

Implementation Status of the Comprehensive Health Check, Fukushima Health Management Survey (FY2011-FY2023)

1. Overview of the Comprehensive Health Check

1-1 Purpose

The Great East Japan Earthquake and subsequent accident at TEPCO's Fukushima Daiichi Nuclear Power Plant led to a large-scale evacuation of residents. Many evacuees have since been concerned about their health, due primarily to drastic changes in their lifestyle, such as diet and exercise habits, in addition to the loss of opportunity to undergo necessary health checks. In response to this situation, the Comprehensive Health Check (CHC) has been conducted to ascertain people's health status and use such data for the prevention of lifestyle diseases and early detection and treatment of medical conditions in general.

1-2 Coverage

- Residents registered in the covered area* from March 11, 2011, to April 1, 2012 (including those who moved out of the area)
- Registered residents in the covered area* as of April 1 of the examination year
- Others, as warranted, based on Basic Survey results, even if the above conditions are not met

*Covered area: municipalities designated for evacuation 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 a part of Date City (specifically recommended for evacuation)

1-3 Health check items

Health check items differ by age group, as follows.

Age group	Health check items
0-6 years old (preschool children and infants)	Height, weight [Following items are optional - applicants only] CBC (red blood cell count, hematocrit, hemoglobin, platelet count, white blood cell count and differential)
7-15 years old (from 1st to 9th grade)	Height, weight, blood pressure, CBC (red blood cell count, hematocrit, hemoglobin, platelet count, white blood cell count and differential) [Following items are optional - applicants only] Blood biochemistry (AST, ALT, γ -GT, TG, HDL-C, LDL-C, HbA1c, plasma glucose, serum creatinine, uric acid)
16 years old and older	Height, weight, abdominal circumference (BMI), blood pressure, <u>CBC</u> (red blood cell count, hematocrit, hemoglobin, platelet count, white blood cell count and differential), urinalysis (urine sugar, urine protein, <u>urine occult blood</u>), blood biochemistry (AST, ALT, γ -GT, TG, HDL-C, LDL-C, HbA1c, plasma glucose, <u>serum creatinine</u> , <u>estimated glomerular filtration rate [eGFR]</u> , uric acid) *The underlined values are not routinely measured during specific health checks.

2. Implementation Status for FY2011 to FY2022

2-1 Methods

Health check venues are arranged as follows for the convenience of eligible persons.

Age group	Place of residence	Implementation method	Number of cooperating medical facilities in FY2022	Tabulation category
15 and younger	Those living in Fukushima prefecture	Pediatric health checks at designated health check facilities in the prefecture	83	Pediatric health check in the prefecture
	Those living outside the prefecture	Pediatric health checks at designated health check facilities outside of the prefecture	274 (of which 165 facilities also accept those aged 16 or older)	Pediatric health check outside of the prefecture
16 and older	Those living in Fukushima prefecture	Additional health check items are added to specific health checks or general health checks conducted by municipalities.	—	Municipal general health check in the prefecture
		Individual health checks conducted at designated health check facilities in the prefecture ^(*)	410	Individual health check in the prefecture
		Group health checks conducted by FMU ^(*)	28 venues in the prefecture (conducted 44 times)	Group health check in the prefecture
	Those living outside the prefecture	Additional health check items are added to specific health checks or general health checks conducted by municipalities.	—	Other *1
		Individual health checks conducted at designated health check facilities outside of the prefecture	438 (of which 165 facilities also accept those aged 15 or younger)	Individual health check outside of the prefecture

*1 Other: Municipal health checks conducted in the prefecture by the county/municipal medical association or medical facilities

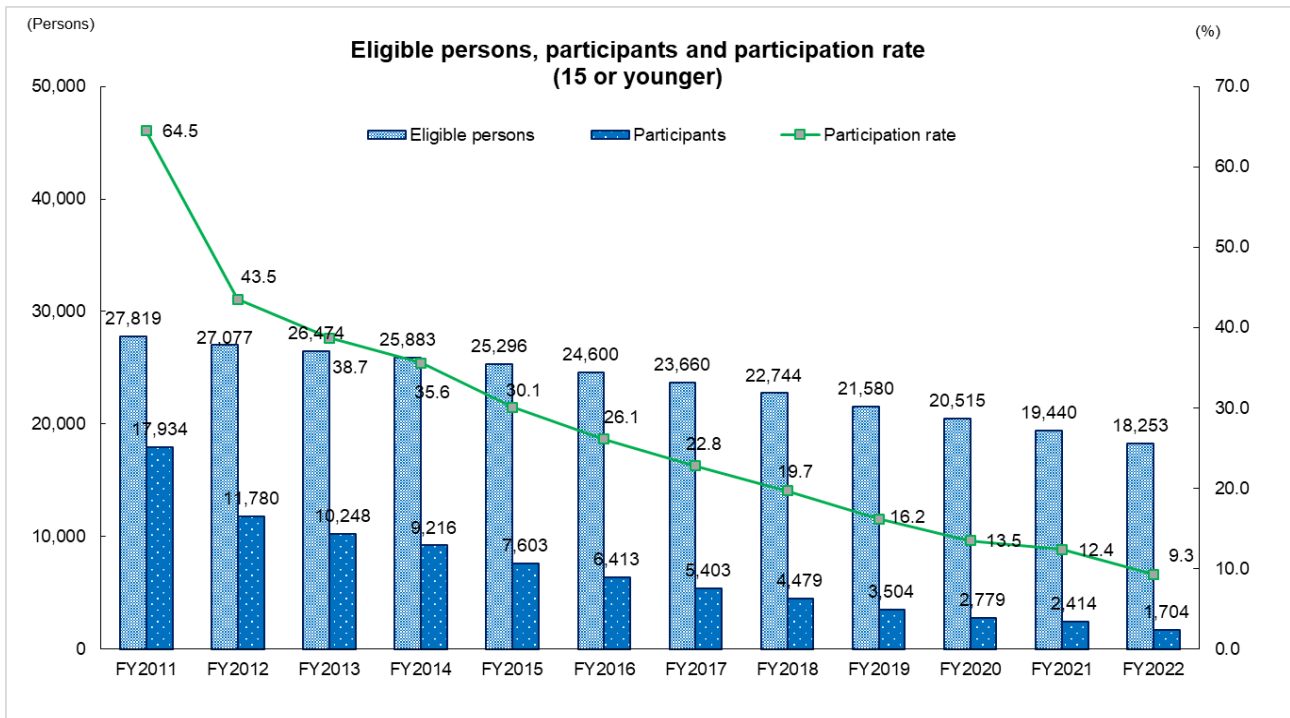
*2 Other: Municipal health checks conducted outside of the prefecture by cooperating facilities

2-2 Participation status

A. Number of participants by method and by venue (in or outside the prefecture)

(a) Participants ages 15 or younger

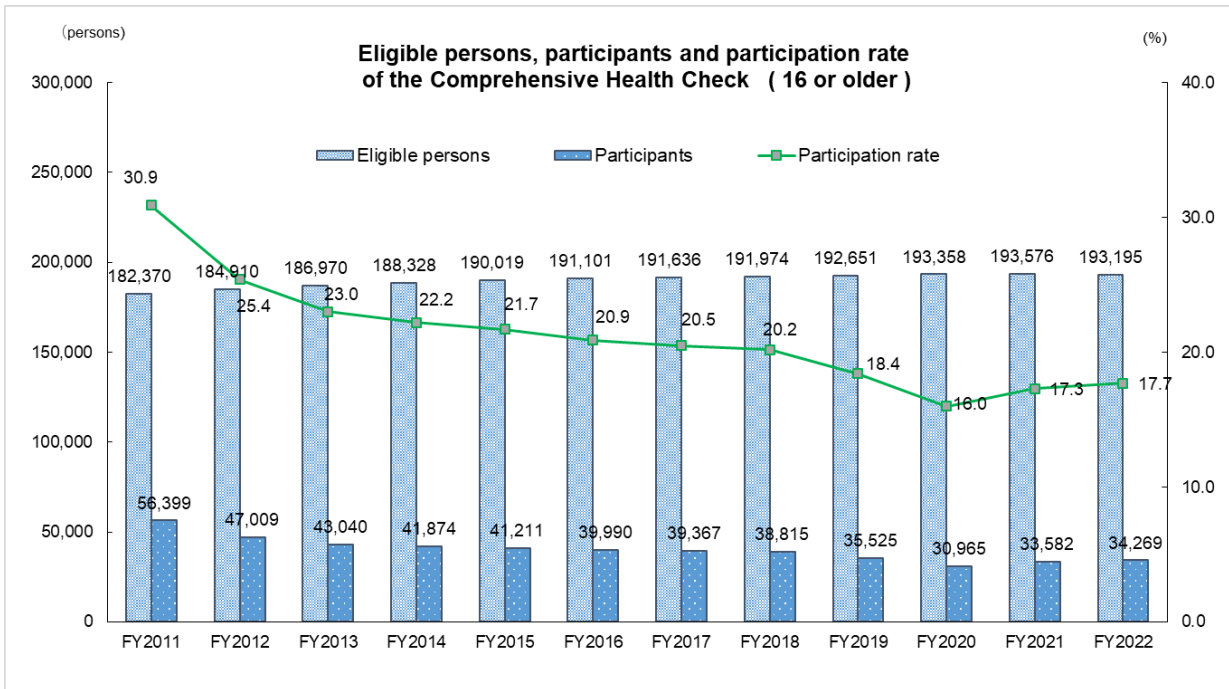
The participation rate for FY2022 was 9.3%, down by 3.1 points compared with a participation rate of 12.4% for FY2021.



	(Persons, %)											
	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022
	Confirmed data as of Sep. 11, 2012	Confirmed data as of July 5, 2013	Confirmed data as of Sep. 1, 2014	Confirmed data as of Sep. 1, 2015	Confirmed data as of Sep. 1, 2016	Confirmed data as of Dec. 31, 2017	Confirmed data as of Mar. 31, 2018	Confirmed data as of Mar. 31, 2019	Confirmed data as of Mar. 31, 2020	Confirmed data as of Mar. 31, 2021	Confirmed data as of Mar. 31, 2022	Confirmed data as of Mar. 31, 2023
Eligible persons	27,819	27,077	26,474	25,883	25,296	24,600	23,660	22,744	21,580	20,515	19,440	18,253
Pediatric health checks in Fukushima	15,002	9,534	8,432	7,432	6,206	5,193	4,474	3,648	2,857	2,335	2,037	1,426
Pediatric health checks outside Fukushima	2,949	2,283	1,822	1,792	1,403	1,226	929	834	650	444	377	278
Number of those participated both of the above	17	37	6	8	6	6	0	3	3	0	0	0
Total (excluding those participated both)	17,934	11,780	10,248	9,216	7,603	6,413	5,403	4,479	3,504	2,779	2,414	1,704
Participation rate (%)	64.5%	43.5%	38.7%	35.6%	30.1%	26.1%	22.8%	19.7%	16.2%	13.5%	12.4%	9.3%

(b) Participants ages 16 or older

The participation rate for FY2022 was 17.7%, an increase of 0.4 points compared with the 17.3% in FY2021. The major cause of this increase in the number of participants was the previous influence of COVID-19, as people refrained from going out and may have been reluctant to participate at the venues in FY2022.



	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022
	Confirmed data as of Sep. 11, 2012	Confirmed data as of July 5, 2013	Confirmed data as of Sep. 1, 2014	Confirmed data as of Sep. 1, 2015	Confirmed data as of Sep. 1, 2016	Confirmed data as of Dec. 31, 2017	Confirmed data as of Mar. 31, 2018	Confirmed data as of Mar. 31, 2019	Confirmed data as of Mar. 31, 2020	Confirmed data as of Mar. 31, 2021	Confirmed data as of Mar. 31, 2022	Confirmed data as of Mar. 31, 2023
Eligible persons	182,370	184,910	186,970	188,328	190,019	191,101	191,636	191,974	192,651	193,358	193,576	193,195
Participants in municipal general health checks in the prefecture	8,798	23,907	25,604	25,913	26,195	26,636	26,411	26,140	25,255	19,002	21,339	22,196
Participants in individual health checks in the prefecture	—	6,692	5,806	4,927	4,443	3,941	3,782	3,730	2,869	3,771	3,927	3,680
Participants in group health checks in the prefecture	41,949	10,603	6,767	5,808	5,183	4,341	3,963	3,776	2,444	3,496	3,396	3,717
Participants in individual health checks outside the prefecture	3,815	3,055	3,205	3,418	3,332	2,118	2,102	2,087	1,988	1,847	1,809	1,753
Other ^{*1,*2}	2,045	3,206	2,017	1,846	2,113	3,011	3,154	3,122	3,001	2,941	3,187	2,975
Number of those who participated in both of the above	208	454	359	38	55	57	45	40	32	92	76	52
Total (not double-counting those who participated in both)	56,399	47,009	43,040	41,874	41,211	39,990	39,367	38,815	35,525	30,965	33,582	34,269
Participation rate (%)	30.9%	25.4%	23.0%	22.2%	21.7%	20.9%	20.5%	20.2%	18.4%	16.0%	17.3%	17.7%

*1 Other: Municipal health checks conducted in the prefecture by the county/municipal medical association or medical facilities

*2 Other: Municipal health checks conducted outside the prefecture by cooperating facilities

B. Number of participants by age group

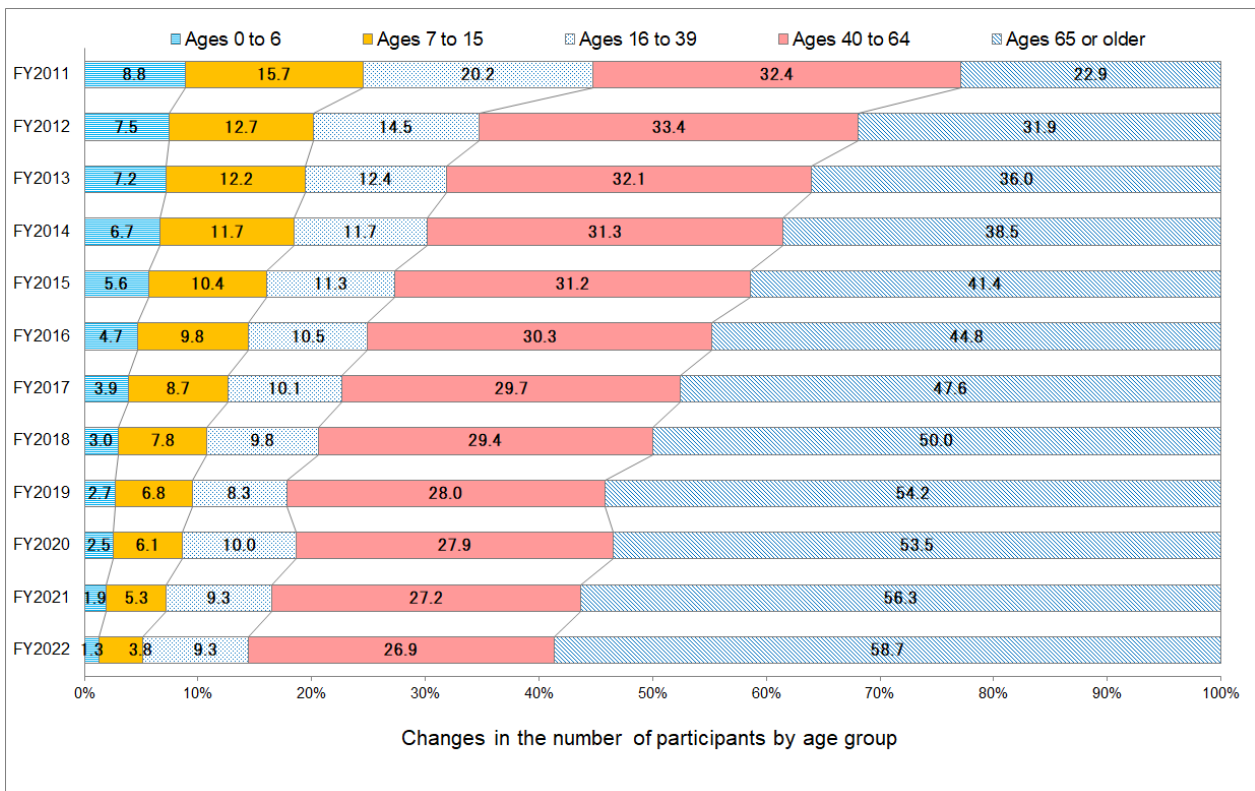
In FY2022, by age group, the numbers of participants ages 0 to 6, 7 to 15, 16 to 39, and 40 to 64 decreased, while those of ages 65 or older increased compared with the previous year.

As to the trend of participation by age group, the number of participants ages 65 or older has been increasing year by year and reached 58.7% in FY2022.

Changes in the number of participants by age group

(persons)

	Ages 0 to 6	Ages 7 to 15	Ages 16 to 39	Ages 40 to 64	Ages 65 or 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
FY2018	1,220	3,169	3,979	11,948	20,337
FY2019	959	2,457	2,984	10,095	19,529
FY2020	783	1,936	3,157	8,791	16,853
FY2021	638	1,739	3,079	8,982	18,566
FY2022	434	1,246	3,025	8,761	19,145



*Percentages in the graph are rounded, so totals may not be 100%.

*Source: Materials for the 21st, 26th, 30th, 34th, 37th, 41st, 44th and 48th, meetings of the Oversight Committee for the Fukushima Health Management Survey (including those who have participated in at least 1 health check item).

[Reference]

FY2022 Number of eligible persons by area of residence (in or outside the prefecture) *

15 or younger	In the prefecture	Outside the prefecture	Total	16 or older	In the prefecture	Outside the prefecture	Total
	Eligible persons	15,758	2,495		18,253	Eligible persons	161,729	31,466	193,195
Participants	1,408	296	1,704	Participants	31,383	2,886	34,269
Participation rate	8.9%	11.9%	9.3%	Participation rate	19.4%	9.2%	17.7%

*Eligible persons were divided into “in the prefecture” and “outside the prefecture” based on the mailing address to which health check invitations were sent. This method of division differs from that of dividing participants by health check type or by venue.

3. Implementation Status for FY2023 (as of December 31, 2023)

Covered population: 209,890 (ages 15 or younger: 17,035; ages 16 or older: 192,855)

FY2023		Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	
Ages 15 or younger	In the prefecture				Pediatric health checks at designated medical facilities in the prefecture Participants 925 (Preliminary data)									
	Outside the prefecture				Pediatric health checks at designated medical facilities outside of the prefecture Participants 144 (Preliminary data)									
Ages 16 or older	In the prefecture			Specific health checks or general health checks organized by municipalities with additional examination items Tamura City, Minamisoma City, Kawamata Town, Hirono Town, Naraha Town, Tomioka Town, Kawauchi Village, Okuma Town, Futaba Town, Namie Town, Katsurao Village, and Iitate Village Participants 20,941 (Preliminary data)						Group health checks Starting from Jan. 13, 2024				
	Outside the prefecture				Health checks at designated medical facilities outside of the prefecture Participants 396 (Preliminary data)						Individual health checks at medical facilities Starting from Jan. 4, 2024			

3-1. Eligible persons residing in Fukushima prefecture

A. For those ages 15 or younger

In the same manner, as in the previous fiscal year, pediatric health checks at designated health check facilities were conducted for a period of around six months from July to December 2023 (at 80 cooperating health check facilities).

B. For those ages 16 or older

CHC was conducted simultaneously with specific health checks and general health checks by municipalities by adding some health check items to regular health check items (hereinafter referred to as "add-on health checks") in the same manner as in the previous fiscal year in the 12 municipalities, excluding Date City.

Additionally, group health checks and individual health checks at designated health check facilities were also conducted from January 2024, covering eligible persons who could not receive add-on health checks (at 401 cooperating health check facilities for individual health checks).

3-2 Eligible persons residing outside the prefecture

After coordinating venues in the eligible participants' prefectures of residence, we prepared and sent invitations for health checks starting from the end of June.

3-3 Results reports and feedback

A. Individual results reports

CHC individual results are mailed to each participant. In addition, face-to-face explanations of results are offered to those ages 15 or younger and their parents/guardians at the health check facilities where they received health checks.

B. Preparation of a leaflet

When sending invitations for group or individual health checks to eligible persons ages 16 or older, a leaflet summarizing what has been learned from the results of the CHC has been enclosed since 2017. The leaflet theme changes every year: it was "Lifestyle Diseases" for FY2017, "Diabetes" for FY2018, "Metabolic Syndrome" for FY2019, "The Basis of Your Diet" for FY2020, and "The Importance of Continuous Health Check Participation" for FY2021, and "CKD (Chronic Kidney Disease)" for 2022. In FY2023, the theme was "Liver Dysfunction," introducing the function of the liver and the causes of liver dysfunction, including results from the FHMS.

Since FY 2022, a leaflet has been prepared and included for pediatric health checks for children under the age of 15 in the same manner as for those over the age of 16. In FY2022, the leaflet included information on what was learned from the results of the child health check, as well as tips for improving and preventing obesity and lipid abnormalities. In FY2023, the leaflet introduced the results of a study on obesity and abnormal glucose metabolism, as well as points for prevention, in an easy-to-understand manner with illustrations.

C. Preparation of analysis reports on CHC results

We prepared CHC results analysis reports for each of the participating municipalities, showing temporal changes in their residents' health check results so that the residents can understand their health conditions.

In FY2023, we also performed an evaluation and analysis of trends, utilizing CHC results data of approximately 38,000 persons who were between 40 and 75 years of age on April 1, 2011, and who had undergone at least three medical examinations during the period from FY2011 to FY2020. We visited each municipality and explained about these results.

D. Holding health seminars

To deepen residents' understanding of the importance of receiving health checks every year and to support them in receiving health checks, we hold seminars at events such as health check results-reporting meetings or health classes organized by municipalities. In health seminars, medical doctors give health lectures to residents of the participating municipalities, presenting results and analyses of the CHC, and specialists offer individual consultations and/or blood glucose level measurements.

Health seminars conducted in FY2023

as of December 31, 2023

Venue	Event name	Times	Contents
Hirono Town	Health check result explanatory session	1	<ul style="list-style-type: none"> • Lecture by a medical doctor • Blood glucose level measurement • Panel exhibition
	Self-check - Blood glucose level measurement	2	<ul style="list-style-type: none"> • Lecture by a medical doctor • Individual consultation with health specialists • Panel exhibition and leaflet distribution
Naraha Town	Locomotion improvement program	3	<ul style="list-style-type: none"> • Individual consultation with health specialists • Panel exhibition and leaflet distribution
	General health check	9	<ul style="list-style-type: none"> • Panel exhibition
	Individual health consultation session	8	<ul style="list-style-type: none"> • Lecture by a medical doctor • Individual consultation with health specialists • Blood glucose level measurement • Panel exhibition and leaflet distribution
Futaba Town	Sports festival	1	<ul style="list-style-type: none"> • Individual consultation with health specialists • Panel exhibition and leaflet distribution
	HOKO-TOUCH interim measurement meeting	2	<ul style="list-style-type: none"> • Individual consultation with health specialists • Exercise session • Panel exhibition and leaflet distribution
Namie Town	Locomotion and HANAMARU exercise	9	<ul style="list-style-type: none"> • Individual consultation with health specialists • Panel exhibition
	Health check result explanatory session	4	<ul style="list-style-type: none"> • Lecture by a medical doctor • Individual consultation with health specialists • Blood pressure measurement
Katsurao Village	Health check result explanatory session	4	<ul style="list-style-type: none"> • Individual consultation with health specialists • Panel exhibition and leaflet distribution
	Katsurao thanksgiving festival	1	<ul style="list-style-type: none"> • Panel exhibition and leaflet distribution
	Diabetes prevention seminar	3	<ul style="list-style-type: none"> • Individual consultation with health specialists • Panel exhibition and leaflet distribution

Total 47

3-4 Efforts to raise health awareness through the CHC

We have continuously conducted the following activities, using the CHC as an opportunity to raise residents' health awareness in the face of changing living conditions after a lapse of time since the Great East Japan Earthquake.

A. Publicity efforts

We have requested that municipal and prefectural governments run notices of the CHC in their public relations magazines to encourage as many residents as possible to receive health checks for the prevention and/or treatment of diseases. We have also prepared posters and flyers to promote routine health checks and requested that medical facilities post them on the walls of their premises.

B. Use of the Fukushima Kenmin App

The Fukushima Kenmin App is a smartphone application developed by the prefectural government to promote the health of Fukushima residents. As a part of our efforts to encourage residents to take an interest in their health and improve their lifestyle habits, such as starting and continuing exercise routines using the Kenmin App, we enclose a Kenmin App flyer in invitations to individual or group

health checks for those ages 16 or older and award points for using the *KENMIN App** (200 points with a result report).

*Developed and provided by Fukushima prefecture, to be used anytime, anywhere, for fun, easy participation, and continuous use, to establish healthy lifestyle habits that lead to health maintenance.

<https://kenkou-fukushima.jp/appli-info>

C. Securing venues for group health checks

Since the beginning of the CHC program, we have endeavored to secure health check venues in locations convenient to residents, for example, by setting up group health check venues in areas where there are many eligible residents. With the lifting of evacuation orders, we have also set up new venues in former evacuation zones and changed locations of venues in the area where there are only a small number of eligible residents.

D. Efforts to deepen residents' understanding of health

We prepared a pamphlet entitled "The Health Check is Your Body's Report Card," which summarizes how to read health check results, explains diseases and preventive methods, and emphasizes the necessity of health checks. The pamphlet serves as a text reference in our health seminars.

E. Posting and updating articles on the Center's website

To provide the general public with easy-to-understand information on prevention methods for lifestyle-related diseases, we started to post articles on our website and we update them regularly. Current column topics include *hypertension, obesity, diabetes, liver dysfunction, renal dysfunction, dyslipidemia, hyperuricemia, blood count, childhood obesity, dyslipidemia in children, radiation, frailty, sarcopenia, and locomotion*. The list is periodically updated.

F. Efforts to disseminate information through the Center's official SNS account

We opened the Center's official X (formerly Twitter) account in July 2023, and we use it as a tool to disseminate information on health check notices and a new health-related column on our website.

Report on the Results of the FY2022 Comprehensive Health Check Fukushima Health Management Survey (Participants Ages 15 or Younger)

< Supplementary Notes >

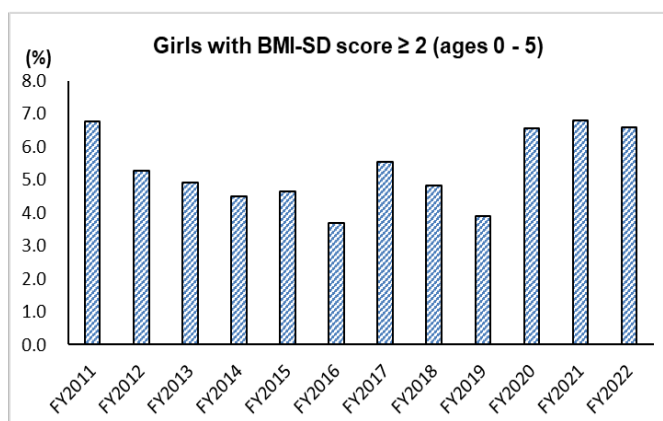
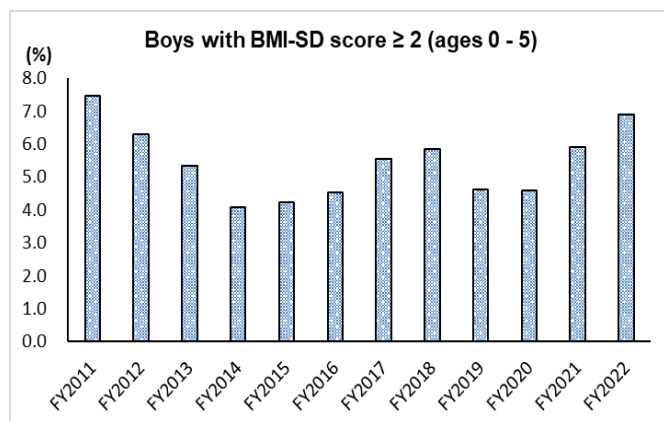
- * Pediatric Health Checks were conducted during the following period.
 - FY2011: January to March, 2012
 - FY2012 to FY2022: July to December of each fiscal year
- * Percentages of obese participants were evaluated using BMI Standard Deviation Scores (BMI SDS), which were calculated based on heights and weights, measured periodically from ages 0 to 15, comparing results from FY2011 to FY2022.
- * Results of blood tests vary substantially by age, but since participants were divided broadly into two age groups, 0 to 6 years and 7 to 15 years, year-by-year comparisons are not possible and definitive conclusions cannot be drawn.
- * Rules for describing tabulation results are the same as those used for *Vital Statistics in Japan* by the Ministry of Health, Labour and Welfare, including this nomenclature:
 - When there is no data: -
 - When the ratio is minor (lower than 0.05): 0.0%
- * Reference materials
 - FY2011 to FY2014: Material 3-2 "Basic Statistics of CHC Results by Health Check Item" for the 21st Prefectural Oversight Committee Meeting for the Fukushima Health Management Survey
 - FY2015: Material 3-2 "Basic Statistics of CHC Results by Health Check Item" for the 26th Prefectural Oversight Committee Meeting for the Fukushima Health Management Survey
 - FY2016: Material 2-3 "Basic Statistics of CHC Results by Health Check Item" for the 30th Prefectural Oversight Committee Meeting for the Fukushima Health Management Survey
 - FY2017: Material 2-3 "Basic Statistics of CHC Results by Health Check Item" for the 34th Prefectural Oversight Committee Meeting for the Fukushima Health Management Survey
 - FY2018: Material 4-4 "Tabulation Results by Health Check Item" for the 37th Prefectural Oversight Committee Meeting for the Fukushima Health Management Survey
 - FY2019: Material 3-4 "Tabulation Results by Health Check Item" for the 41st Prefectural Oversight Committee Meeting for the Fukushima Health Management Survey
 - FY2020: Material 4-4 "Tabulation Results by Health Check Item" for the 44th Prefectural Oversight Committee Meeting for the Fukushima Health Management Survey
 - FY2021: Material 4-4 "Tabulation Results by Health Check Item" for the 48th Prefectural Oversight Committee Meeting for the Fukushima Health Management Survey

Physical Exam (percentage with obesity based on BMI SD scores):

1. Results

[Participants ages 0 to 5]

The percentage of obese boys who were ages 0 to 5 at the time of the exam (BMI-SDS \geq 2), which was the highest in FY2011, showed a downward trend until FY2014 and then showed no specific trend thereafter. The percentage of obese girls who were ages 0 to 5 at the time of the exam (BMI-SDS \geq 2), which was the highest in FY2011, showed a downward trend until FY2016 and then showed no specific trend thereafter.



Boys ages 0 - 5 at the time of health check

	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022
Participants	2,710	1,942	1,757	1,517	1,156	908	722	582	454	391	305	203
Average age	3.5	3.4	3.4	3.5	3.4	3.3	3.2	3.1	3.1	3.2	3.2	3.3
Average BMI-SDS	0.627	0.398	0.405	0.326	0.322	0.335	0.283	0.288	0.265	0.346	0.323	0.300
SD	1.011	1.082	1.032	1.033	0.989	1.029	1.047	1.103	1.096	1.038	1.053	1.123
SD score \geq 2 (%)	7.5	6.3	5.4	4.1	4.2	4.5	5.5	5.8	4.6	4.6	5.9	6.9

Girls ages 0 - 5 at the time of health check

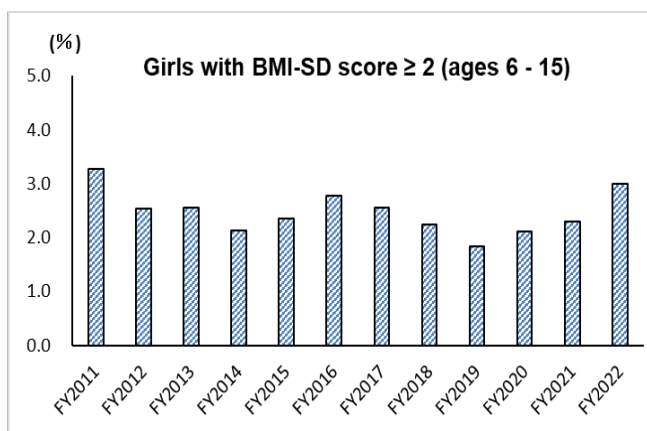
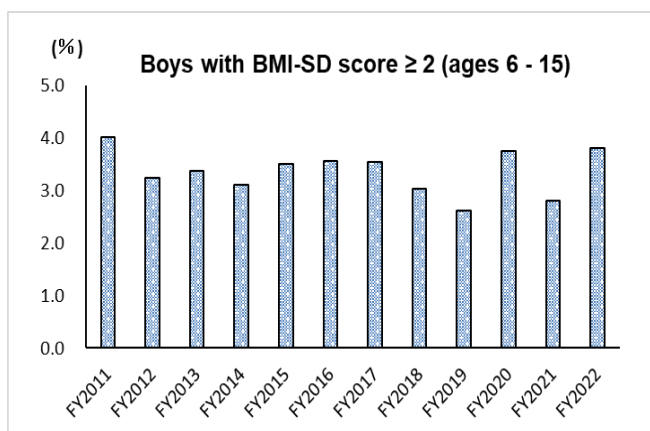
	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022
Participants	2,688	1,955	1,667	1,467	1,181	893	741	539	437	320	279	182
Average age	3.5	3.3	3.4	3.5	3.5	3.4	3.3	3.3	3.2	3.2	3.3	3.1
Average BMI-SDS	0.558	0.332	0.304	0.278	0.314	0.317	0.339	0.291	0.265	0.447	0.447	0.391
SD	0.984	1.018	1.010	0.991	0.988	0.965	1.018	1.011	1.037	1.028	1.008	1.071
SD score \geq 2 (%)	6.8	5.3	4.9	4.5	4.7	3.7	5.5	4.8	3.9	6.6	6.8	6.6

Cited file for calculation:

Growth Research Committee, The Japanese Association for Human Auxology/The Japanese Society for Pediatric Endocrinology: http://jspe.umin.jp/medical/chart_dl.html (accessed November 18, 2021)

[Participants ages 6 to 15]

The percentage of obese participants who were ages 6 to 15 at the time of the exam (BMI-SDS \geq 2), which was the highest in FY2011, showed a downward trend until FY2014 and then showed no specific trend thereafter for either boys or girls.



Boys ages 6 - 15 at the time of health check

	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022
Participants	6,318	4,042	3,484	3,165	2,711	2,367	1,981	1,650	1,266	1,016	914	657
Average age	10.9	10.6	10.6	10.6	10.7	10.7	10.6	10.8	11.0	11.3	11.4	11.5
Average BMI-SDS	0.168	0.066	0.090	0.051	0.046	0.018	0.076	0.061	0.045	0.154	0.123	0.119
SD	1.048	1.127	1.089	1.076	1.097	1.113	1.066	1.074	1.158	1.082	1.075	1.100
SD score \geq 2 (%)	4.0	3.2	3.4	3.1	3.5	3.5	3.5	3.0	2.6	3.7	2.8	3.8

Girls ages 6 -15 at the time of health check

	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022
Participants	6,209	3,862	3,322	3,020	2,510	2,204	1,915	1,614	1,259	992	878	638
Average age	11.0	10.7	10.6	10.6	10.6	10.6	10.5	10.7	11.1	11.2	11.4	11.5
Average BMI-SDS	0.135	0.004	-0.001	-0.014	0.021	0.006	0.000	-0.011	-0.070	0.019	0.001	0.014
SD	0.993	1.023	1.002	0.988	0.981	1.017	0.991	1.002	1.000	1.007	0.985	1.079
SD score \geq 2 (%)	3.3	2.5	2.6	2.1	2.4	2.8	2.6	2.2	1.8	2.1	2.3	3.0

Cited file for calculation:

Growth Research Committee, The Japanese Association for Human Auxology/The Japanese Society for Pediatric Endocrinology: http://jspe.umin.jp/medical/chart_dl.html (accessed November 18, 2021)

2. Explanation of the Graphs

A body mass index standard deviation score (BMI-SDS) was calculated from height and weight; those with a BMI-SDS of 2 or higher were classified as obese.

3. Action Threshold

Item	Obese
BMI-SDS	\geq 2 SD

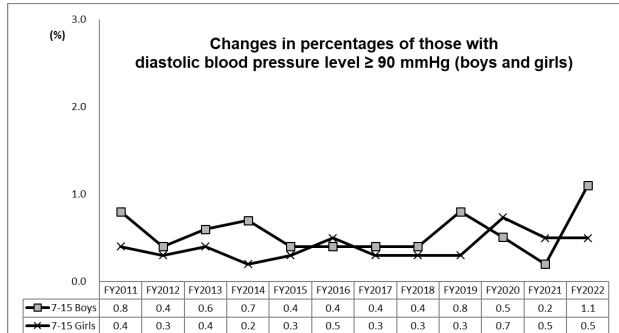
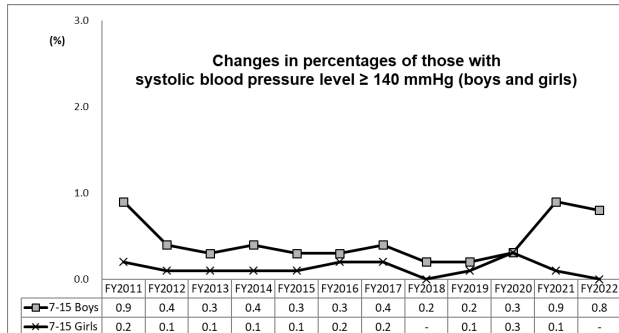
* When evaluating the physical constitution of Japanese children, it is considered appropriate to use standards based on the anthropometric data published in FY2000 by the Ministry of Health, Labour and Welfare and the Ministry of Education, Culture, Sports, Science, and Technology ("Fundamental Concept for the Evaluation of Japanese Children's Physical Constitution" prepared by the Joint Committee for Standard Values of the Japanese Society for Pediatric Endocrinology and the Japanese Association for Human Auxology).

In this report, standard values calculated with FY2000 measurement results were used.

