanawa	1,492	889	27	59.6	260	348	242	39	27	3.0
					29.2	39.1	27.2	4.4		
Samegawa	617	382	12	61.9	120	154	96	12	16	4.2
					31.4	40.3	25.1	3.1		
Ono	1,716	1,029	20	60.0	318	423	254	34	19	1.8
					30.9	41.1	24.7	3.3		
Tamakawa	1,210	798	10	66.0	222	333	220	23	11	1.4
					27.8	41.7	27.6	2.9		
Furudono	946	622	16	65.8	197	232	158	35	15	2.4
					31.7	37.3	25.4	5.6		
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	1,471	25	58.6	437	559	428	47	21	1.4
					29.7	38.0	29.1	3.2		
Kaneyama	177	89	1	50.3	19	42	25	3	2	2.2
					21.3	47.2	28.1	3.4		
Showa	127	73	2	57.5	26	26	20	1	3	4.1
					35.6	35.6	27.4	1.4		
Mishima	174	107	1	61.5	24	44	37	2	1	0.9
					22.4	41.1	34.6	1.9		
Shimogo	873	527	8	60.4	160	200	148	19	8	1.5
					30.4	38.0	28.1	3.6		
Kitakata	8,079	4,919	101	60.9	1,336	1,903	1,518	162	104	2.1
					27.2	38.7	30.9	3.3		
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	6	1.5
					30.4	37.6	28.6	3.3		
Inawashiro	2,383	1,503	40	63.1	456	560	420	67	47	3.1
					30.3	37.3	27.9	4.5		
Bandai	555	355	9	64.0	105	143	98	9	12	3.4
					29.6	40.3	27.6	2.5		
Kitashiobara	502	318	7	63.3	98	129	79	12	8	2.5
					30.8	40.6	24.8	3.8		
Aizumisato	3,311	2,063	41	62.3	568	832	563	100	44	2.1
					27.5	40.3	27.3	4.8		
Aizubange	2,790	1,734	48	62.2	489	679	490	76	37	2.1
					28.2	39.2	28.3	4.4		
Yanaizu	538	342	4	63.6	103	129	96	14	4	1.2
					30.1	37.7	28.1	4.1		
Aizuwakamatsu	21,119	12,756	396	60.4	3,585	4,811	3,915	445	428	3.4
					28.1	37.7	30.7	3.5		
Yugawa	606	414	5	68.3	121	159	115	19	5	1.2
					29.2	38.4	27.8	4.6		
Subtotal	144,793	91,429	3,575	63.1	24,498	34,645	27,604	4,682	3,715	4.1
					26.8	37.9	30.2	5.1		
Total	336,669	217,676	12,449	64.7	62,696	81,666	63,587	9,727	13,519	6.2
					28.8	37.5	29.2	4.5		

Appendix 2

Thyroid ultrasound examination (TUE) coverage by prefecture

As of 30 November 2018

Prefecture	Number of medeical facilities	Participants *
Hokkaido	7	**354**
Aomori	2	**143**
Iwate	3	**306**
Miyagi	2	**2,543**
Akita	1	**183**
Yamagata	3	**594**
Ibaraki	4	**766**
Tochigi	7	**750**
Gunma	2	**233**
Saitama	3	**583**
Chiba	4	**545**
Tokyo	16	**2,118**
Kanagawa	5	**1,027**
Niigata	2	**588**
Toyama	2	**23**
Ishikawa	1	**43**

Prefecture	Number of medeical facilities	Participants *
Fukui	1	**23**
Yamanashi	2	**105**
Nagano	2	**139**
Gifu	1	**42**
Shizuoka	2	**112**
Aichi	4	**223**
Mie	1	**25**
Shiga	1	**22**
Kyoto	3	**99**
Osaka	7	**232**
Hyogo	2	**138**
Nara	2	**30**
Wakayama	1	**6**
Tottori	1	**10**
Shimane	1	**15**
Okayama	3	**60**

Prefecture	Number of medeical facilities	Participants *
Hiroshima	2	**33**
Yamaguchi	1	**22**
Tokushima	1	**9**
Kagawa	1	**17**
Ehime	1	**12**
Kochi	1	**14**
Fukuoka	3	**83**
Saga	1	**5**
Nagasaki	2	**27**
Kumamoto	1	**31**
Oita	1	**14**
Miyazaki	1	**29**
Kagoshima	1	**19**
Okinawa	1	**54**
Total	116	**12,449**

・The number of participants includes those who received examinations 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 31 December 2018

	Participants	Confirmed results b	Number by exam results				Nodules		Cysts	
			Proportion (%)				Proportion (%)		Proportion (%)	
			A		B	C				
	a	Proportion b/a (%)	A1	A2			≥5.1 mm	≤5.0 mm	≥20.1 mm	≤20.0 mm
Municipalities surveyed in FY 2016										
Kawamata	1,407	1,405	488	908	9	0	9	7	0	913
		99.9	34.7	64.6	0.6	0.0	0.6	0.5	0.0	65.0
Namie	1,951	1,951	651	1,284	16	0	16	9	0	1,287
		100.0	33.4	65.8	0.8	0.0	0.8	0.5	0.0	66.0
Iitate	603	603	202	397	4	0	4	2	0	397
		100.0	33.5	65.8	0.7	0.0	0.7	0.3	0.0	65.8
Minami-soma	7,063	7,059	2,564	4,443	52	0	52	31	0	4,466
		99.9	36.3	62.9	0.7	0.0	0.7	0.4	0.0	63.3
Date	7,084	7,079	2,455	4,574	50	0	50	23	0	4,598
		99.9	34.7	64.6	0.7	0.0	0.7	0.3	0.0	65.0
Tamura	4,054	4,054	1,490	2,518	46	0	46	22	0	2,543
		100.0	36.8	62.1	1.1	0.0	1.1	0.5	0.0	62.7
Hirono	542	541	193	344	4	0	4	3	0	343
		99.8	35.7	63.6	0.7	0.0	0.7	0.6	0.0	63.4
Naraha	770	769	293	473	3	0	3	2	0	474
		99.9	38.1	61.5	0.4	0.0	0.4	0.3	0.0	61.6
Tomioka	1,474	1,474	509	952	13	0	13	3	0	959
		100.0	34.5	64.6	0.9	0.0	0.9	0.2	0.0	65.1
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	1,342	1,341	460	870	11	0	11	6	0	872
		99.9	34.3	64.9	0.8	0.0	0.8	0.4	0.0	65.0
Futaba	463	463	172	289	2	0	2	0	0	290
		100.0	37.1	62.4	0.4	0.0	0.4	0.0	0.0	62.6
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	34,076	34,036	11,957	21,888	191	0	191	104	0	21,984
		99.9	35.1	64.3	0.6	0.0	0.6	0.3	0.0	64.6
Nihonmatsu	6,340	6,340	2,263	4,032	45	0	45	22	0	4,056
		100.0	35.7	63.6	0.7	0.0	0.7	0.3	0.0	64.0
Motomiya	3,897	3,897	1,356	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	65.1
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	38,063	38,053	13,054	24,764	235	0	235	130	0	24,871
		100.0	34.3	65.1	0.6	0.0	0.6	0.3	0.0	65.4
Kori	1,353	1,352	492	850	10	0	10	4	0	857
		99.9	36.4	62.9	0.7	0.0	0.7	0.3	0.0	63.4
Kunimi	1,019	1,015	336	671	8	0	8	2	0	676
		99.6	33.1	66.1	0.8	0.0	0.8	0.2	0.0	66.6
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	7,639	7,638	2,661	4,937	40	0	40	23	0	4,960
		100.0	34.8	64.6	0.5	0.0	0.5	0.3	0.0	64.9
Nishigo	2,558	2,558	828	1,717	13	0	13	8	0	1,722
		100.0	32.4	67.1	0.5	0.0	0.5	0.3	0.0	67.3
Izumizaki	798	798	271	525	2	0	2	5	0	525
		100.0	34.0	65.8	0.3	0.0	0.3	0.6	0.0	65.8
Miharu	1,766	1,766	564	1,191	11	0	11	8	0	1,192
		100.0	31.9	67.4	0.6	0.0	0.6	0.5	0.0	67.5
Subtotal	126,247	126,177	43,937	81,444	796	0	796	427	0	81,823
		99.9	34.8	64.5	0.6	0.0	0.6	0.3	0.0	64.8

As of 31 December 2018

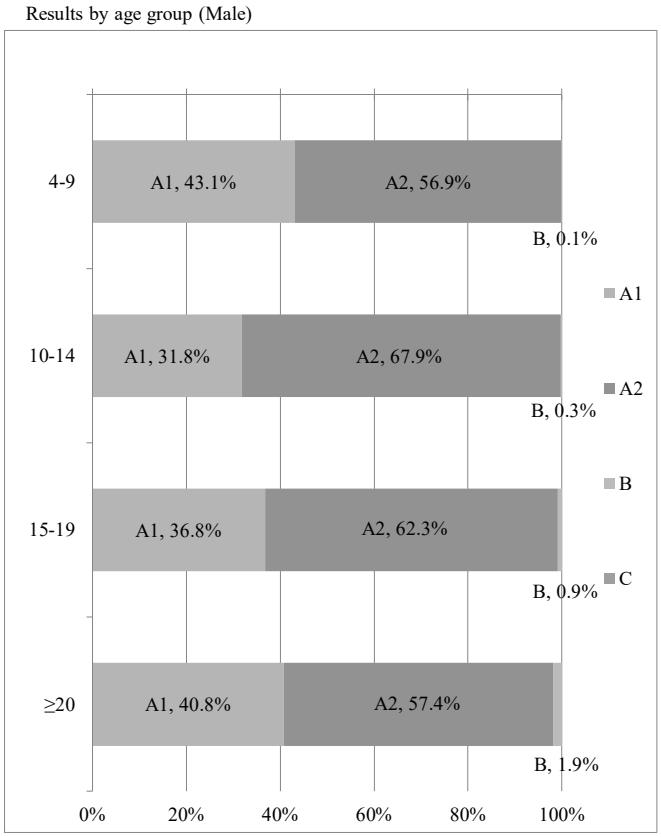
	Participants	Confirmed results b	Number by exam results				Nodules		Cysts	
			Proportion (%)				Proportion (%)		Proportion (%)	
			A		B	C				
	a	Proportion b/a (%)	A1	A2			≥5.1 mm	≤5.0 mm	≥20.1 mm	≤20.0 mm
Municipalities surveyed in FY 2017										
Iwaki	36,577	36,544	12,624	23,639	281	0	279	144	2	23,755
		99.9	34.5	64.7	0.8	0.0	0.8	0.4	0.0	65.0
Sukagawa	9,241	9,230	3,227	5,921	82	0	82	45	0	5,962
		99.9	35.0	64.1	0.9	0.0	0.9	0.5	0.0	64.6
Soma	3,820	3,816	1,533	2,250	33	0	33	20	0	2,268
		99.9	40.2	59.0	0.9	0.0	0.9	0.5	0.0	59.4
Kagamiishi	1,589	1,587	526	1,049	12	0	12	7	0	1,055
		99.9	33.1	66.1	0.8	0.0	0.8	0.4	0.0	66.5
Shinchi	849	848	306	535	7	0	7	4	0	537
		99.9	36.1	63.1	0.8	0.0	0.8	0.5	0.0	63.3
Nakajima	645	644	226	415	3	0	3	4	0	414
		99.8	35.1	64.4	0.5	0.0	0.5	0.6	0.0	64.3
Yabuki	1,960	1,959	681	1,270	8	0	8	4	0	1,273
		99.9	34.8	64.8	0.4	0.0	0.4	0.2	0.0	65.0
Ishikawa	1,607	1,606	636	962	8	0	8	4	0	965
		99.9	39.6	59.9	0.5	0.0	0.5	0.2	0.0	60.1
Yamatsuri	578	578	196	379	3	0	3	1	0	381
		100.0	33.9	65.6	0.5	0.0	0.5	0.2	0.0	65.9
Asakawa	819	819	292	518	9	0	9	3	0	524
		100.0	35.7	63.2	1.1	0.0	1.1	0.4	0.0	64.0
Hirata	691	691	271	415	5	0	5	2	0	416
		100.0	39.2	60.1	0.7	0.0	0.7	0.3	0.0	60.2
Tanagura	1,748	1,748	631	1,107	10	0	10	8	0	1,114
		100.0	36.1	63.3	0.6	0.0	0.6	0.5	0.0	63.7
Hanawa	889	889	322	558	9	0	9	5	0	561
		100.0	36.2	62.8	1.0	0.0	1.0	0.6	0.0	63.1
Samegawa	382	382	139	239	4	0	4	3	0	241
		100.0	36.4	62.6	1.0	0.0	1.0	0.8	0.0	63.1
Ono	1,029	1,028	309	711	8	0	8	3	0	715
		99.9	30.1	69.2	0.8	0.0	0.8	0.3	0.0	69.6
Tamakawa	798	797	282	512	3	0	3	6	0	513
		99.9	35.4	64.2	0.4	0.0	0.4	0.8	0.0	64.4
Furudono	622	622	238	381	3	0	3	2	0	382
		100.0	38.3	61.3	0.5	0.0	0.5	0.3	0.0	61.4
Hinoemata	47	47	21	26	0	0	0	0	0	26
		100.0	44.7	55.3	0.0	0.0	0.0	0.0	0.0	55.3
Minami-aizu	1,471	1,471	551	909	11	0	11	3	0	913
		100.0	37.5	61.8	0.7	0.0	0.7	0.2	0.0	62.1
Kaneyama	89	89	31	57	1	0	1	1	0	57
		100.0	34.8	64.0	1.1	0.0	1.1	1.1	0.0	64.0
Showa	73	73	34	38	1	0	1	0	0	38
		100.0	46.6	52.1	1.4	0.0	1.4	0.0	0.0	52.1
Mishima	107	107	28	78	1	0	1	1	0	79
		100.0	26.2	72.9	0.9	0.0	0.9	0.9	0.0	73.8
Shimogo	527	527	220	302	5	0	5	1	0	306
		100.0	41.7	57.3	0.9	0.0	0.9	0.2	0.0	58.1
Kitakata	4,919	4,917	1,756	3,125	36	0	36	27	0	3,136
		100.0	35.7	63.6	0.7	0.0	0.7	0.5	0.0	63.8
Nishiaizu	476	476	178	294	4	0	4	2	0	293
		100.0	37.4	61.8	0.8	0.0	0.8	0.4	0.0	61.6
Tadami	391	391	144	245	2	0	2	1	0	247
		100.0	36.8	62.7	0.5	0.0	0.5	0.3	0.0	63.2
Inawashiro	1,503	1,502	524	963	15	0	15	7	0	974
		99.9	34.9	64.1	1.0	0.0	1.0	0.5	0.0	64.8
Bandai	355	355	131	222	2	0	2	2	0	223
		100.0	36.9	62.5	0.6	0.0	0.6	0.6	0.0	62.8
Kitashiobara	318	318	107	209	2	0	2	1	0	209
		100.0	33.6	65.7	0.6	0.0	0.6	0.3	0.0	65.7
Aizumisato	2,063	2,060	767	1,278	15	0	15	12	0	1,284
		99.9	37.2	62.0	0.7	0.0	0.7	0.6	0.0	62.3
Aizubange	1,734	1,733	584	1,135	14	0	14	17	0	1,138
		99.9	33.7	65.5	0.8	0.0	0.8	1.0	0.0	65.7
Yanaizu	342	342	123	219	0	0	0	0	0	219
		100.0	36.0	64.0	0.0	0.0	0.0	0.0	0.0	64.0
Aizuwakamatsu	12,756	12,745	4,517	8,137	91	0	90	54	1	8,177
		99.9	35.4	63.8	0.7	0.0	0.7	0.4	0.0	64.2
Yugawa	414	412	151	258	3	0	3	2	0	260
		99.5	36.7	62.6	0.7	0.0	0.7	0.5	0.0	63.1
Subtotal	91,429	91,353	32,306	58,356	691	0	688	396	3	58,655
		99.9	35.4	63.9	0.8	0.0	0.8	0.4	0.0	64.2
Total	217,676	217,530	76,243	139,800	1,487	0	1,484	823	3	140,478
		99.9	35.0	64.3	0.7	0.0	0.7	0.4	0.0	64.6

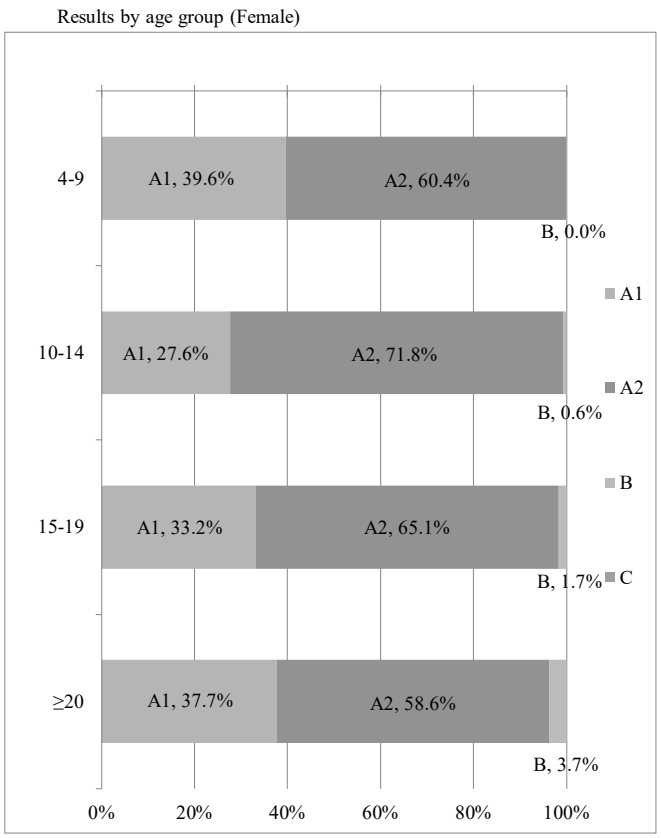
Appendix 4

1. Thyroid ultrasound examination results by age and gender

As of 31 December 2018

Class/ Gender / Age	A						B			C			Total		
	A1			A2											
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
4-9	13,887	12,061	25,948	18,335	18,381	36,716	17	12	29	0	0	0	32,239	30,454	62,693
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	19,842	20,689	40,531	286	541	827	0	0	0	31,825	31,762	63,587
≥20	1,705	2,038	3,743	2,399	3,163	5,562	79	200	279	0	0	0	4,183	5,401	9,584
Total	40,557	35,686	76,243	68,860	70,940	139,800	492	995	1,487	0	0	0	109,909	107,621	217,530