Physical Exam: Blood Pressure

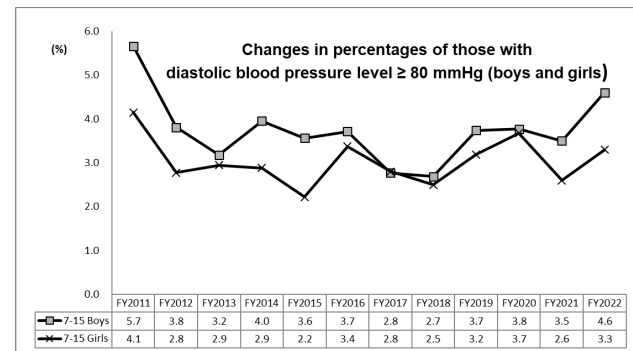
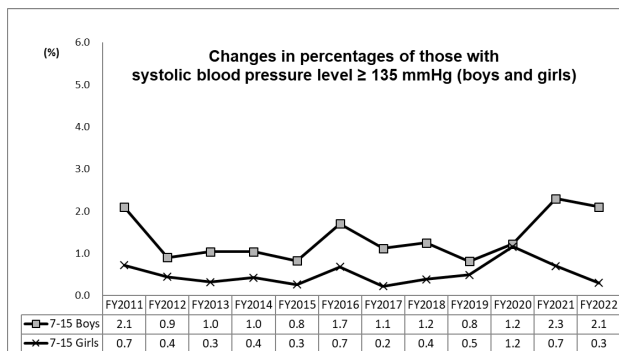
1. Results

The percentage of boys with systolic blood pressures of 140 mmHg or over was the highest in FY2011 and showed a downward trend thereafter, but it showed an increase in FY2021 and thereafter. No certain trend was observed in the percentage of boys with diastolic blood pressures of 90 mmHg or over. The percentage of girls with systolic blood pressures of 140 mmHg or over showed no substantial changes. The percentage of girls with diastolic blood pressures of 90 mmHg or over also showed no substantial changes.



The percentage of boys with systolic blood pressures of 135 mmHg or over did not show any trends. The percentage of boys with diastolic blood pressures of 80 mmHg or over was the highest in FY2011 and showed no certain trend thereafter.

The percentage of girls with systolic blood pressures of 135 mmHg or over showed no substantial changes from FY2011 to FY2019, showed an upward trend in FY2020, then a downward trend through FY2022. The percentage of girls with diastolic blood pressures of 80 mmHg or over was the highest in FY2011 and



showed no certain trends thereafter.

2. Explanation of the Graphs

In the Guidelines for the Management of Hypertension (Japanese Society of Hypertension, 2019), systolic blood pressures of 140 mmHg or over and diastolic blood pressures of 90 mmHg are action values used for group and individual health checks for those ages 16 or older; systolic blood pressures of 135 mmHg or over and diastolic blood pressures of 80 mmHg or over are action values for higher-grade elementary school students.

3. Reference Intervals for Blood Pressure by Age Group and by Sex

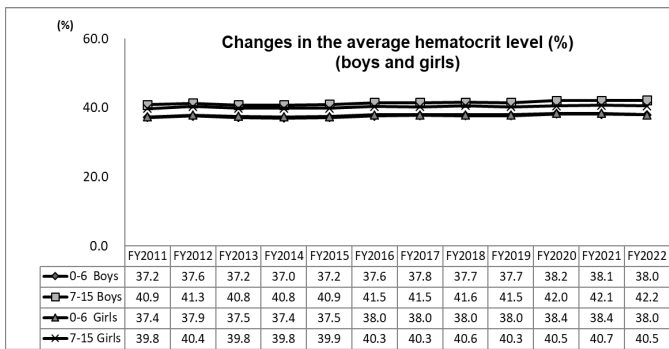
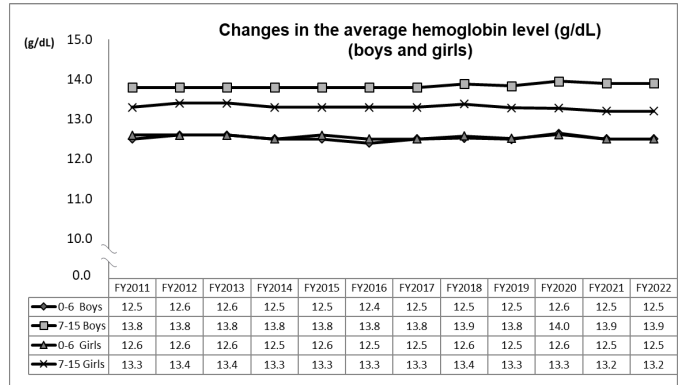
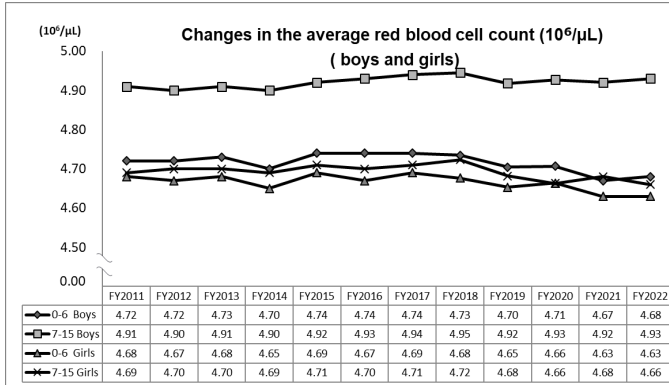
Age group	Systolic blood pressure level (mmHg)	Diastolic blood pressure level (mmHg)
Infants	≥120	≥70
Elementary school: lower grades	≥130	≥80
higher grades	≥135	≥80
Junior high school: boys	≥140	≥85
girls	≥135	≥80
High school	≥140	≥85

Source: Guidelines for the Management of Hypertension (Japanese Society of Hypertension, 2019)

Peripheral Blood Tests: Red Blood Cell Counts, Hemoglobin, and Hematocrit

1. Results

Average red blood cell counts, hemoglobin, and hematocrit among boys and girls in any age group showed no substantial changes.



2. Explanation of the Graphs

The graphs show changes in the average values of red blood cell counts, hemoglobin levels, and hematocrit levels.

3. Reference Intervals

Age	Red blood cells ($\times 10^{12}/L$)	Hemoglobin (g/dL)	Hematocrit (%)
At birth	5.25 \pm 0.40	16.6 \pm 1.5	53 \pm 4.5
1 day old	5.14 \pm 0.60	19.0 \pm 2.0	58 \pm 5.5
1 week old	4.86 \pm 0.60	17.9 \pm 1.5	56 \pm 6.0
1 month old	4.10 \pm 0.60	14.2 \pm 2.0	43 \pm 6.0
3 months old	3.70 \pm 0.35	11.3 \pm 1.0	33 \pm 3.0
6 months old	4.60 \pm 0.35	12.3 \pm 1.0	36 \pm 3.0
12 months old	4.60 \pm 0.40	11.6 \pm 0.75	36 \pm 1.5
Ages 1 – 4	4.70 \pm 0.35	12.6 \pm 0.5	38 \pm 1.5
Ages 4 – 12	4.80 \pm 0.30	13.0 \pm 1.0	40 \pm 2.5
Adult males	5.40 \pm 0.35	16.0 \pm 1.0	47 \pm 3.0
Adult females	48.0 \pm 0.30	14.0 \pm 1.0	42 \pm 2.5

* Average value \pm standard deviation

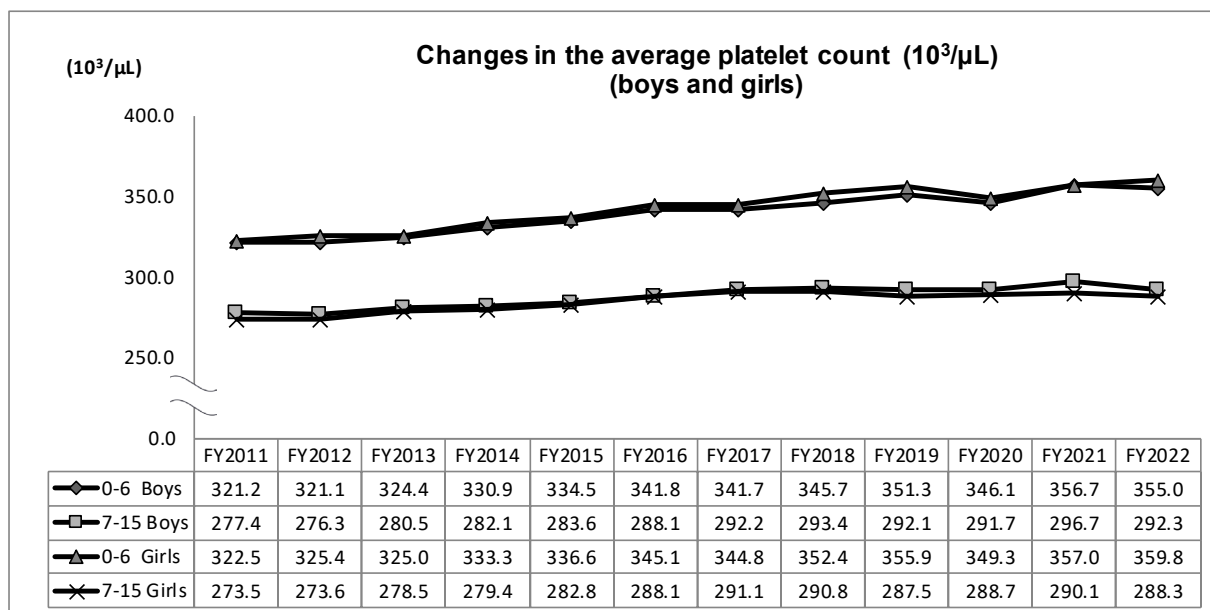
* By international consensus, red blood cell counts are expressed as numbers $\times 10^{12}/L$ or $\times 10^6/\mu L$.

Source: Clinical Management of Laboratory Data in Pediatrics (2nd edition)

Peripheral Blood Tests: Platelet Count

1. Results

There were no substantial changes in average platelet counts for either boys or girls in any age group.



2. Explanation of the Graph

The graph shows changes in the average values of platelet counts.

3. Reference Interval

Item	Reference interval
Number of blood platelets ($\times 10^9/\text{L}$)	150 - 400

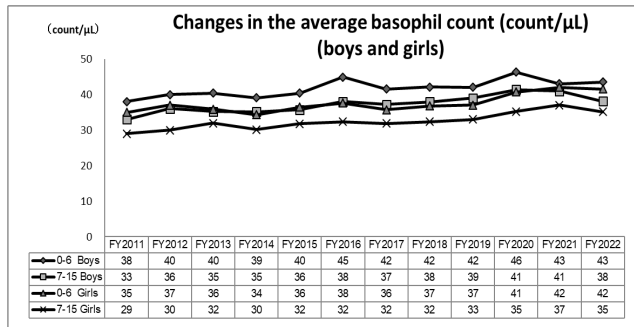
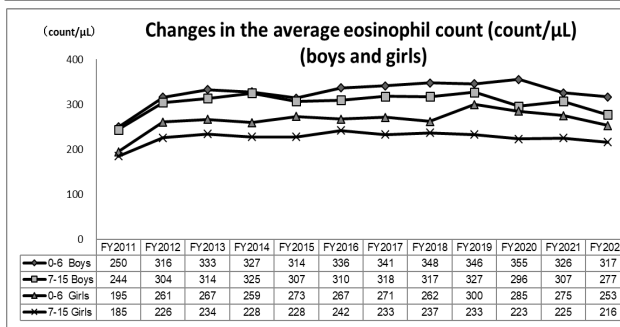
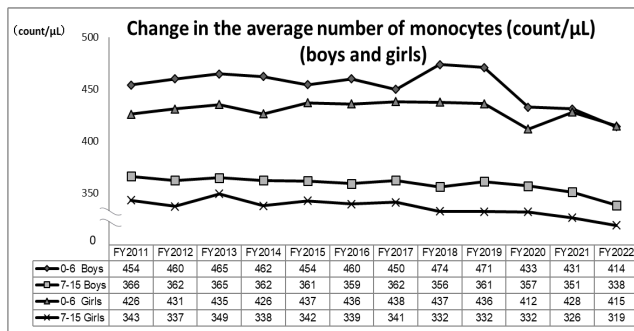
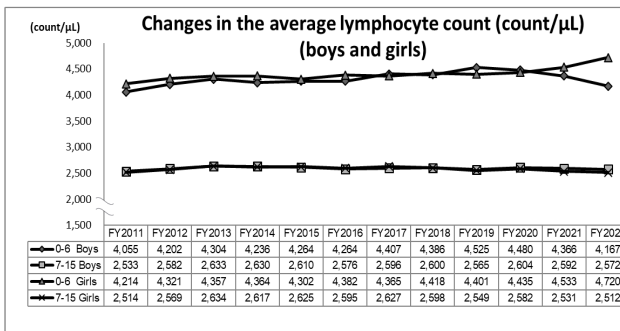
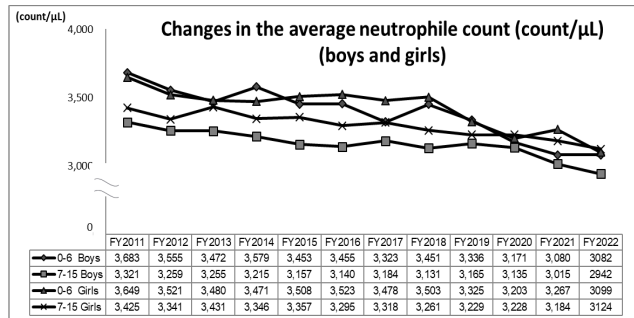
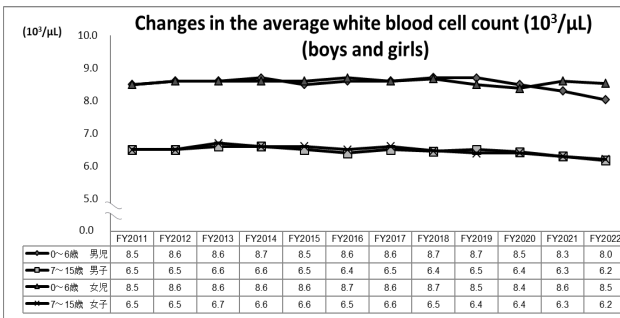
*By international consensus, platelet counts are expressed as numbers $\times 10^9/\text{L}$ or $\times 10^3/\mu\text{L}$.

Source: Clinical Management of Laboratory Data in Pediatrics (2nd edition)

Peripheral Blood Tests: White Blood Cell Count and Differential

1. Results

There were no substantial changes in average white blood cell counts or differentials for either boys or girls in any age group.



2. Explanation of the Graphs

The graphs show changes in the average values of white blood cell counts and differentials.

3. Reference Intervals

Total number of white blood cells ($\times 10^9/L$)

Age	Average	Range	Age	Average	Range
At birth	18.1	9.0-30.0	Ages 1	11.4	6.0-17.5
12 hours old	22.8	13.0-38.0	Ages 2	10.6	6.0-17.0
24 hours old	18.9	9.4-34.0	Ages 4	9.1	5.5-15.5
1 week old	12.2	5.0-21.0	Ages 6	8.5	5.0-14.5
2 weeks old	11.4	5.0-20.0	Ages 8	8.3	4.5-13.5
1 month old	10.8	5.0-19.5	Ages 10	8.1	4.5-13.5
6 months old	11.9	6.0-17.5	Ages 16	7.8	4.5-13.0
			Ages 21	7.4	4.5-11.0

* By international consensus, white blood cell counts are expressed as numbers $\times 10^9/L$ or $\times 10^3/\mu L$.

Source: Clinical Management of Laboratory Data in Pediatrics (2nd edition)

Neutrophil, lymphocyte, monocyte, and eosinophil counts and percentages

(x10³/μL; Range is the 95% confidence interval.)

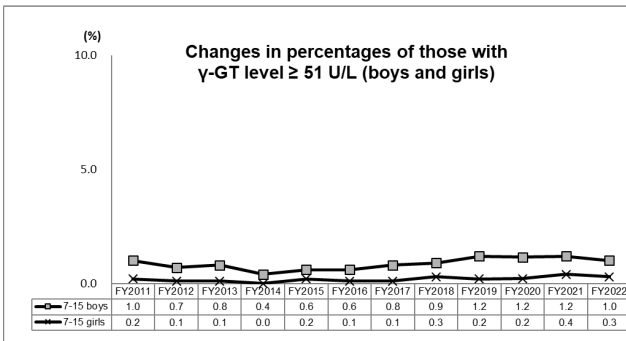
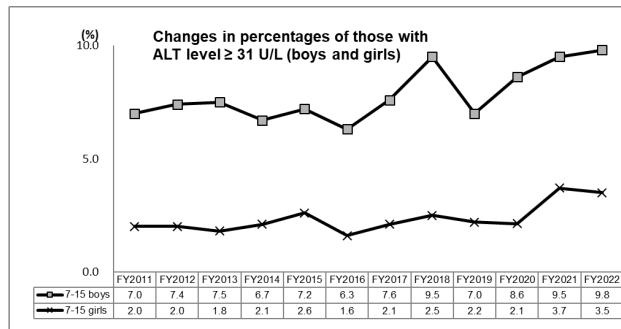
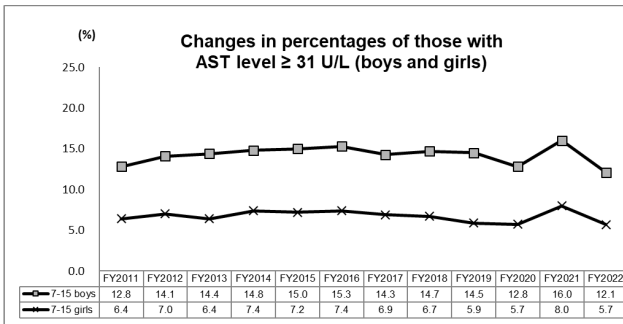
Age	Neutrophil count			Lymphocyte count			Monocyte count		Eosinophil count	
	Average	Range	%	Average	Range	%	Average	%	Average	%
At birth	11.0	6.0-26.0	61	5.5	2.0-11.0	31	1.1	6	0.4	2
12 hours old	15.5	6.0-28.0	68	5.5	2.0-11.0	24	1.2	5	0.5	2
24 hours old	11.5	5.0-21.0	61	5.8	2.0-11.5	31	1.1	6	0.5	2
1 week old	5.5	1.5-10.0	45	5.0	2.0-17.0	41	1.1	9	0.5	4
2 weeks old	4.5	1.0-9.5	40	5.5	2.0-17.0	48	1.0	9	0.4	3
1 month old	3.8	1.0-9.0	35	6.0	2.5-16.5	56	0.7	7	0.3	3
6 months old	3.8	1.0-8.5	32	7.3	4.0-13.5	61	0.6	5	0.3	3
Ages 1	3.5	1.5-8.5	31	7.0	4.0-10.5	61	0.6	5	0.3	3
Ages 2	3.5	1.5-8.5	33	6.3	3.0-9.5	59	0.5	5	0.3	3
Ages 4	3.8	1.5-8.5	42	4.5	2.0-8.0	50	0.5	5	0.3	3
Ages 6	4.3	1.5-8.0	51	3.5	1.5-7.0	42	0.4	5	0.2	3
Ages 8	4.4	1.5-8.0	53	3.3	1.5-6.8	39	0.4	4	0.2	2
Ages 10	4.4	1.8-8.0	54	3.1	1.5-6.5	38	0.4	4	0.2	2
Ages 16	4.4	1.8-8.0	57	2.8	1.2-5.2	35	0.4	5	0.2	3
Ages 21	4.4	1.8-7.7	59	2.5	1.0-4.8	34	0.3	4	0.2	3

Source: Clinical Management of Laboratory Data in Pediatrics (2nd edition)

Liver Function Tests: AST, ALT, γ -GT

1. Results

Liver dysfunction was found more often among boys than among girls in all fiscal years. The percentages showed no substantial changes for either boys or girls.



2. Explanation of the Graphs

An AST level of 31 U/L or over, an ALT level of 31 U/L or over, and a γ -GT level of 51 U/L or over are action values used for group and individual health checks for those ages 16 or older.

3. Reference Intervals

AST(GOT) (U/L)

Age	Males	Females
1 month old	19-61	20-71
6 months old	25-85	22-76
Age 1	23-51	22-50
Age 3	20-45	20-44
Age 6	17-39	16-38
Age 12	14-33	12-30
Adults	30 or lower	

ALT(GPT) (U/L)

Age	Males	Females
1 month old	10-50	11-68
6 months old	12-62	10-63
Age 1	5-25	5-31
Age 3	4-24	5-27
Age 6	4-23	4-25
Age 12	3-20	3-18
Adults	30 or lower	

γ -GT(U/L)

	Males	Females
Adults	0-50	0-30
From children to young adults	γ -GT levels normally reach adult values 5 to 6 months after birth.	
Newborns	5 to 6 times the normal upper limit	

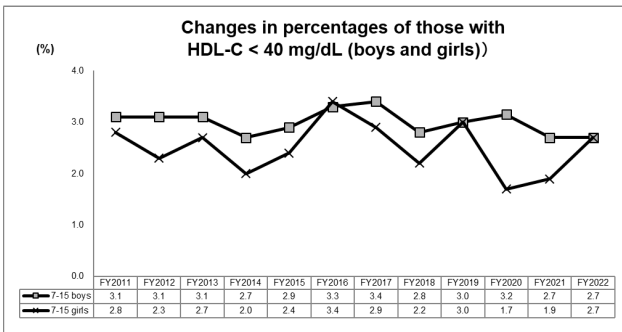
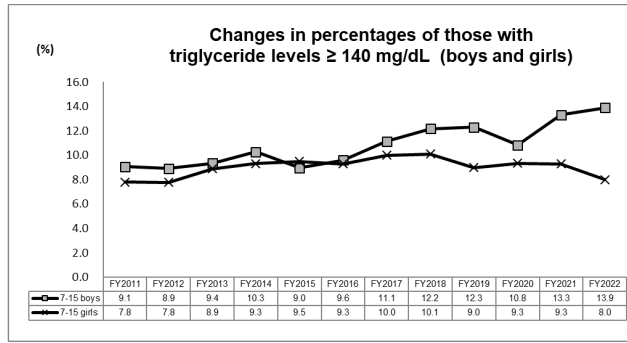
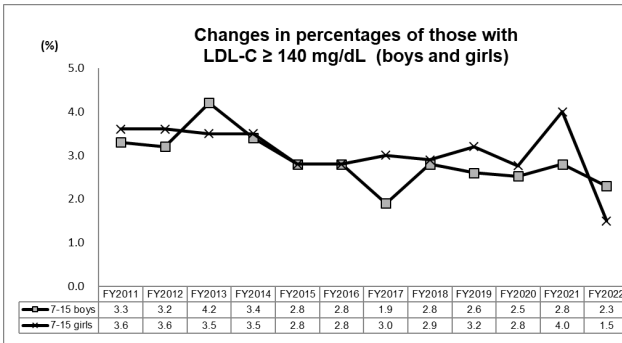
Source: Clinical Management of Laboratory Data in Pediatrics (2nd edition)

Lipids: LDL Cholesterol, Triglycerides, HDL Cholesterol

1. Results

The percentage of both boys and girls with LDL-C levels of 140 mg/dL or over showed no certain trends. The percentage of boys with triglyceride levels of 140 mg/dL or over showed no certain trend. For girls, there were no substantial changes.

There were no certain trends in the percentage of both boys and girls with HDL-C levels lower than 40 mg/dL.



2. Explanation of the Graphs

Determination of hyperlipidemia was based on the following reference intervals.

3. Reference intervals for diagnosing hyperlipidemia in children (elementary and junior high school students, fasting blood sampling)

LDL cholesterol (LDL-C)	≥140 mg / dL
Triglycerides (TG)	≥140 mg / dL
HDL cholesterol (HDL-C)	< 40 mg / dL

Source: Japan Atherosclerosis Society (JAS) Guidelines for Prevention of Atherosclerotic Cardiovascular Diseases 2022

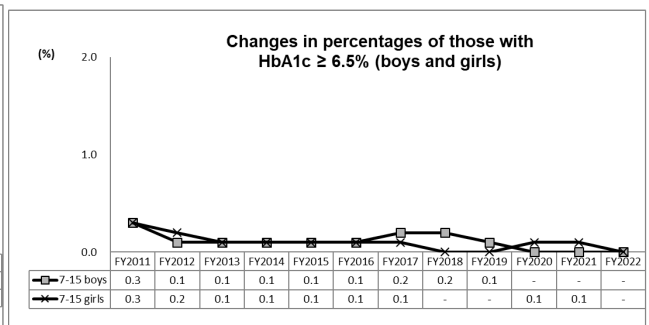
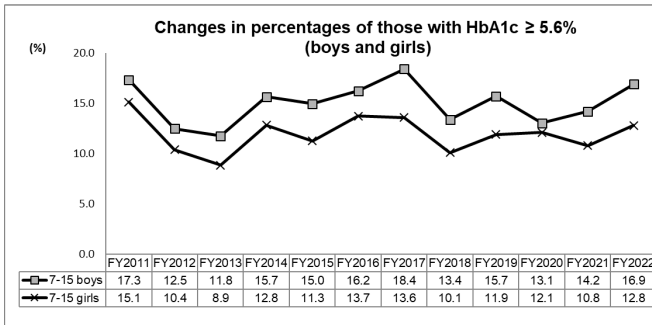
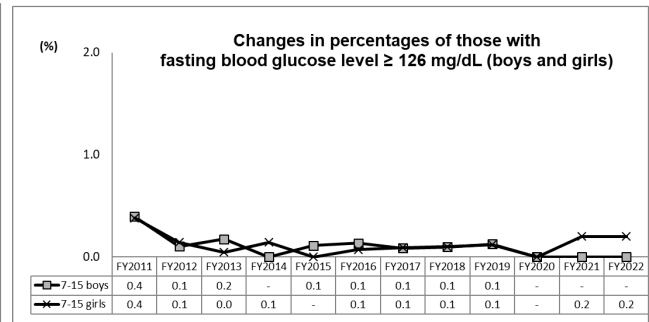
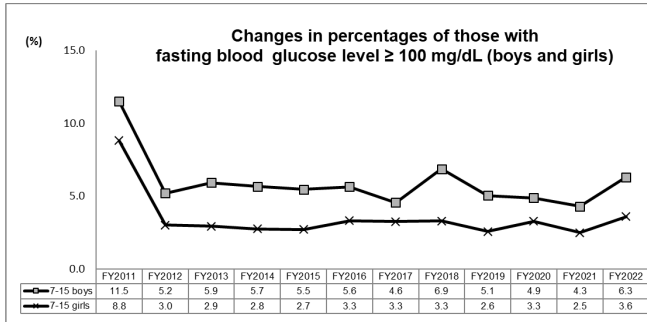
Blood Glucose: Fasting Blood Glucose, HbA1c

1. Results

Both for boys and girls, the percentages of those whose fasting blood glucose level was 100 mg/dL or over hit a peak in FY2011, decreased through FY2012, and maintained almost the same levels thereafter. There were no substantial changes in the percentage of those with fasting blood glucose levels of 126 mg/dL or over for either boys or girls.

The percentage of those with HbA1c levels of 5.6% or over showed no certain trends for either boys or girls.

There were also no substantial differences in the percentages of those whose HbA1c level was 6.5% or over between boys and girls, and the percentages remained unchanged both for boys and girls.



2. Explanation of the Graphs

Determinations of the existence of a high blood glucose level (fasting blood glucose level of 100 mg/dL or over and HbA1c level of 5.6% or over) and diabetes (fasting blood glucose level of 126 mg/dL or over and HbA1c level of 6.5% or over) were based on the following reference intervals, applicable to children and adults.

3. Reference Intervals

Classification and determination criteria based on fasting blood glucose level and through 75g OGTT

	Measurement time			Classification
	Fasting		2-hours postprandial	
Blood glucose (venous plasma level)	126 mg/dL or over	◀ or ▶	200 mg/dL or over	Diabetes
	Intermediate values, neither diabetic nor normal			Borderline
	Lower than 110 mg/dL	◀ and ▶	Lower than 140 mg/dL	Normal

- (i) Early morning fasting blood glucose level: 126 mg/dL or over
- (ii) Blood glucose level after 2 hours 75g OGTT: 200 mg/dL or over
- (iii) Casual blood glucose level: 200 mg/dL or over
- (iv) HbA1c level: 6.5% or over

Blood glucose levels matching any of (i) to (iv) are diagnostic of diabetes.

-
- (v) Early morning fasting blood glucose level: Lower than 110 mg/dL
 - (vi) Blood glucose level after 2 hours 75g OGTT: Lower than 140 mg/dL

Blood glucose levels matching (v) and (vi) rule out a diagnosis of diabetes.

- Intermediate blood glucose values indicate a “borderline” condition that is neither diabetic nor normal.

*Source: "Treatment Guide for Diabetes 2022-2023"

*In this report, based on the “Epidemiological study: To estimate the frequency of diabetes mellitus,” ‘diabetes mellitus’ can be substituted for the determination of ‘diabetic type’ from a single examination. In this case, HbA1c of 6.5% (JDS HbA1c \geq 6.1%) alone can be defined as diabetes mellitus. Source: Report of the Committee on the Classification and Diagnostic Criteria of Diabetes Mellitus 2012 (by the Japan Diabetes Society) ‘diabetic type’ deemed ‘diabetes mellitus’

Criteria for conducting a detailed health check (additional check items based on a doctor's judgment)

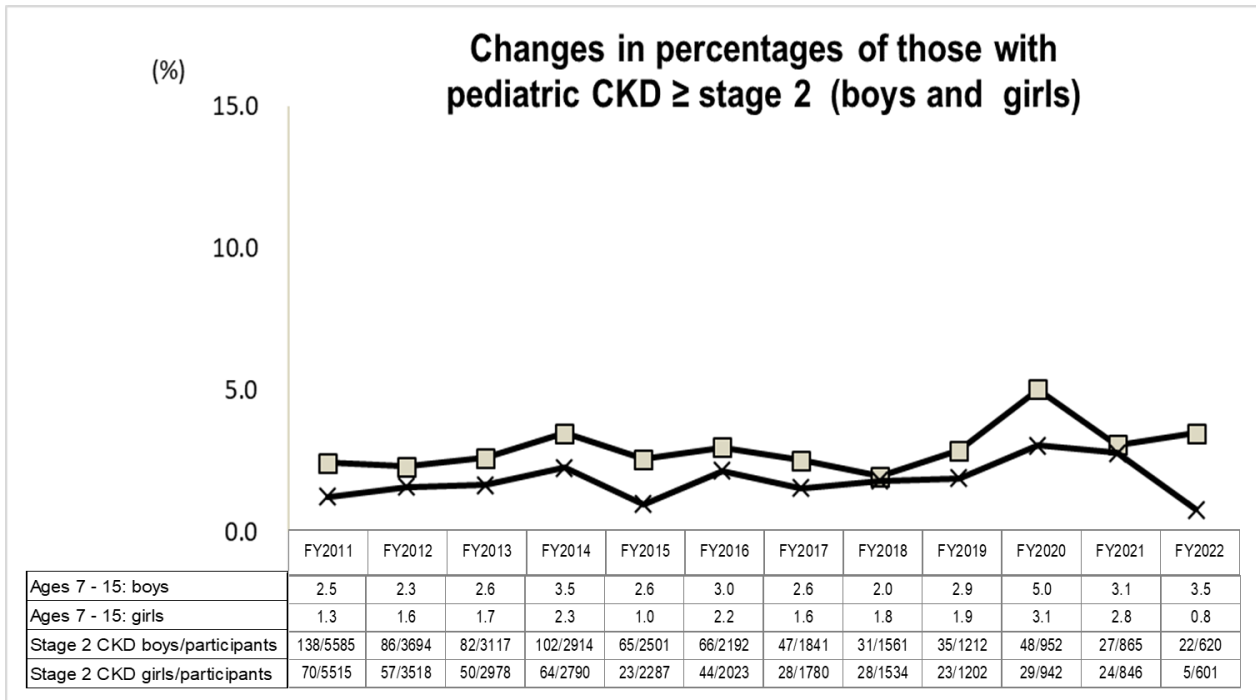
Blood glucose level	Fasting blood glucose level of 100 mg/dL or over and HbA1c level (NGSP level) of 5.6% or over or casual blood glucose level of 100 mg/dL or over
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Source: "Guidelines for Smooth Implementation of Specified Health Checkups and Health Guidance (4th Edition) 2023" by the Ministry of Health, Labour and Welfare

Renal Function (Serum Creatinine)

1. Results

The percentage of children having stage 2 or higher chronic kidney disease showed no certain trend for either boys or girls.



2. Explanation of the Graph

The graph shows the percentages of children who were diagnosed as having stage 2 or higher chronic kidney disease, based on their serum creatinine levels and the following reference intervals.

3. Reference Intervals

Table for determining chronic kidney disease (CKD) stages based on serum creatinine levels (mg/dL)

Age	Stage 2	Stage 3	Stage 4	Stage 5
7	0.50-	0.75-	1.49-	2.97-
8	0.54-	0.81-	1.61-	3.21-
9	0.55-	0.83-	1.65-	3.29-
10	0.55-	0.83-	1.65-	3.29-
11	0.61-	0.91-	1.81-	3.61-

Age	Stage 2		Stage 3		Stage 4		Stage 5	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
12	0.71-	0.70-	1.07-	1.05-	2.13-	2.09-	4.25-	4.17-
13	0.79-	0.71-	1.19-	1.07-	2.37-	2.13-	4.73-	4.25-
14	0.87-	0.78-	1.31-	1.17-	2.61-	2.33-	5.21-	4.65-
15	0.91-	0.75-	1.37-	1.13-	2.73-	2.25-	5.45-	4.49-

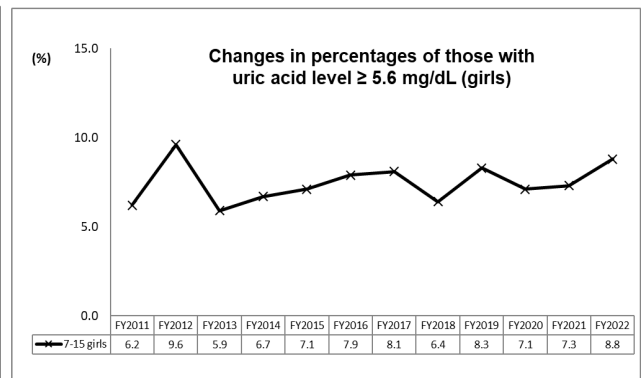
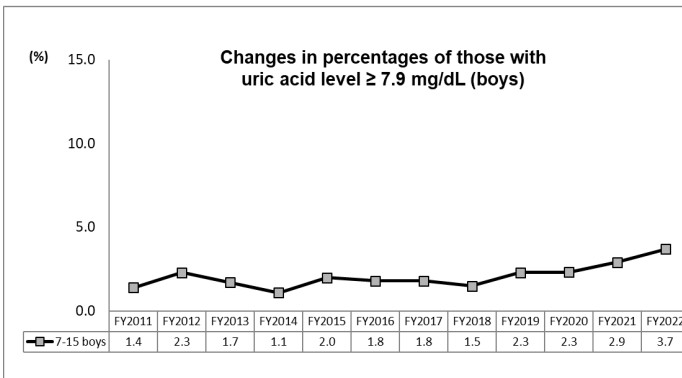
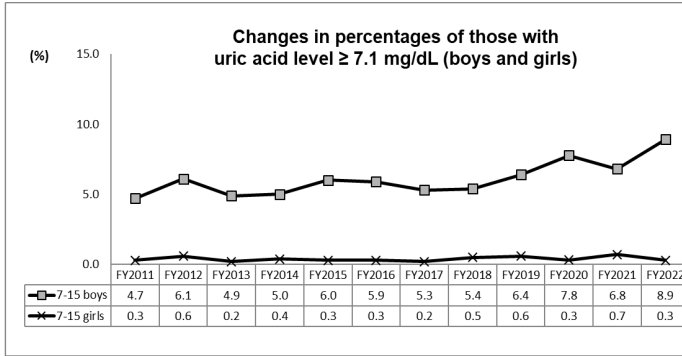
Source: "Child Chronic Kidney Disease: Guidelines for Renal Impairment Diagnosis and Renal Function Assessment for Children" (2019) by the Guidelines Editorial Board

Uric Acid

1. Results

The percentage of boys with uric acid of 7.1 mg/dL or over showed an increasing tendency from FY2011 through FY2022. The percentage of girls with uric acid of 7.1 mg/dL or over showed no substantial changes.

There were no substantial changes in the percentage of boys with uric acid of 7.9 mg/dL or over. The percentage of girls with uric acid of 5.6 mg/dL or over showed no certain trend.



2. Explanation of the Graphs

The determination of hyperuricemia was based on the following reference intervals.

3. Reference Intervals

Definition of hyperuricemia in the "Guidelines for the Management of Hyperuricemia and Gout" by the Japanese Society of Gout and Uric & Nucleic Acids.	Uric acid: 7.1 mg/dL or higher
Values exceeding the upper limits of the common reference intervals established by the Japanese Committee for Clinical Laboratory Standards	Uric acid Boys: 7.9 mg/dL or higher Girls: 5.6 mg/dL or higher

Report on the Results of the FY2022 Comprehensive Health Check Fukushima Health Management Survey (Participants Ages 16 or Older)

< Supplementary Notes >

- * Participants ages 16 or older were divided into three age groups: 16 to 39 years, 40 to 64 years, and 65 years or older, with results compiled and shown accordingly.
- * Because individuals shift from one age group to another, year-by-year comparisons are difficult, and definitive conclusions cannot be drawn.
- * Rules for describing tabulation results are the same as those used for Vital Statistics in Japan by the Ministry of Health, Labour and Welfare.