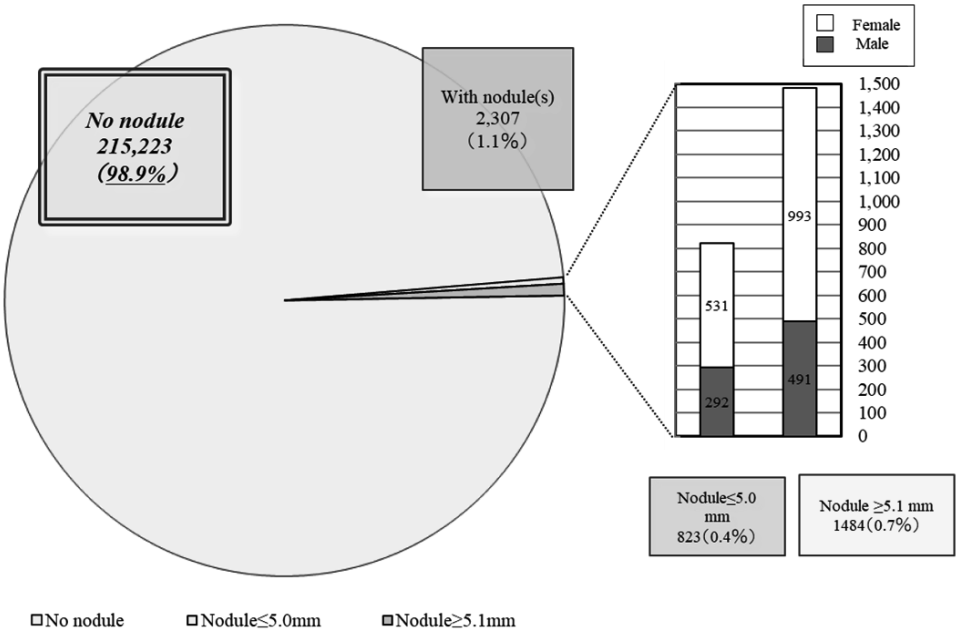


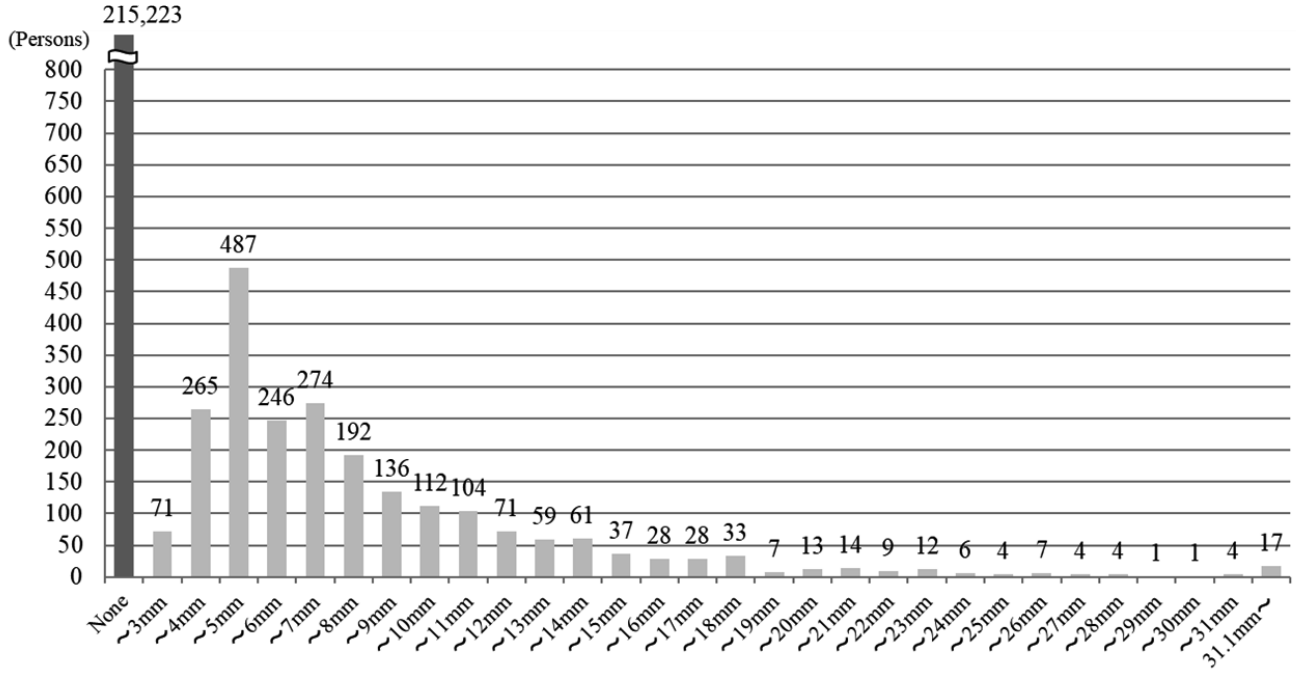


2 Nodule characteristics

As of 31 December 2018

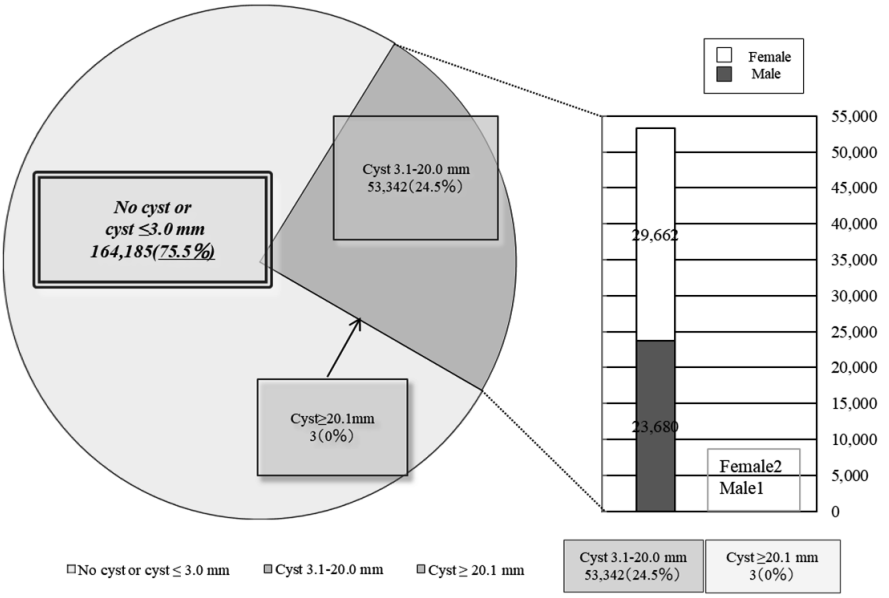
Nodule size	Total	Male	Female	Class	Proportion
None	215,223	109,126	106,097	A1	98.9%
≤ 3.0 mm	71	34	37	A2	0.4%
3.1-5.0 mm	752	258	494		
5.1-10.0 mm	960	326	634	B	0.7%
10.1-15.0 mm	332	110	222		
15.1-20.0 mm	109	27	82		
20.1-25.0 mm	45	17	28		
≥ 25.1 mm	38	11	27		
Total	217,530	109,909	107,621		

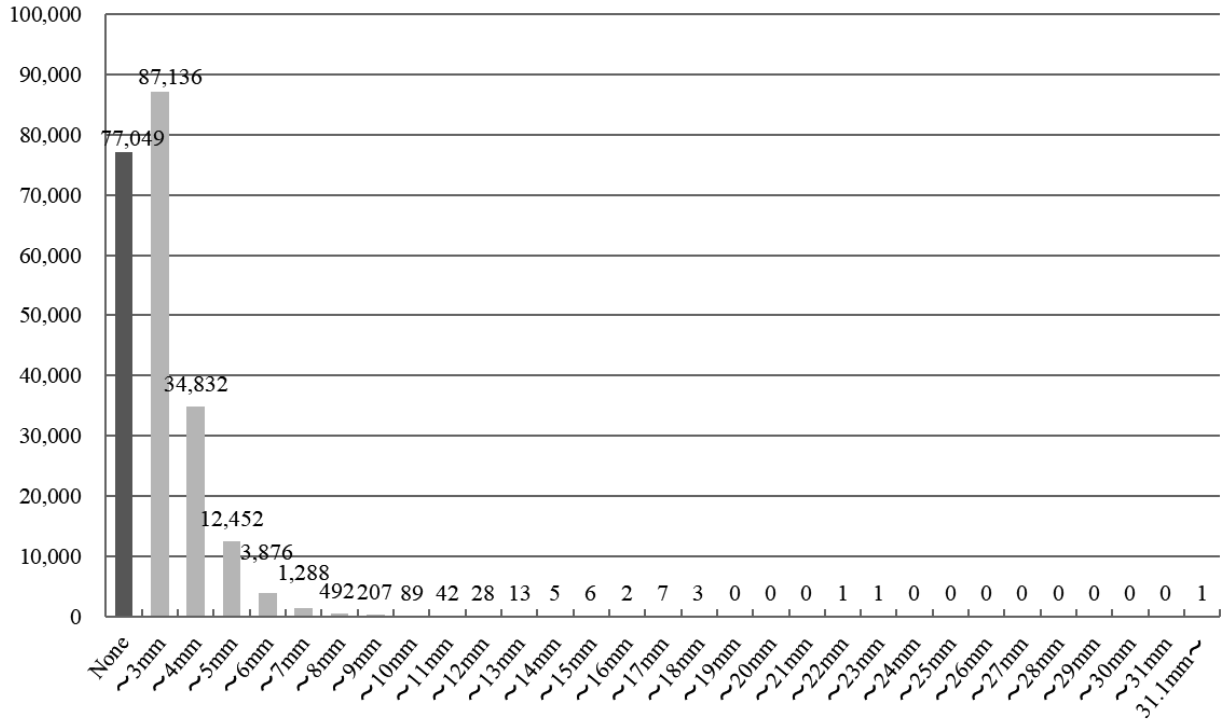




3 Cyst characteristics　　As of 31 December 2018

Cyst size	Total	Male	Female	Class	Proportion
None	77,049	40,842	36,207	A1	75.5%
≤ 3.0 mm	87,136	45,386	41,750	A2	24.5%
3.1-5.0 mm	47,284	21,565	25,719		
5.1-10.0 mm	5,952	2,085	3,867		
10.1-15.0 mm	94	25	69		
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		
Toal	217,530	109,909	107,621		





Appendix 5

Results of confirmatory examination by area — As of 31 December 2018

Area	Participants	Participants who required confirmatory exam	Number of those who underwent confirmatory exam					Number of confirmed results				
			Total	Ages 4-9	Ages 10-14	Ages 15-19	≥ 20	Total	A1	A2	Not A1 or A2	
												FNAC
	a	b Proportion (%) b/a	c Proportion (%) c/b	d Proportion (%) d/c	e Proportion (%) e/c	f Proportion (%) f/c	g Proportion (%) g/c	h Proportion (%) h/c	i Proportion (%) i/h	j Proportion (%) j/h	k Proportion (%) k/h	l Proportion (%) l/k
13 municipalities [1]	27,053	211	158	1	36	94	27	150	0	19	131	13
		0.8	74.9	0.6	22.8	59.5	17.1	94.9	0.0	12.7	87.3	9.9
Nakadori [2]	121,792	752	555	14	111	316	114	528	5	42	481	31
		0.6	73.8	2.5	20.0	56.9	20.5	95.1	0.9	8.0	91.1	6.4
Hamadori [3]	41,246	321	213	2	52	105	54	195	2	23	170	14
		0.8	66.4	0.9	24.4	49.3	25.4	91.5	1.0	11.8	87.2	8.2
Aizu [4]	27,585	203	133	4	25	69	35	122	1	12	109	6
		0.7	65.5	3.0	18.8	51.9	26.3	91.7	0.8	9.8	89.3	5.5
Total	217,676	1,487	1,059	21	224	584	230	995	8	96	891	64
		0.7	71.2	2.0	21.2	55.1	21.7	94.0	0.8	9.6	89.5	7.2

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: 9 (4 surgical case: 4 papillary thyroid carcinomas)
3. Total
   Malignant or suspicious for malignancy: 21 (15 surgical cases: 15 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 was carried out on a municipality-by-municipality basis in FY 2018 and FY 2019.

1.3-2 For those 19 years old or older

The examination was carried out for each age group (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, the 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 examinations in cooperation with organizations inside and outside Fukushima (the number of contracts is as of 31 December 2018).

1.4-1 The primary examination

Inside Fukushima Prefecture	77 medical facilities
Outside Fukushima Prefecture	116 medical facilities

1.4-2 The confirmatory examination

Inside Fukushima Prefecture	5 medical facilities including FMU
Outside Fukushima Prefecture	36 medical facilities

1.5 Method

1.5-1 The primary examinations

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.

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

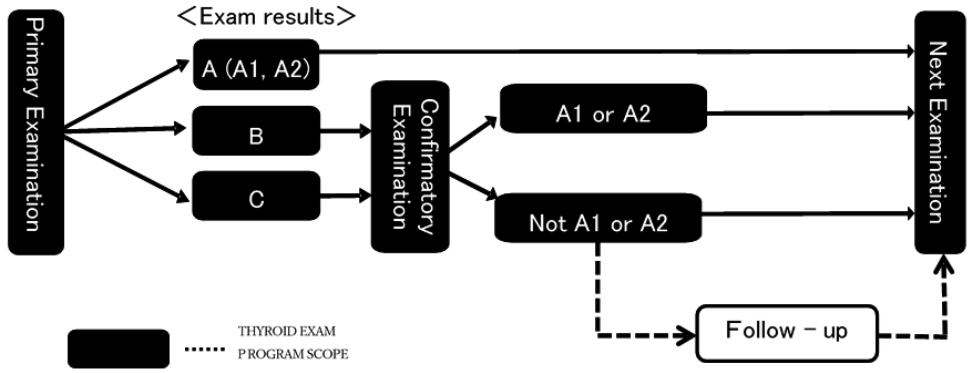


Fig.1 Flow chart

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:

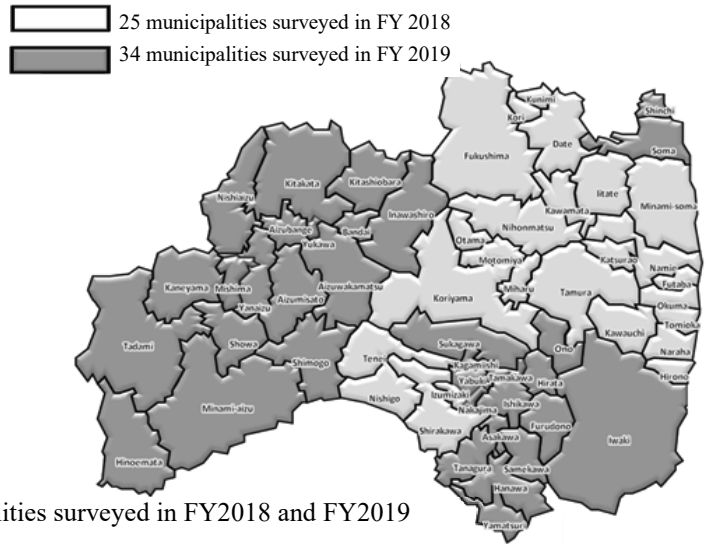


Fig.2 Municipalities surveyed in FY2018 and FY2019

2. Results as of 31 December 2018

2.1 Results of the Primary Examination

2.1-1 Progress report

The examination was carried out for 76,979 (26.2%) participants by 31 December 2018 (Implementation status for each municipality and prefectures other than Fukushima are shown in Appendix 1 and Appendix 2).

Results of 60,777 participants (79.0%) have been confirmed and notifications were sent to them accordingly (The result for each municipality is shown in Appendix 3).

Of these, 60,350 (99.3%) were classified as A (A1 or A2), 427 (0.7%) were B, and none was C.