When there is no data: -

When the ratio is minor (lower than 0.05): 0.0%

* Reference materials

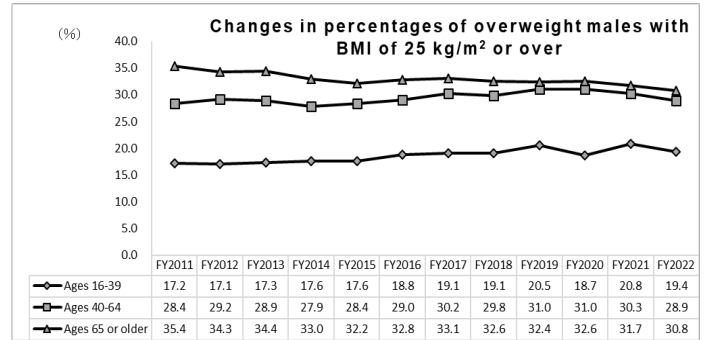
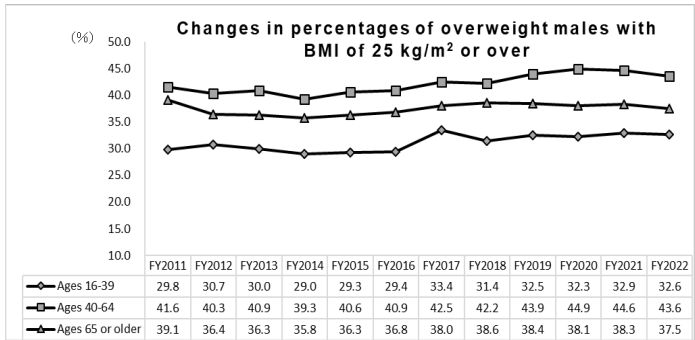
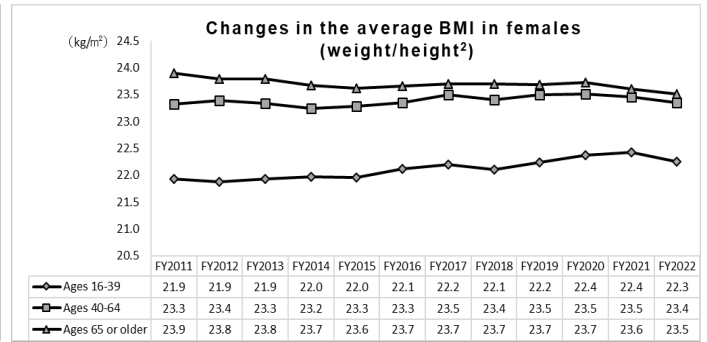
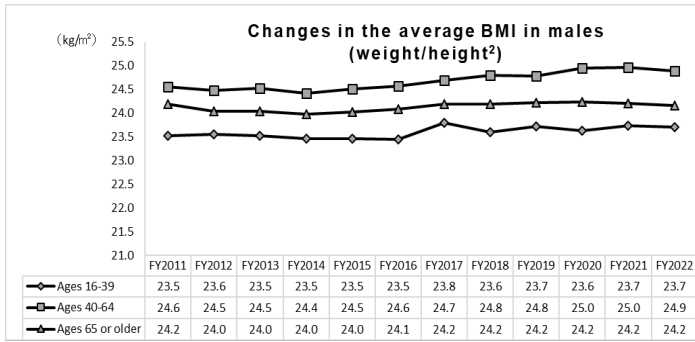
- FY2011 to FY2014: Material 3-2 "Basic Statistics of CHC Results by Health Check Item" for the 21st Prefectural Oversight Committee Meeting for the Fukushima Health Management Survey
- FY2015: Material 3-2 "Basic Statistics of CHC Results by Health Check Item" for the 26th Prefectural Oversight Committee Meeting for the Fukushima Health Management Survey
- FY2016: Material 2-3 "Basic Statistics of CHC Results by Health Check Item" for the 30th Prefectural Oversight Committee Meeting for the Fukushima Health Management Survey
- FY2017: Material 2-3 "Basic Statistics of CHC Results by Health Check Item" for the 34th Prefectural Oversight Committee Meeting for the Fukushima Health Management Survey
- FY2018: Material 4-4 "Tabulation Results by Health Check Item" for the 37th Prefectural Oversight Committee Meeting for the Fukushima Health Management Survey
- FY2019: Material 3-4 "Tabulation Results by Health Check Item" for the 41st Prefectural Oversight Committee Meeting for the Fukushima Health Management Survey
- FY2020: Material 4-4 "Tabulation Results by Health Check Item" for the 44th Prefectural Oversight Committee Meeting for the Fukushima Health Management Survey
- FY2021: Material 4-4 "Tabulation Results by Health Check Item" for the 48th Prefectural Oversight Committee Meeting for the Fukushima Health Management Survey

Physical Exam: BMI

1. Results

Compared with the results for FY2016, the percentage of males with a BMI of 25 kg/m² or over increased in FY2017 for all age groups, with no substantial changes thereafter to FY2022.

The percentage of females with a BMI of 25 kg/m² or over showed an upward trend among those ages 16 to 39 from FY2011 to FY2021 but showed a slight downward in FY2022. The same percentage increased slightly among those ages 40 to 64 from FY2014 to FY2020 but decreased slightly thereafter. Among those ages 65 or older, it showed a decreasing trend from FY2011 to FY2022.



2. Explanation of the Graphs

BMI was calculated based on measured heights and weights and those with a BMI of 25 kg/m² or over were classified as obese.

$$\text{BMI} = \text{Weight (kg)} / \text{Height (m)} / \text{Height (m)}$$

3. Reference Intervals and Action Thresholds

Degrees of obesity

BMI (kg/m ²)	Classification	WHO standards
BMI < 18.5	Underweight	Underweight
18.5 ≤ BMI < 25	Normal weight	Normal range
25 ≤ BMI < 30	Obese (level 1)	Pre-obese
30 ≤ BMI < 35	Obese (level 2)	Obese class I
35 ≤ BMI < 40	Severe obesity	Obese (level 3)
40 ≤ BMI		Obese (level 4)
		Obese class III

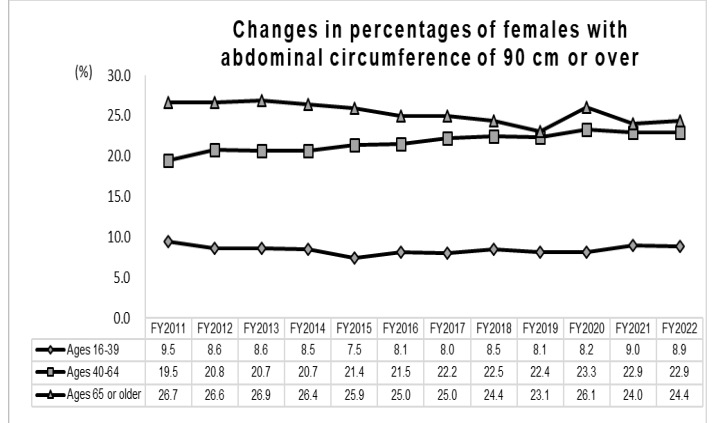
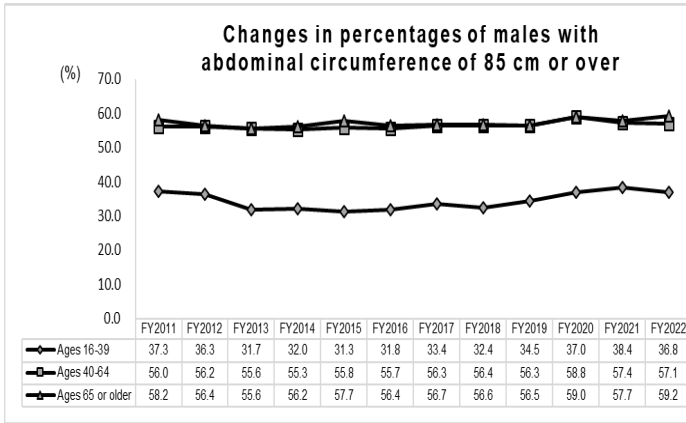
*Source: "Guidelines for the Management of Obesity Disease 2022" by the Japan Society for the Study of Obesity

Physical Exam: Abdominal Circumference

1. Results

The percentage of males with an abdominal circumference of 85.0 cm or over decreased among those ages 16 to 39 from FY2011 to FY2013, remained almost the same from FY2014 onward, but showed an upward trend through FY2021, then a decreasing trend again in FY2022.

The percentage of females with an abdominal circumference of 90.0 cm or over increased among those ages 40 to 64 from FY2011 to FY2020 but decreased thereafter.



2. Explanation of the Graphs

Levels of the waist circumference (abdominal circumference), which serve as one of the diagnostic criteria for metabolic syndrome, were evaluated based on the following reference intervals.

3. Reference Intervals

Diagnostic criteria for metabolic syndrome

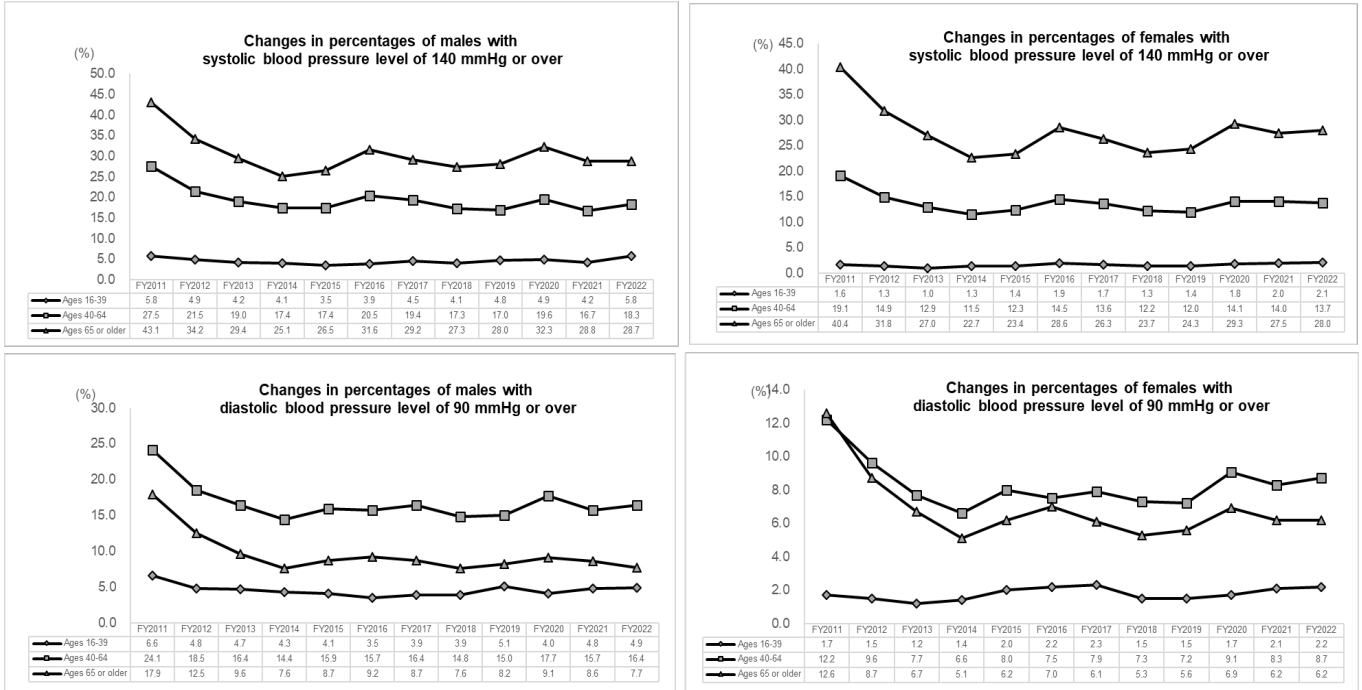
Visceral fat (intra-abdominal fat) accumulation	
Waist circumference	Males \geq 85 cm Females \geq 90 cm
(Visceral fat area: Equivalent to \geq 100 cm ² for both males and females)	
Two or more of the following, in addition to the above	
Hypertriglyceridemia	\geq 150 mg/dL
and/or	
Hypo-HDL cholesterolemia	$<$ 40 mg/dL for both males and females
Systolic blood pressure \geq 130 mmHg	
and/or	
Diastolic blood pressure	\geq 85 mmHg
Fasting hyperglycemia \geq 110 mg/dL	

*Source: "Definition and Diagnostic Criteria for Metabolic Syndrome (2005)" by the Metabolic Syndrome Diagnostic Standards Review Committee

Physical Exam: Blood Pressure

1. Results

The percentage of those with systolic blood pressure levels of 140 mmHg or over decreased both among males and females ages 40 or older from FY2011 to FY2014, and showed no certain trends thereafter. The percentage of those with diastolic blood pressure levels of 90 mmHg or over decreased among both males and females age 40 or older from FY2011 to FY2014, and showed no substantial changes thereafter.



2. Explanation of the Graphs

Determinations of systolic hypertension and diastolic hypertension were based on the following reference intervals.

3. Reference Intervals

Classification of adults' blood pressure levels

Classification	Office blood pressure (mmHg)		Home blood pressure (mmHg)	
	Systolic BP	Diastolic BP	Systolic BP	Diastolic BP
Normal BP	< 120	and < 80	< 115	and < 75
High normal BP	120–129	and < 80	115–124	and < 75
High BP	130–139	and/or 80–89	125–134	and/or 75–84
Level 1 hypertension	140–159	and/or 90–99	135–144	and/or 85–89
Level 2 hypertension	160–179	and/or 100–109	145–159	and/or 90–99
Level 3 hypertension	≥ 180	and/or ≥ 110	≥ 160	and/or ≥ 100
(Isolated) systolic hypertension	≥ 140	and < 90	≥ 135	and < 85

Source: "Guidelines for the Management of Hypertension 2019" by the Japanese Society of Hypertension

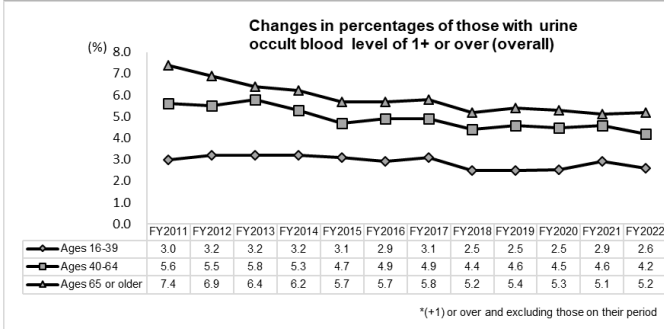
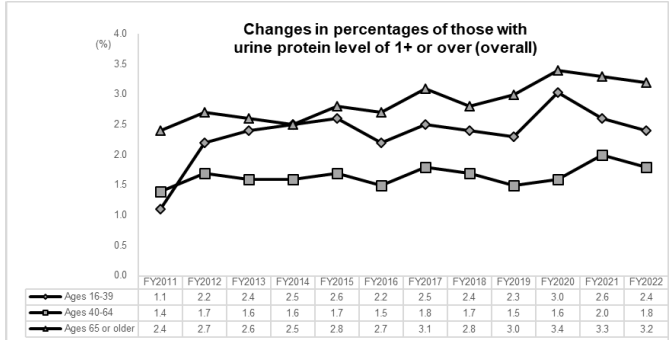
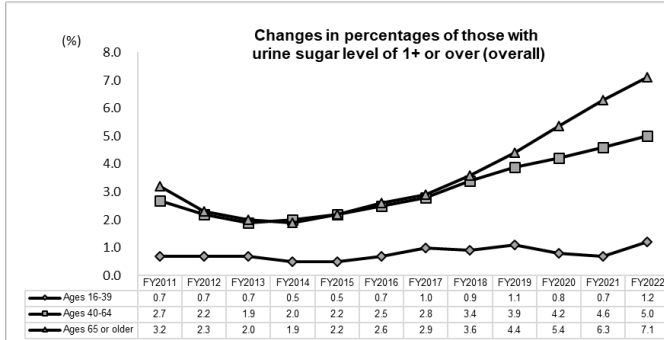
Urine Tests: Urine Sugar, Urine Protein, Urine Occult Blood

1. Results

The percentage of those with a urine sugar level of 1+ or over showed an upward trend among those ages 40 or older from FY2015.

The percentage of those with a urine protein level of 1+ or over increased among those ages 16 to 39 and those ages 65 or older from FY2011 to FY2020, but decreased thereafter.

The percentage of those with a urine occult blood level of 1+ or over decreased among those ages 65 or older from FY2011 to FY2022.



2. Explanation of the Graphs

Determination of the existence of abnormalities in urine test results was based on the following reference intervals.

3. Screening Values (diagnostic criteria used for group and individual health checks)

Item \ Diagnosis	Expected	Action Threshold	Abnormality
Urine sugar	(-)	(±)	(+) or over
Urine protein	(-)	(±)	(+) or over
Urine occult blood	(-)	(±)	(+) or over

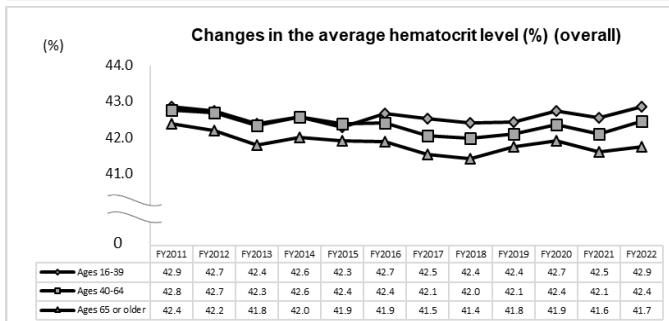
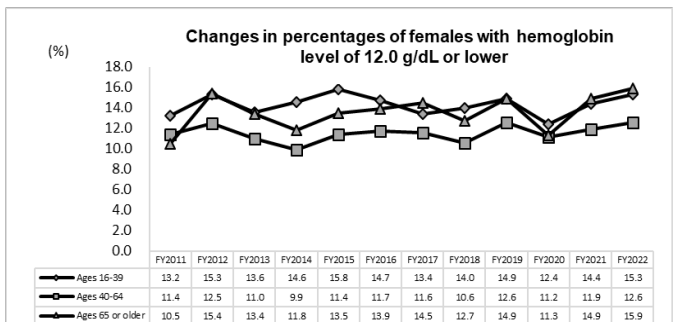
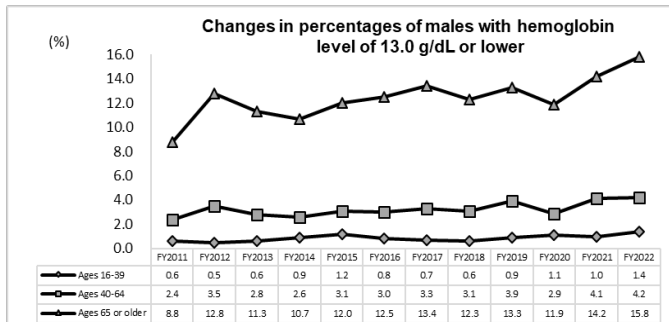
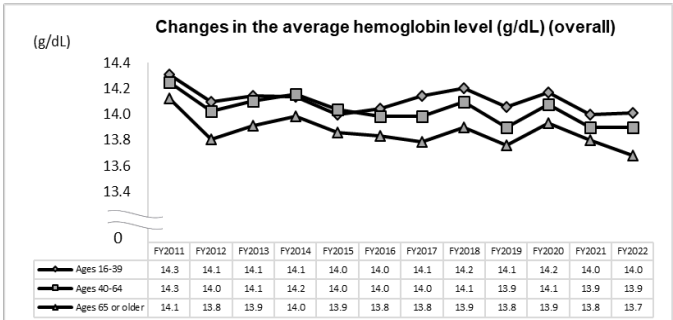
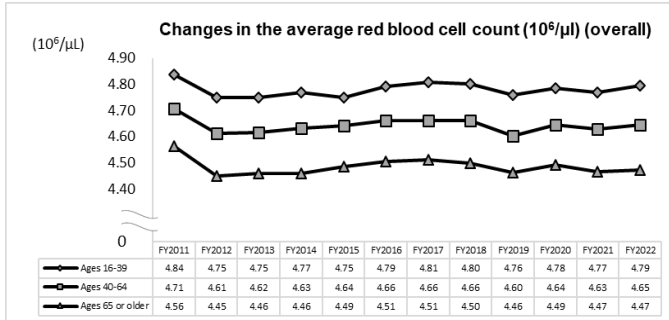
Peripheral Blood Tests: Red Blood Cells, Hemoglobin, Hematocrit

1. Results

The average red blood cell count and the average hemoglobin level decreased for all age groups from FY2011 to FY2012 but without substantial changes.

The percentage of males with hemoglobin levels of 13.0 g/dL or lower increased among those ages 65 or older from FY2011 to FY2012 and showed no sign of a trend thereafter. The percentage of females with hemoglobin levels of 12.0 g/dL or lower increased among those ages 65 or older from FY2011 to FY2012, then showed no certain trend thereafter.

There were no substantial changes in hematocrit levels in any age group.



2. Explanation of the Graphs

The graphs show changes in average values of red blood cell counts, hemoglobin levels, and hematocrit levels. The WHO standards for anemia are 13.0 g/dL or lower for males and 12.0 g/dL or lower for females.

3. Reference Intervals

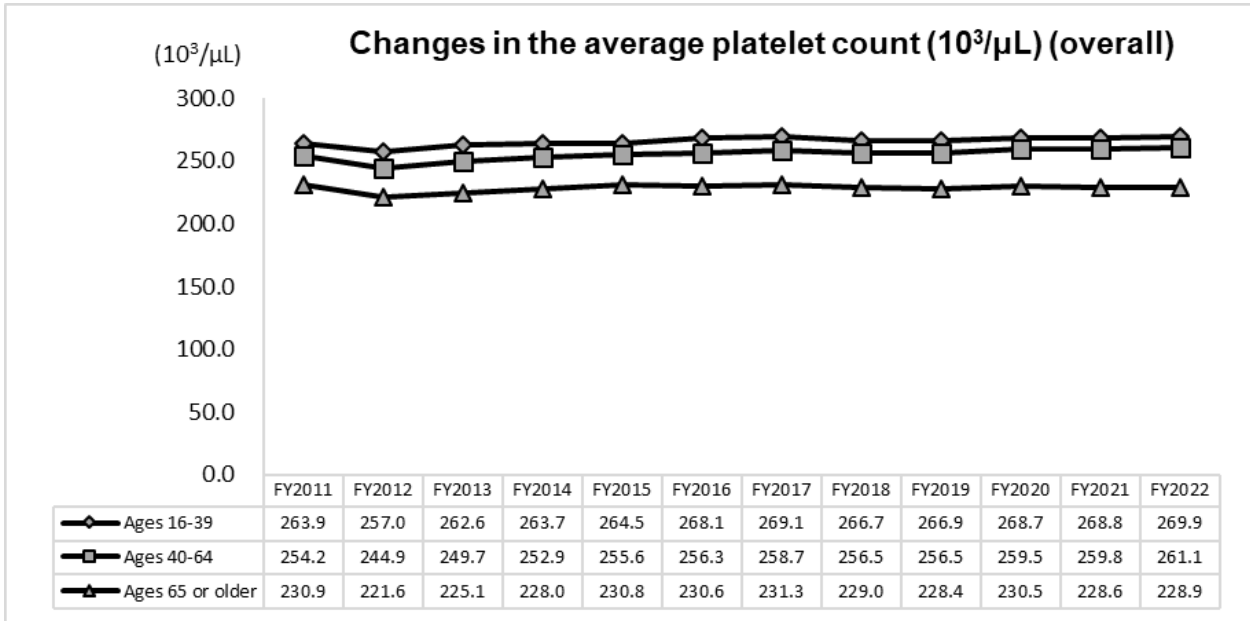
Item	Unit		Lower reference limit	Upper reference limit
Red blood cell count	10 ⁶ /μL	Male	4.35	5.55
		Female	3.86	4.92
Hemoglobin	g/dL	Male	13.7	16.8
		Female	11.6	14.8
Hematocrit	%	Male	40.7	50.1
		Female	35.1	44.4

Source: "Guidelines for Clinical Laboratory Tests 2021" (JSLM2021) by the Japanese Society of Laboratory Medicine

Peripheral Blood Tests: Platelet Count

1. Results

There were no substantial changes in the average platelet count in any age group.



2. Explanation of the Graph

The graph shows changes in average values of platelet counts.

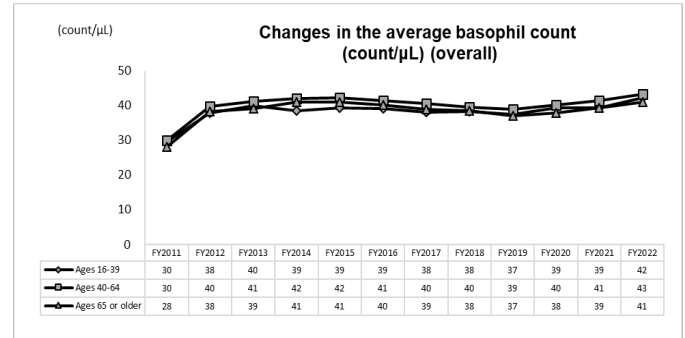
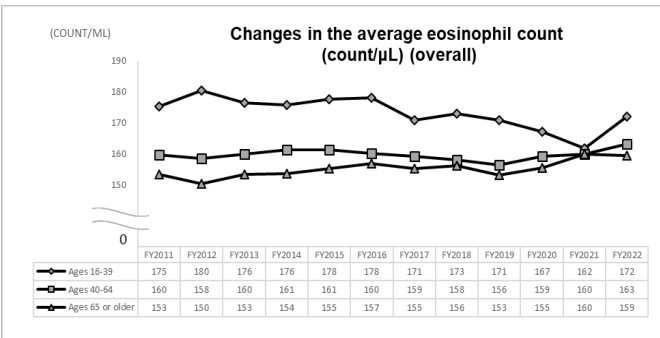
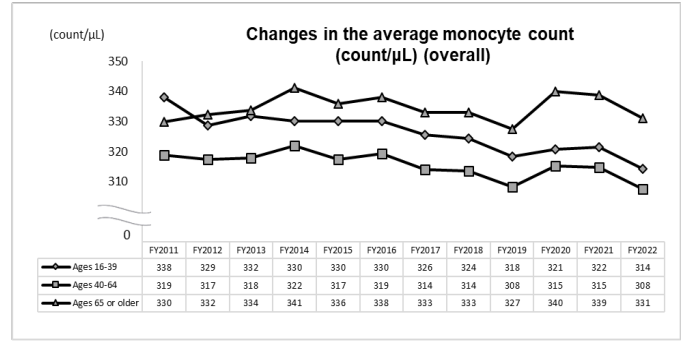
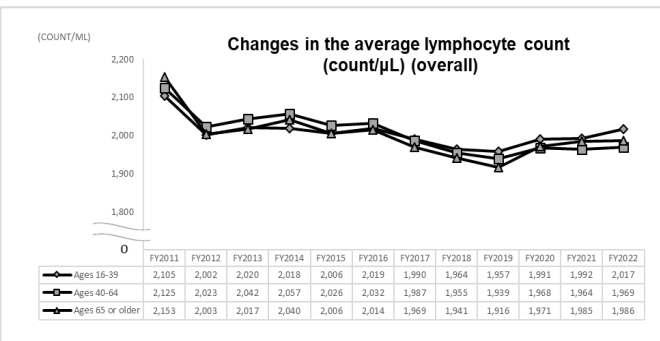
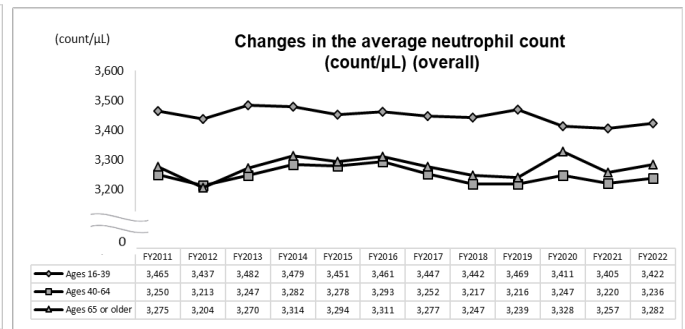
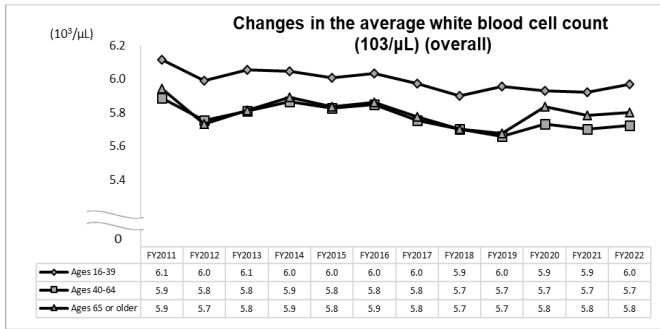
3. Reference Intervals and Action Thresholds (diagnostic criteria used for group and individual health checks)

Diagnosis Item	Reference Interval	Action Thresholds		Abnormality		Units
Number of blood platelets	130–369	90–129	370–449	89 or lower	450 or over	×10 ³ /µL

Peripheral Blood Tests: White Blood Cell Count and Differential

1. Results

There were no substantial changes in the average white blood cell count in any age group. There were also no substantial changes in the average neutrophil, lymphocyte, monocyte, eosinophil, or basophil counts.



2. Explanation of the Graphs

The graphs show changes in average values of white blood cell counts and differentials.

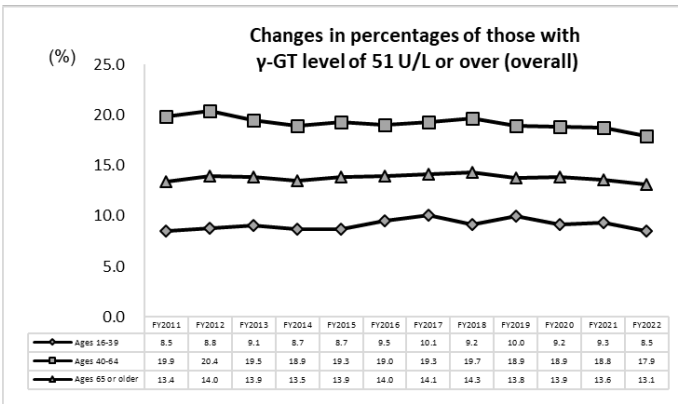
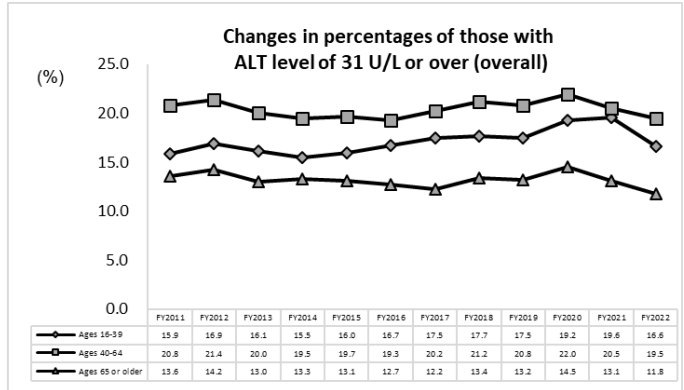
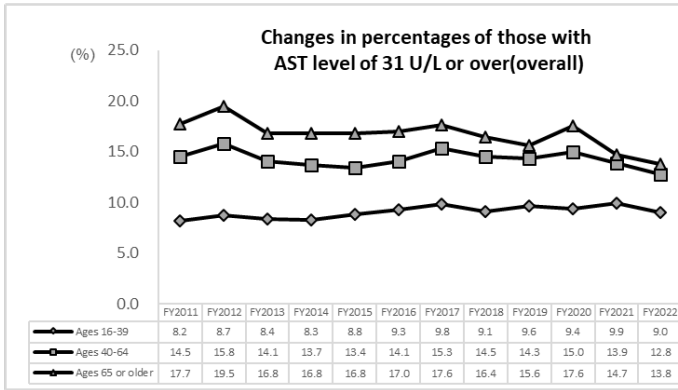
3. Reference Intervals and Action Thresholds (diagnostic criteria used for group and individual health checks)

Item	Diagnosis	Reference Interval	Action Thresholds		Abnormality		Unit
			3.0–3.9	9.6–11.0	2.9 or lower	11.1 or over	
Number of white blood cells		4.0–9.5	3.0–3.9	9.6–11.0	2.9 or lower	11.1 or over	×10 ³ /µL
Differential Leucocyte Counts (DLCs, Reference)	Neutrophils	40.0–75.0					%
	Lymphocytes	20.0–55.0					
	Monocytes	0–12.0					
	Eosinophils	0–10.0					
	Basophils	0–3.0					

Liver Function Tests: AST, ALT, γ -GT

1. Results

The percentages of those with AST of 31 U/L or over, those with ALT of 31 U/L or over, and those with γ -GT of 51 U/L or over showed no substantial changes in any age group.



2. Explanation of the Graphs

Determination of hepatic dysfunction was based on the following reference intervals.

3. Reference Intervals and Action Thresholds (diagnostic criteria used for group and individual health checks)

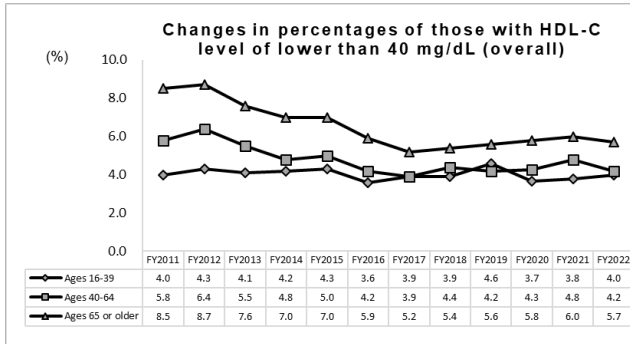
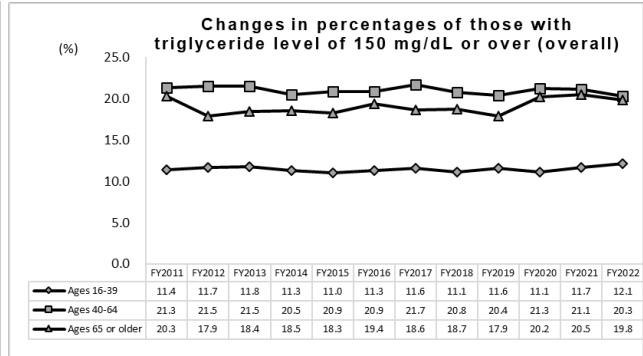
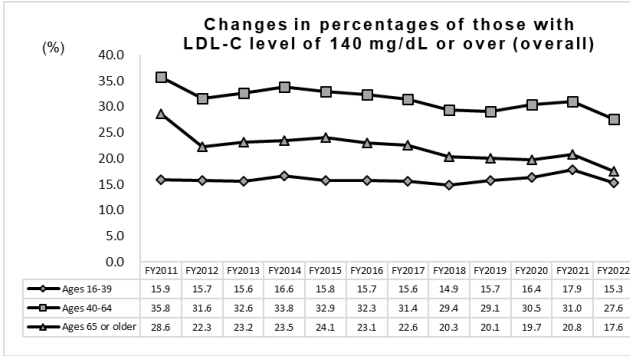
Diagnosis Item	Reference Interval	Action Threshold	Abnormality	Unit
AST (GOT)	30 or lower	31-50	51 or over	U/L
ALT (GPT)	30 or lower	31-50	51 or over	U/L
γ -GT	50 or lower	51-100	101 or over	U/L

Lipids: LDL Cholesterol, Triglycerides, HDL Cholesterol

1. Results

The percentages of those with LDL-C of 140 mg/dL or over and those with triglycerides of 150 mg/dL or over slightly decreased among those ages 65 or older from FY2011 to FY2012, but remained almost the same thereafter.

The percentages of those with HDL-C below 40 mg/dL decreased from FY2011 through FY2017 for ages 65 or older but showed no significant changes thereafter.



2. Explanation of the Graphs

Determination of hyperlipidemia was based on the following reference intervals.