Table 1 Progress and results of the primary examination As of 31 December 2018

	Survey population	Participants			Exam results							
		Proportion (%)		Outside Fukushima	Proportion (%)	Class (%)						
						A				Requiring confirmatory exam		
	a	b	(b/a)		c	(c/b)	A1 d	(d/c)	A2 e	(e/c)	B f	(f/c)	C g	(g/c)
FY 2018	167,844	72,435	(43.2)	4,208	57,878	(79.9)	20,358	(35.2)	37,137	(64.2)	383	(0.7)	0	(0.0)
FY 2019	126,101	4,544	(3.6)	284	2,899	(63.8)	1,038	(35.8)	1,817	(62.7)	44	(1.5)	0	(0.0)
Total	293,945	76,979	(26.2)	4,492	60,777	(79.0)	21,396	(35.2)	38,954	(64.1)	427	(0.7)	0	(0.0)

Table 2 Number and proportion of participants with nodules/cysts As of 31 December 2018

	Number of participants with confirmed results	Number and proportion of participants with nodules/cysts			
		Nodules		Cysts	
		≥5.1 mm	≤5.0 mm	≥20.1 mm	≤20.0 mm
	a	b (b/a)	c (c/a)	d (d/a)	e (e/a)
FY 2018	57,878	381 (0.7)	204 (0.4)	2 (0.0)	37,321 (64.5)
FY 2019	2,899	44 (1.5)	15 (0.5)	0 (0.0)	1,839 (63.4)
Total	60,777	425 (0.7)	219 (0.4)	2 (0.0)	39,160 (64.4)

- Proportions are rounded at a lower decimal place. This applies to other tables as well.
- Those who receive the examination at 5-year intervals (birth year FY1992 to 1995) 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 31 December 2018

		Total	Age group (years)		
FY 2018	Age group (years)		6-11	12-17	18-24
	Survey population (a)	167,844	56,751	64,828	46,265
	Participants (b)	72,435	28,837	41,122	2,476
	Proportion (%) (b/a)	43.2	50.8	63.4	5.4
FY 2019	Age group (years)		7-11	12-17	18-24
	Survey population (a)	126,101	34,099	47,275	44,727
	Participants (b)	4,544	607	2,031	1,906
	Proportion (%) (b/a)	3.6	1.8	4.3	4.3
Total	Survey population (a)	293,945	90,850	112,103	90,992
	Participants (b)	76,979	29,444	43,153	4,382
	Proportion (%) (b/a)	26.2	32.4	38.5	4.8

・ 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 the Fourth- and Third-Round Survey results is shown in Table 4. Among 54,338 participants who were diagnosed as A1 or A2 in the Third-Round Survey, 54,139 (99.6%) had A1 or A2 results, and 199 (0.4%) were diagnosed as B in the Fourth-Round Survey. Among 235 participants who were diagnosed as B in the Third-Round Survey, 47 (20.0%) had A1 or A2 results, and 188 (80.0%) were diagnosed as B in the Fourth-Round Survey.

Table 4 Comparison of Full-scale Thyroid Survey

As of 31 December 2018

			Results of the Third-round Survey*1 (%) a	Results of the Fourth-Round Survey *2			
				A		B	C
				A1 b b/a (%)	A2 c c/a (%)	d d/a (%)	e e/a (%)
Results of the Third-round Survey	A	A1	18,844 (100.0)	14,632 (77.6)	4,190 (22.2)	22 (0.1)	0 (0.0)
		A2	35,494 (100.0)	4,147 (11.7)	31,170 (87.8)	177 (0.5)	0 (0.0)
	B		235 (100.0)	1 (0.4)	46 (19.6)	188 (80.0)	0 (0.0)
	C		0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
	No participation		6,204 (100.0)	2,616 (42.2)	3,548 (57.2)	40 (0.6)	0 (0.0)
Total			60,777 (100.0)	21,396 (35.2)	38,954 (64.1)	427 (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 (217,530).

*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 31 December 2018, 143 of 427 people (33.5%) have received the confirmatory examination. Of those, 90 (62.9%) have completed the entire procedure of the examination.

Of the foregoing 90 participants, 9 (A1: 1, A2: 8) (10.0%) were confirmed to meet A1 or A2 diagnostic criteria by the primary examination standards (including those with other thyroid conditions). Remaining 81 (90.0%) people were confirmed to be non-equivalent to A1 or A2.

Table 5 Progress and results of the confirmatory examination As of 31 December 2018

	Number of those requiring confirmatory exam	Participants		Confirmed exam results				
		Proportion (%)	Confirmatory exam coverage (%)	A1	A2	Not A1 or A2	
							FNAC
	a	b (b/a)	c (c/b)	d (d/c)	e (e/c)	f (f/c)	g (g/f)
FY 2018	383	135 (35.2)	87 (64.4)	1 (1.1)	8 (9.2)	78 (89.7)	6 (7.7)
FY 2019	44	8 (18.2)	3 (37.5)	0 (0.0)	0 (0.0)	3 (100.0)	0 (0.0)
Total	427	143 (33.5)	90 (62.9)	1 (1.1)	8 (8.9)	81 (90.0)	6 (7.4)

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

Among those who underwent FNAC, 2 had nodules classified as malignant or suspicious for malignancy. One of them was male, and the other was female.

Table 6. Results of FNAC

A. Municipalities surveyed in FY 2018
- Malignant or suspicious for malignancy : 2
- Male to female ratio : 1:1

B. Municipalities surveyed in FY 2019
- Malignant or suspicious for malignancy : 0

2.2-3 Blood test and urinary iodine test results as of 31 December 2018

Table 7 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
2 malignant or suspicious	—	—	—	—	—	—
Other 83	1.3 + 0.2 (6.0%)	3.6 + 0.6 (10.8%)	1.2 + 0.7 (10.8%)	24.4 + 38.7 (13.3%)	— (7.2%)	— (6.0%)

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 8 Urinary iodine test results (μg/day)

	Minimum	25th percentile	Median	75th percentile	Maximum
2 malignant or suspicious	—	—	—	—	—
Other 81	32	134	228	328	2580

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 31 December 2018, 985 (100%) of 985 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, 677 people in 24 venues participated in the briefing sessions as of 31 December 2018.

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, 119 participants (36 males and 83 females) have received support as of 31 December 2018. The number of supports provided was 198 in total. Of these, 119 (60.1%) received support at their first examination and 79 (39.9%) at subsequent examinations.

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 31 December 2018

	Survey population	Participants		Proportion (%)	Number and proportion[*2] of participants by age group			Participants living outside Fukushima	Proportion (%)
			Outside Fukushima[*1]		6-11	12-17	18-24		
	a	b		b/a				c[*3]	c/b
Municipalities surveyed in FY 2018									
Kawamata	1,831	1,095	24	59.8	458 41.8	570 52.1	67 6.1	27	2.5
Namie	2,857	881	241	30.8	338 38.4	449 51.0	94 10.7	286	32.5
Iitate	852	496	14	58.2	202 40.7	267 53.8	27 5.4	17	3.4
Minami-soma	10,197	4,852	650	47.6	2,114 43.6	2,479 51.1	259 5.3	712	14.7
Date	8,780	5,663	122	64.5	2,286 40.4	3,011 53.2	366 6.5	136	2.4
Tamura	5,433	3,097	42	57.0	1,389 44.8	1,518 49.0	190 6.1	54	1.7
Hirono	800	257	26	32.1	132 51.4	113 44.0	12 4.7	26	10.1
Naraha	1,094	185	40	16.9	91 49.2	84 45.4	10 5.4	43	23.2
Tomioka	2,339	406	142	17.4	129 31.8	212 52.2	65 16.0	160	39.4
Kawauchi	267	101	9	37.8	36 35.6	63 62.4	2 2.0	9	8.9
Okuma	2,019	393	162	19.5	169 43.0	174 44.3	50 12.7	174	44.3
Futaba	978	148	52	15.1	61 41.2	72 48.6	15 10.1	50	33.8
Katsurao	174	56	2	32.2	18 32.1	30 53.6	8 14.3	2	3.6
Fukushima	43,235	27,153	1,342	62.8	11,259 41.5	13,966 51.4	1,928 7.1	1,405	5.2
Nihonmatsu	8,102	5,184	137	64.0	2,186 42.2	2,719 52.4	279 5.4	132	2.5
Motomiya	4,910	2,966	71	60.4	1,307 44.1	1,504 50.7	155 5.2	73	2.5
Otama	1,287	868	16	67.4	397 45.7	434 50.0	37 4.3	17	2.0
Koriyama	52,400	11,085	943	21.2	1,512 13.6	7,564 68.2	2,009 18.1	1,388	12.5
Kori	1,609	1,078	22	67.0	463 42.9	540 50.1	75 7.0	21	1.9
Kunimi	1,204	776	13	64.5	291 37.5	427 55.0	58 7.5	16	2.1
Tenei	839	411	4	49.0	188 45.7	207 50.4	16 3.9	6	1.5
Shirakawa	9,969	2,865	87	28.7	759 26.5	1,713 59.8	393 13.7	138	4.8
Nishigo	3,263	1,823	34	55.9	730 40.0	956 52.4	137 7.5	51	2.8
Izumizaki	1,025	137	1	13.4	11 8.0	88 64.2	38 27.7	1	0.7
Miharu	2,380	459	12	19.3	52 11.3	282 61.4	125 27.2	12	2.6
Subtotal	167,844	72,435	4,208	43.2	26,578 36.7	39,442 54.5	6,415 8.9	4,956	6.8

*1) The number of participants who received the examination at facilities outside Fukushima(as of 30 November 2018).

*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 Fourth-Round Survey). This applies to other tables hereafter.

As of 31 December 2018

	Survey population	Participants		Proportion (%)	Number and proportion*2 of participants by age group			Participants living outside Fukushima	Proportion (%)
			Outside Fukushima*1		6-11	12-17	18-24		
	a	b		b/a				c*3	c/b
Municipalities surveyed in FY 2019									
Iwaki	49,582	1,022	139	2.1	197 19.3	291 28.5	534 52.3	111	10.9
Sukagawa	12,372	1,012	36	8.2	76 7.5	588 58.1	348 34.4	15	1.5
Soma	5,504	295	19	5.4	75 25.4	150 50.8	70 23.7	18	6.1
Kagamiishi	2,133	163	7	7.6	10 6.1	93 57.1	60 36.8	4	2.5
Shinchi	1,159	57	5	4.9	8 14.0	33 57.9	16 28.1	1	1.8
Nakajima	846	91	1	10.8	8 8.8	54 59.3	29 31.9	1	1.1
Yabuki	2,671	280	3	10.5	24 8.6	187 66.8	69 24.6	4	1.4
Ishikawa	2,181	151	3	6.9	17 11.3	83 55.0	51 33.8	2	1.3
Yamatsuri	816	36	1	4.4	5 13.9	25 69.4	6 16.7	1	2.8
Asakawa	1,064	89	1	8.4	2 2.2	66 74.2	21 23.6	4	4.5
Hirata	968	82	2	8.5	12 14.6	49 59.8	21 25.6	2	2.4
Tanagura	2,398	180	4	7.5	18 10.0	138 76.7	24 13.3	4	2.2
Hanawa	1,297	76	2	5.9	4 5.3	58 76.3	14 18.4	2	2.6
Samegawa	519	32	1	6.2	5 15.6	21 65.6	6 18.8	1	3.1
Ono	1,488	185	2	12.4	17 9.2	127 68.6	41 22.2	2	1.1
Tamakawa	1,049	56	1	5.3	3 5.4	39 69.6	14 25.0	0	0.0
Furudono	817	34	5	4.2	3 8.8	13 38.2	18 52.9	3	8.8
Hinoemata	87	2	0	2.3	0 0.0	2 100.0	0 0.0	0	0.0
Minami-aizu	2,128	37	3	1.7	10 27.0	18 48.6	9 24.3	2	5.4
Kaneyama	147	4	0	2.7	0 0.0	3 75.0	1 25.0	0	0.0
Showa	115	3	0	2.6	0 0.0	1 33.3	2 66.7	0	0.0
Mishima	148	0	0	0.0	0 0.0	0 0.0	0 0.0	0	0.0
Shimogo	747	8	1	1.1	4 50.0	3 37.5	1 12.5	1	12.5
Kitakata	6,945	62	3	0.9	22 35.5	33 53.2	7 11.3	4	6.5
Nishiaizu	761	12	0	1.6	7 58.3	3 25.0	2 16.7	0	0.0
Tadami	555	19	3	3.4	6 31.6	5 26.3	8 42.1	2	10.5
Inawashiro	2,068	81	0	3.9	17 21.0	48 59.3	16 19.8	0	0.0
Bandai	477	1	0	0.2	0 0.0	1 100.0	0 0.0	0	0.0
Kitashiobara	445	6	0	1.3	0 0.0	5 83.3	1 16.7	0	0.0
Aizumisato	2,822	41	5	1.5	7 17.1	10 24.4	24 58.5	5	12.2
Aizubange	2,399	55	7	2.3	9 16.4	16 29.1	30 54.5	8	14.5
Yanaizu	463	4	0	0.9	0 0.0	0 0.0	4 100.0	1	25.0
Aizuwakamatsu	18,411	358	29	1.9	91 25.4	94 26.3	173 48.3	29	8.1
Yugawa	519	10	1	1.9	0 0.0	1 10.0	9 90.0	1	10.0
Subtotal	126,101	4,544	284	3.6	657 14.5	2,258 49.7	1,629 35.8	228	5.0
Total	293,945	76,979	4,492	26.2	27,235 35.4	41,700 54.2	8,044 10.4	5,184	6.7

Appendix 2

Thyroid ultrasound examination (TUE) coverage outside Fukushima by prefecture

As of 30 November 2018

Prefecture	Number of medeical facilities	Participants *
Hokkaido	7	**95**
Aomori	2	**65**
Iwate	3	**136**
Miyagi	2	**1,048**
Akita	1	**63**
Yamagata	3	**276**
Ibaraki	4	**265**
Tochigi	7	**283**
Gunma	2	**85**
Saitama	3	**232**
Chiba	4	**199**
Tokyo	16	**640**
Kanagawa	5	**301**
Niigata	2	**227**
Toyama	2	**5**
Ishikawa	1	**12**

Prefecture	Number of medeical facilities	Participants *
Fukui	1	**6**
Yamanashi	2	**41**
Nagano	2	**55**
Gifu	1	**12**
Shizuoka	2	**32**
Aichi	4	**72**
Mie	1	**7**
Shiga	1	**5**
Kyoto	3	**44**
Osaka	7	**80**
Hyogo	2	**52**
Nara	2	**4**
Wakayama	1	**3**
Tottori	1	**7**
Shimane	1	**7**
Okayama	3	**15**

Prefecture	Number of medeical facilities	Participants *
Hiroshima	2	**4**
Yamaguchi	1	**11**
Tokushima	1	**0**
Kagawa	1	**13**
Ehime	1	**1**
Kochi	1	**8**
Fukuoka	3	**38**
Saga	1	**0**
Nagasaki	2	**13**
Kumamoto	1	**5**
Oita	1	**4**
Miyazaki	1	**8**
Kagoshima	1	**1**
Okinawa	1	**12**

Total	116	**4,492**

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

Appendix 3

Results of primary examination by municipality — As of 31 December 2018

	Participants	Confirmed results b	Number by exam results				Nodules		Cysts	
			Proportion (%)				Proportion (%)		Proportion (%)	
			A		B	C				
	a	Proportion b/a (%)	A1	A2			≥5.1 mm	≤5.0 mm	≥20.1 mm	≤20.0 mm
Municipalities surveyed in FY 2018										
Kawamata	1,095	1,071	394	673	4	0	4	2	0	677
		97.8	36.8	62.8	0.4	0.0	0.4	0.2	0.0	63.2
Namie	881	771	271	493	7	0	7	3	0	494
		87.5	35.1	63.9	0.9	0.0	0.9	0.4	0.0	64.1
Iitate	496	451	169	279	3	0	3	2	0	282
		90.9	37.5	61.9	0.7	0.0	0.7	0.4	0.0	62.5
Minami-soma	4,852	4,742	1,685	3,027	30	0	30	20	0	3,036
		97.7	35.5	63.8	0.6	0.0	0.6	0.4	0.0	64.0
Date	5,663	5,582	1,918	3,631	33	0	33	17	0	3,650
		98.6	34.4	65.0	0.6	0.0	0.6	0.3	0.0	65.4
Tamura	3,097	2,762	1,025	1,724	13	0	13	10	0	1,727
		89.2	37.1	62.4	0.5	0.0	0.5	0.4	0.0	62.5
Hirono	257	255	80	172	3	0	3	1	0	173
		99.2	31.4	67.5	1.2	0.0	1.2	0.4	0.0	67.8
Naraha	185	181	73	108	0	0	0	0	0	108
		97.8	40.3	59.7	0.0	0.0	0.0	0.0	0.0	59.7
Tomioka	406	328	118	208	2	0	2	0	0	208
		80.8	36.0	63.4	0.6	0.0	0.6	0.0	0.0	63.4
Kawauchi	101	88	33	54	1	0	1	0	0	55
		87.1	37.5	61.4	1.1	0.0	1.1	0.0	0.0	62.5
Okuma	393	348	126	220	2	0	2	1	0	222
		88.5	36.2	63.2	0.6	0.0	0.6	0.3	0.0	63.8
Futaba	148	126	46	80	0	0	0	0	0	80
		85.1	36.5	63.5	0.0	0.0	0.0	0.0	0.0	63.5
Katsurao	56	45	12	32	1	0	1	0	0	32
		80.4	26.7	71.1	2.2	0.0	2.2	0.0	0.0	71.1
Fukushima	27,153	23,617	8,176	15,318	123	0	122	73	1	15,375
		87.0	34.6	64.9	0.5	0.0	0.5	0.3	0.0	65.1
Nihonmatsu	5,184	5,057	1,762	3,251	44	0	43	18	1	3,277
		97.6	34.8	64.3	0.9	0.0	0.9	0.4	0.0	64.8
Motomiya	2,966	2,766	971	1,785	10	0	10	7	0	1,785
		93.3	35.1	64.5	0.4	0.0	0.4	0.3	0.0	64.5
Otama	868	833	276	551	6	0	6	1	0	555
		96.0	33.1	66.1	0.7	0.0	0.7	0.1	0.0	66.6
Koriyama	11,085	4,879	1,786	3,033	60	0	60	26	0	3,064
		44.0	36.6	62.2	1.2	0.0	1.2	0.5	0.0	62.8
Kori	1,078	1,052	376	669	7	0	7	2	0	672
		97.6	35.7	63.6	0.7	0.0	0.7	0.2	0.0	63.9
Kunimi	776	757	247	501	9	0	9	1	0	508
		97.6	32.6	66.2	1.2	0.0	1.2	0.1	0.0	67.1
Tenei	411	32	16	16	0	0	0	1	0	16
		7.8	50.0	50.0	0.0	0.0	0.0	3.1	0.0	50.0
Shirakawa	2,865	1,360	501	843	16	0	16	10	0	851
		47.5	36.8	62.0	1.2	0.0	1.2	0.7	0.0	62.6
Nishigo	1,823	457	179	274	4	0	4	6	0	275
		25.1	39.2	60.0	0.9	0.0	0.9	1.3	0.0	60.2
Izumizaki	137	103	39	63	1	0	1	1	0	64
		75.2	37.9	61.2	1.0	0.0	1.0	1.0	0.0	62.1
Miharu	459	215	79	132	4	0	4	2	0	135
		46.8	36.7	61.4	1.9	0.0	1.9	0.9	0.0	62.8
Subtotal	72,435	57,878	20,358	37,137	383	0	381	204	2	37,321
		79.9	35.2	64.2	0.7	0.0	0.7	0.4	0.0	64.5