3. Reference Intervals

Diagnostic criteria for hyperlipidemia (fasting blood sampling)

LDL cholesterol	140 mg/dL or over	Hyper-LDL-cholesterolemia
	120–139 mg/dL	Borderline hyper-LDL-cholesterolemia
HDL cholesterol	Lower than 40 mg/dL	Hypo-HDL-cholesterolemia
Triglycerides (neutral fats)	150 mg/dL or over	Hypertriglyceridemia

Source: "Guidelines for the Prevention of Arteriosclerotic Diseases 2022" by the Japan Atherosclerosis Society

Blood Glucose (Fasting Blood Glucose, HbA1c)

1. Results

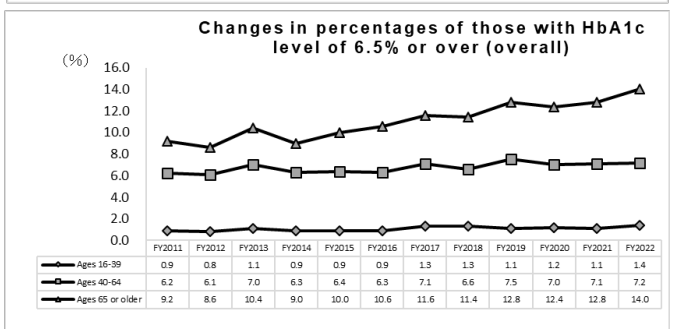
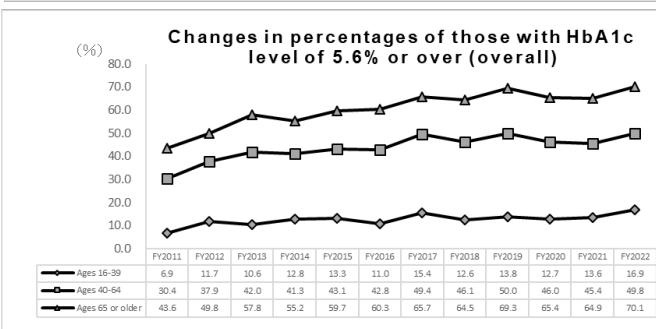
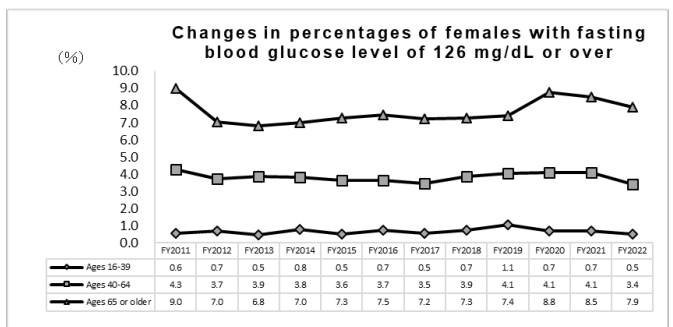
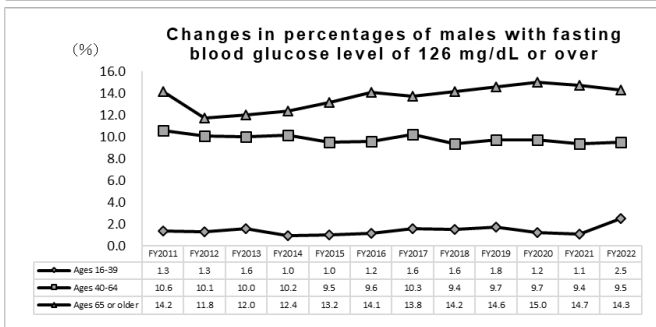
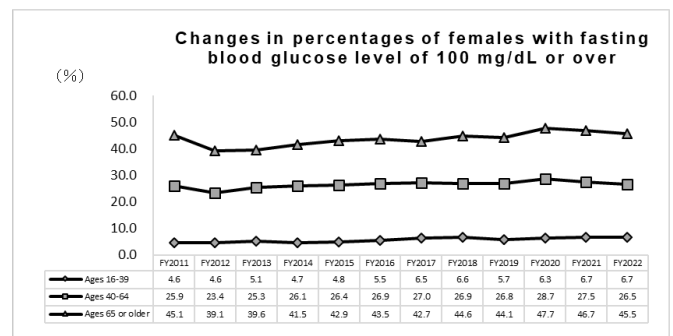
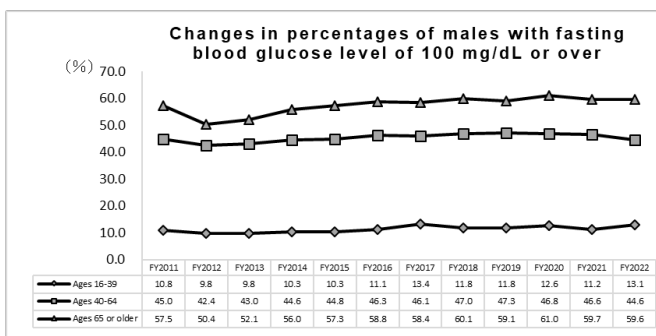
Among males and females ages 65 or older, the percentages of those with fasting blood glucose of 100 mg/dL or over decreased from FY2011 to FY2012, then showed slight increases thereafter until FY2020, but slightly decreased thereafter.

The percentage of males ages 65 or older with fasting blood glucose of 126 mg/dL or over was on a downward trend from FY2011 to FY2012, but showed slight increases thereafter through FY2020 and a slight decrease thereafter.

The percentage of females ages 65 or older with fasting blood glucose of 126 mg/dL or over was on a downward trend from FY2011 to FY2013, then trended slightly upward through FY2020, but decreased slightly in FY2021.

The percentages of those with HbA1c of 5.6% or over increased in ages 40 years and older from FY2011 through FY2022.

The percentage of those who were diagnosed as having diabetes (HbA1c of 6.5% or over) was on an upward trend from FY2011 to FY2022 for the age group of 65 and older.



2. Explanation of the Graphs

Determinations of the existence of high blood glucose (fasting blood glucose of 100 mg/dL or over and HbA1c of 5.6% or over) and diabetes (fasting blood glucose of 126 mg/dL or over and HbA1c of 6.5% or over) were based on the following reference intervals.

3. Reference Intervals

Classification and diagnostic criteria using fasting blood glucose and 75g OGTT

	Time of measurement			Classification
	Fasting		2 hours postprandial	
Blood glucose (venous plasma level)	126 mg/dL or over	OR	200 mg/dL or over	Diabetes
	Intermediate values, neither diabetic nor normal			Borderline
	Less than 110 mg/dL	AND	Less than 140 mg/dL	Normal

- 1) Fasting plasma glucose of 126 mg/dL or over in the early morning
- 2) Plasma glucose of 200 mg/dL or over at 2 hours after a 75g OGTT
- 3) Casual plasma glucose of 200 mg/dL or over
- 4) HbA1c level of 6.5% or over
- 5) Fasting plasma glucose of lower than 110 mg/dL in the early morning
- 6) Plasma glucose of lower than 140 mg/dL at 2 hours after a 75g OGTT

● Individuals who are not diagnosed as diabetic or normal will be classified as borderline.

If any of the items 1) through 4) apply, the person will be diagnosed as having diabetes.

If the blood glucose level is 5) or 6), the person will be diagnosed as normal.

Source: "Japanese Clinical Practice Guideline for Diabetes 2022–2023" by the Japan Diabetes Society

*In this report, based on the "Epidemiological study: To estimate the Frequency of Diabetes Mellitus," 'diabetes mellitus' can be substituted for the determination of 'diabetic type' from a single examination. In this case, HbA1c of 6.5% (HbA1c (JDS) \geq 6.1%) alone can be defined as a diagnostic of diabetes mellitus. Source: "Report of the Committee on the Classification and Diagnostic Criteria of Diabetes Mellitus (2012)" (Japan Diabetes Society).

Criteria for conducting a detailed health check (additional check items based on a doctor's judgment)

Blood glucose level	Fasting blood glucose of 100 mg/dL or over and HbA1c (NGSP level) of 5.6% or over or casual blood glucose of 100 mg/dL or over
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Source: "Guidelines for Smooth Implementation of Specified Health Checkups and Health Guidance (4th Edition) 2023" by the Ministry of Health, Labour and Welfare

Renal Function (Serum Creatinine, eGFR)

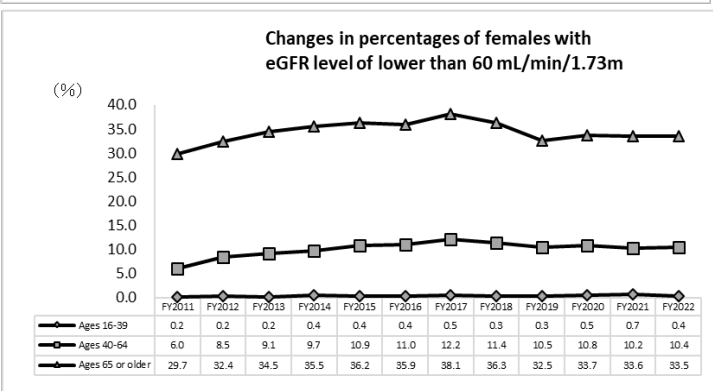
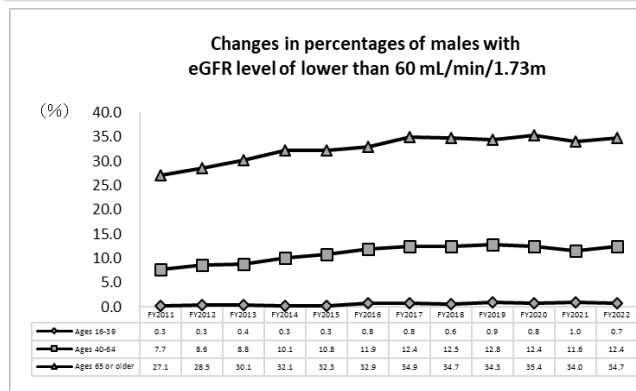
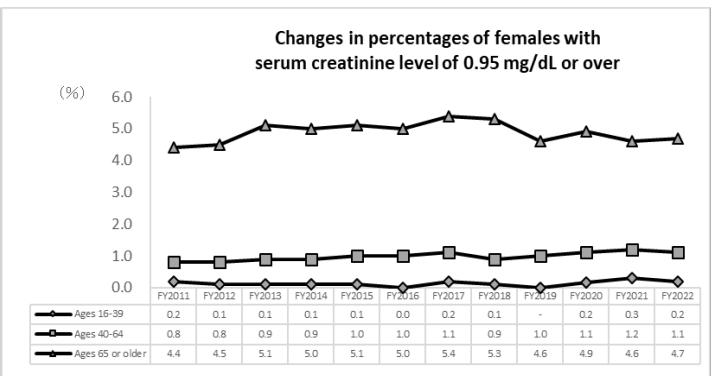
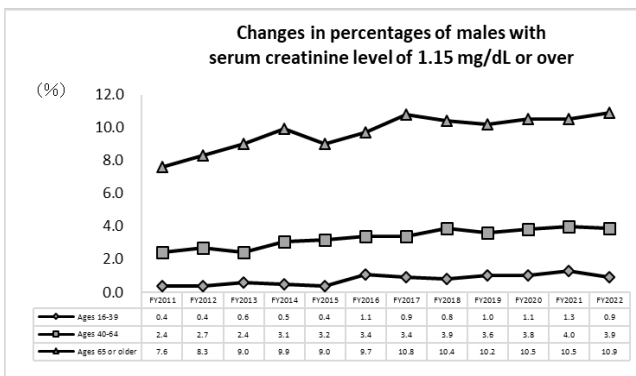
1. Results

The percentage of males with a serum creatinine of 1.15 mg/dL or over increased slightly among those ages 40 to 64 from FY2011 to FY2021, and showed no substantial changes in FY2022, while the relevant percentage for males ages 65 or older continued to increase until FY2017, but there were no substantial changes thereafter.

The percentage of females ages 65 or older with a serum creatinine of 0.95 mg/dL or over increased from FY2011 to FY2017 but showed a downward trend thereafter.

The percentage of males ages 40 to 64 with eGFR lower than 60mL/min/1.73m² was on an upward trend from FY2011 to FY2019 but showed no substantial changes thereafter. The relevant percentage for males ages 65 or older showed an upward trend from FY2011 to FY2020, then showed no substantial changes thereafter.

The percentage of females ages 65 or older with eGFR lower than 60mL/min/1.73m² was on an upward trend from FY2011 to FY2017, then trended downward.



2. Explanation of the Graphs

The graphs show the percentages of those with eGFR lower than 60mL/min/1.73m², which is one of the diagnostic criteria for chronic kidney diseases.

3. Reference Intervals and Action Thresholds (criteria used for group and individual health checks)

Item	Diagnosis	Reference Interval	Action Threshold	Abnormality	Unit
Serum creatinine (enzymatic method)	Males	0.45–1.14	1.15–1.34	1.35 or over	mg/dL
	Females	0.35–0.94	0.95–1.14	1.15 or over	
eGFR (estimated glomerular filtration rate)		60.0 or over	45.0–59.9	44.9 or lower	mL/min./1.73m ²

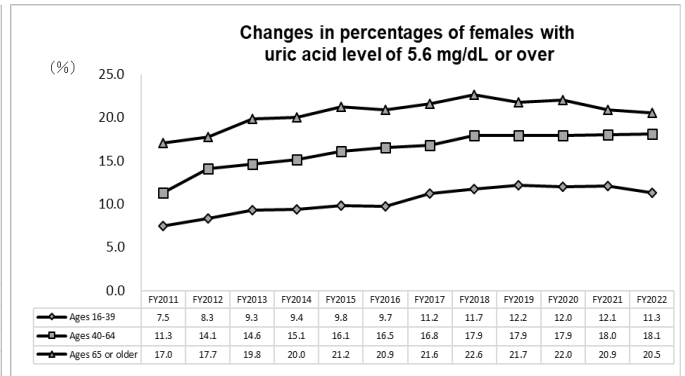
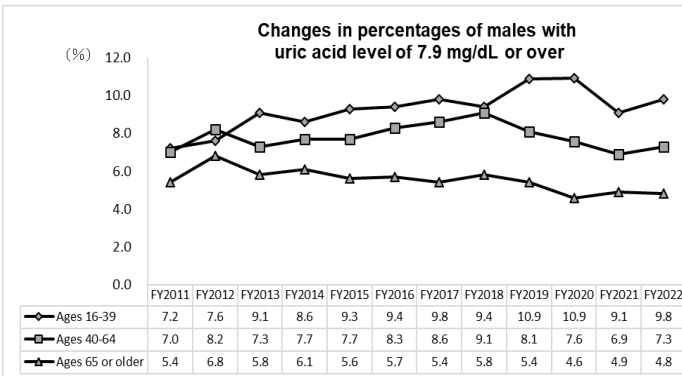
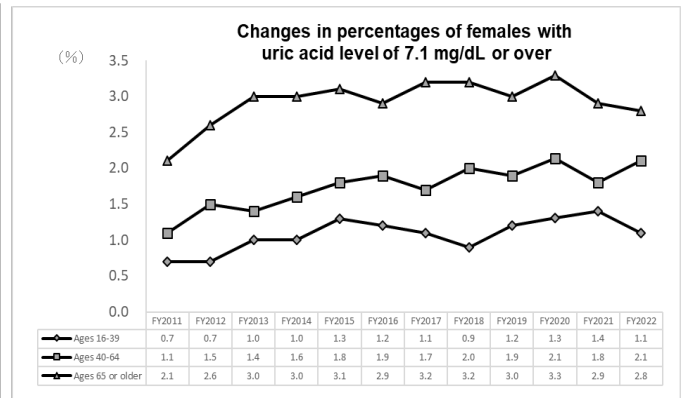
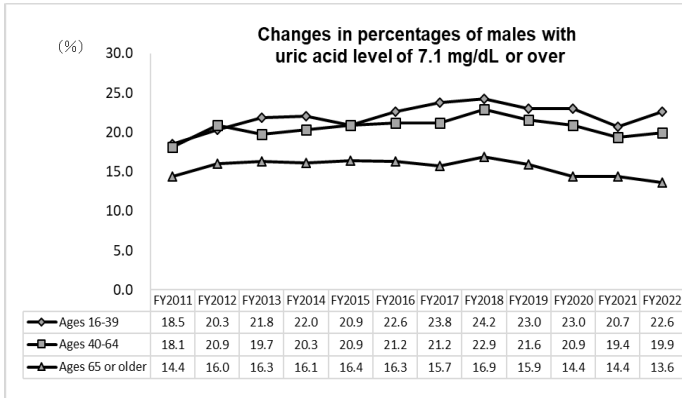
Renal Function: Uric Acid

1. Results

The percentage of males with uric acid of 7.1 mg/dL or over increased for all age groups from FY2011 to FY2018 but showed a slight downward trend through FY2021, but the percentage for ages 16 to 39, and ages 40 to 64 showed a slight increase in FY2022. Uric acid values among females showed no substantial changes in any age group.

The percentage of males with uric acid of 7.9 mg/dL or over increased among those ages 16 to 39 from FY2011 to FY2020 but showed an upward trend in FY2022.

The percentage of females with uric acid of 5.6 mg/dL or over increased from FY2011 to FY2022 for those ages 40 to 64.



2. Explanation of the Graphs

The determination of hyperuricemia was based on the following reference intervals.

3. Reference Intervals

Definition of hyperuricemia in the “Guidelines for Management of Hyperuricemia and Gout” by the Japanese Society of Gout and Uric & Nucleic Acids	Uric acid of 7.1 mg/dL or higher
Levels that exceed the upper limit of the common reference interval established by the Japanese Committee for Clinical Laboratory Standards	Uric acid of 7.9 mg/dL or higher for males and 5.6 mg/dL or higher for females

FY2022 Comprehensive Health Check Fukushima Health Management Survey Results of Tabulation by Health Check Item

[Coverage]

- Residents registered at covered areas* from March 11, 2011 to April 1, 2012 (also after moving out from those covered areas)
 - Residents registered at evacuation zones, etc. as of April 1 of the examination year
 - Others, as warranted, based on Basic Survey results, even if the above conditions are not met
- * Covered areas: Municipalities designated as the evacuation zone in 2011
Hirono Town, Naraha Town, Tomioka Town, Kawauchi Village, Okuma Town, Futaba Town, Namie Town, Katsurao Village, Iitate Village, Minamisoma City, Tamura City and Kawamata Town, and parts of Date City (containing specific spots recommended for evacuation)

[Examination Items]

Age Group	Examination items
0-6 years old (Preschool children and infants)	Height, weight (The following items are only as for the applicants) CBC (number of red blood cells, hematocrit, hemoglobin, platelet count, number of white blood cells, differential white blood count)
7-15 years old (from 1st to 9th grades)	Height, weight CBC (number of red blood cells, hematocrit, hemoglobin, platelet count, number of white blood cells, differential white blood count) (The following items are only as for the applicants) Blood biochemistry (AST, ALT, γ -GT, TG, HDL-C, LDL-C, HbA1c, plasma glucose, serum creatinine, uric acid)
16 years old and older	Height, weight, abdominal circumference (BMI), blood pressure, <u>CBC (number of red blood cells, hematocrit, hemoglobin, platelet count, number of white blood cells, differential white blood count).</u> Urine test (urine sugar, urine protein, <u>urine occult blood</u>), Blood biochemistry (AST, ALT, γ -GT, TG, HDL-C, LDL-C, HbA1c, plasma glucose, <u>serum creatinine, estimated glomerular filtration rate [eGFR], uric acid</u>) The underlined values are not routinely measured during regular health checks.

- * As general age categories and items for the Comprehensive Health Check do not correspond, we classified the participants into five age groups: ages 0 to 6, ages 7 to 15, ages 16 to 39, ages 40 to 64, and ages 65 and older, and tabulated the results by each health check item.
- * For each health check item, tabulation was conducted by age group and by gender.
- * Only the result of earlier date is included in the tabulation for those who received health checks twice or more in the same fiscal year.
- * Rules for describing tabulation results are the same as those used for the Vital Statistics in Japan by the Ministry of Health, Labour and Welfare.
 - When there is no data: -
 - When an item is not applicable to the relevant age group: ·
 - When it is inappropriate to indicate data: ...
 - When the ratio is minor (lower than 0.05): 0.0%
- * The Data in this document are presented with the same items as those in the previous reports to make comparison possible. Therefore, the results may not correspond to the graphs shown in the Report on the Results of the FY2022 Comprehensive Health Check.
- * The "number of participants" are the numbers used for the tabulation, and it differs from the actual number of examinees.

Height

Height (cm) (overall)			
Age group	Number of participants	Average age	Average value
0 to 6	434	3.6	95.2
7 to 15	1,246	11.8	147.6
16 to 39	3,025	29.2	163.4
40 to 64	8,761	54.7	161.3
65 or older	19,145	74.0	156.5

Height (cm) (males)					
Age group	Number of participants	Average age	Average value	150 cm or shorter	170 cm or taller
0 to 6	229	3.7	96.7	...	...
7 to 15	631	11.8	149.3	...	...
16 to 39	1,232	28.2	171.0	0.8%	57.8%
40 to 64	3,181	55.0	169.4	0.2%	47.9%
65 or older	8,885	74.2	163.4	1.7%	14.4%

Height (cm) (females)					
Age group	Number of participants	Average age	Average value	140 cm or shorter	160 cm or taller
0 to 6	205	3.4	93.5	...	...
7 to 15	615	11.7	145.8	...	...
16 to 39	1,793	29.9	158.2	0.2%	37.1%
40 to 64	5,580	54.6	156.7	0.2%	28.0%
65 or older	10,260	73.8	150.5	4.3%	5.3%

Weight

Weight (kg) (overall)			
Age group	Number of participants	Average age	Average value
0 to 6	434	3.6	15.0
7 to 15	1,246	11.8	42.1
16 to 39	3,025	29.2	61.3
40 to 64	8,761	54.7	62.5
65 or older	19,145	74.0	58.5

Weight (kg) (males)					
Age group	Number of participants	Average age	Average value	50 kg or less	70 kg or over
0 to 6	229	3.7	15.4	...	...
7 to 15	631	11.8	43.7	...	...
16 to 39	1,232	28.2	69.4	6.3%	44.2%
40 to 64	3,181	55.0	71.6	1.9%	50.7%
65 or older	8,885	74.2	64.6	5.4%	26.6%

Weight (kg) (females)					
Age group	Number of participants	Average age	Average value	45 kg or less	65 kg or over
0 to 6	205	3.4	14.7	...	...
7 to 15	615	11.7	40.5	...	...
16 to 39	1,793	29.9	55.7	13.1%	16.6%
40 to 64	5,580	54.6	57.4	8.7%	20.5%
65 or older	10,260	73.8	53.3	16.6%	10.0%

1. Physical Exam (1) BMI

BMI (Weight/Height ²) (overall)					
Age group	Number of participants	Average age	Average value	18 kg/m ² or lower	25 kg/m ² or over
0 to 6	.	.	.	.	.
7 to 15	.	.	.	.	.
16 to 39	3,025	29.2	22.9	9.4%	24.8%
40 to 64	8,761	54.7	23.9	4.2%	34.2%
65 or older	19,145	74.0	23.8	3.3%	33.9%

BMI (Weight/Height ²) (males)					
Age group	Number of participants	Average age	Average value	18 kg/m ² or lower	25 kg/m ² or over
0 to 6	.	.	.	.	.
7 to 15	.	.	.	.	.
16 to 39	1,232	28.2	23.7	7.6%	32.6%
40 to 64	3,181	55.0	24.9	1.4%	43.6%
65 or older	8,885	74.2	24.2	1.7%	37.5%

BMI (Weight/Height ²) (females)					
Age group	Number of participants	Average age	Average value	18 kg/m ² or lower	25 kg/m ² or over
0 to 6	.	.	.	.	.
7 to 15	.	.	.	.	.
16 to 39	1,793	29.9	22.3	10.7%	19.4%
40 to 64	5,580	54.6	23.4	5.8%	28.9%
65 or older	10,260	73.8	23.5	4.6%	30.8%

1. Physical Exam (2) Abdominal Circumference

Abdominal circumference (cm) (overall)			
Age group	Number of participants	Average age	Average value
0 to 6	.	.	.
7 to 15	.	.	.
16 to 39	765	29.1	78.0
40 to 64	8,758	54.7	84.2
65 or older	12,527	70.5	85.2

Abdominal circumference (cm) (males)				
Age group	Number of participants	Average age	Average value	85 cm or over
0 to 6	.	.	.	.
7 to 15	.	.	.	.
16 to 39	372	29.3	81.5	36.8%
40 to 64	3,181	55.0	87.5	57.1%
65 or older	5,743	70.7	87.1	59.2%

Abdominal circumference (cm) (females)				
Age group	Number of participants	Average age	Average value	90 cm or over
0 to 6	.	.	.	.
7 to 15	.	.	.	.
16 to 39	393	28.9	74.8	8.9%
40 to 64	5,577	54.6	82.3	22.9%
65 or older	6,784	70.3	83.7	24.4%

1. Physical Exam (3) Blood Pressure

Systolic blood pressure (mmHg) (overall)				
Age group	Number of participants	Average age	Average value	140 mmHg or over
0 to 6	.	.	.	.
7 to 15	1,246	11.8	106.6	0.4%
16 to 39	3,025	29.2	113.5	3.6%
40 to 64	8,761	54.7	124.7	15.4%
65 or older	19,145	74.0	132.0	28.3%

Systolic blood pressure (mmHg) (males)				
Age group	Number of participants	Average age	Average value	140 mmHg or over
0 to 6	.	.	.	.
7 to 15	631	11.8	108.1	0.8%
16 to 39	1,232	28.2	118.4	5.8%
40 to 64	3,181	55.0	127.4	18.3%
65 or older	8,885	74.2	132.2	28.7%

Systolic blood pressure (mmHg) (females)				
Age group	Number of participants	Average age	Average value	140 mmHg or over
0 to 6	.	.	.	.
7 to 15	615	11.7	105.2	-
16 to 39	1,793	29.9	110.1	2.1%
40 to 64	5,580	54.6	123.1	13.7%
65 or older	10,260	73.8	131.9	28.0%

Diastolic blood pressure (mmHg) (overall)				
Age group	Number of participants	Average age	Average value	90 mmHg or over
0 to 6	.	.	.	.
7 to 15	1,246	11.8	62.1	0.8%
16 to 39	3,025	29.2	68.1	3.3%
40 to 64	8,761	54.7	75.7	11.5%
65 or older	19,145	74.0	73.5	6.9%

Diastolic blood pressure (mmHg) (males)				
Age group	Number of participants	Average age	Average value	90 mmHg or over
0 to 6	.	.	.	.
7 to 15	631	11.8	62.1	1.1%
16 to 39	1,232	28.2	70.5	4.9%
40 to 64	3,181	55.0	79.0	16.4%
65 or older	8,885	74.2	74.1	7.7%

Diastolic blood pressure (mmHg) (females)				
Age group	Number of participants	Average age	Average value	90 mmHg or over
0 to 6	.	.	.	.
7 to 15	615	11.7	62.0	0.5%
16 to 39	1,793	29.9	66.5	2.2%
40 to 64	5,580	54.6	73.9	8.7%
65 or older	10,260	73.8	72.9	6.2%

2. Urine Test (1) Urine Sugar

Urine sugar (overall)			
Age group	Number of participants	Average age	(1+) or over
0 to 6	.	.	.
7 to 15	.	.	.
16 to 39	2,995	29.2	1.2%
40 to 64	8,744	54.7	5.0%
65 or older	19,087	74.0	7.1%

Urine sugar (males)			
Age group	Number of participants	Average age	(1+) or over
0 to 6	.	.	.
7 to 15	.	.	.
16 to 39	1,229	28.2	2.0%
40 to 64	3,177	55.0	8.5%
65 or older	8,862	74.2	10.3%

Urine sugar (females)			
Age group	Number of participants	Average age	(1+) or over
0 to 6	.	.	.
7 to 15	.	.	.
16 to 39	1,766	29.9	0.7%
40 to 64	5,567	54.6	2.9%
65 or older	10,225	73.8	4.3%

2. Urine Test (2) Urine Protein

Urine protein (overall)			
Age group	Number of participants	Average age	(1+) or over
0 to 6	.	.	.
7 to 15	.	.	.
16 to 39	2,995	29.2	2.4%
40 to 64	8,744	54.7	1.8%
65 or older	19,087	74.0	3.2%

Urine protein (males)			
Age group	Number of participants	Average age	(1+) or over
0 to 6	.	.	.
7 to 15	.	.	.
16 to 39	1,229	28.2	2.8%
40 to 64	3,177	55.0	3.1%
65 or older	8,862	74.2	4.9%

Urine protein (females)			
Age group	Number of participants	Average age	(1+) or over
0 to 6	.	.	.
7 to 15	.	.	.
16 to 39	1,766	29.9	2.1%
40 to 64	5,567	54.6	1.1%
65 or older	10,225	73.8	1.6%

2. Urine Test (3) Urine Occult Blood

Urine occult blood (overall)				
Age group	Number of participants	Average age	(1+) or over	(1+) or over and excluding those on their period
0 to 6	.	.	.	.
7 to 15	.	.	.	.
16 to 39	2,994	29.2	6.6%	2.6%
40 to 64	8,743	54.7	5.7%	4.2%
65 or older	19,087	74.0	5.2%	5.2%

Urine occult blood (males)			
Age group	Number of participants	Average age	(1+) or over
0 to 6	.	.	.
7 to 15	.	.	.
16 to 39	1,229	28.2	0.8%
40 to 64	3,176	55.0	1.9%
65 or older	8,862	74.2	3.6%

Urine occult blood (females)				
Age group	Number of participants	Average age	(1+) or over	(1+) or over and excluding those on their period
0 to 6	.	.	.	.
7 to 15	.	.	.	.
16 to 39	1,765	29.9	10.6%	3.8%
40 to 64	5,567	54.6	7.9%	5.5%
65 or older	10,225	73.8	6.5%	6.5%

3. Peripheral Blood Test (1)-1 Red Blood Cells

Red blood cell count ($10^6/\mu\text{L}$) (overall)			
Age group	Number of participants	Average age	Average value
0 to 6	389	3.6	4.66
7 to 15	1,239	11.8	4.79
16 to 39	3,023	29.2	4.79
40 to 64	8,759	54.7	4.65
65 or older	19,138	74.0	4.47

Red blood cell count ($10^6/\mu\text{L}$) (males)						
Age group	Number of participants	Average age	Average value	$3.69 \times 10^6/\mu\text{L}$ or lower	$3.99 \times 10^6/\mu\text{L}$ or lower	$5.80 \times 10^6/\mu\text{L}$ or over
0 to 6	209	3.7	4.68	-	1.0%	0.5%
7 to 15	628	11.8	4.93	0.2%	0.5%	1.6%
16 to 39	1,230	28.2	5.20	0.2%	0.2%	6.3%
40 to 64	3,180	55.0	4.94	0.8%	2.1%	3.0%
65 or older	8,881	74.2	4.63	3.1%	9.5%	1.0%

Red blood cell count ($10^6/\mu\text{L}$) (females)						
Age group	Number of participants	Average age	Average value	$3.39 \times 10^6/\mu\text{L}$ or lower	$3.69 \times 10^6/\mu\text{L}$ or lower	$5.50 \times 10^6/\mu\text{L}$ or over
0 to 6	180	3.5	4.63	-	-	0.6%
7 to 15	611	11.8	4.66	-	-	0.5%
16 to 39	1,793	29.9	4.51	0.2%	0.8%	0.3%
40 to 64	5,579	54.6	4.48	0.3%	1.8%	0.6%
65 or older	10,257	73.8	4.33	1.1%	5.2%	0.4%

3. Peripheral Blood Test (1)-2 Hemoglobin

Hemoglobin (g/dL) (overall)			
Age group	Number of participants	Average age	Average value
0 to 6	389	3.6	12.5
7 to 15	1,239	11.8	13.6
16 to 39	3,023	29.2	14.0
40 to 64	8,759	54.7	13.9
65 or older	19,138	74.0	13.7

Hemoglobin (g/dL) (males)						
Age group	Number of participants	Average age	Average value	12.0 g/dL or lower	13.0 g/dL or lower	18.0 g/dL or over
0 to 6	209	3.7	12.5	28.2%	72.7%	-
7 to 15	628	11.8	13.9	4.5%	19.9%	-
16 to 39	1,230	28.2	15.4	0.6%	1.4%	0.6%
40 to 64	3,180	55.0	15.1	0.9%	4.2%	1.1%
65 or older	8,881	74.2	14.4	5.2%	15.8%	0.4%

Hemoglobin (g/dL) (females)						
Age group	Number of participants	Average age	Average value	11.0 g/dL or lower	12.0 g/dL or lower	16.0 g/dL or over
0 to 6	180	3.5	12.5	4.4%	28.9%	-
7 to 15	611	11.8	13.2	1.8%	8.8%	0.2%
16 to 39	1,793	29.9	13.0	5.2%	15.3%	0.2%
40 to 64	5,579	54.6	13.2	4.6%	12.6%	0.4%
65 or older	10,257	73.8	13.1	3.4%	15.9%	0.4%

3. Peripheral Blood Test (1)-3 Hematocrit

Hematocrit (%) (overall)			
Age group	Number of participants	Average age	Average value
0 to 6	389	3.6	38.0
7 to 15	1,239	11.8	41.4
16 to 39	3,023	29.2	42.9
40 to 64	8,759	54.7	42.4
65 or older	19,138	74.0	41.7

Hematocrit (%) (males)						
Age group	Number of participants	Average age	Average value	35.9% or lower	37.9% or lower	55.0% or over
0 to 6	209	3.7	38.0	16.7%	50.7%	-
7 to 15	628	11.8	42.2	1.9%	8.8%	-
16 to 39	1,230	28.2	46.6	0.5%	0.6%	0.2%
40 to 64	3,180	55.0	45.6	0.6%	2.1%	0.6%
65 or older	8,881	74.2	43.5	3.7%	8.4%	0.2%

Hematocrit (%) (females)						
Age group	Number of participants	Average age	Average value	28.9% or lower	32.9% or lower	48.0% or over
0 to 6	180	3.5	38.0	-	2.2%	-
7 to 15	611	11.8	40.5	0.5%	0.5%	0.2%
16 to 39	1,793	29.9	40.3	0.3%	2.1%	0.6%
40 to 64	5,579	54.6	40.7	0.5%	1.9%	1.0%
65 or older	10,257	73.8	40.2	0.2%	1.7%	0.8%

3. Peripheral Blood Test (2) Platelet Count

Platelet count ($10^3/\mu\text{L}$) (overall)							
Age group	Number of participants	Average age	Average value	$89 \times 10^3/\mu\text{L}$ or lower	$129 \times 10^3/\mu\text{L}$ or lower	$370 \times 10^3/\mu\text{L}$ or over	$450 \times 10^3/\mu\text{L}$ or over
0 to 6	389	3.6	357.2	0.3%	0.3%	38.8%	12.1%
7 to 15	1,239	11.8	290.3	0.2%	0.3%	10.3%	1.2%
16 to 39	3,022	29.2	269.9	0.1%	0.4%	5.6%	0.6%
40 to 64	8,755	54.7	261.1	0.1%	0.5%	4.8%	0.8%
65 or older	19,122	74.0	228.9	0.3%	1.9%	1.5%	0.3%

Platelet count ($10^3/\mu\text{L}$) (males)							
Age group	Number of participants	Average age	Average value	$89 \times 10^3/\mu\text{L}$ or lower	$129 \times 10^3/\mu\text{L}$ or lower	$370 \times 10^3/\mu\text{L}$ or over	$450 \times 10^3/\mu\text{L}$ or over
0 to 6	209	3.7	355.0	-	-	35.4%	12.0%
7 to 15	628	11.8	292.3	0.2%	0.2%	11.1%	1.4%
16 to 39	1,230	28.2	262.7	-	0.2%	3.4%	0.3%
40 to 64	3,179	55.0	253.7	0.1%	0.6%	3.0%	0.3%
65 or older	8,874	74.2	221.9	0.4%	2.3%	1.4%	0.4%

Platelet count ($10^3/\mu\text{L}$) (females)							
Age group	Number of participants	Average age	Average value	$89 \times 10^3/\mu\text{L}$ or lower	$129 \times 10^3/\mu\text{L}$ or lower	$370 \times 10^3/\mu\text{L}$ or over	$450 \times 10^3/\mu\text{L}$ or over
0 to 6	180	3.5	359.8	0.6%	0.6%	42.8%	12.2%
7 to 15	611	11.8	288.3	0.3%	0.5%	9.5%	1.0%
16 to 39	1,792	29.9	274.9	0.1%	0.6%	7.1%	0.7%
40 to 64	5,576	54.6	265.3	0.1%	0.5%	5.8%	1.0%
65 or older	10,248	73.8	235.0	0.3%	1.5%	1.6%	0.3%

3. Peripheral Blood Test (3)-1 White Blood Cell Count

White blood cell count ($10^3/\mu\text{L}$) (overall)							
Age group	Number of participants	Average age	Average value	$2.9 \times 10^3/\mu\text{L}$ or lower	$3.9 \times 10^3/\mu\text{L}$ or lower	$9.6 \times 10^3/\mu\text{L}$ or over	$11.1 \times 10^3/\mu\text{L}$ or over
0 to 6	389	3.6	8.3	-	0.3%	26.0%	11.1%
7 to 15	1,239	11.8	6.2	0.3%	3.4%	3.1%	0.8%
16 to 39	3,023	29.2	6.0	0.9%	7.3%	3.5%	1.1%
40 to 64	8,759	54.7	5.7	1.0%	10.1%	2.2%	0.7%
65 or older	19,138	74.0	5.8	0.7%	7.9%	2.0%	0.6%

White blood cell count ($10^3/\mu\text{L}$) (males)							
Age group	Number of participants	Average age	Average value	$2.9 \times 10^3/\mu\text{L}$ or lower	$3.9 \times 10^3/\mu\text{L}$ or lower	$9.6 \times 10^3/\mu\text{L}$ or over	$11.1 \times 10^3/\mu\text{L}$ or over
0 to 6	209	3.7	8.0	-	0.5%	20.6%	9.1%
7 to 15	628	11.8	6.2	0.2%	3.0%	3.7%	0.8%
16 to 39	1,230	28.2	6.0	0.6%	6.4%	3.6%	1.1%
40 to 64	3,180	55.0	6.1	0.3%	5.8%	3.1%	1.1%
65 or older	8,881	74.2	6.0	0.5%	5.9%	2.7%	0.8%

White blood cell count ($10^3/\mu\text{L}$) (females)							
Age group	Number of participants	Average age	Average value	$2.9 \times 10^3/\mu\text{L}$ or lower	$3.9 \times 10^3/\mu\text{L}$ or lower	$9.6 \times 10^3/\mu\text{L}$ or over	$11.1 \times 10^3/\mu\text{L}$ or over
0 to 6	180	3.5	8.5	-	-	32.2%	13.3%
7 to 15	611	11.8	6.2	0.5%	3.8%	2.6%	0.8%
16 to 39	1,793	29.9	6.0	1.1%	8.0%	3.4%	1.1%
40 to 64	5,579	54.6	5.5	1.3%	12.6%	1.6%	0.4%
65 or older	10,257	73.8	5.6	0.9%	9.5%	1.4%	0.4%

3. Peripheral Blood Test (3)-2 Neutrophil count

Neutrophil count (count/ μ L) (overall)			
Age group	Number of participants	Average age	Average value
0 to 6	389	3.6	3,090
7 to 15	1,239	11.8	3,032
16 to 39	3,020	29.2	3,422
40 to 64	8,759	54.7	3,236
65 or older	19,138	74.0	3,282

Neutrophil count (count/ μ L) (males)			
Age group	Number of participants	Average age	Average value
0 to 6	209	3.7	3,082
7 to 15	628	11.8	2,942
16 to 39	1,230	28.2	3,327
40 to 64	3,180	55.0	3,437
65 or older	8,881	74.2	3,430

Neutrophil count (count/ μ L) (females)			
Age group	Number of participants	Average age	Average value
0 to 6	180	3.5	3,099
7 to 15	611	11.8	3,124
16 to 39	1,790	29.9	3,487
40 to 64	5,579	54.6	3,122
65 or older	10,257	73.8	3,155

3. Peripheral Blood Test (3)-3 Lymphocyte Count

Lymphocyte count (count/ μ L) (overall)			
Age group	Number of participants	Average age	Average value
0 to 6	389	3.6	4,423
7 to 15	1,239	11.8	2,542
16 to 39	3,020	29.2	2,017
40 to 64	8,759	54.7	1,969
65 or older	19,138	74.0	1,986

Lymphocyte count (count/ μ L) (males)			
Age group	Number of participants	Average age	Average value
0 to 6	209	3.7	4,167
7 to 15	628	11.8	2,572
16 to 39	1,230	28.2	2,074
40 to 64	3,180	55.0	2,046
65 or older	8,881	74.2	1,974

Lymphocyte count (count/ μ L) (females)			
Age group	Number of participants	Average age	Average value
0 to 6	180	3.5	4,720
7 to 15	611	11.8	2,512
16 to 39	1,790	29.9	1,977
40 to 64	5,579	54.6	1,925
65 or older	10,257	73.8	1,996

3. Peripheral Blood Test (3)-4 Monocyte Count

Monocyte count (count/ μ L) (overall)			
Age group	Number of participants	Average age	Average value
0 to 6	389	3.6	414
7 to 15	1,239	11.8	329
16 to 39	3,020	29.2	314
40 to 64	8,759	54.7	308
65 or older	19,138	74.0	331

Monocyte count (count/ μ L) (males)			
Age group	Number of participants	Average age	Average value
0 to 6	209	3.7	414
7 to 15	628	11.8	338
16 to 39	1,230	28.2	331
40 to 64	3,180	55.0	348
65 or older	8,881	74.2	364

Monocyte count (count/ μ L) (females)			
Age group	Number of participants	Average age	Average value
0 to 6	180	3.5	415
7 to 15	611	11.8	319
16 to 39	1,790	29.9	303
40 to 64	5,579	54.6	284
65 or older	10,257	73.8	302

3. Peripheral Blood Test (3)-5 Eosinophil Count

Eosinophil count (count/ μ L) (overall)			
Age group	Number of participants	Average age	Average value
0 to 6	389	3.6	287
7 to 15	1,239	11.8	247
16 to 39	3,020	29.2	172
40 to 64	8,759	54.7	163
65 or older	19,138	74.0	159

Eosinophil count (count/ μ L) (males)			
Age group	Number of participants	Average age	Average value
0 to 6	209	3.7	317
7 to 15	628	11.8	277
16 to 39	1,230	28.2	194
40 to 64	3,180	55.0	190
65 or older	8,881	74.2	183

Eosinophil count (count/ μ L) (females)			
Age group	Number of participants	Average age	Average value
0 to 6	180	3.5	253
7 to 15	611	11.8	216
16 to 39	1,790	29.9	157
40 to 64	5,579	54.6	148
65 or older	10,257	73.8	139

3. Peripheral Blood Test (3)-6 Basophil Count

Basophil count (count/ μ L) (overall)			
Age group	Number of participants	Average age	Average value
0 to 6	389	3.6	43
7 to 15	1,239	11.8	37
16 to 39	3,020	29.2	42
40 to 64	8,759	54.7	43
65 or older	19,138	74.0	41

Basophil count (count/ μ L) (males)			
Age group	Number of participants	Average age	Average value
0 to 6	209	3.7	43
7 to 15	628	11.8	38
16 to 39	1,230	28.2	44
40 to 64	3,180	55.0	47
65 or older	8,881	74.2	43

Basophil count (count/ μ L) (females)			
Age group	Number of participants	Average age	Average value
0 to 6	180	3.5	42
7 to 15	611	11.8	35
16 to 39	1,790	29.9	41
40 to 64	5,579	54.6	41
65 or older	10,257	73.8	39

4. Blood Biochemistry (1)-1 Liver Function (AST)

AST (U/L) (overall)					
Age group	Number of participants	Average age	Average value	31 U/L or over	51 U/L or over
0 to 6	.	.	.	.	.
7 to 15	1,221	11.8	22.8	8.9%	0.5%
16 to 39	3,023	29.2	20.7	9.0%	2.5%
40 to 64	8,759	54.7	23.3	12.8%	2.8%
65 or older	19,140	74.0	24.2	13.8%	2.3%

AST (U/L) (males)					
Age group	Number of participants	Average age	Average value	31 U/L or over	51 U/L or over
0 to 6	.	.	.	.	.
7 to 15	620	11.8	24.6	12.1%	1.0%
16 to 39	1,230	28.2	24.3	15.9%	5.1%
40 to 64	3,180	55.0	26.5	20.6%	4.9%
65 or older	8,883	74.2	25.0	17.2%	3.0%

AST (U/L) (females)					
Age group	Number of participants	Average age	Average value	31 U/L or over	51 U/L or over
0 to 6	.	.	.	.	.
7 to 15	601	11.8	20.9	5.7%	-
16 to 39	1,793	29.9	18.3	4.3%	0.8%
40 to 64	5,579	54.6	21.5	8.3%	1.6%
65 or older	10,257	73.8	23.5	10.9%	1.8%

4. Blood Biochemistry (1)-2 Liver Function (ALT)

ALT (U/L) (overall)					
Age group	Number of participants	Average age	Average value	31 U/L or over	51 U/L or over
0 to 6	.	.	.	.	.
7 to 15	1,221	11.8	16.3	6.7%	1.6%
16 to 39	3,023	29.2	22.6	16.6%	7.8%
40 to 64	8,759	54.7	23.8	19.5%	6.4%
65 or older	19,140	74.0	20.2	11.8%	3.0%

ALT (U/L) (males)					
Age group	Number of participants	Average age	Average value	31 U/L or over	51 U/L or over
0 to 6	.	.	.	.	.
7 to 15	620	11.8	19.0	9.8%	2.7%
16 to 39	1,230	28.2	32.7	31.7%	15.5%
40 to 64	3,180	55.0	30.8	33.3%	12.0%
65 or older	8,883	74.2	22.0	15.7%	4.0%

ALT (U/L) (females)					
Age group	Number of participants	Average age	Average value	31 U/L or over	51 U/L or over
0 to 6	.	.	.	.	.
7 to 15	601	11.8	13.5	3.5%	0.5%
16 to 39	1,793	29.9	15.7	6.3%	2.5%
40 to 64	5,579	54.6	19.8	11.7%	3.2%
65 or older	10,257	73.8	18.6	8.4%	2.1%

4. Blood Biochemistry (1)-3 Liver Function (γ -GT)

γ to GT (U/L) (overall)					
Age group	Number of participants	Average age	Average value	51 U/L or over	101 U/L or over
0 to 6	.	.	.	.	.
7 to 15	1,221	11.8	15.1	0.7%	0.2%
16 to 39	3,023	29.2	25.4	8.5%	2.3%
40 to 64	8,759	54.7	37.8	17.9%	5.7%
65 or older	19,140	74.0	32.7	13.1%	3.6%

γ to GT (U/L) (males)					
Age group	Number of participants	Average age	Average value	51 U/L or over	101 U/L or over
0 to 6	.	.	.	.	.
7 to 15	620	11.8	16.9	1.0%	0.3%
16 to 39	1,230	28.2	35.8	16.5%	4.7%
40 to 64	3,180	55.0	56.7	33.0%	12.0%
65 or older	8,883	74.2	41.6	20.4%	6.0%

γ to GT (U/L) (females)					
Age group	Number of participants	Average age	Average value	51 U/L or over	101 U/L or over
0 to 6	.	.	.	.	.
7 to 15	601	11.8	13.3	0.3%	0.2%
16 to 39	1,793	29.9	18.4	3.0%	0.7%
40 to 64	5,579	54.6	27.0	9.3%	2.2%
65 or older	10,257	73.8	25.0	6.8%	1.5%

4. Blood Biochemistry (2)-1 Lipids (LDL Cholesterol)

LDL-C (mg/dL) (overall)					
Age group	Number of participants	Average age	Average value	120 mg/dL or over	140 mg/dL or over
0 to 6	.	.	.	.	.
7 to 15	1,221	11.8	91.3	10.6%	1.9%
16 to 39	3,023	29.2	110.0	33.3%	15.3%
40 to 64	8,759	54.7	122.8	51.6%	27.6%
65 or older	19,140	74.0	113.5	39.4%	17.6%

LDL-C (mg/dL) (males)					
Age group	Number of participants	Average age	Average value	120 mg/dL or over	140 mg/dL or over
0 to 6	.	.	.	.	.
7 to 15	620	11.8	89.4	10.3%	2.3%
16 to 39	1,230	28.2	113.7	39.6%	20.7%
40 to 64	3,180	55.0	120.5	48.9%	25.5%
65 or older	8,883	74.2	109.7	35.2%	14.8%

LDL-C (mg/dL) (females)					
Age group	Number of participants	Average age	Average value	120 mg/dL or over	140 mg/dL or over
0 to 6	.	.	.	.	.
7 to 15	601	11.8	93.3	10.8%	1.5%
16 to 39	1,793	29.9	107.4	28.9%	11.7%
40 to 64	5,579	54.6	124.1	53.1%	28.8%
65 or older	10,257	73.8	116.9	43.0%	20.0%

4. Blood Biochemistry (2)-2 Lipids (Triglyceride)

Triglyceride (TG) (mg/dL) (overall)					
Age group	Number of participants	Average age	Average value	150 mg/dL or over	300 mg/dL or over
0 to 6	.	.	.	.	.
7 to 15	1,220	11.8	83.4	8.7%	1.1%
16 to 39	3,023	29.2	91.2	12.1%	1.8%
40 to 64	8,759	54.7	115.0	20.3%	3.0%
65 or older	19,140	74.0	114.5	19.8%	1.8%

Triglyceride (TG) (mg/dL) (males)					
Age group	Number of participants	Average age	Average value	150 mg/dL or over	300 mg/dL or over
0 to 6	.	.	.	.	.
7 to 15	620	11.8	84.3	11.8%	1.3%
16 to 39	1,230	28.2	110.7	19.8%	3.2%
40 to 64	3,180	55.0	142.4	31.4%	6.1%
65 or older	8,883	74.2	120.4	23.1%	2.4%

Triglyceride (TG) (mg/dL) (females)					
Age group	Number of participants	Average age	Average value	150 mg/dL or over	300 mg/dL or over
0 to 6	.	.	.	.	.
7 to 15	600	11.8	82.5	5.5%	0.8%
16 to 39	1,793	29.9	77.9	6.8%	0.8%
40 to 64	5,579	54.6	99.4	14.1%	1.3%
65 or older	10,257	73.8	109.4	16.9%	1.3%

4. Blood Biochemistry (2)-3 Lipids (HDL Cholesterol)

HDL-C (mg/dL) (overall)				
Age group	Number of participants	Average age	Average value	Lower than 40 mg/dL
0 to 6	.	.	.	.
7 to 15	1,221	11.8	61.2	2.7%
16 to 39	3,023	29.2	62.0	4.0%
40 to 64	8,759	54.7	64.5	4.2%
65 or older	19,140	74.0	60.6	5.7%

HDL-C (mg/dL) (males)				
Age group	Number of participants	Average age	Average value	Lower than 40 mg/dL
0 to 6	.	.	.	.
7 to 15	620	11.8	60.9	2.7%
16 to 39	1,230	28.2	55.7	7.3%
40 to 64	3,180	55.0	57.5	9.2%
65 or older	8,883	74.2	56.3	9.2%

HDL-C (mg/dL) (females)				
Age group	Number of participants	Average age	Average value	Lower than 40 mg/dL
0 to 6	.	.	.	.
7 to 15	601	11.8	61.4	2.7%
16 to 39	1,793	29.9	66.4	1.7%
40 to 64	5,579	54.6	68.5	1.4%
65 or older	10,257	73.8	64.3	2.7%

4. Blood Biochemistry (3)-1 Blood Glucose (Fasting Blood Glucose)

Fasting blood glucose (mg/dL) (overall)						
Age group	Number of participants	Average age	Average value	110 mg/dL or over	130 mg/dL or over	160 mg/dL or over
0 to 6	.	.	.	.	.	.
7 to 15	808	11.9	87.3	0.6%	-	-
16 to 39	2,758	29.1	90.0	2.6%	1.1%	0.4%
40 to 64	7,798	54.6	98.8	13.9%	4.7%	1.4%
65 or older	14,961	73.4	105.0	26.8%	8.8%	2.0%

Fasting blood glucose (mg/dL) (males)						
Age group	Number of participants	Average age	Average value	110 mg/dL or over	130 mg/dL or over	160 mg/dL or over
0 to 6	.	.	.	.	.	.
7 to 15	394	12.0	87.7	0.5%	-	-
16 to 39	1,116	28.2	92.0	4.8%	2.1%	0.8%
40 to 64	2,806	54.8	103.0	21.0%	8.1%	2.4%
65 or older	6,984	73.7	108.1	33.2%	11.6%	2.7%

Fasting blood glucose (mg/dL) (females)						
Age group	Number of participants	Average age	Average value	110 mg/dL or over	130 mg/dL or over	160 mg/dL or over
0 to 6	.	.	.	.	.	.
7 to 15	414	11.9	87.0	0.7%	-	-
16 to 39	1,642	29.8	88.7	1.1%	0.5%	0.1%
40 to 64	4,992	54.5	96.4	10.0%	2.7%	0.8%
65 or older	7,977	73.2	102.3	21.1%	6.4%	1.4%

4. Blood Biochemistry (3)-2 Blood Glucose (HbA1c)

HbA1c (%) (NGSP) (overall)						
Age group	Number of participants	Average age	Average value	6.0% or over	7.0% or over	8.0% or over
0 to 6	.	.	.	.	.	.
7 to 15	1,221	11.8	5.3	0.3%	-	-
16 to 39	3,023	29.2	5.3	3.2%	0.8%	0.4%
40 to 64	8,759	54.7	5.7	16.8%	3.9%	1.4%
65 or older	19,139	74.0	5.9	32.5%	6.4%	1.4%

HbA1c (%) (NGSP) (males)						
Age group	Number of participants	Average age	Average value	6.0% or over	7.0% or over	8.0% or over
0 to 6	.	.	.	.	.	.
7 to 15	620	11.8	5.3	0.5%	-	-
16 to 39	1,230	28.2	5.3	4.4%	1.2%	0.7%
40 to 64	3,180	55.0	5.8	21.0%	5.9%	2.2%
65 or older	8,882	74.2	5.9	35.6%	8.1%	1.8%

HbA1c (%) (NGSP) (females)						
Age group	Number of participants	Average age	Average value	6.0% or over	7.0% or over	8.0% or over
0 to 6	.	.	.	.	.	.
7 to 15	601	11.8	5.3	0.2%	-	-
16 to 39	1,793	29.9	5.3	2.5%	0.5%	0.2%
40 to 64	5,579	54.6	5.6	14.4%	2.7%	0.9%
65 or older	10,257	73.8	5.9	29.9%	4.9%	1.1%

4. Blood Biochemistry (4)-1 Renal Function (Serum Creatinine)

Serum creatinine (mg/dL) (overall)			
Age group	Number of participants	Average age	Average value
0 to 6	.	.	.
7 to 15	1,221	11.8	0.51
16 to 39	3,023	29.2	0.71
40 to 64	8,759	54.7	0.74
65 or older	19,140	74.0	0.80

Serum creatinine (mg/dL) (males)					
Age group	Number of participants	Average age	Average value	1.15 mg/dL or over	1.35 mg/dL or over
0 to 6	.	.	.	.	.
7 to 15	620	11.8	0.54	-	-
16 to 39	1,230	28.2	0.84	0.9%	-
40 to 64	3,180	55.0	0.88	3.9%	0.7%
65 or older	8,883	74.2	0.93	10.9%	4.0%

Serum creatinine (mg/dL) (females)					
Age group	Number of participants	Average age	Average value	0.95 mg/dL or over	1.15 mg/dL or over
0 to 6	.	.	.	.	.
7 to 15	601	11.8	0.49	-	-
16 to 39	1,793	29.9	0.62	0.2%	0.1%
40 to 64	5,579	54.6	0.66	1.1%	0.4%
65 or older	10,257	73.8	0.69	4.7%	1.4%

4. Blood Biochemistry (4)-2 Renal Function (eGFR)

eGFR (mL/min/1.73m ²) (overall)			
Age group	Number of participants	Average age	Average value
0 to 6	.	.	.
7 to 15	.	.	.
16 to 39	3,023	29.2	93.9
40 to 64	8,759	54.7	74.7
65 or older	19,140	74.0	65.4

eGFR (mL/min/1.73m ²) (males)			
Age group	Number of participants	Average age	Average value
0 to 6	.	.	.
7 to 15	.	.	.
16 to 39	1,230	28.2	93.1
40 to 64	3,180	55.0	74.4
65 or older	8,883	74.2	65.3

eGFR (mL/min/1.73m ²) (females)			
Age group	Number of participants	Average age	Average value
0 to 6	.	.	.
7 to 15	.	.	.
16 to 39	1,793	29.9	94.5
40 to 64	5,579	54.6	74.8
65 or older	10,257	73.8	65.4

4. Blood Biochemistry (4)-3 Renal Function (Uric Acid)

Uric acid (mg/dL) (overall)					
Age group	Number of participants	Average age	Average value	7.1 mg/dL or over	8.0 mg/dL or over
0 to 6	.	.	.	.	.
7 to 15	1,221	11.8	4.8	4.7%	2.0%
16 to 39	3,023	29.2	5.1	9.9%	3.8%
40 to 64	8,759	54.7	5.1	8.6%	2.5%
65 or older	19,140	74.0	5.2	7.8%	2.4%

Uric acid (mg/dL) (males)						
Age group	Number of participants	Average age	Average value	7.1 mg/dL or over	7.9 mg/dL or over	8.0 mg/dL or over
0 to 6	.	.	.	.	.	.
7 to 15	620	11.8	5.2	8.9%	3.7%	3.7%
16 to 39	1,230	28.2	6.2	22.6%	9.8%	9.0%
40 to 64	3,180	55.0	6.0	19.9%	7.3%	6.0%
65 or older	8,883	74.2	5.7	13.6%	4.8%	4.2%

Uric acid (mg/dL) (females)						
Age group	Number of participants	Average age	Average value	5.6 mg/dL or over	7.1 mg/dL or over	8.0 mg/dL or over
0 to 6	.	.	.	.	.	.
7 to 15	601	11.8	4.3	8.8%	0.3%	0.2%
16 to 39	1,793	29.9	4.4	11.3%	1.1%	0.2%
40 to 64	5,579	54.6	4.6	18.1%	2.1%	0.5%
65 or older	10,257	73.8	4.7	20.5%	2.8%	0.8%

Utilization status of CHC results

10 years trend of the FHMS “Comprehensive Health Check (CHC)” results for the disaster-affected 13 municipalities (Integrated version)

The center analyzes the data, prepare reports, and explains the results of CHC by each municipality at the periodic briefing sessions with the 13 municipalities. At this occasion, we created integrated report for overall 13 municipalities.

Purpose

Analysis of Comprehensive Health Check (CHC) data from the Fukushima Health Management Survey shows that the Great East Japan Earthquake (hereafter “the Disaster”) may have caused an increase in lifestyle-related diseases among the people of Fukushima Prefecture through direct damage to people and property, anxiety about radiation caused by Fukushima Daiichi Nuclear Power Plant accident, changes in lifestyle and psychosocial stress increased by evacuation, etc. Therefore, to prevent cardiovascular diseases, which are expected to increase in the future, it is considered important to look for trends in lifestyle-related diseases over time and implement countermeasures.

Furthermore, in Fukushima Prefecture, for the first time in the 11 years since the Fukushima Daiichi Nuclear Power Plant accident, evacuation orders of the disaster-affected areas have been lifted gradually in all municipalities, and efforts are underway for the return of residents. As residents continue to return to their hometown, support tailored to their actual conditions is required to maintain the health of residents. Therefore, in this study, we statistically analyzed the health status of examinees in the Specified Health Examination, Health Examination for the Late-Stage Senior Citizens, and the FHMS over the 10 years since the disaster, to create data that will contribute to improving the health of Fukushima Prefecture residents.

Survey population

Of those who were registered as residents of the 13 municipalities in the evacuation zone at the time of the Disaster, 38,081 men and women (16,112 men and 21,969 women), ages 40 to 75 years on April 1, 2011, who had undergone at least three CHC examinations from FY2011 through FY2020, were included in the data analysis. The study items included Body Mass Index (BMI), abdominal circumference, systolic blood pressure, diastolic blood pressure, fasting blood glucose, hemoglobin A1c (HbA1c) (National Glycohemoglobin Standardization Program [NGSP] criteria), casual blood glucose, high-density lipoprotein (HDL) cholesterol, low-density lipoprotein (LDL) cholesterol, triglycerides, aspartate aminotransferase (AST), alanine aminotransferase (ALT), γ -glutamyl transferase (γ -GT), and estimated glomerular filtration rate (eGFR) were evaluated as continuous variables. The percentage of people treated with hypoglycemics, antihypertensives, and/or cholesterol-lowering drugs, those who were underweight, obese, with an abdominal circumference greater than 85 cm (men) or 90 cm (women), hypertension, diabetes, lipid abnormalities, liver function abnormalities, renal function abnormalities, and positive urine protein (+1 or more) were categorical variables, and the percentage trends were evaluated.

Methods of analysis

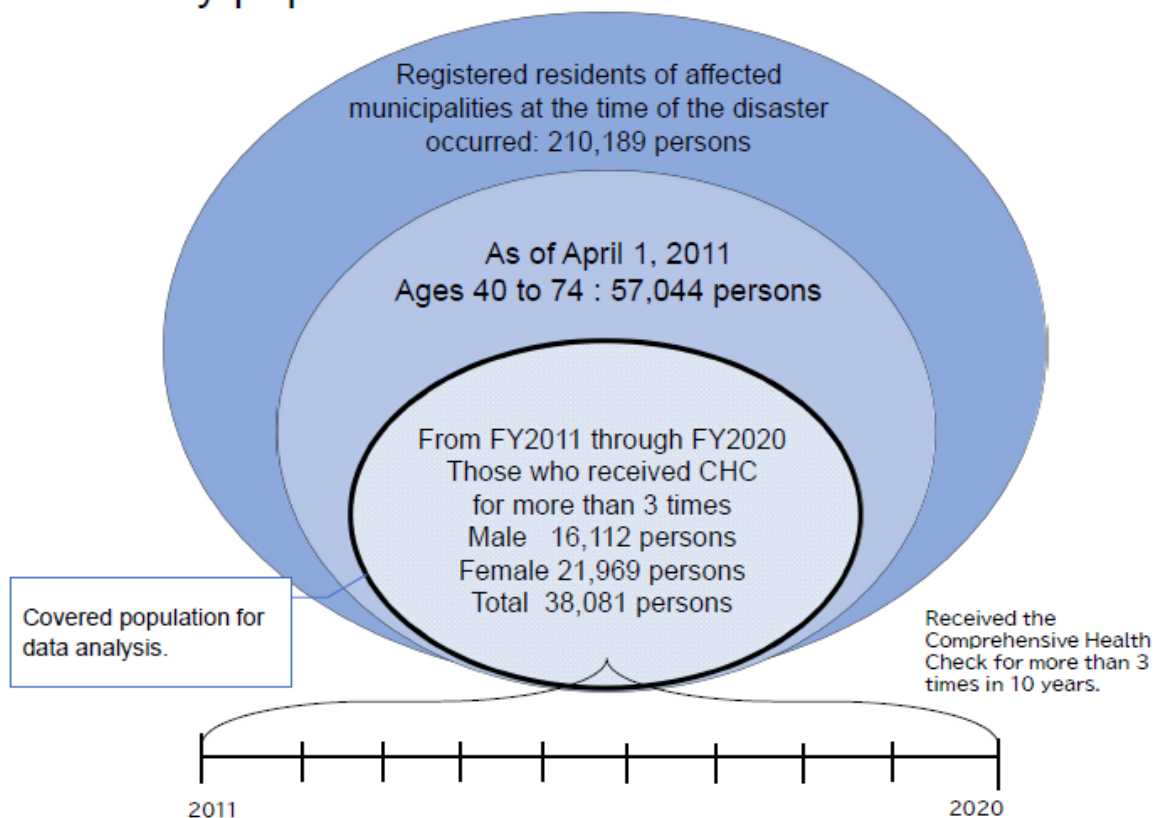
SAS, version 9.4 (SAS Institute, Inc., Cary, NC, USA) was used as the analysis software. Not all of the eligible persons receive CHC every year, and the data for the years when they do not receive health checks are missing values, which affects the

statistical analysis. Therefore, to eliminate the influence of missing values to the extent possible in the present analysis, repeated measures generalized linear mixed modeling was used to evaluate changes in each indicator over time. A first-order autoregressive structure was specified for the variance-covariance matrix. If the results did not converge, we attempted convergence by specifying the variance-covariance matrix as unstructured, compound symmetric, and variance components, in that order. Finally, if the analysis did not converge, only the value or percentage change was shown in the graph. The restricted maximum likelihood method was used for variance estimation. To account for the effect of different baseline ages, time, age, and the interaction term between time and age were entered in the model as fixed effects. Age was added to the model as a categorical variable, divided into two categories: ages 40 to 64 and ages 65 and older. In addition, time was entered as a repeated-measures effect when the study item was a continuous variable, and residuals were entered as a random effect when the study item was a categorical variable. For all data, $p < 0.05$ was considered a significant difference by a two-tailed test. Trends in the values and percentages of each item are illustrated overall by gender and by age group (ages 40 to 64 years old, and 65 years and older).

Limits of analysis

The covered participants of this analysis were only those who had undergone CHC at least three times during 10 years, so the results do not necessarily reflect all the results of health checks for residents in evacuation areas, etc., in each year. In addition, this analysis could not take into account the effect of aging on the results of medical examinations, and this point should be kept in mind when interpreting the results.

Survey population



Trends over 10 years (from FY2011 through FY2020)

Table1 Results of obesity · abdominal circumference

*Age as of April 1, 2011

Items	Description	Ages 40 to 64*	Ages 65 and older*
Obesity	Proportion of BMI 25.0 kg/m ² or higher (%)	Increasing trend	Decreasing Trend
Underweight	Proportion of BMI 18.5 kg/m ² or lower (%)	Increasing trend	Increasing trend
Abdominal Circumference	Changes on value (cm)	Increasing trend	Staying flat
	Proportions of abdominal circumference greater than 85 cm (men) or 90 cm (women)	Increasing trend	Staying flat

The percentage of obese participants tended to increase in the 40-64 age group and to decrease in the age 65 and older age group.

The proportion of underweight showed an increasing trend in all age groups.

Table 2 Results of blood pressure

*Age as of April 1, 2011

Item	Description	Ages 40 to 64*	Ages 65 and older*
Blood Pressure	Changes of systolic blood pressure (mmHg)	V-shaped trend	V-shaped trend
	Changes of diastolic blood pressure (mmHg)	Decreasing Trend	Decreasing Trend
	Proportion of those who take antihypertensive drugs (%)	Increasing trend	Increasing trend
	Proportion of those who have high blood pressure disorder (%) (a reading of 140/90 mm Hg or greater, or taking antihypertensive drugs)	Increasing trend	Increasing trend

The percentage of those with high blood pressure showed an increasing trend regardless of age, and the percentage taking antihypertensive medications also showed an increasing trend.

Table 3 Results of blood glucose parameters

*Age as of April 1, 2011

Item	Description	Ages 40 to 64*	Ages 65 and older*
Blood glucose parameters	Changes of fasting blood glucose (mg/dL)	Increasing trend	Increasing trend
	Changes of HbA1c (%)	Increasing trend	Increasing trend
	Proportions of those who are under medical treatment (hypoglycemic medication etc.)(%)	Increasing trend	Increasing trend
	Proportions of person with diabetes (%) (fasting blood glucose 126mg/dL and higher, casual blood glucose 200mg/dL and higher, HbA1c 6.5% and higher, and/or being under medical treatment for blood glucose related abnormalities)	Increasing trend	Increasing trend

The percentage of people with diabetes, both in the 40-64 age group and in the 65 and older age group, showed an increasing trend, as did the percentage on treatment such as taking hypoglycemic drugs.

Table 4 Results of lipids parameters

*Age as of April 1, 2011

Item	Description	Ages 40 to 64*	Ages 65 and older*
Lipids parameters	HDL cholesterol (mg/dL)	Increasing trend	Increasing trend
	LDL cholesterol (mg/dL)	Decreasing Trend	Decreasing Trend
	Triglyceride (mg/dL)	Decreasing Trend	Decreasing Trend
	Proportions of those who are under medical treatment (hypocholesterolemic medication etc.) (%)	Increasing trend	Increasing trend
	Proportions of lipids abnormalities (%) (HDL Cholesterol less than 40mg/dL, LDL Cholesterol higher than 140mg/dl, fasting lipids level higher than 150mg/dL, and/or being under medical treatment for lipids related abnormalities)	Increasing trend	Decreasing Trend

The percentage of participants with lipid abnormalities showed an increasing trend among those ages 40-64 and a decreasing trend among those ages 65 and older. The percentage of patients on cholesterol-lowering drugs and other treatments showed an increasing trend regardless of age.

Table 5 Results of liver function parameters

*Age as of April 1, 2011

Item	Description	Ages 40 to 64*	Ages 65 and older*
Liver function parameters	AST(U/L)	Staying flat	Staying flat
	ALT(U/L)	Staying flat	Decreasing Trend
	γ-GT(U/L)	Decreasing Trend	Decreasing Trend
	Proportions of those who have abnormal liver function (%) (AST higher than 31 U/L, ALT higher than 31 U/L, and/or γ-GT higher than 51 U/L)	Staying flat	Decreasing Trend

The percentage of participants with abnormal liver function remained unchanged in the 40-64 age group and showed a decreasing trend in those ages 65 and older.

Table 6 Results of renal function parameters

*Age as of April 1, 2011

Item	Description	Ages 40 to 64*	Ages 65 and older*
Renal function parameters	Changes of eGFR value (mL/min/1.73m ²)	Decreasing Trend	Decreasing Trend
	Proportions of those who with positive urine protein level (+1 and higher) (%)	Increasing trend	Increasing trend
	Proportions of those who have abnormal renal function (%) (eGFR less than 60mL/min/1.73m ² , positive for urine protein level (+1 and higher))	Increasing trend	Increasing trend

The percentage of patients with abnormal renal function showed an increasing trend both in the 40-64 age group and in the 65+ age group. Abnormal renal function generally increases with age.

Mental Health and Lifestyle Survey (*KOKOKARA Survey*)
 Characteristics of Survey Respondents Concerning Consultation Access
 (Availability of places to go or people to see for consultation)

1. Characteristics of respondents concerning the availability of consultation

Analysis of 32,699 respondents ages 16 and older (Category: General) in the FY2016 survey showed that 11.2% of respondents had no places to go or people to see for consultation, and a high percentage of them had poor general mental health and problematic drinking. Multivariate analysis showed that not having places or people to consult was associated with being 40-64 years old, male, in a poor economic situation, and living alone. Published data (summarized in Table 1) indicate that having somewhere to go or someone to see for consultation is statistically linked to mental health well-being.

Table 1 Availability of consultation services versus indicators of mental health well-being

	No, not available	Yes, available	P value
General mental health K6 \geq 13	16.2%	5.6%	< 0.001
Problematic drinking CAGE \geq 2	21.5%	13.5%	< 0.001

Horikoshi et.al., IJERPH, 2021, 18(19):10075.

2. Characteristics of evacuees who selected professional organizations for consultation

Based on the results of the past "*KOKOKARA Survey*" (Category: General), the main responses for consultation with are: 1. family/relatives, 2. friends/acquaintances, 3. primary care doctors/clinics / general medical institutions, 4. municipal consultation services. Concerning the characteristics of respondents who selected a professional organization (municipalities, specialized medical institutions, and the Fukushima Center for Disaster Mental Health) for consultation, as discussed at the 49th Oversight Committee meeting, we conducted a new analysis using data from FY2020. The average age of those who chose municipal consultation services was higher than the average age of those who chose specialized providers of mental health support, including the Fukushima Center for Disaster Mental Health. These specialized providers were favored by evacuees with similar levels of mental health, problematic drinking, and traumatic reactions (Table 2).

Table 2 FY2020 Preferred consultation services versus age and indicators of mental health well-being

	Municipal consultation service	Medical providers offering mental health support	Fukushima Center for Disaster Mental Health
Average age	71.5 yeras old	64.5 years old	69.4 years old
Problematic drinking CAGE \geq 2	11.6%	14.6%	16.6%
General mental health K6 \geq 13	2.9%	10.3%	7.6%
Traumatic reactions PCL - 4 \geq 12	9.5%	14.4%	16.5%

*New analysis using the data from FY2020 "*KOKOKARA Survey*"

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

As of September 30, 2023

1. Summary

1.1 Purpose

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

1.2 Eligible persons

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

1.3 Implementation Period

FY2020 and FY2022, starting in April 2020:

1.3-1 For those 18 years old or younger

The examination will be carried out over 3 years, from FY2020 through FY2022.

1.3-2 For those 19 years old or older

The examination will be conducted on an age-group basis (i.e., school grade).

FY2020: those born between FY1998 and FY2000

FY2021: those born between FY1999 and FY2001

FY2022: no eligible persons

1.3-3 For those 25 years old or older

Those older than 20 are recommended to receive the examination every 5 years around the ages of 25, 30, and so on (Age 25, and Age 30 Survey)

FY2020: those born in FY1995

FY2021: those born in FY1996

FY2022: those born in FY1992 and FY1997

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

1.4 Implementing Organizations (number of medical facilities with agreements for the implementation of thyroid examinations as of September 30, 2023)

Fukushima Prefecture commissioned Fukushima Medical University (FMU) to conduct the Survey in cooperation with organizations inside and outside Fukushima for the convenience of participants.

1.4-1 Primary examination facilities

In Fukushima Prefecture 85 medical facilities

Outside Fukushima Prefecture 141 medical facilities

1.4-2 Confirmatory examination facilities

In Fukushima Prefecture 6 medical facilities, including FMU

Outside Fukushima Prefecture 39 medical facilities

1.5 Methods

1.5-1 Primary examination

Ultrasonography of the thyroid gland.

Assessments are made by specialists based on the following criteria:

- Grade A
 - A1: No nodules/cysts
 - A2: Nodules ≤ 5.0 mm or cysts ≤ 20.0 mm
- Grade B
 - B: Nodules ≥ 5.1 mm or cysts ≥ 20.1 mm
 - Some A2 results may be re-classified as B results when clinically indicated.
- Grade C
 - C: Urgent need for confirmatory examination, judging from the condition of the thyroid gland.

1.5-2 Confirmatory examination

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

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

1.5-3 Flow chart

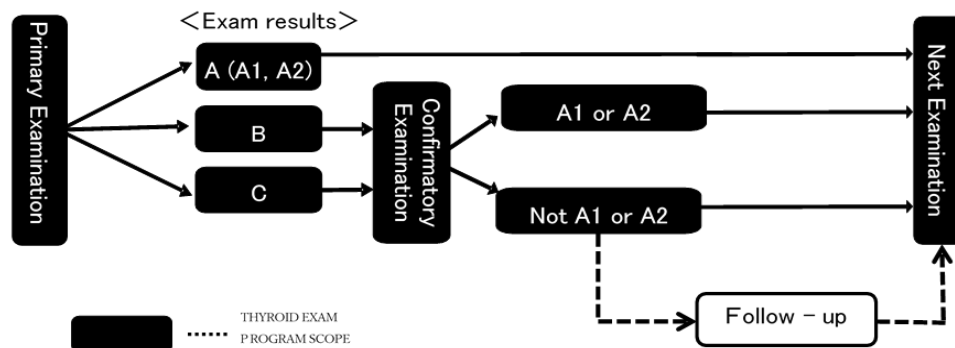


Figure 1 Flow chart

1.6 Municipalities Surveyed

The municipalities where examinations (for those 18 years old or younger) were carried out in FY2020 and FY2022 are as follows:

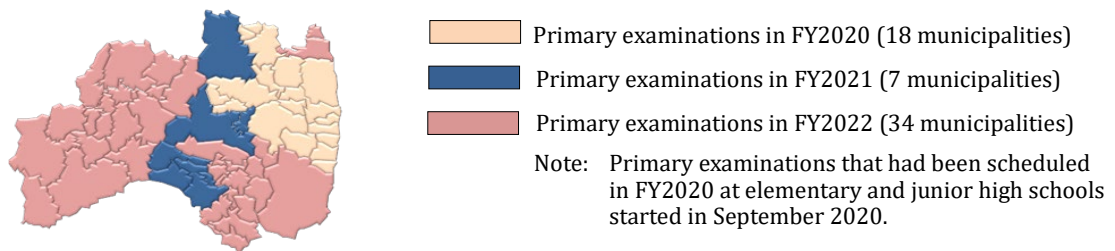


Figure 2 Municipalities covered for primary examinations at elementary and junior high schools

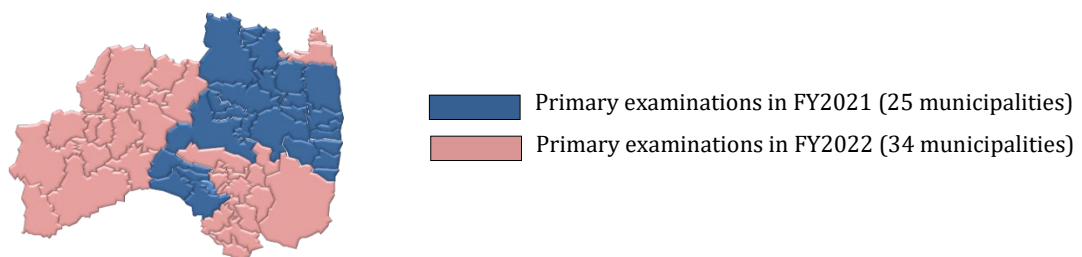


Figure 3 Municipalities covered for primary examinations at high schools and other facilities

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

2. Results as of September 30, 2023

2.1 Results of the Primary Examination

2.1-1 Implementation status

The primary examination was completed for 113,941 participants (45.0%) by September 30, 2023. (Refer to Appendices 1 and 2 for the participation and progress summaries by municipalities within Fukushima prefecture and other prefectures.)