As of 31 December 2018

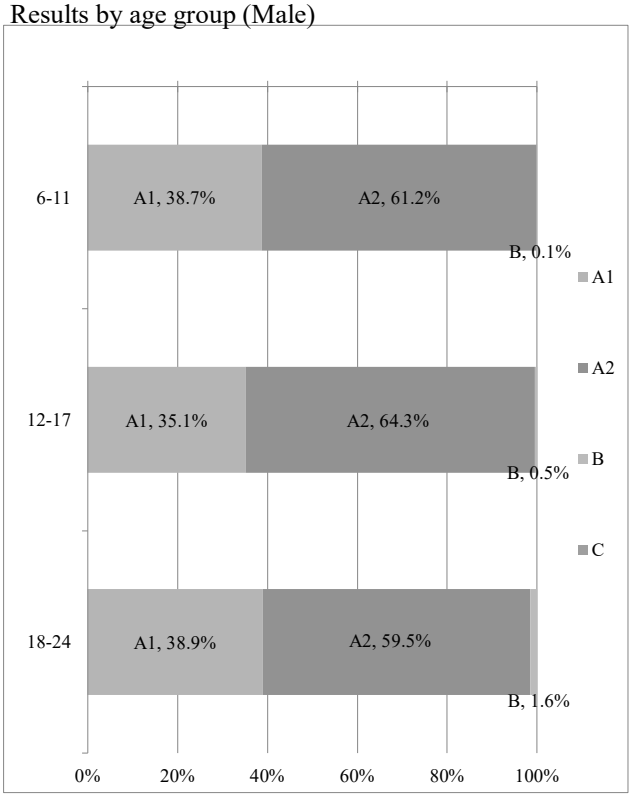
	Participants	Confirmed results b	Number by exam results				Nodules		Cysts	
			Proportion (%)				Proportion (%)		Proportion (%)	
			A		B	C				
	a	Proportion b/a (%)	A1	A2			≥5.1 mm	≤5.0 mm	≥20.1 mm	≤20.0 mm
Municipalities surveyed in FY 2019										
Iwaki	1,022	706	250	449	7	0	7	2	0	454
		69.1	35.4	63.6	1.0	0.0	1.0	0.3	0.0	64.3
Sukagawa	1,012	488	159	322	7	0	7	4	0	327
		48.2	32.6	66.0	1.4	0.0	1.4	0.8	0.0	67.0
Soma	295	262	86	170	6	0	6	1	0	174
		88.8	32.8	64.9	2.3	0.0	2.3	0.4	0.0	66.4
Kagamiishi	163	84	31	50	3	0	3	0	0	51
		51.5	36.9	59.5	3.6	0.0	3.6	0.0	0.0	60.7
Shinchi	57	52	20	32	0	0	0	1	0	32
		91.2	38.5	61.5	0.0	0.0	0.0	1.9	0.0	61.5
Nakajima	91	58	23	35	0	0	0	0	0	35
		63.7	39.7	60.3	0.0	0.0	0.0	0.0	0.0	60.3
Yabuki	280	177	70	105	2	0	2	1	0	105
		63.2	39.5	59.3	1.1	0.0	1.1	0.6	0.0	59.3
Ishikawa	151	91	40	48	3	0	3	0	0	48
		60.3	44.0	52.7	3.3	0.0	3.3	0.0	0.0	52.7
Yamatsuri	36	29	10	19	0	0	0	0	0	19
		80.6	34.5	65.5	0.0	0.0	0.0	0.0	0.0	65.5
Asakawa	89	64	24	39	1	0	1	0	0	39
		71.9	37.5	60.9	1.6	0.0	1.6	0.0	0.0	60.9
Hirata	82	40	10	30	0	0	0	1	0	30
		48.8	25.0	75.0	0.0	0.0	0.0	2.5	0.0	75.0
Tanagura	180	143	56	86	1	0	1	2	0	86
		79.4	39.2	60.1	0.7	0.0	0.7	1.4	0.0	60.1
Hanawa	76	60	23	37	0	0	0	0	0	37
		78.9	38.3	61.7	0.0	0.0	0.0	0.0	0.0	61.7
Samegawa	32	21	9	12	0	0	0	0	0	12
		65.6	42.9	57.1	0.0	0.0	0.0	0.0	0.0	57.1
Ono	185	96	27	67	2	0	2	0	0	69
		51.9	28.1	69.8	2.1	0.0	2.1	0.0	0.0	71.9
Tamakawa	56	26	9	15	2	0	2	0	0	16
		46.4	34.6	57.7	7.7	0.0	7.7	0.0	0.0	61.5
Furudono	34	25	12	13	0	0	0	0	0	13
		73.5	48.0	52.0	0.0	0.0	0.0	0.0	0.0	52.0
Hinoemata	2	1	0	1	0	0	0	0	0	1
		50.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	100.0
Minami-aizu	37	20	6	13	1	0	1	0	0	14
		54.1	30.0	65.0	5.0	0.0	5.0	0.0	0.0	70.0
Kaneyama	4	0	0	0	0	0	0	0	0	0
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Showa	3	3	2	1	0	0	0	0	0	1
		100.0	66.7	33.3	0.0	0.0	0.0	0.0	0.0	33.3
Mishima	0	0	0	0	0	0	0	0	0	0
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Shimogo	8	5	3	2	0	0	0	0	0	2
		62.5	60.0	40.0	0.0	0.0	0.0	0.0	0.0	40.0
Kitakata	62	49	21	28	0	0	0	0	0	28
		79.0	42.9	57.1	0.0	0.0	0.0	0.0	0.0	57.1
Nishiaizu	12	7	1	6	0	0	0	0	0	6
		58.3	14.3	85.7	0.0	0.0	0.0	0.0	0.0	85.7
Tadami	19	13	6	7	0	0	0	0	0	7
		68.4	46.2	53.8	0.0	0.0	0.0	0.0	0.0	53.8
Inawashiro	81	50	18	31	1	0	1	0	0	31
		61.7	36.0	62.0	2.0	0.0	2.0	0.0	0.0	62.0
Bandai	1	0	0	0	0	0	0	0	0	0
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Kitashiobara	6	1	0	1	0	0	0	0	0	1
		16.7	0.0	100.0	0.0	0.0	0.0	0.0	0.0	100.0
Aizumisato	41	29	9	18	2	0	2	0	0	19
		70.7	31.0	62.1	6.9	0.0	6.9	0.0	0.0	65.5
Aizubange	55	50	25	24	1	0	1	0	0	25
		90.9	50.0	48.0	2.0	0.0	2.0	0.0	0.0	50.0
Yanaizu	4	4	0	4	0	0	0	0	0	4
		100.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	100.0
Aizuwakamatsu	358	240	85	150	5	0	5	2	0	151
		67.0	35.4	62.5	2.1	0.0	2.1	0.8	0.0	62.9
Yugawa	10	5	3	2	0	0	0	1	0	2
		50.0	60.0	40.0	0.0	0.0	0.0	20.0	0.0	40.0
Subtotal	4,544	2,899	1,038	1,817	44	0	44	15	0	1,839
		63.8	35.8	62.7	1.5	0.0	1.5	0.5	0.0	63.4
Total	76,979	60,777	21,396	38,954	427	0	425	219	2	39,160
		79.0	35.2	64.1	0.7	0.0	0.7	0.4	0.0	64.4