The results of 113,941 participants (100.0%) have been finalized and individual reports have been sent to them. (See Appendix 3 for details.)

Of these, 32,840 (28.8%) had Grade A1 results, 79,755 (70.0%) had Grade A2, 1,346 (1.2%) had Grade B, and none had Grade C.

Table 1 Progress and results of the primary examination

	Eligible persons a	Participants (persons)		Participants with finalized results (persons and %)					
		Participation rate (%) b (b/a)	Those who participated outside Fukushima c	Judgment rate (%) c (c/b)	Details by grade				
					A		Those referred to confirmatory exam		
		A1 d (d/c)	A2 e (e/c)	B f (f/c)	C g (g/c)				
FY2020	144,902	69,170 (47.7)	5,495	69,170 (100.0)	19,995 (28.9)	48,427 (70.0)	748 (1.1)	0 (0.0)	
FY2021	108,036	44,771 (41.4)	2,468	44,771 (100.0)	12,845 (28.7)	31,328 (70.0)	598 (1.3)	0 (0.0)	
Total	252,938	113,941 (45.0)	7,963	113,941 (100.0)	32,840 (28.8)	79,755 (70.0)	1,346 (1.2)	0 (0.0)	

Table 2 Number and proportion of participants with nodules/cysts (See Appendix 4 for details.)

	Participants with finalized results a	Participants with nodules / cysts (%)			
		Nodules		Cysts	
		≥ 5.1mm b (b/a)	≤ 5.0mm c (c/a)	≥20.1mm d (d/a)	≤ 20.0mm e (e/a)
FY2020	69,170	748 (1.1)	379 (0.5)	1 (0.0)	48,844 (70.6)
FY2021	44,771	598 (1.3)	284 (0.6)	0 (0.0)	31,671 (70.7)
Total	113,941	1,346 (1.2)	663 (0.6)	1 (0.0)	80,515 (70.7)

- Proportions are rounded to a lower decimal place. This applies to other tables as well.
- Those who receive the examination at 5-year intervals (born between FY1992 and FY1997) are excluded. The results of examinations at 5-year intervals (Age 25 and Age 30 examinations) will be reported separately.
- Examinations for those born in FY1995 (approx. 21,000) took place in FY2020; for those born in FY1996 (approx. 21,000), FY2021; and for those born in FY1992 (approx. 23,000) and FY1997 (approx. 20,000), FY2022.

2.1-2 Participation rate by age group

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

Table 3 Participation rates by age group

		Total	Age group		
Age group*			8-11	12-17	18-24
FY2020	Eligible persons (a)	144,902	37,105	61,911	45,886
	Participants (b)	69,170	27,925	36,161	5,084
	Participation rate (%) (b/a)	47.7	75.3	58.4	11.1
FY2021	Age group*		9-11	12-17	18-24
	Eligible persons (a)	108,036	19,771	45,061	43,204
	Participants (b)	44,771	14,152	25,689	4,930
	Participation rate (%) (b/a)	41.4	71.6	57.0	11.4
Total	Eligible persons (a)	252,938	56,876	106,972	89,090
	Participants (b)	113,941	42,077	61,850	10,014
	Participation rate (%) (b/a)	45.0	74.0	57.8	11.2

* Age groups are based on ages as of April 1 of each fiscal year.

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

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

Among 106,588 (sum of *1) participants with Grade A1 or A2 results in the fourth-round survey, 105,821 (sum of *2, 99.3%) had Grade A1 or A2 results, and 767 (sum of *3, 0.7%) had Grade B results in the fifth-round survey.

Among 546 participants with Grade B results in the fourth-round survey, 104 (sum of *4, 19.0%) had Grade A1 or A2 results, and 442 (81.0%) had Grade B results in the fifth-round survey.

Table 4 Comparison of the fourth- and fifth-round surveys

			Results of the fourth-round survey* a (%)	Results of the fifth-round survey**			
				A		B d (d/a)	C e (e/a)
				A1 b (b/a)	A2 c (c/a)		
Results of the fourth-round survey	A	A1	34,597 *1 (100.0)	23,880 *2 (69.0)	10,582 *2 (30.6)	135 *3 (0.4)	0 (0.0)
		A2	71,991 *1 (100.0)	6,643 *2 (9.2)	64,716 *2 (89.9)	632 *3 (0.9)	0 (0.0)
	B		546 (100.0)	11 *4 (2.0)	93 *4 (17.0)	442 (81.0)	0 (0.0)
	C		0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
	Did not participate		6,807 (100.0)	2,306 (33.9)	4,364 (64.1)	137 (2.0)	0 (0.0)
Total			113,941 (100.0)	32,840 (28.8)	79,755 (70.0)	1,346 (1.2)	0 (0.0)

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

** Results of the fifth-round survey participants diagnosed for each grade in the fourth-round survey.

2.2 Results of the Confirmatory Examination

2.2-1 Implementation status

By September 30, 2023, of 1,346 eligible persons, 1,060 (78.8%) had participated in the confirmatory examination, and 1,007 (95.0%) of them had completed the entire procedure of the examination. (See Appendix 5 for the implementation status of the confirmatory examinations by area.)

Of those 1,007 participants, 91 (A1: 6, A2: 85) (9.0%) were confirmed to meet A1 or A2 diagnostic criteria by primary examination standards (including those with other thyroid conditions). After the detailed examination, 916 (91.0%) were confirmed to be outside of A1/A2 criteria.

Table 5 Progress and results of the confirmatory examination

	Those referred to confirmatory exams	Participants (persons & %)		Those with finalized results (%)									
				Determination rate (%)		A1		A2		Not A1 or A2		FNAC	
						c	(c/b)	d	(d/c)	e	(e/c)		f	(f/c)	g	(g/f)
FY2020	748	623	(83.3)	603	(96.8)	4	(0.7)	64	(10.6)	535	(88.7)	64	(12.0)
FY2021	598	437	(73.1)	404	(92.4)	2	(0.5)	21	(5.2)	381	(94.3)	23	(6.0)
Total	1,346	1,060	(78.8)	1,007	(95.0)	6	(0.6)	85	(8.4)	916	(91.0)	87	(9.5)

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

Among those who underwent FNAC, 43 people had nodules classified as malignant or suspicious for malignancy: 11 were male and 32 were female.

Participants' ages at the time of the confirmatory examination ranged from 12 to 24 (mean age: 17.5 ± 3.0 years). The tumor diameters were from 5.4 mm to 46.7mm, and the mean tumor diameter was 13.2 ± 7.3 mm.

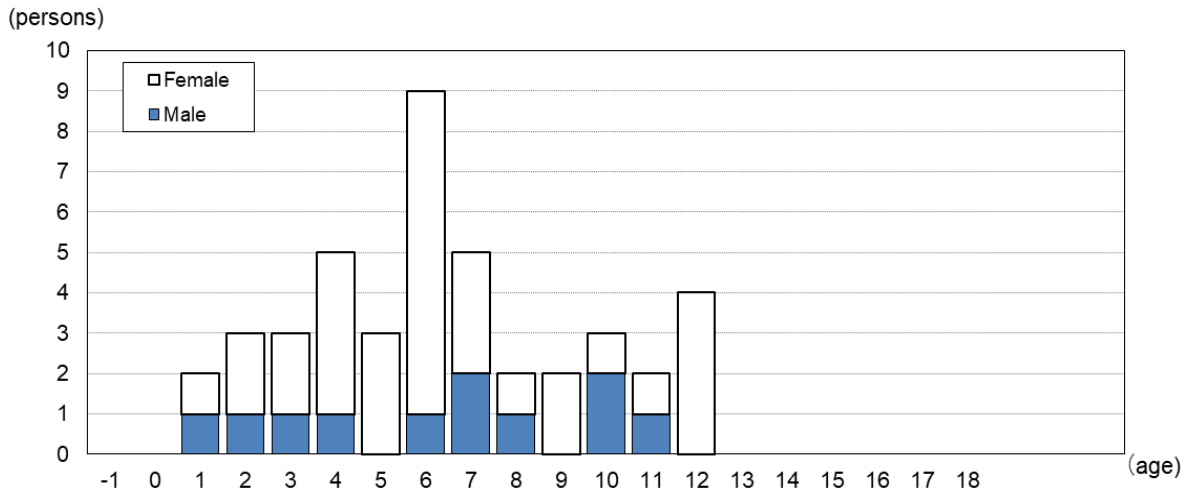
Of these 43 participants, 31 had Grade A (A1:10, A2:21) and 6 had Grade B results in the previous survey; the remaining 6 participants did not receive a fourth-round survey. Among 21 participants with A2 Grade, 20 met cyst criteria and 1 met both cyst and nodule criteria.

Table 6 Results of FNAC.

A. Municipalities surveyed in FY2020	
• Malignant or suspicious for malignancy:	29*
• Male to female ratio:	6:23
• Mean age±SD (min–max)	17.5 ± 3.4 (12–24)
	6.6 ± 3.4 (1–12) at the time of the earthquake
• Mean tumor size±SD (min–max)	11.3 ± 5.0 mm (5.4–30.1 mm)
B. Municipalities surveyed in FY2021	
• Malignant or suspicious for malignancy:	14*
• Male to female ratio:	5:9
• Mean age±SD (min–max)	17.5 ± 2.1 (13–21)
	6.1 ± 2.7 (1–10) at the time of the earthquake
• Mean tumor size±SD (min–max)	17.0 ± 9.8 mm (8.4–46.7 mm)
C. Total	
• Malignant or suspicious for malignancy:	43*
• Male to female ratio:	11:32
• Mean age±SD (min–max)	17.5 ± 3.0 (12–24)
	6.4 ± 3.2 (1–12) at the time of the earthquake
• Mean tumor size±SD (min–max)	13.2 ± 7.3 mm (5.4–46.7 mm)

* Appendix 6 shows surgery cases.

2.2-3 Age distribution of malignant or suspected malignant cases diagnosed by FNAC
 Age distribution of 43 people with malignant or suspected malignant nodules based on their age as of March 11, 2011, is per Figure 4, and age distribution based on their age at the time of confirmatory examination is per Figure 5.



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

Figure 4 Age as of March 11, 2011

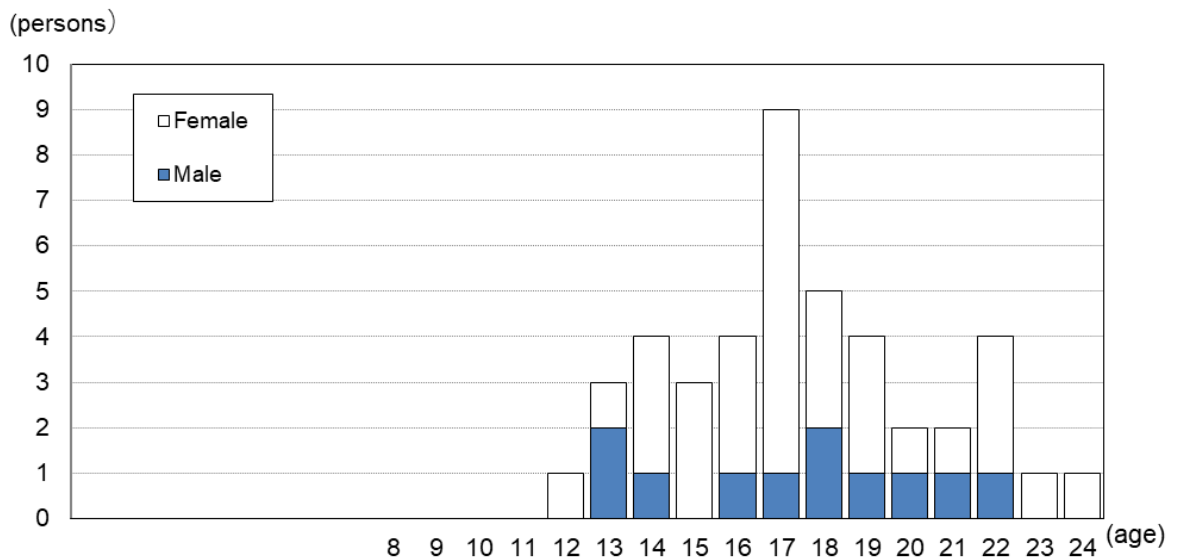


Figure 5 Age as of the date of confirmatory examination

2.2-4 Basic Survey results for those with malignant or suspicious for malignancy findings by FNAC
 Of those 43 people with malignant or suspicious malignancy findings, 26 (60.5%) had participated in the Basic Survey (for external radiation dose estimation), and all 26 received their results. The highest effective dose documented was 2.4 mSv.

Table 7 A breakdown of dose estimates for Basic Survey participants

Effective dose (mSv)	Age at the time of the disaster									
	0-5		6-10		11-15		16-18		Total	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
<1	1	5	2	6	0	3	0	0	3	14
<2	1	1	1	1	1	1	0	0	3	3
<5	0	2	0	0	1	0	0	0	1	2
<10	0	0	0	0	0	0	0	0	0	0
<20	0	0	0	0	0	0	0	0	0	0
≥ 20	0	0	0	0	0	0	0	0	0	0
Total	2	8	3	7	2	4	0	0	7	19

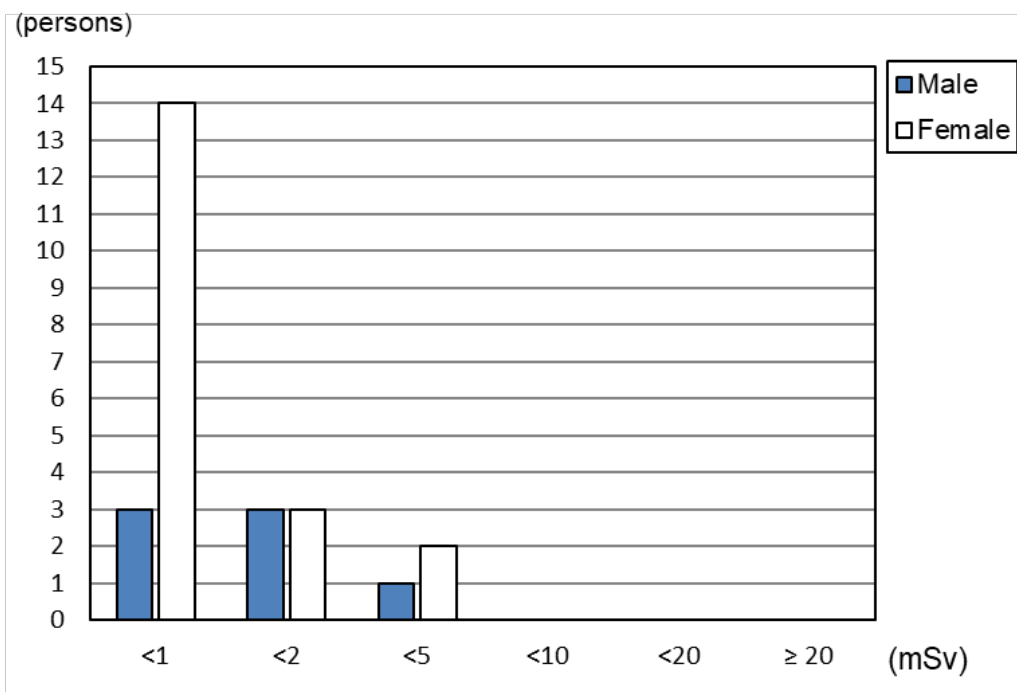


Figure 6 Effective doses of Basic Survey participants

2.2-5 Blood and urinary iodine test results

Table 8 Blood test results

	FT4 ¹⁾ (ng/dL)	FT3 ²⁾ (pg/mL)	TSH ³⁾ (μ IU/mL)	Tg ⁴⁾ (ng/mL)	TgAb ⁵⁾ (IU/mL)	TPOAb ⁶⁾ (IU/mL)
Reference Range	0.95–1.74 ⁷⁾	2.13–4.07 ⁷⁾	0.340–3.880 ⁷⁾	\leq 33.7	< 28.0	< 16.0
Malignant or suspicious : 43	1.2 \pm 0.2 (4.7%)	3.5 \pm 0.4 (4.7%)	1.2 \pm 0.7 (9.3%)	68.5 \pm 322.4 (16.3%)	16.3%	14.0%
Other : 873	1.2 \pm 0.2 (5.0%)	3.6 \pm 0.8 (7.4%)	1.3 \pm 1.1 (8.8%)	30.9 \pm 83.0 (15.5%)	8.6%	7.4%

Table 9 Urinary iodine test results

	Minimum	25th percentile	Median	75th percentile	Maximum
Malignant or suspicious : 41	36	127	175	423	2,471
Other : 871	21	113	193	334	12,670

(μ g/day)

- 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 or Graves' disease.
- 6) TPOAb: anti-thyroid peroxidase antibody; higher among patients with Hashimoto's disease or Graves' disease.
- 7) Reference intervals vary according to age.

2.2-6 Confirmatory examination results by area

The percentages of those with malignant or suspicious malignancy findings were 0.04% in the 13 municipalities of the nationally-designated evacuation zone, Nakadori, and Hamadori, and 0.02% in Aizu.

Table 10 Confirmatory examination results by area

	The fifth-round survey participants (persons)	Those referred to confirmatory exam (persons) and rate (%)		Those who received exam (persons)	Malignant or suspicious (persons) and rate(%)	
	a	b	b/a		c	c/a
13 municipalities ¹⁾	14,785	156	1.1	127	6	0.04
Nakadori ²⁾	65,584	739	1.1	611	26	0.04
Hamadori ³⁾	20,782	293	1.4	203	8	0.04
Aizu ⁴⁾	12,790	158	1.2	119	3	0.02
Total	113,941	1,346	1.2	1,060	43	0.04

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

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

3) Iwaki City, Soma City, Shinchi Town

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

3. Mental Health Care

We provide the following support for thyroid examination participants.

3.1 Support for Primary Examination Participants

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

Consultation booths were set up at all venues for examinations conducted in and after April 2020; as of September 30, 2023, all 2,753 participants (100%) have visited these consultation booths.

3.2 On-location Lectures and Information Sessions

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

By March 31, 2023, a total of 607 people participated in these sessions offered at 11 locations: 3 elementary schools, 4 junior high schools, and 4 high schools.

3.3 Support for Confirmatory Examination Participants

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

Since the start of the fifth-round survey, 402 participants (127 males and 275 females) have received support as of September 30, 2023. The number of support sessions provided was 709 in total. Of these, 397 (56.0%) received support at the participants' first examination and 312 (44.0%) at subsequent examinations.

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

Appendix 1 Implementation status of the TUE primary examination, by municipality

As of September 30, 2023

	Number of eligible persons a	Participants (persons) b	Participated outside Fukushima ¹⁾	Participation rate(%) b/a	Number of participants and participation rate by age group ²⁾			Participants living outside Fukushima c ³⁾	%
					8-11	12-17	18-24		
Municipalities surveyed in FY2020									
Kawamata	1,567	739	14	47.2	238	431	70	38	5.1
					32.2	58.3	9.5		
Namie	2,478	953	235	38.5	210	547	196	234	24.6
					22.0	57.4	20.6		
Iitate	731	345	20	47.2	88	202	55	25	7.2
					25.5	58.6	15.9		
Minamisoma	8,849	3,975	571	44.9	1,201	2,253	521	614	15.4
					30.2	56.7	13.1		
Date	7,412	4,039	166	54.5	1,143	2,284	612	166	4.1
					28.3	56.5	15.2		
Tamura	4,577	2,281	52	49.8	803	1,227	251	75	3.3
					35.2	53.8	11.0		
Hirono	647	289	28	44.7	68	166	55	25	8.7
					23.5	57.4	19.0		
Naraha	916	369	44	40.3	73	221	75	44	11.9
					19.8	59.9	20.3		
Tomioka	1,980	715	122	36.1	153	412	150	127	17.8
					21.4	57.6	21.0		
Kawauchi	225	98	7	43.6	20	59	19	8	8.2
					20.4	60.2	19.4		
Okuma	1,771	670	117	37.8	145	392	133	116	17.3
					21.6	58.5	19.9		
Futaba	839	247	48	29.4	51	155	41	50	20.2
					20.6	62.8	16.6		
Katsurao	148	65	3	43.9	14	39	12	5	7.7
					21.5	60.0	18.5		
Fukushima	37,320	18,600	1,412	49.8	4,862	11,047	2,691	1,368	7.4
					26.1	59.4	14.5		
Nihonmatsu	6,920	3,713	160	53.7	1,126	2,156	431	145	3.9
					30.3	58.1	11.6		
Motomiya	4,232	2,211	78	52.2	663	1,302	246	75	3.4
					30.0	58.9	11.1		
Otama	1,122	681	18	60.7	214	384	83	14	2.1
					31.4	56.4	12.2		
Koriyama	45,739	20,619	1,965	45.1	4,729	12,879	3,011	1,926	9.3
					22.9	62.5	14.6		
Koori	1,375	789	25	57.4	224	467	98	27	3.4
					28.4	59.2	12.4		
Kunimi	1,022	559	20	54.7	126	349	84	22	3.9
					22.5	62.4	15.0		
Tenei	728	332	19	45.6	95	180	57	11	3.3
					28.6	54.2	17.2		
Shirakawa	8,566	4,240	257	49.5	1,229	2,366	645	247	5.8
					29.0	55.8	15.2		
Nishigo	2,856	1,344	77	47.1	399	740	205	67	5.0
					29.7	55.1	15.3		
Izumizaki	893	394	7	44.1	105	245	44	10	2.5
					26.6	62.2	11.2		
Miharu	1,989	903	30	45.4	218	525	160	33	3.7
					24.1	58.1	17.7		
Subtotal	144,902	69,170	5,495	47.7	18,197	41,028	9,945	5,472	7.9
					26.3	59.3	14.4		

*1) The number of participants who received the examination at facilities outside Fukushima (as of August 31, 2023).

*2) Split cells show the number of participants above the corresponding percentage.

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

·Age groups are based on participants' age at the Full-Scale Survey (fifth-round survey). This applies to other tables hereafter.

	Number of eligible persons a	Participants		Participation rate(%) b/a	Number of participants and participation rate by age group ²⁾			Participants living outside Fukushima ³⁾ c ³⁾	% c/b
		b	Participation outside Fukushima ¹⁾		8-11	12-17	18-24		
Municipalities surveyed in FY2021									
Iwaki	42,530	18,577	1,368	43.7	2,130 11.5	12,306 66.2	4,141 22.3	1,253	6.7
Sukagawa	10,705	4,582	181	42.8	773 16.9	3,055 66.7	754 16.5	178	3.9
Soma	4,771	1,781	167	37.3	325 18.2	1,204 67.6	252 14.1	188	10.6
Kagamiishi	1,835	818	28	44.6	142 17.4	552 67.5	124 15.2	20	2.4
Shinchi	983	424	29	43.1	61 14.4	279 65.8	84 19.8	31	7.3
Nakajima	706	266	9	37.7	54 20.3	169 63.5	43 16.2	6	2.3
Yabuki	2,326	977	22	42.0	217 22.2	639 65.4	121 12.4	21	2.1
Ishikawa	1,860	790	25	42.5	161 20.4	489 61.9	140 17.7	22	2.8
Yamatsuri	685	306	13	44.7	66 21.6	207 67.6	33 10.8	7	2.3
Asakawa	913	408	21	44.7	73 17.9	268 65.7	67 16.4	15	3.7
Hirata	838	371	9	44.3	86 23.2	220 59.3	65 17.5	7	1.9
Tanagura	2,049	847	32	41.3	178 21.0	562 66.4	107 12.6	35	4.1
Hanawa	1,070	418	8	39.1	83 19.9	262 62.7	73 17.5	13	3.1
Samegawa	457	191	4	41.8	43 22.5	129 67.5	19 9.9	3	1.6
Ono	1,252	502	7	40.1	107 21.3	339 67.5	56 11.2	6	1.2
Tamakawa	920	386	9	42.0	68 17.6	258 66.8	60 15.5	6	1.6
Furudono	692	337	17	48.7	71 21.1	199 59.1	67 19.9	10	3.0
Hinoemata	75	16	2	21.3	3 18.8	11 68.8	2 12.5	0	0.0
Minamiaizu	1,788	666	20	37.2	148 22.2	445 66.8	73 11.0	18	2.7
Kaneyama	114	38	0	33.3	6 15.8	25 65.8	7 18.4	0	0.0
Showa	101	33	5	32.7	9 27.3	22 66.7	2 6.1	5	15.2
Mishima	131	45	0	34.4	12 26.7	24 53.3	9 20.0	1	2.2
Shimogo	646	216	3	33.4	41 19.0	143 66.2	32 14.8	3	1.4
Kitakata	5,939	2,227	66	37.5	393 17.6	1,515 68.0	319 14.3	62	2.8
Nishiaizu	618	201	5	32.5	43 21.4	133 66.2	25 12.4	5	2.5
Tadami	475	212	5	44.6	38 17.9	150 70.8	24 11.3	7	3.3
Inawashiro	1,760	696	23	39.5	137 19.7	454 65.2	105 15.1	21	3.0
Bandai	415	159	9	38.3	32 20.1	106 66.7	21 13.2	8	5.0
Kitashiobara	385	163	6	42.3	32 19.6	111 68.1	20 12.3	6	3.7
Aizumisato	2,371	987	25	41.6	179 18.1	633 64.1	175 17.7	24	2.4
Aizubange	2,012	789	27	39.2	140 17.7	504 63.9	145 18.4	29	3.7
Yanaizu	393	148	3	37.7	31 20.9	98 66.2	19 12.8	3	2.0
Aizuwakamatsu	15,770	5,983	316	37.9	950 15.9	4,003 66.9	1,030 17.2	314	5.2
Yugawa	451	211	4	46.8	38 18.0	130 61.6	43 20.4	5	2.4
Subtotal	108,036	44,771	2,468	41.4	6,870 15.3	29,644 66.2	8,257 18.4	2,332	5.2
Total	252,938	113,941	7,963	45.0	25,067 22.0	70,672 62.0	18,202 16.0	7,804	6.8

Appendix 2 Implementation status of the TUE primary examination, by prefecture

As of August 31, 2023

Prefecture	Number of medical facilities	Participants (persons)	Prefecture	Number of medical facilities	Participants (persons)	Prefecture	Number of medical facilities	Participants (persons)
Hokkaido	6	195	Fukui	1	12	Hiroshima	2	17
Aomori	3	94	Yamanashi	2	65	Yamaguchi	1	14
Iwate	3	182	Nagano	4	104	Tokushima	1	4
Miyagi	2	1,754	Gifu	2	13	Kagawa	1	13
Akita	1	131	Shizuoka	3	75	Ehime	3	13
Yamagata	3	355	Aichi	6	144	Kochi	1	8
Ibaraki	4	476	Mie	1	17	Fukuoka	3	56
Tochigi	8	542	shiga	1	15	Saga	1	6
Gunma	2	154	Kyoto	3	49	Nagasaki	3	20
Saitama	4	443	Osaka	10	109	Kumamoto	1	19
Chiba	5	353	Hyogo	2	99	Oita	1	12
Tokyo	22	1,363	Nara	2	16	Miyazaki	1	12
Kanagawa	7	537	Wakayama	1	4	Kagoshima	1	6
Niigata	3	346	Tottori	1	2	Okinawa	1	22
Toyama	2	21	Shimane	1	11			
Ishikawa	1	25	Okayama	3	35			
						Total	140	7,963

The number of participants examined at medical facilities outside Fukushima Prefecture.

Appendix 3 TUE primary examination results, by municipality

As of September 30, 2023

	a. Number of participants (persons)	b. Those with finalized results (persons & %)	Number of participants by grade (persons)				Number of participants with nodules (persons)		Number of participants with cysts (persons)	
			Percentages by grade (%)				Percentage (%)		Percentage (%)	
			A		B	C	Percentage (%)		Percentage (%)	
			A1	A2			≥5.1mm	≤5.0mm	≥20.1mm	≤20.0m
Municipalities surveyed in FY2020										
Kawamata	739	739	227	506	6	0	6	5	0	508
		100.0	30.7	68.5	0.8	0.0	0.8	0.7	0.0	68.7
Namie	953	953	297	640	16	0	16	5	0	649
		100.0	31.2	67.2	1.7	0.0	1.7	0.5	0.0	68.1
Iitate	345	345	104	231	10	0	10	0	0	240
		100.0	30.1	67.0	2.9	0.0	2.9	0.0	0.0	69.6
Minamisoma	3,975	3,975	1,235	2,697	43	0	43	14	0	2,720
		100.0	31.1	67.8	1.1	0.0	1.1	0.4	0.0	68.4
Date	4,039	4,039	1,159	2,847	33	0	33	23	0	2,859
		100.0	28.7	70.5	0.8	0.0	0.8	0.6	0.0	70.8
Tamura	2,281	2,281	718	1,540	23	0	23	10	0	1,548
		100.0	31.5	67.5	1.0	0.0	1.0	0.4	0.0	67.9
Hirono	289	289	93	191	5	0	5	1	0	192
		100.0	32.2	66.1	1.7	0.0	1.7	0.3	0.0	66.4
Naraha	369	369	114	253	2	0	2	1	0	253
		100.0	30.9	68.6	0.5	0.0	0.5	0.3	0.0	68.6
Tomioka	715	715	212	497	6	0	6	4	0	501
		100.0	29.7	69.5	0.8	0.0	0.8	0.6	0.0	70.1
Kawauchi	98	98	32	65	1	0	1	0	0	66
		100.0	32.7	66.3	1.0	0.0	1.0	0.0	0.0	67.3
Okuma	670	670	196	464	10	0	10	9	0	464
		100.0	29.3	69.3	1.5	0.0	1.5	1.3	0.0	69.3
Futaba	247	247	72	174	1	0	1	0	0	175
		100.0	29.1	70.4	0.4	0.0	0.4	0.0	0.0	70.9
Katsurao	65	65	29	36	0	0	0	0	0	36
		100.0	44.6	55.4	0.0	0.0	0.0	0.0	0.0	55.4
Fukushima	18,600	18,600	5,410	13,005	185	0	185	97	0	13,102
		100.0	29.1	69.9	1.0	0.0	1.0	0.5	0.0	70.4
Nihonmatsu	3,713	3,713	1,158	2,504	51	0	51	27	0	2,535
		100.0	31.2	67.4	1.4	0.0	1.4	0.7	0.0	68.3
Motomiya	2,211	2,211	668	1,522	21	0	21	9	0	1,533
		100.0	30.2	68.8	0.9	0.0	0.9	0.4	0.0	69.3
Otama	681	681	198	472	11	0	11	3	0	479
		100.0	29.1	69.3	1.6	0.0	1.6	0.4	0.0	70.3
Koriyama	20,619	20,619	5,589	14,804	226	0	226	128	0	14,944
		100.0	27.1	71.8	1.1	0.0	1.1	0.6	0.0	72.5
Koori	789	789	245	535	9	0	9	2	0	542
		100.0	31.1	67.8	1.1	0.0	1.1	0.3	0.0	68.7
Kunimi	559	559	181	371	7	0	7	2	0	377
		100.0	32.4	66.4	1.3	0.0	1.3	0.4	0.0	67.4
Tenei	332	332	88	239	5	0	5	0	1	242
		100.0	26.5	72.0	1.5	0.0	1.5	0.0	0.3	72.9
Shirakawa	4,240	4,240	1,201	2,993	46	0	46	25	0	3,019
		100.0	28.3	70.6	1.1	0.0	1.1	0.6	0.0	71.2
Nishigo	1,344	1,344	402	924	18	0	18	6	0	936
		100.0	29.9	68.8	1.3	0.0	1.3	0.4	0.0	69.6
Izumizaki	394	394	119	271	4	0	4	2	0	272
		100.0	30.2	68.8	1.0	0.0	1.0	0.5	0.0	69.0
Miharu	903	903	248	646	9	0	9	6	0	652
		100.0	27.5	71.5	1.0	0.0	1.0	0.7	0.0	72.2
Subtotal	69,170	69,170	19,995	48,427	748	0	748	379	1	48,844
		100.0	28.9	70.0	1.1	0.0	1.1	0.5	0.0	70.6

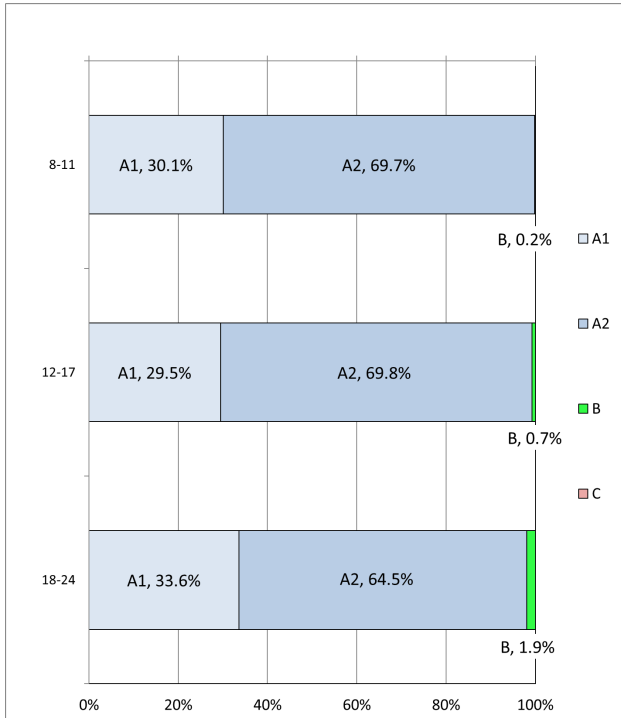
	a. Number of participants (persons)	b. Those with finalized results (persons & %)	Number of participants by grade (persons)				Number of participants with nodules (persons)		Number of participants with cysts (persons)	
			Percentages by grade (%)				Percentage (%)		Percentage (%)	
			A		B	C	≥5.1mm	≤5.0mm	≥20.1mm	≤20.0m
			b/a (%)	A1							A2
Municipalities surveyed in FY2021										
Iwaki	18,577	18,577	5,308	13,014	255	0	255	107	0	13,151
		100.0	28.6	70.1	1.4	0.0	1.4	0.6	0.0	70.8
Sukagawa	4,582	4,582	1,255	3,255	72	0	72	41	0	3,301
		100.0	27.4	71.0	1.6	0.0	1.6	0.9	0.0	72.0
Soma	1,781	1,781	523	1,227	31	0	31	12	0	1,245
		100.0	29.4	68.9	1.7	0.0	1.7	0.7	0.0	69.9
Kagamiishi	818	818	214	593	11	0	11	6	0	595
		100.0	26.2	72.5	1.3	0.0	1.3	0.7	0.0	72.7
Shinchi	424	424	127	290	7	0	7	5	0	293
		100.0	30.0	68.4	1.7	0.0	1.7	1.2	0.0	69.1
Nakajima	266	266	78	187	1	0	1	2	0	188
		100.0	29.3	70.3	0.4	0.0	0.4	0.8	0.0	70.7
Yabuki	977	977	279	693	5	0	5	4	0	696
		100.0	28.6	70.9	0.5	0.0	0.5	0.4	0.0	71.2
Ishikawa	790	790	226	557	7	0	7	5	0	561
		100.0	28.6	70.5	0.9	0.0	0.9	0.6	0.0	71.0
Yamatsuri	306	306	70	230	6	0	6	4	0	235
		100.0	22.9	75.2	2.0	0.0	2.0	1.3	0.0	76.8
Asakawa	408	408	102	303	3	0	3	4	0	305
		100.0	25.0	74.3	0.7	0.0	0.7	1.0	0.0	74.8
Hirata	371	371	119	247	5	0	5	1	0	251
		100.0	32.1	66.6	1.3	0.0	1.3	0.3	0.0	67.7
Tanagura	847	847	224	611	12	0	12	2	0	618
		100.0	26.4	72.1	1.4	0.0	1.4	0.2	0.0	73.0
Hanawa	418	418	106	302	10	0	10	0	0	307
		100.0	25.4	72.2	2.4	0.0	2.4	0.0	0.0	73.4
Samegawa	191	191	49	141	1	0	1	1	0	142
		100.0	25.7	73.8	0.5	0.0	0.5	0.5	0.0	74.3
Ono	502	502	143	355	4	0	4	4	0	358
		100.0	28.5	70.7	0.8	0.0	0.8	0.8	0.0	71.3
Tamagawa	386	386	125	256	5	0	5	1	0	260
		100.0	32.4	66.3	1.3	0.0	1.3	0.3	0.0	67.4
Furudono	337	337	91	241	5	0	5	3	0	245
		100.0	27.0	71.5	1.5	0.0	1.5	0.9	0.0	72.7
Hinoemata	16	16	4	12	0	0	0	0	0	12
		100.0	25.0	75.0	0.0	0.0	0.0	0.0	0.0	75.0
Minamiaizu	666	666	205	453	8	0	8	2	0	459
		100.0	30.8	68.0	1.2	0.0	1.2	0.3	0.0	68.9
Kaneyama	38	38	12	26	0	0	0	0	0	26
		100.0	31.6	68.4	0.0	0.0	0.0	0.0	0.0	68.4
Showa	33	33	13	20	0	0	0	0	0	20
		100.0	39.4	60.6	0.0	0.0	0.0	0.0	0.0	60.6
Mishima	45	45	8	36	1	0	1	1	0	37
		100.0	17.8	80.0	2.2	0.0	2.2	2.2	0.0	82.2
Shimogo	216	216	66	146	4	0	4	1	0	148
		100.0	30.6	67.6	1.9	0.0	1.9	0.5	0.0	68.5
Kitakata	2,227	2,227	692	1,509	26	0	26	10	0	1,525
		100.0	31.1	67.8	1.2	0.0	1.2	0.4	0.0	68.5
Nishiaizu	201	201	44	154	3	0	3	3	0	155
		100.0	21.9	76.6	1.5	0.0	1.5	1.5	0.0	77.1
Tadami	212	212	53	158	1	0	1	3	0	158
		100.0	25.0	74.5	0.5	0.0	0.5	1.4	0.0	74.5
Inawashiro	696	696	195	488	13	0	13	6	0	496
		100.0	28.0	70.1	1.9	0.0	1.9	0.9	0.0	71.3
Bandai	159	159	44	114	1	0	1	1	0	114
		100.0	27.7	71.7	0.6	0.0	0.6	0.6	0.0	71.7
Kitashiobara	163	163	47	113	3	0	3	1	0	114
		100.0	28.8	69.3	1.8	0.0	1.8	0.6	0.0	69.9
Aizumisato	987	987	297	681	9	0	9	7	0	686
		100.0	30.1	69.0	0.9	0.0	0.9	0.7	0.0	69.5
Aizubange	789	789	203	571	15	0	15	5	0	581
		100.0	25.7	72.4	1.9	0.0	1.9	0.6	0.0	73.6
Yanaizu	148	148	51	96	1	0	1	1	0	96
		100.0	34.5	64.9	0.7	0.0	0.7	0.7	0.0	64.9
Aizuwakamatu	5,983	5,983	1,799	4,113	71	0	71	39	0	4,155
		100.0	30.1	68.7	1.2	0.0	1.2	0.7	0.0	69.4
Yugawa	211	211	73	136	2	0	2	2	0	138
		100.0	34.6	64.5	0.9	0.0	0.9	0.9	0.0	65.4
Subtotal	44,771	44,771	12,845	31,328	598	0	598	284	0	31,671
		100.0	28.7	70.0	1.3	0.0	1.3	0.6	0.0	70.7
Total	113,941	113,941	32,840	79,755	1,346	0	1,346	663	1	80,515
		100.0	28.8	70.0	1.2	0.0	1.2	0.6	0.0	70.7