Appendix 4

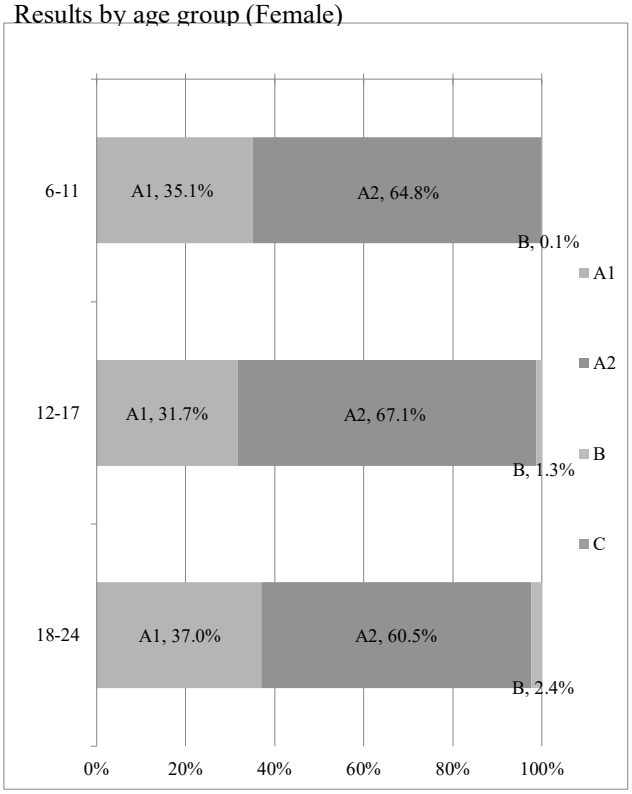
1 Thyroid ultrasound examination results by age and gender — As of 31 December 2018

Class/ Gender / Age	A						B			C			Total		
	A1			A2											
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
6-11	4,474	3,895	8,369	7,065	7,194	14,259	11	14	25	0	0	0	11,550	11,103	22,653
12-17	5,815	4,951	10,766	10,643	10,477	21,120	86	196	282	0	0	0	16,544	15,624	32,168
18-24	1,122	1,139	2,261	1,714	1,861	3,575	45	75	120	0	0	0	2,881	3,075	5,956
Total	11,411	9,985	21,396	19,422	19,532	38,954	142	285	427	0	0	0	30,975	29,802	60,777

Results by age group (Male)



Results by age group (Female)

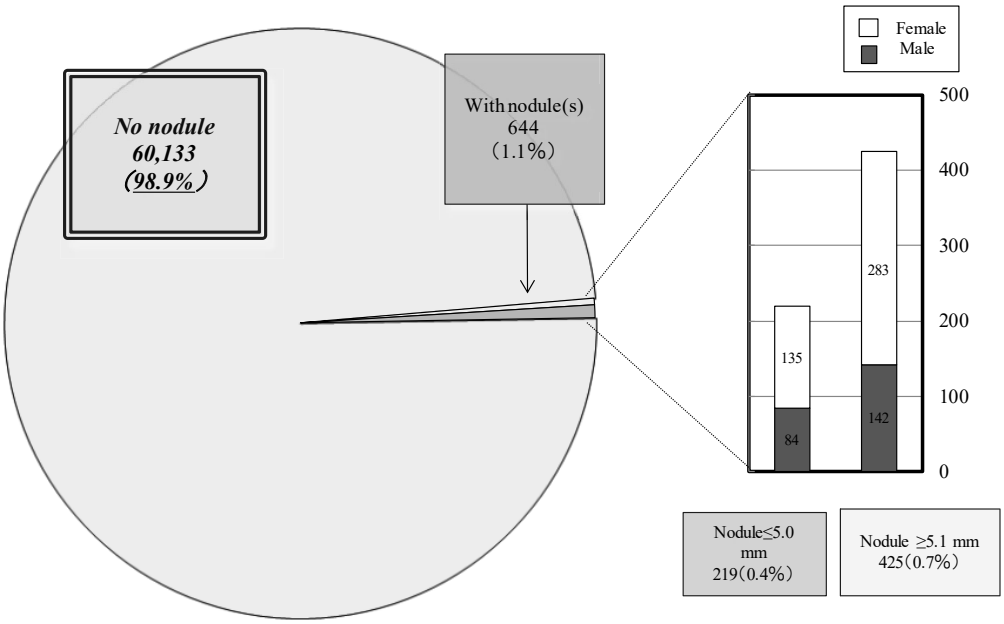


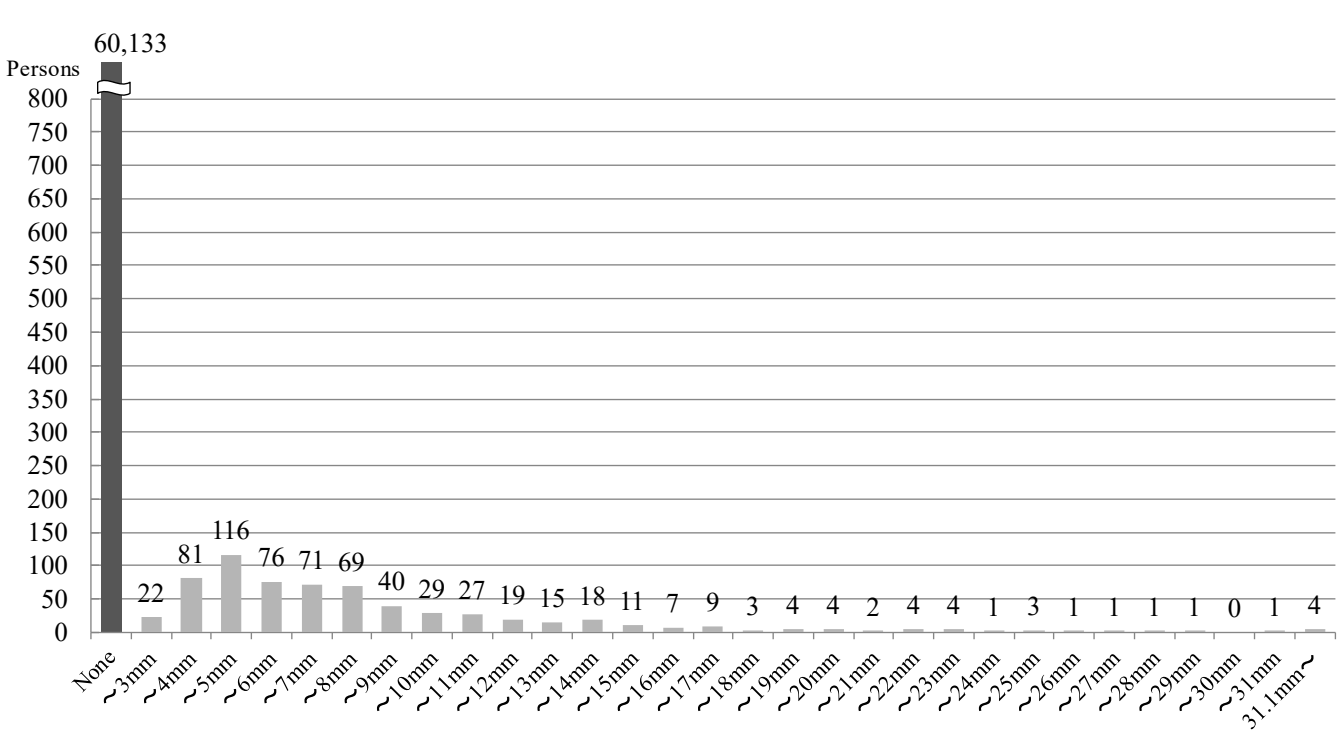
2. Nodule characteristics

(Unit : Persons)

As of 31 December 2018

Nodule size	Total	Male	Female	Class	Proportion
None	60,133	30,749	29,384	A1	98.9%
≤ 3.0 mm	22	12	10	A2	0.4%
3.1-5.0 mm	197	72	125		
5.1-10.0 mm	285	98	187	B	0.7%
10.1-15.0 mm	90	31	59		
15.1-20.0 mm	27	9	18		
20.1-25.0 mm	14	4	10		
≥ 25.1 mm	9	0	9		
Total	60,777	30,975	29,802		





3. Cyst characteristics

As of 31 December 2018

Cyst size	Total	Male	Female	Class	Proportion
None	21,615	11,495	10,120	A1	75.1%
≤ 3.0 mm	24,004	12,672	11,332	A2	24.9%
3.1-5.0 mm	13,385	6,141	7,244		
5.1-10.0 mm	1,738	657	1,081		
10.1-15.0 mm	28	10	18		
15.1-20.0 mm	5	0	5		
20.1-25.0 mm	2	0	2	B	0.003%
≥ 25.1 mm	0	0	0		
Total	60,777	30,975	29,802