Appendix 4 – 1 TUE primary examination results, by age and gender

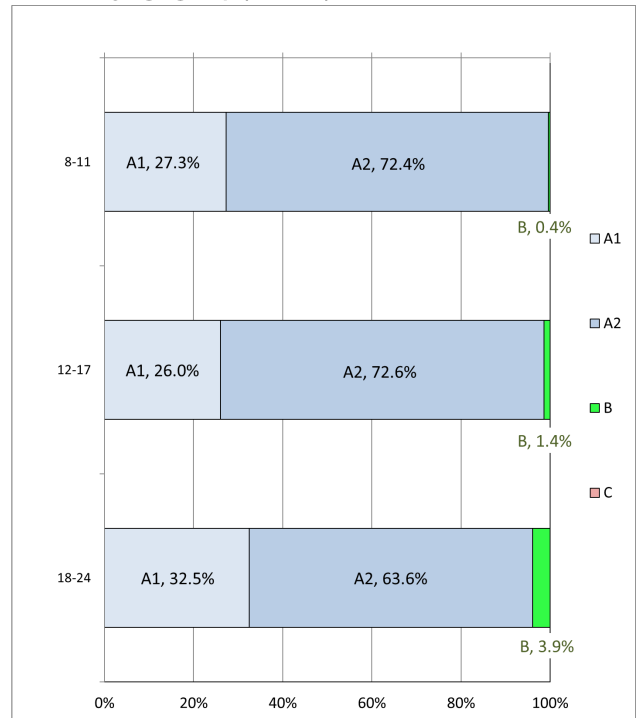
(persons)
As of September 30, 2023

Grade/ Gender	A						B			C			Total		
	A1			A2			Male	Female	Total	Male	Female	Total	Male	Female	Total
	Male	Female	Total	Male	Female	Total									
8-11	3,862	3,338	7,200	8,951	8,852	17,803	21	43	64	0	0	0	12,834	12,233	25,067
12-17	10,583	9,052	19,635	25,072	25,227	50,299	251	487	738	0	0	0	35,906	34,766	70,672
18-24	2,804	3,201	6,005	5,378	6,275	11,653	159	385	544	0	0	0	8,341	9,861	18,202
Total	17,249	15,591	32,840	39,401	40,354	79,755	431	915	1,346	0	0	0	57,081	56,860	113,941

Results by age group (Male)



Results by age group (Female)

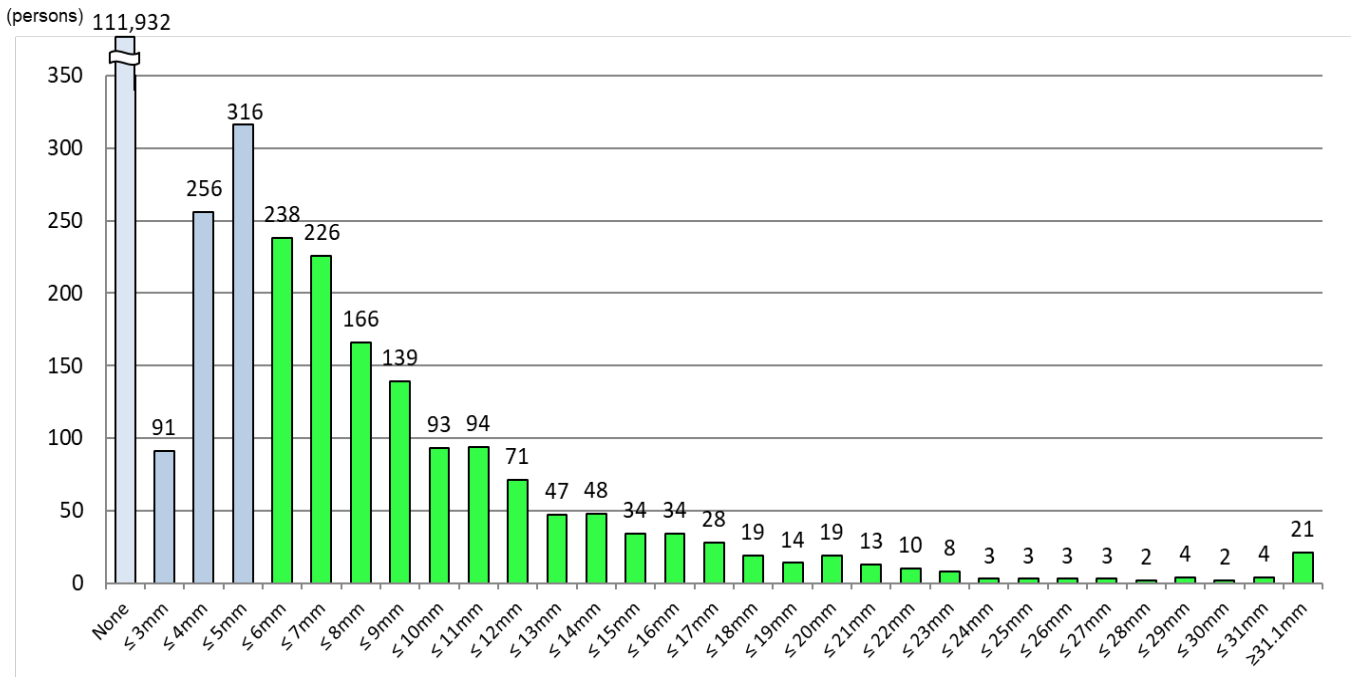
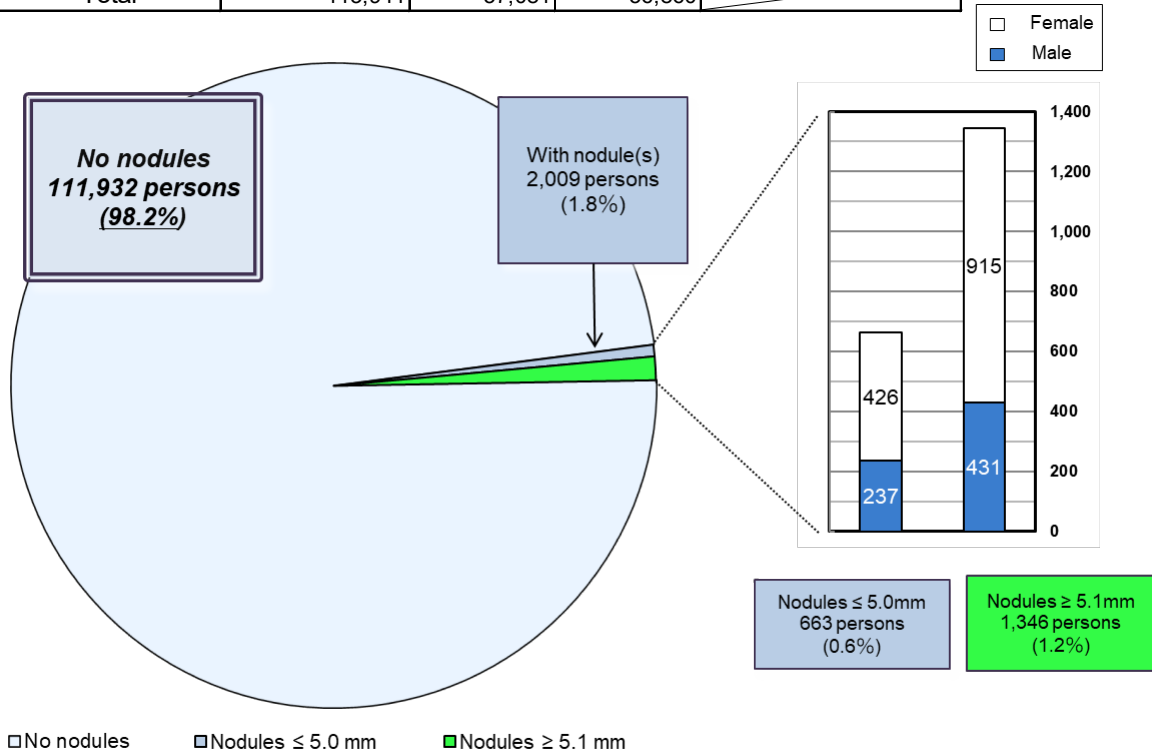


Appendix 4 – 2 Nodule characteristics

As of September 30, 2023

(persons)

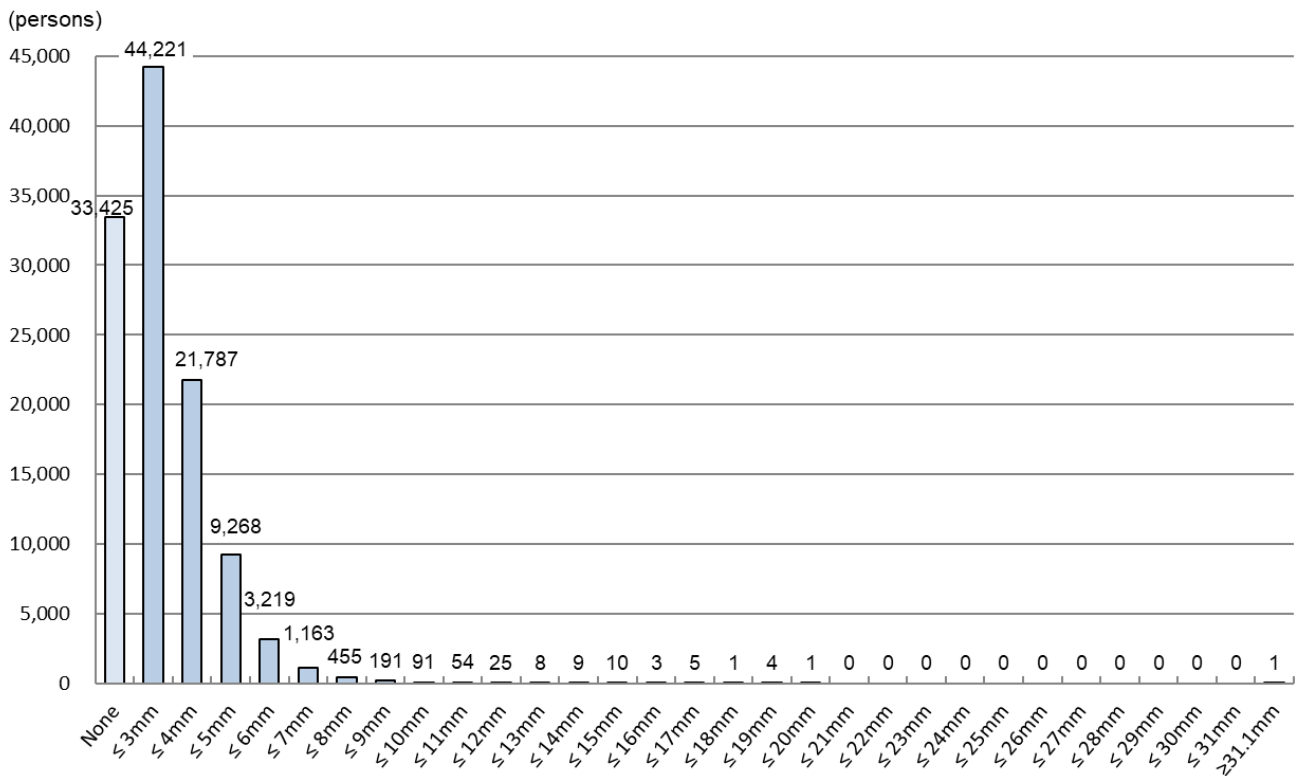
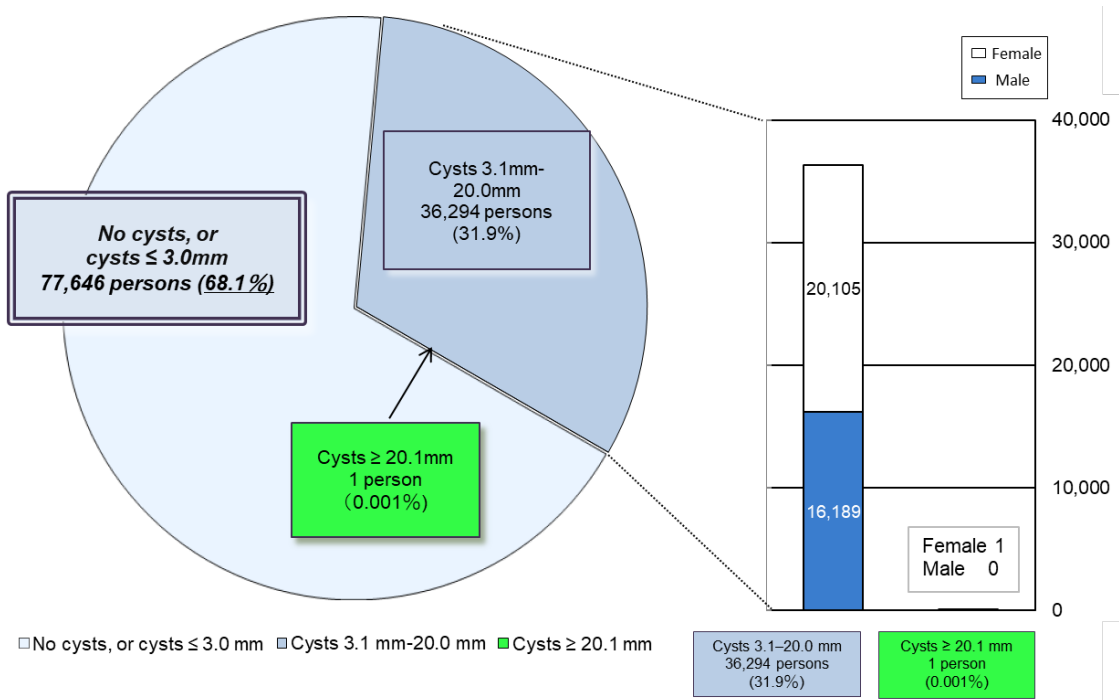
Nodule size	Total	Gender		Grade	
		Male	Female		
None	111,932	56,413	55,519	A1	98.2%
≤ 3.0mm	91	27	64	A2	0.6%
3.1–5.0mm	572	210	362		
5.1–10.0mm	862	284	578	B	1.2%
10.1–15.0mm	294	85	209		
15.1–20.0mm	114	42	72		
20.1–25.0mm	37	10	27		
≥ 25.1mm	39	10	29		
Total	113,941	57,081	56,860		



Appendix 4 – 3 Cyst characteristics

As of September 30, 2023

Cyst size	Total	(persons)		Grade	
		Male	Female		
None	33,425	17,459	15,966	A1	68.1%
≤ 3.0mm	44,221	23,433	20,788	A2	
3.1–5.0mm	31,055	14,332	16,723		
5.1–10.0mm	5,119	1,829	3,290		
10.1–15.0mm	106	25	81		
15.1–20.0mm	14	3	11		
20.1–25.0mm	0	0	0	B	0.001%
≥ 25.1mm	1	0	1		
Total	113,941	57,081	56,860		



Appendix 5 Implementation status of the TUE confirmatory examination, by area

As of September 30, 2023

	Those who participated in primary examination (persons) a	Those referred to confirmatory examination (persons) b b/a (%)	Those who participated in confirmatory examination				Those with finalized results (persons)				
			Total	8-11 years old	12-17 years old	18 and older	Total	A1	A2	Other than A1 or A2	
			c Participation rate c/b (%)	d d/c (%)	e e/c (%)	f f/c (%)	g g/c (%)	h h/g (%)	i i/g (%)	j j/g (%)	k k/j (%)
13 municipalities1)	14,785	156	127	8	61	58	119	0	12	107	8
		1.1	81.4	6.3	48.0	45.7	93.7	0.0	10.1	89.9	7.5
Nakadori2)	65,584	739	611	27	305	279	590	4	60	526	61
		1.1	82.7	4.4	49.9	45.7	96.6	0.7	10.2	89.2	11.6
Hamadori3)	20,782	293	203	3	84	116	187	1	10	176	11
		1.4	69.3	1.5	41.4	57.1	92.1	0.5	5.3	94.1	6.3
Aizu4)	12,790	158	119	4	59	56	111	1	3	107	7
		1.2	75.3	3.4	49.6	47.1	93.3	0.9	2.7	96.4	6.5
Total	113,941	1,346	1,060	42	509	509	1,007	6	85	916	87
		1.2	78.8	4.0	48.0	48.0	95.0	0.6	8.4	91.0	9.5

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

Appendix 6 Surgery cases for malignancy or suspicion of malignancy

1. Municipalities surveyed in FY2020	
Malignant or suspicious for malignancy:	29 (Surgical cases: 25, Papillary thyroid carcinomas: 25)
2. Municipalities surveyed in FY2021	
Malignant or suspicious for malignancy:	14 (Surgical cases: 9, Papillary thyroid carcinomas: 9)
3. Total	
Malignant or suspicious for malignancy:	43 (Surgical cases: 34, Papillary thyroid carcinomas: 34)

Report on the TUE Full-Scale Survey (sixth-round survey)

As of September 30, 2023

1. Summary

1.1 Purpose

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

1.2 Eligible persons

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

1.3 Implementation Period

FY2023 and FY2024, starting in April 2023:

1.3-1 For those 18 years old or younger

The examination will be carried out for 2 years: FY2023 and FY2024.

1.3-2 For those 19 years old or older

The examination will be conducted on an age-group basis (i.e., school grade).

FY2023: those born between FY2000 and FY2003

FY2024: those born in FY2004

1.3-3 For those 25 years old or older

Those who are older than 20 are recommended to receive the examination every 5 years at the ages of 25, 30, and so on (Age 25, and Age 30 Survey)

FY2023: those born in FY1993 and FY1998

FY2024: those born in FY1994 and FY1999

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

1.4 Implementing Organizations (number of medical facilities with agreements for the implementation of thyroid examinations as of September 30, 2023)

Fukushima Prefecture commissioned Fukushima Medical University (FMU) to conduct the survey in cooperation with organizations inside and outside Fukushima for the convenience of participants.

1.4-1 Primary examination facilities

In Fukushima Prefecture 85 medical facilities

Outside Fukushima Prefecture 141 medical facilities

1.4-2 Confirmatory examination facilities

In Fukushima Prefecture 6 medical facilities, including FMU

Outside Fukushima Prefecture 39 medical facilities

1.5 Methods

1.5-1 Primary examination

Ultrasonography of the thyroid gland.

Assessments are made by specialists based on the following criteria:

- Grade A

A1: No nodules/cysts

A2: Nodules \leq 5.0 mm or cysts \leq 20.0 mm

- Grade B

B: Nodules ≥ 5.1 mm or cysts ≥ 20.1 mm

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

-Grade C

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

1.5-2 Confirmatory examination

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

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

1.5-3 Flow chart

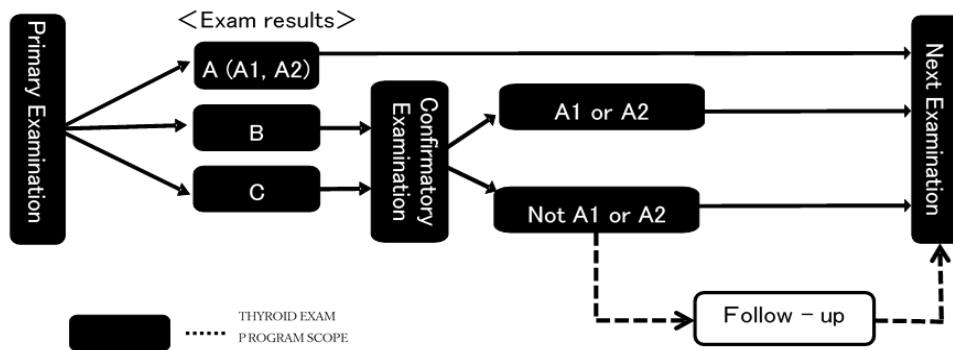


Figure 1 Flow chart

1.6 Municipalities Surveyed

The municipalities where examinations (for those 18 years old or younger) were carried out in FY2023 and FY2024 are as follows:

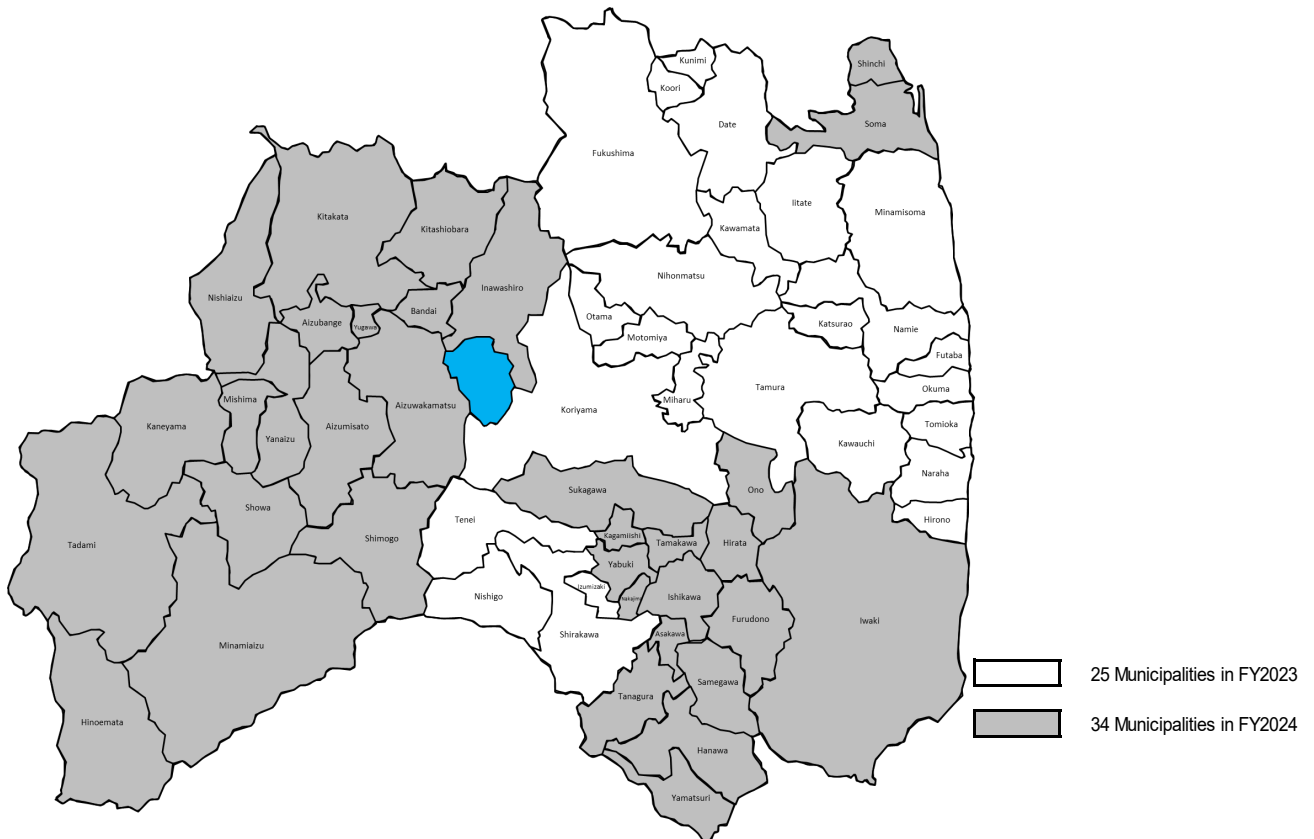


Figure 2 Municipalities covered for primary examinations in FY2023 and FY2024

2. Results as of September 30, 2023

2.1 Results of the Primary Examination

2.1-1 Implementation status

The primary examination was completed for 18,304 participants (8.6%) by September 30, 2023.

Results of 9,978 participants (54.5%) have been finalized and individual reports have been sent to them.

Of these, 2,760 (27.7%) had Grade A1 results, 7,100 (71.2%) had Grade A2, 118 (1.2%) had Grade B, and none had Grade C.

Table 1 Progress and results of the primary examination

	Eligible persons a	Participants (persons)		Judgment rate (%) c (c/b)	Participants with finalized results (persons / %)					
		Participation rate (%) b (b/a)	Those who participated outside Fukushima		Details by grade (%)					
					A		Those referred to confirmatory exam			
		A1 d (d/c)	A2 e (e/c)		B f (f/c)	C g (g/c)				
FY2023	121,797	17,048 (14.0)	1,642	9,496 (55.7)	2,620 (27.6)	6,767 (71.3)	109 (1.1)	0 (0.0)		
FY2024	90,078	1,256 (1.4)	56	482 (38.4)	140 (29.0)	333 (69.1)	9 (1.9)	0 (0.0)		
Total	211,875	18,304 (8.6)	1,698	9,978 (54.5)	2,760 (27.7)	7,100 (71.2)	118 (1.2)	0 (0.0)		

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

	Participants with finalized results a	Participants with nodules / cysts (%)			
		Nodules		Cysts	
		≥ 5.1mm b (b/a)	≤ 5.0mm c (c/a)	≥20.1mm d (d/a)	≤ 20.0mm e (e/a)
FY2023	9,496	108 (1.1)	47 (0.5)	1 (0.0)	6,833 (72.0)
FY2024	482	9 (1.9)	4 (0.8)	0 (0.0)	337 (69.9)
Total	9,978	117 (1.2)	51 (0.5)	1 (0.0)	7,170 (71.9)

- Proportions are rounded to a lower decimal place. This applies to other tables as well.
- Those who receive the examination at 5-year intervals (born between FY1992 and FY1999) are excluded. The results of examinations at 5-year intervals (Age 25 and Age 30 examinations) will be reported separately.
- Examinations for those born in FY1993 (approx. 22,000) and FY1998 (approx. 21,000) take place in FY2023. Examinations for those born in FY1994 (approx. 22,000) and FY1999 (approx. 20,000) will be carried out in FY2024.

2.1-2 Participation rate by age group

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

Table 3 Participation rates by age group

		Total	Age group		
FY2023	Age group*		11 years old	12 to 17 years old	18 to 24 years old
	Eligible persons (a)	121,797	8,410	58,632	54,755
Participants (b)	17,048	2,189	13,951	908	
Participation rate (%) (b/a)	14.0	26.0	23.8	1.7	
FY2024	Age group*			12 to 17 years old	18 to 24 years old
	Eligible persons (a)	90,078		41,638	48,440
	Participants (b)	1,256		536	720
	Participation rate (%) (b/a)	1.4		1.3	1.5
Total	Eligible persons (a)	211,875	8,410	100,270	103,195
	Participants (b)	18,304	2,189	14,487	1,628
	Participation rate (%) (b/a)	8.6	26.0	14.4	1.6

* Age groups are based on ages as of April 1 of each fiscal year

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

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

Among 9,406 (sum of *1) participants with Grade A1 or A2 results in the fifth-round survey, 9,327 (sum of *2, 99.2%) had Grade A results and 79 (sum of *3, 0.8%) had Grade B results in the sixth-round survey.

Among 48 participants with Grade B results in the fifth-round survey, 14 (sum of *4, 29.2%) had Grade A results and 34 (70.8%) had Grade B results in the sixth-round survey.

Table 4 Comparison of the fifth- and sixth-round surveys

			Results of the fifth-round survey*	Results of the sixth-round survey**			
				A		B	C
				A1	A2		
Results of the fifth-round survey	A	A1	2,817 *1 (100.0)	1,999 *2 (71.0)	803 *2 (28.5)	15 *3 (0.5)	0 (0.0)
		A2	6,589 *1 (100.0)	605 *2 (9.2)	5,920 *2 (89.8)	64 *3 (1.0)	0 (0.0)
	B	48 (100.0)	1 *4 (2.1)	13 *4 (27.1)	34 (70.8)	0 (0.0)	
	C	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	
	Did not participate	524 (100.0)	155 (29.6)	364 (69.5)	5 (1.0)	0 (0.0)	
	Total		9,978 (100.0)	2,760 (27.7)	7,100 (71.2)	118 (1.2)	0 (0.0)

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

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

2. Mental Health Care

We provide the following support for thyroid examination participants.

2.1 Support for Primary Examination Participants

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

Consultation booths were set up at all venues for examinations conducted in and after April 2023; as of September 30, 2023, all 278 participants (100%) have visited these consultation booths.

2.2 On-location Lectures and Information Sessions

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

Between April 2023 (the start of FY2023) and September 30, 2023, we delivered 3 on-location sessions (2 at elementary schools and 1 at a junior high school) for 142 students. In total, 15,835 people have participated since the start of these sessions.

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

As of September 30, 2023

1. Summary

1.1 Eligible Persons

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

This report includes the Survey status of those born from FY1992 to FY1997 (those born between April 2, 1992 and April 1, 1998)

1.2 Implementation Period

The Survey for Age 25 (hereinafter "Age 25 Survey") started in FY2017 for those who turned 25 years old during each fiscal year. If residents are unable to receive the examination in the year they turn 25, they are entitled to one any time through the fiscal year before the year they turn 30 (see Figure 1 for the implementation schedule of the Age 25 Survey).

Year of exam Birth year of examinees	FY2017 Age	FY2018 Age	FY2019 Age	FY2020 Age	FY2021 Age	FY2022 Age	FY2023 Age
FY1992	25★	26	27	28	29	30★	31
FY1993	24	25★	26	27	28	29	30★
FY1994	23	24	25★	26	27	28	29
FY1995	22	23	24	25★	26	27	28
FY1996	21	22	23	24	25★	26	27
FY1997	20	21	22	23	24	25★	26
FY1998	19	20	21	22	23	24	25★

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

Figure 1 Implementation schedule for Age 25 Survey

2. Overview of Age 25 Survey as of September 30, 2023

2.1 Results of the Primary Examination

2.1-1 Implementation status

Primary examinations for the Age 25 Survey started in May 2017 for those who turned 25 years old in FY2017 (those born between FY1992 and FY1997) and 11,867 (9.2%) people participated. (See Appendix 1 and Appendix 2 for implementation status by area and implementation status outside Fukushima Prefecture, respectively.)

Results for 11,858 (99.9%) participants have been finalized and individual reports have been sent to them. (See Appendix 3 for details by area.)

Of these, 5,039 (42.5%) had Grade A1 results, 6,172 (52.0%) had Grade A2, 647 (5.5%) had Grade B, and none had Grade C.

Table 1 Progress and results of the primary examination

	Eligible persons a	Participants (persons)		Participants with finalized results (persons / %)								
		Participation rate (%) b (b/a)	Those who participated outside Fukushima	Judgment rate (%) c (c/b)	Details by grade (%)							
					A				Those referred to confirmatory exam			
		A1 d (d/c)	A2 e (e/c)	B f (f/c)	C g (g/c)	A1 d (d/c)	A2 e (e/c)	B f (f/c)	C g (g/c)			
Born in FY1992	22,650	2,343 (10.3)	770	2,343 (100.0)	980 (41.8)	1,258 (53.7)	105 (4.5)	0 (0.0)				
Born in FY1993	21,889	2,348 (10.7)	858	2,348 (100.0)	1,069 (45.5)	1,160 (49.4)	119 (5.1)	0 (0.0)				
Born in FY1994	22,093	1,943 (8.8)	750	1,939 (99.8)	819 (42.2)	1,015 (52.3)	105 (5.4)	0 (0.0)				
Born in FY1995	21,056	2,040 (9.7)	760	2,039 (100.0)	846 (41.5)	1,068 (52.4)	125 (6.1)	0 (0.0)				
Born in FY1996	21,019	1,829 (8.7)	667	1,829 (100.0)	761 (41.6)	951 (52.0)	117 (6.4)	0 (0.0)				
Born in FY1997	20,299	1,364 (6.7)	506	1,360 (99.7)	564 (41.5)	720 (52.9)	76 (5.6)	0 (0.0)				
Total	129,006	11,867 (9.2)	4,311	11,858 (99.9)	5,039 (42.5)	6,172 (52.0)	647 (5.5)	0 (0.0)				

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

	Participants with finalized results (persons) a	Participants with nodules / cysts (%)							
		Nodules				Cysts			
		≥ 5.1mm b (b/a)		≤ 5.0mm c (c/a)		≥ 20.1mm d (d/a)		≤ 20.0mm e (e/a)	
		b	(b/a)	c	(c/a)	d	(d/a)	e	(e/a)
Born in FY1992	2,343	104 (4.4)	53 (2.3)	1 (0.0)	1,305 (55.7)				
Born in FY1993	2,348	119 (5.1)	42 (1.8)	0 (0.0)	1,209 (51.5)				
Born in FY1994	1,939	105 (5.4)	39 (2.0)	0 (0.0)	1,073 (55.3)				
Born in FY1995	2,039	123 (6.0)	36 (1.8)	2 (0.1)	1,123 (55.1)				
Born in FY1996	1,829	116 (6.3)	36 (2.0)	1 (0.1)	1,001 (54.7)				
Born in FY1997	1,360	75 (5.5)	20 (1.5)	1 (0.1)	758 (55.7)				
Total	11,858	642 (5.4)	226 (1.9)	5 (0.0)	6,469 (54.6)				

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

2.1-2 Comparison with previous examination results

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

Among 6,796 participants (sum of *1) with Grade A1 or A2 results in the previous survey, 6,617 (sum of *2, 97.4%) had Grade A1 or A2 results, and 179 (sum of *3, 2.6%) had Grade B results in the Age 25 Survey.

Among 239 participants with Grade B results in the previous survey, 56 (sum of *4, 23.4%) had Grade A (A1 or A2) results, and 183 (76.6%) had Grade B results in the Age 25 Survey.

Table 3 Comparison with the Previous Survey Results

			Results of the previous survey*	Results of the Age 25 survey**			
				A		B	C
			A1	A2	d			e
			a (%)	b (b/a)	c (c/a)	d (d/a)	e (e/a)
Results of the previous survey	A	A1	2,731 *1 (100.0)	2,213 *2 (81.0)	491 *2 (18.0)	27 *3 (1.0)	0 (0.0)
		A2	4,065 *1 (100.0)	668 *2 (16.4)	3,245 *2 (79.8)	152 *3 (3.7)	0 (0.0)
	B		239 (100.0)	5 *4 (2.1)	51 *4 (21.3)	183 (76.6)	0 (0.0)
	C		0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
	Did not participate		4,823 (100.0)	2,153 (44.6)	2,385 (49.5)	285 (5.9)	0 (0.0)
Total			11,858 (100.0)	5,039 (42.5)	6,172 (52.0)	647 (5.5)	0 (0.0)

* Results of the previous survey, just from Age 25 Survey participants with finalized results

** Results of the Age 25 Survey participants diagnosed for each grade in the previous survey. The lower figures are proportions (%).

2.2 Results of the Confirmatory Examination

2.2-1 Implementation status

Of those 647 eligible persons, 545 (84.2%) participated, of whom 535 (98.2%) completed the entire process of the confirmatory examination.

Of the 535 participants, 43 (8.0%) were confirmed to meet Grade A diagnostic criteria by primary examination standards (A1: 5, A2: 38) (including those with other thyroid conditions). The remaining 492 (92.0%) were confirmed to be out of A1/A2 criteria.

Table 4 Progress of the Confirmatory Examination

	Those referred to confirmatory exams (persons) a	Participants (persons)		Those with finalized results (%)					
		Participation rate(%) b (b/a)	Judgment rate (%) c (c/b)	A1		A2		Other than A1 or A2	
				FANC					
				d (d/c)	e (e/c)	f (f/c)	g (g/f)		
Those born in FY1992	105	88 (83.8)	85 (96.6)	0 (0.0)	4 (4.7)	81 (95.3)	8 (9.9)		
Those born in FY1993	119	103 (86.6)	102 (99.0)	1 (1.0)	9 (8.8)	92 (90.2)	9 (9.8)		
Those born in FY1994	105	82 (78.1)	81 (98.8)	2 (2.5)	7 (8.6)	72 (88.9)	6 (8.3)		
Those born in FY1995	125	111 (88.8)	108 (97.3)	0 (0.0)	4 (3.7)	104 (96.3)	11 (10.6)		
Those born in FY1996	117	101 (86.3)	100 (99.0)	2 (2.0)	7 (7.0)	91 (91.0)	11 (12.1)		
Those born in FY1997	76	60 (78.9)	59 (98.3)	0 (0.0)	7 (11.9)	52 (88.1)	4 (7.7)		
Total	647	545 (84.2)	535 (98.2)	5 (0.9)	38 (7.1)	492 (92.0)	49 (10.0)		

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

Among those who underwent FNAC, 23 were classified as malignant or suspicious of malignancy: 4 were male and 19 were female. Participants' age at the time of the confirmatory examination ranged from 24 to 27 years (mean age: 25.3 ± 0.7 years). The minimum and maximum tumor diameters were 5.3 mm and 49.9 mm (mean tumor diameter: 14.2 ± 10.5 mm).

Of these 23 participants, 5 had Grade A results (A1: 1, A2: 4), and 4 had Grade B results in the previous survey. The remaining 14 people did not participate in the previous survey. Of those 4 participants with Grade A2 results, 1 was from nodules and 3 were from cysts

Table 5. Results of FNAC

(The numbers in the parentheses indicate the ranges of mean age and mean tumor size)

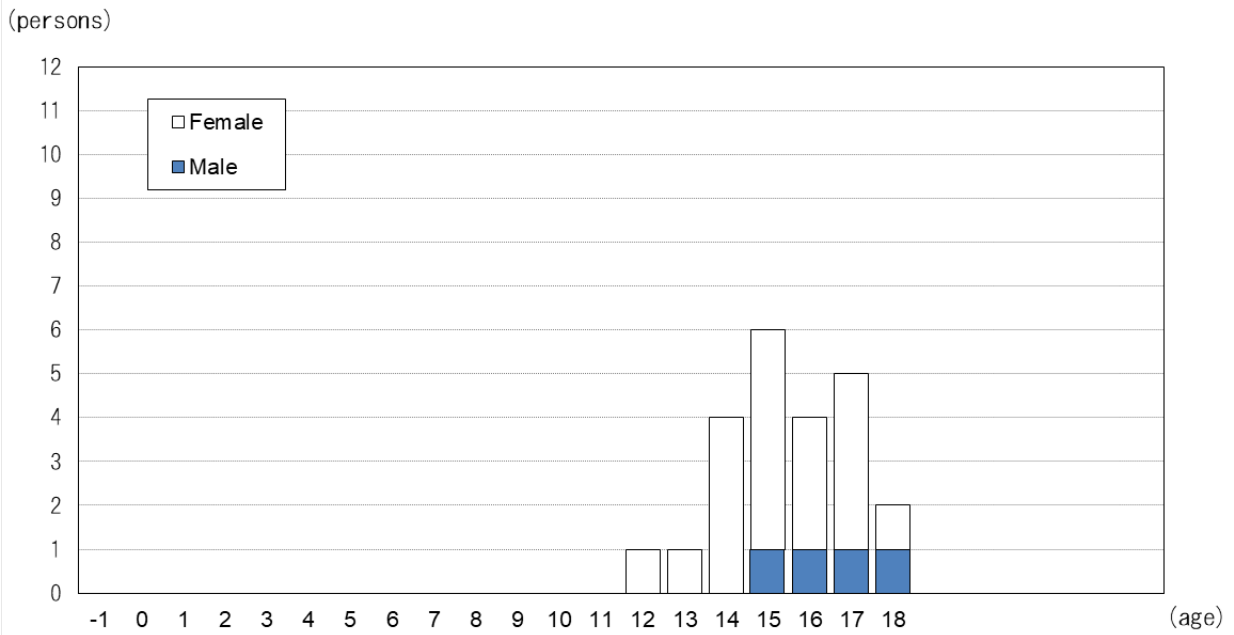
Among those who underwent the Age 25 Survey:

- Malignant or suspicious for malignancy: 23*
- Male to female ratio: 4:19
- Mean age ± SD (min-max): 25.3 ± 0.7 (24–27),
15.5 ± 1.6 (12–18) at the time of the earthquake
- Mean tumor size ± SD (min-max): 14.2 ± 10.5 mm (5.3–49.9 mm)

*Appendix 5 shows surgery cases.

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

Age distribution of those 23 people with malignant or suspicious nodules based on their age as of March 11, 2011, is per Figure 2, and age distribution based on their age at the time of confirmatory examination is per Figure 3.



*-1 – 11 are not included in the Age 25 Survey for those born between FY1992 and FY1997.
 Age -1 covers those born between April 2, 2011, and April 1, 2012.
 Those who were born between March 12, 2011, and April 1, 2011, are included as age 0.

Figure 2 Age as of March 11, 2011

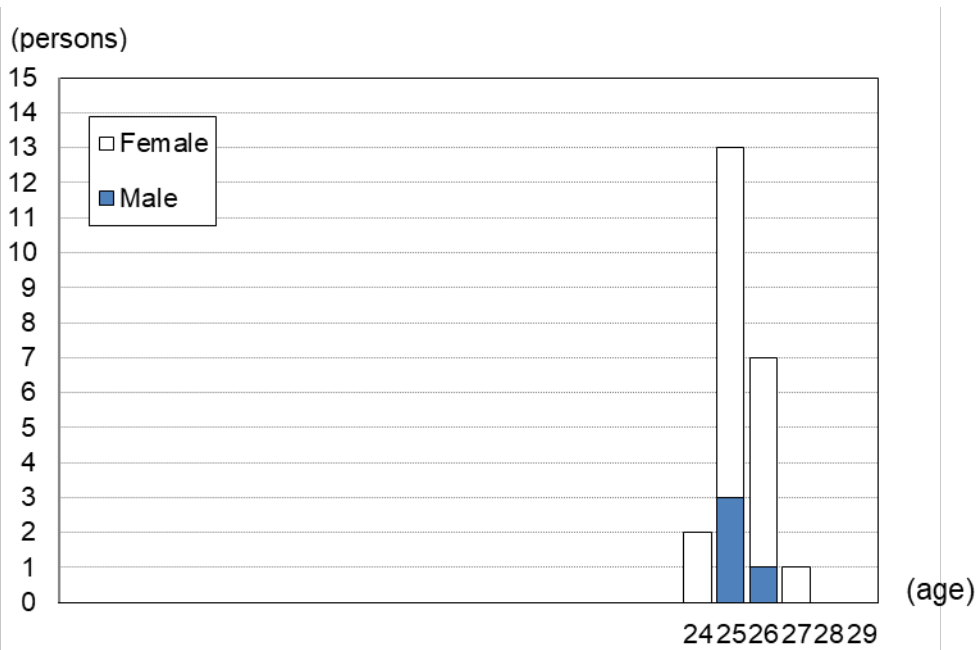


Figure 3 Age at the time of confirmatory examination

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

Of the 23 people with malignant or suspicious nodules, 13 (56.5%) had participated in the Basic Survey (for external radiation dose estimation), and all 13 received their results. The highest effective dose documented was 1.9 mSv.

Table 6 A breakdown of dose estimates for Basic Survey participants

Effective dose (mSv)	Age at the time of the disaster									
	0-5		6-10		11-15		16-18		Total	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
< 1	0	0	0	0	0	5	1	2	1	7
< 2	0	0	0	0	1	2	1	1	2	3
< 5	0	0	0	0	0	0	0	0	0	0
< 10	0	0	0	0	0	0	0	0	0	0
< 20	0	0	0	0	0	0	0	0	0	0
≥ 20	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	1	7	2	3	3	10

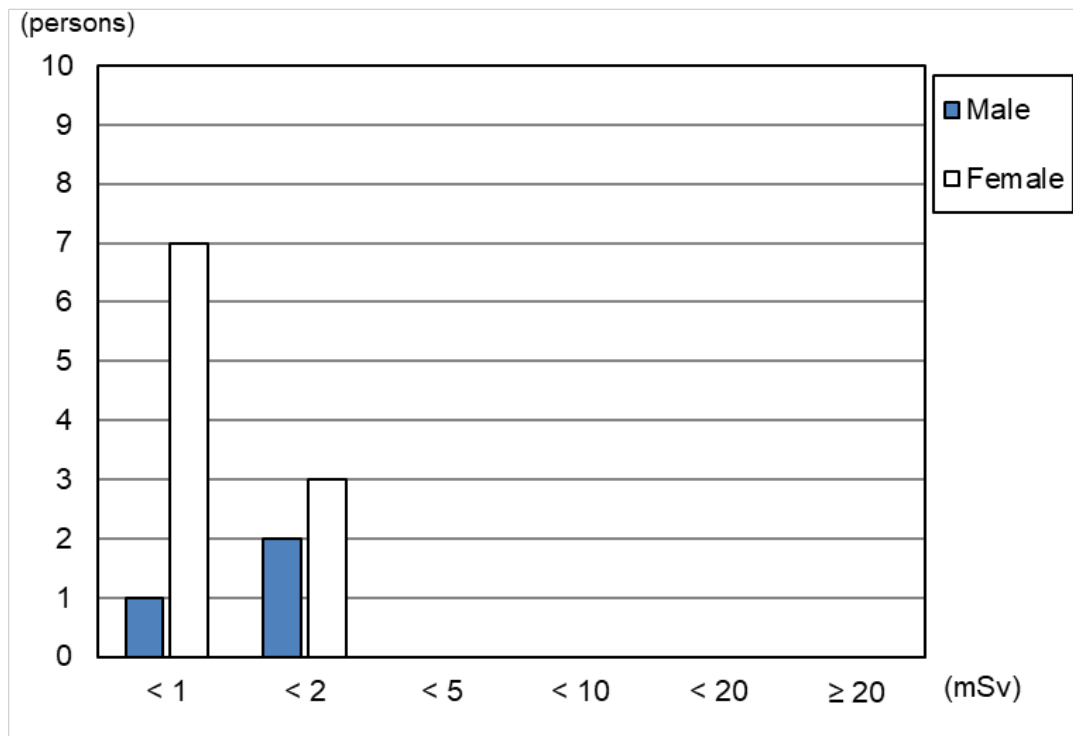


Figure 4 Effective doses of the Basic Survey participants

2.2-5 Blood and urinary iodine test results

Table 7 Blood test results

	FT4 ¹⁾ (ng/dL)	FT3 ²⁾ (pg/mL)	TSH ³⁾ (μ IU/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⁾	\leq 33.7	< 28.0	< 16.0
Malignant or suspicious : 23	1.2 \pm 0.1 (4.3%)	3.3 \pm 0.4 (8.7%)	1.6 \pm 1.6 (21.7%)	34.0 \pm 35.7 (39.1%)	17.4%	17.4%
Other : 489	1.2 \pm 0.2 (6.1%)	3.3 \pm 0.4 (7.8%)	1.2 \pm 0.7 (7.2%)	78.1 \pm 585.5 (21.1%)	11.5%	10.2%

Table 8 Urinary iodine test results

	Minimum	25th percentile	Median	75th percentile	Maximum
Malignant or suspicious : 23	66	102	185	284	953
Other : 486	29	120	183	338	11,060

(μ g/day)

- 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 or Graves' disease.
- 6) TPOAb: anti-thyroid peroxidase antibody; higher among patients with Hashimoto's disease or Graves' disease.
- 7) Reference interval varies according to age.

3 Mental Health Care

3.1 Support for Primary Examination Participants

Since April 2017, medical doctors have offered person-to-person explanations of examination results, showing ultrasound images in private consultation booths at examination venues in public facilities. As of September 30, 2023, of 1,000 participants, 999 (99.9%) visited these consultation booths.

3.2 Support for Confirmatory Examination Participants

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

Since the start of the Age 25 survey, 140 participants (31 males and 109 females) have received support as of September 30, 2023. The number of support sessions provided was 270 in total. Of these, 140 sessions (51.9%) were offered at the participants' first examination and 130 (48.1%) at subsequent examinations.

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

Appendix 1 Implementation status of the Primary Survey by area

As of September 30, 2023

	Eligible persons a	Participants (persons)		Participation rate (%) b/a	Participants living outside the prefecture (persons) c ²⁾	Proportion of participants living outside the prefecture (%) c/b
		b	Those who participated outside Fukushima 1)			
Number of eligible persons (Those born in 1992-1997)						
13 municipalities ³⁾	17,312	1,642	630	9.5	615	37.5
Nakadori ⁴⁾	68,485	6,456	2,312	9.4	2,045	31.7
Hamadori ⁵⁾	24,800	2,619	965	10.6	861	32.9
Aizu ⁶⁾	18,409	1,150	404	6.2	377	32.8
Total	129,006	11,867	4,311	9.2	3,898	32.8

1) The number of those who received examinations at medical facilities outside the prefecture (as of August 31, 2023)

2) The number of those whose place of residence is outside the prefecture

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

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

5) Iwaki City, Soma City, Shinchi Town

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

Appendix 2 Implementation status by prefecture

As of August 31, 2023

Prefecture	No. of medical facilities	Participants (persons)	Prefecture	No. of medical facilities	Participants (persons)	Prefecture	No. of medical facilities	Participants (persons)
Hokkaido	6	69	Fukui	1	4	Hiroshima	2	17
Aomori	3	19	Yamanashi	2	12	Yamaguchi	1	2
Iwate	3	57	Nagano	4	23	Tokushima	1	3
Miyagi	2	446	Gifu	2	5	Kagawa	1	2
Akita	1	17	Shizuoka	3	42	Ehime	3	3
Yamagata	3	54	Aichi	6	74	Kochi	1	2
Ibaraki	4	204	Mie	1	3	Fukuoka	3	21
Tochigi	8	206	Shiga	1	7	Saga	1	1
Gunma	2	50	Kyoto	3	33	Nagasaki	3	2
Saitama	4	253	Osaka	10	63	Kumamoto	1	6
Chiba	5	214	Hyogo	2	33	Oita	1	3
Tokyo	22	1,824	Nara	2	3	Miyazaki	1	3
Kanagawa	7	417	Wakayama	1	3	Kagoshima	1	2
Niigata	3	78	Tottori	1	2	Okinawa	1	7
Toyama	2	7	Shimane	1	1			
Ishikawa	1	5	Okayama	3	9	Total	140	4,311

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

Appendix 3 Primary Survey results by area

As of September 30, 2023

	Number of participants (persons)	Those with finalized results (persons)	Number of participants by final result (persons) (%)				Those with nodules (persons) (%)		Those with cysts (persons) (%)	
			Details by grade (%)				≥ 5.1mm	≤ 5.0mm	≥ 20.1mm	≤ 20.0mm
			A		B	C				
a	b	A1	A2							
Number of eligible persons (Those born in 1992-1997)										
13 municipalities 1)	1,642	1,639	707	845	87	0	86	27	1	884
		99.8	43.1	51.6	5.3	0.0	5.2	1.6	0.1	53.9
Nakadori 2)	6,456	6,450	2,734	3,379	337	0	335	122	2	3,543
		99.9	42.4	52.4	5.2	0.0	5.2	1.9	0.0	54.9
Hamadori 3)	2,619	2,619	1,132	1,346	141	0	140	51	1	1,398
		100.0	43.2	51.4	5.4	0.0	5.3	1.9	0.0	53.4
Aizu 4)	1,150	1,150	466	602	82	0	81	26	1	644
		100.0	40.5	52.3	7.1	0.0	7.0	2.3	0.1	56.0
Total	11,867	11,858	5,039	6,172	647	0	642	226	5	6,469
		99.9	42.5	52.0	5.5	0.0	5.4	1.9	0.0	54.6

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

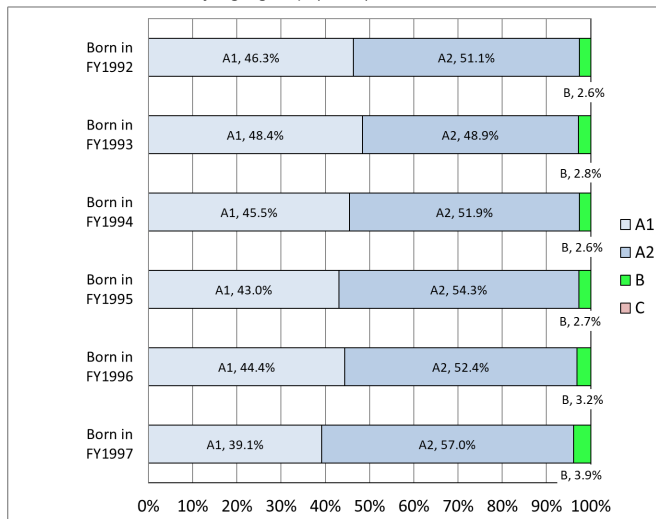
Appendix 4.1 Summary for participants with finalized results, by gender

As of September 30, 2023

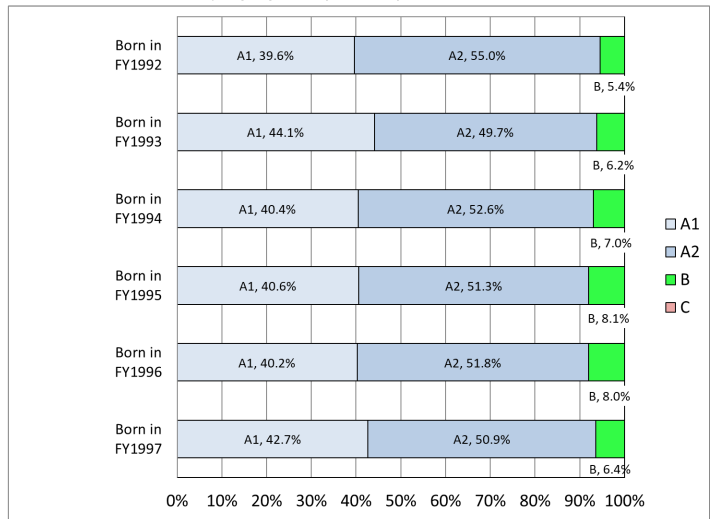
(persons)

Grade / Gender	A						B			C			Total			
	A1			A2			Male	Female	Total	Male	Female	Total	Male	Female	Total	
	Male	Female	Total	Male	Female	Total										
Participants																
Those born in FY1992	360	620	980	397	861	1,258	20	85	105	0	0	0	777	1,566	2,343	
Those born in FY1993	383	686	1,069	387	773	1,160	22	97	119	0	0	0	792	1,556	2,348	
Those born in FY1994	314	505	819	358	657	1,015	18	87	105	0	0	0	690	1,249	1,939	
Those born in FY1995	318	528	846	401	667	1,068	20	105	125	0	0	0	739	1,300	2,039	
Those born in FY1996	267	494	761	315	636	951	19	98	117	0	0	0	601	1,228	1,829	
Those born in FY1997	180	384	564	262	458	720	18	58	76	0	0	0	460	900	1,360	
Total	1,822	3,217	5,039	2,120	4,052	6,172	117	530	647	0	0	0	4,059	7,799	11,858	

Examination results by age group (Male)



Examination results by age group (Female)

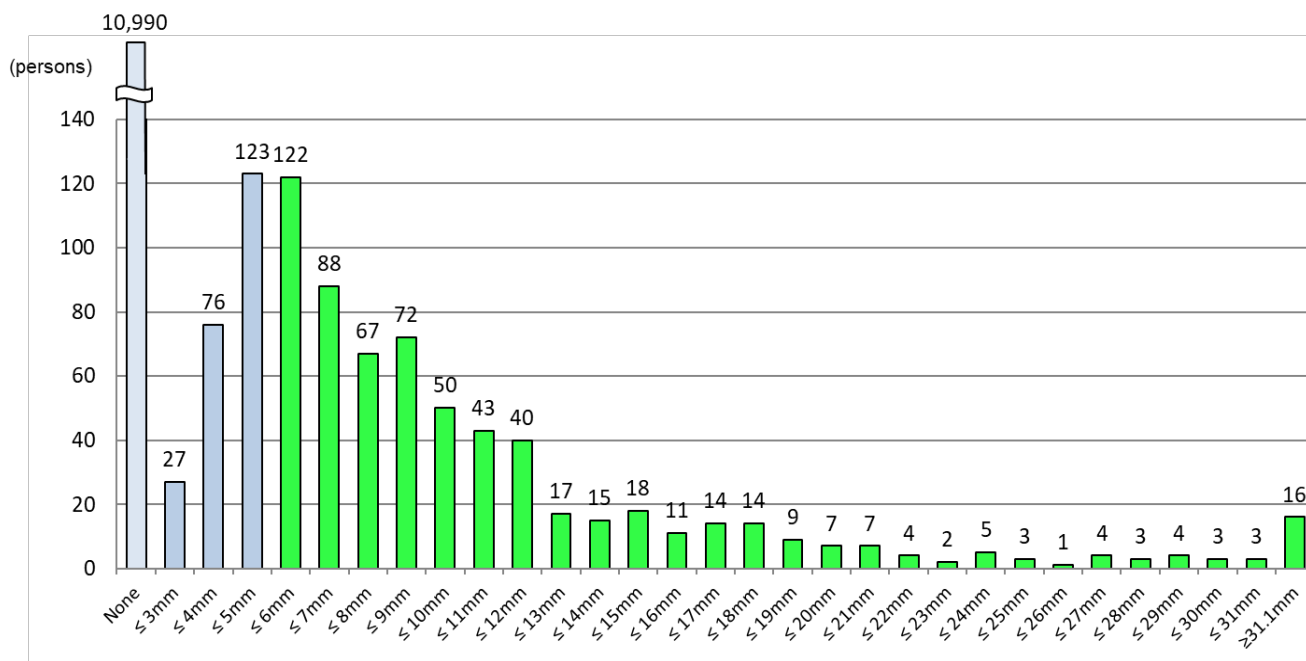
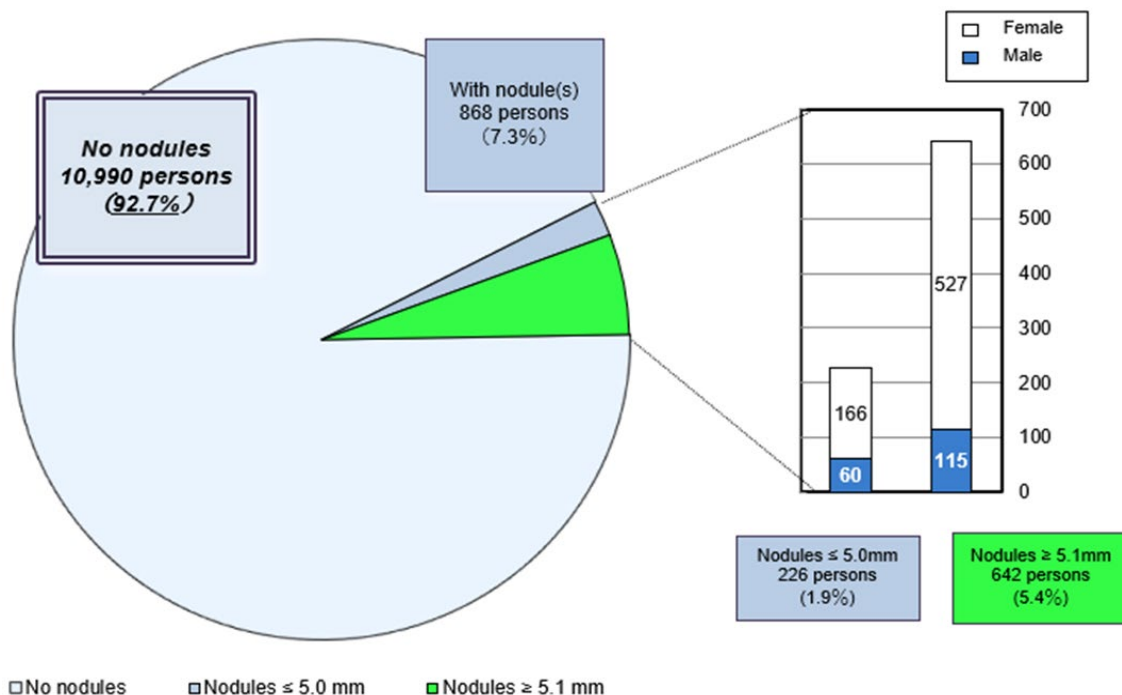


Appendix 4.2 Nodule characteristics

As of September 30, 2023

(persons)

Nodule size	Total	Gender		Grade	
		Male	Female		
None	10,990	3,884	7,106	A1	92.7%
≤ 3.0mm	27	8	19	A2	1.9%
3.1–5.0mm	199	52	147		
5.1–10.0mm	399	72	327	B	5.4%
10.1–15.0mm	133	30	103		
15.1–20.0mm	55	7	48		
20.1–25.0mm	21	3	18		
≥ 25.1mm	34	3	31		
Total	11,858	4,059	7,799		

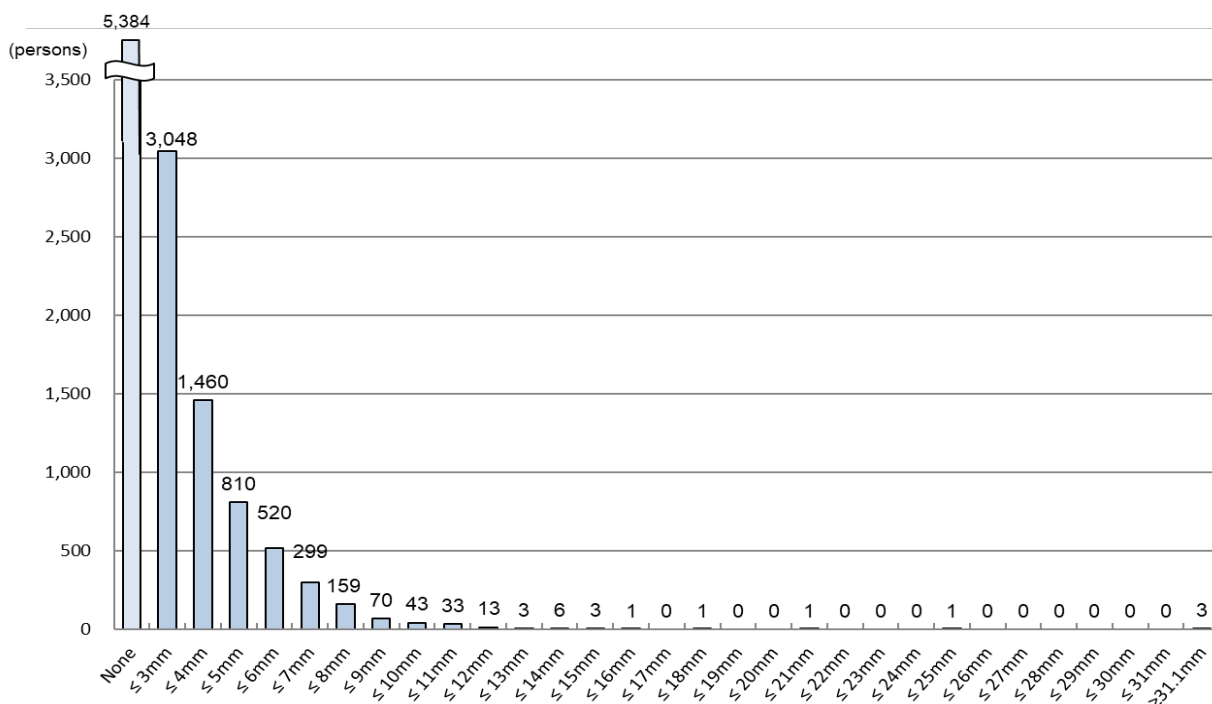
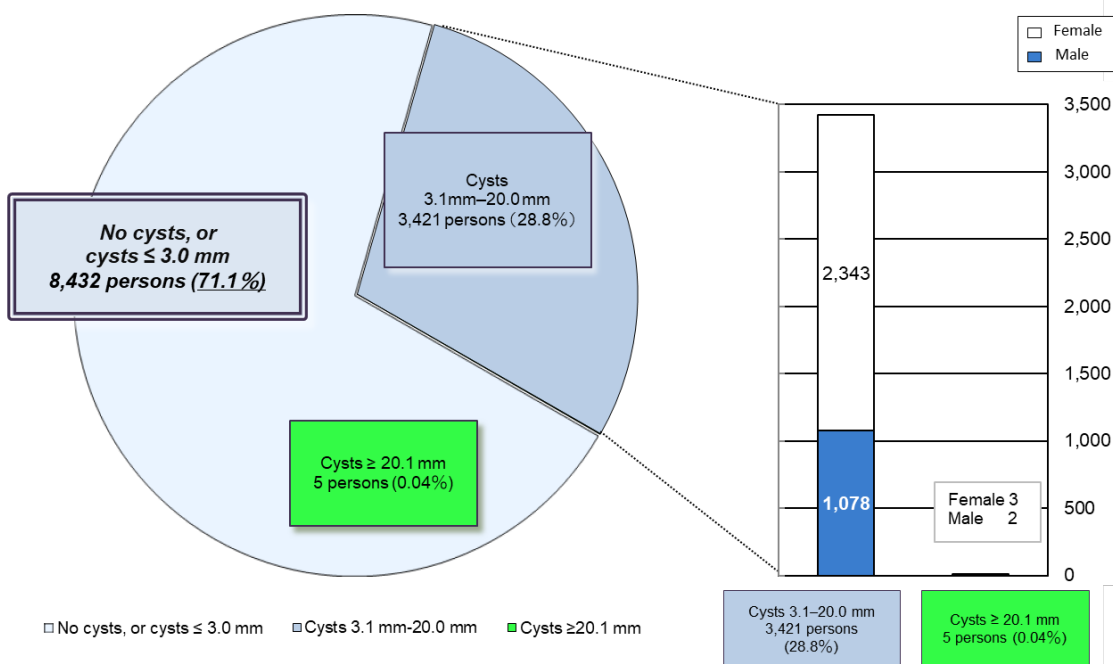


Appendix 4.3 Cyst characteristics

As of September 30, 2023

(persons)

Cyst size	Total	Grade	
		Male	Female
None	5,384	1,899	3,485
≤ 3.0mm	3,048	1,080	1,968
3.1–5.0mm	2,270	767	1,503
5.1–10.0mm	1,091	301	790
10.1–15.0mm	58	9	49
15.1–20.0mm	2	1	1
20.1–25.0mm	2	0	2
≥ 25.1mm	3	2	1
Total	11,858	4,059	7,799



Appendix 5 Surgery cases for malignancy or suspicion of malignancy

Among those who underwent the Age 25 Survey:			
• Malignant or suspicious for malignancy			23
	Surgical cases		17
	Papillary thyroid carcinomas		16
	Follicular thyroid carcinomas		1

Report on the TUE Full-Scale Survey (Survey for Age 30)

As of September 30, 2023

1. Summary

1.1 Eligible Persons

Among Fukushima residents 18 years old or younger at the time of the disaster (those born between April 2, 1992, and April 1, 2012), those who turn 30 years old during each fiscal year are invited to receive a thyroid ultrasound examination (TUE).

This report summarizes the results for those born in FY1992 (born between April 2, 1992 and April 1, 1993)

1.2 Implementation Period

The Survey for Age 30 (hereinafter “Age 30 Survey”) started in FY2022 for those who turn 30 years old during each fiscal year. Suppose residents are unable to receive the examination in the year when they turn 30. In that case, they are entitled to one any time through the fiscal year before the year they turn 35 (see Figure 1 for the implementation schedule of the Age 30 Survey).

- The examinations are offered to those who turn age 30 in each fiscal year.
- Invitations for the examination will be sent to those who turn age 30 in the fiscal year marked with ★.

Year of exam \ Birth year of examinees	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028
	Age	Age	Age	Age	Age	Age	Age
FY1992	30★	31	32	33	34	35★	36
FY1993	29	30★	31	32	33	34	35★

Figure 1 Implementation Schedule for Age 30 Survey

2. Overview of Age 30 Survey as of September 30, 2023

2.1 Results of the Primary Examination

2.1-1 Implementation status

Primary examinations for the Age 30 Survey started in April 2022 for those who turned 30 years old (those born in FY1992) in FY2022, of whom 1,571 (6.9%) people participated. (See Appendix 1 and Appendix 2 for implementation status by area and implementation status outside Fukushima Prefecture, respectively.)

Results for 1,562 (99.4%) participants have been finalized and individual reports have been sent to them. (See Appendix 3 for The Survey results by area.)

Of these, 696 (44.6%) had Grade A1 results, 732 (46.9%) had Grade A2, 134 (8.6%) had Grade B, and none had Grade C.

Table 1 Progress and results of the primary examination

	Eligible persons a	Participants (persons)		Participants with finalized results (persons / %)								
		Participation rate (%) b (b/a)	Those participated outside Fukushima 583	Judgment rate (%) c (c/b)	Details by grade (%)							
					A				Those referred to confirmatory exam			
		A1 d (d/c)	A2 e (e/c)	B f (f/c)	C g (g/c)							
Born in FY1992	22,625	1,571 (6.9)	583	1,562 (99.4)	696 (44.6)	732 (46.9)	134 (8.6)	0 (0.0)				
Total	22,625	1,571 (6.9)	583	1,562 (99.4)	696 (44.6)	732 (46.9)	134 (8.6)	0 (0.0)				

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

	Participants with finalized results (persons) a	Participants with nodules / cysts (%)							
		Nodules				Cysts			
		≥ 5.1mm b (b/a)	≤ 5.0mm c (c/a)	≥ 20.1mm d (d/a)	≤ 20.0mm e (e/a)				
Born in FY1992	1,562	133 (8.5)	59 (3.8)	1 (0.1)	795 (50.9)				
Total	1,562	133 (8.5)	59 (3.8)	1 (0.1)	795 (50.9)				

- Percentages are rounded to a lower decimal place. This applies to other tables as well.
- The number and results of the Age 30 Survey participants are and will be, presented by birth year (fiscal year), not by survey year.

2.1-2 Comparison with previous examination results

Table 3 compares the results of the Age 30 Survey and the Age 25 Survey.

Among 822 participants (sum of *1) with Grade A1 or A2 results in the Age 25 Survey, 783 (sum of *2, 95.3%) had Grade A1 or A2 results, and 39 (sum of *3, 4.7%) had Grade B results in the Age 30 Survey.

Among 37 participants with Grade B results in the Age 25 survey, 4 (sum of *4, 10.8%) had Grade A (A1 or A2) results and 33 (89.2%) had Grade B results in the Age 30 Survey.

Table 3 Comparison with the Age 25 Survey results

			Results of the Age 25 Survey *	Results of the Age 30 Survey **			
				A		B	C
			A1	A2	B	C	
			a (%)	b (b/a)	c (c/a)	d (d/a)	e (e/a)
Results of the Age 25 Survey	A	A1	314 *1 (100.0)	265 *2 (84.4)	42 *2 (13.4)	7 *3 (2.2)	0 (0.0)
		A2	508 *1 (100.0)	101 *2 (19.9)	375 *2 (73.8)	32 *3 (6.3)	0 (0.0)
	B		37 (100.0)	1 *4 (2.7)	3 *4 (8.1)	33 (89.2)	0 (0.0)
	C		0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
	Did not participate		703 (100.0)	329 (46.8)	312 (44.4)	62 (8.8)	0 (0.0)
Total			1,562 (100.0)	696 (44.6)	732 (46.9)	134 (8.6)	0 (0.0)

* Results of the Age 25 Survey participants with finalized results

** Results of the Age 30 Survey participants who were diagnosed for each grade in the Age 25 Survey. The lower figures are their proportion (%).

2.2 Results of the Confirmatory Examination

2.2-1 Implementation status

Of 134 eligible persons, 107 (79.9%) participated, of whom 96 (89.7%) completed the entire process of the confirmatory examination.

Of the aforementioned 96 participants, 7 (7.3%) were confirmed to meet Grade A diagnostic criteria by primary examination standards (A1:1, A2:6) (including those with other thyroid conditions). The remaining 89 (92.7%) were confirmed to be out of A1/A2 criteria.

Table 4 Progress of the Confirmatory Examination

	Those referred to confirmatory exams (persons) a	Participants (persons)		Those with finalized results (%)									
		Participation rate(%)		Judgment rate (%)		A1		A2		Other than A1 or A2			
		b	(b/a)	c	(c/b)	d	(d/c)	e	(e/c)	f	(f/c)	FANC	
												g	(g/f)
Those born in FY1992	134	107	(79.9)	96	(89.7)	1	(1.0)	6	(6.3)	89	(92.7)	13	(14.6)
Total	134	107	(79.9)	96	(89.7)	1	(1.0)	6	(6.3)	89	(92.7)	13	(14.6)

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

Among those who underwent FNAC, 5 participants were classified as malignant or suspicious of malignancy, all of whom were female. Participants' age at the time of the confirmatory examination ranged from 29 to 30 years (mean age: 29.8 ± 0.4 years), and the minimum and maximum tumor diameters were 9.9 mm and 18.6 mm (mean tumor diameter: 12.6 ± 3.6 mm).

Of these 5 participants, 1 had a Grade A2 result, 1 had a Grade B result in the Age 25 Survey, and 3 of them did not participate in the Age 25 Survey. A participant who had A2 result in this survey was the person with A2 for cysts in the Age 25 Survey,

Table 5. Results of FNAC

(The numbers in the parentheses indicate the ranges of mean age and mean tumor size)

Among those who underwent the Age 30 Survey:

- Malignant or suspicious for malignancy: 5*
- Male to female ratio: 0:5
- Mean age \pm SD (min-max): 29.8 ± 0.4 (29–30),
 18.0 ± 0.0 (18–18) at the time of the earthquake
- Mean tumor size \pm SD (min-max): 12.6 ± 3.6 mm (9.9–18.6 mm)

*Appendix 5 shows surgery cases.

3 Mental Health Care

3.1 Support for Primary Examination Participants

At examination venues, we set up consultation booths where our medical doctors offer consultation and explain examination results using ultrasonographic images. As of September 30, 2023, all 169 (100%) examinees have visited the booths.

3.2 Support for Confirmatory Examination Participants

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

Since the start of the Age 30 Survey, 33 participants (6 males and 27 females) have received support as of September 30, 2023. The number of support sessions provided was 67 in total. Of these, 33 sessions (49.3%) were offered at the participants' first examination and 34 (50.7%) at subsequent examinations.

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

Appendix 1 Implementation status of the Primary Survey, by area

As of September 30, 2023

	Eligible persons a	Participants (persons)		Participation rate (%) b/a	Participants living outside the prefecture (persons) c ²⁾	Proportion of participants living outside the prefecture (%) c/b
		b	Those who participated outside Fukushima ¹⁾			
Number of eligible persons (Those born in 1992)						
13 municipalities ³⁾	2,997	222	83	7.4	80	36.0
Nakadori ⁴⁾	12,130	895	333	7.4	320	35.8
Hamadori ⁵⁾	4,226	294	105	7.0	112	38.1
Aizu ⁶⁾	3,272	160	62	4.9	62	38.8
Total	22,625	1,571	583	6.9	574	36.5

1) The number of those who received examinations at medical facilities outside the prefecture (as of August 31, 2023)

2) The number of those whose place of residence is outside the prefecture

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

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

5) Iwaki City, Soma City, Shinchi Town

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

Appendix 2 Implementation status of the Survey, by prefecture

As of August 31, 2023

Prefecture	No. of medical facilities	Participants (persons)	Prefecture	No. of medical facilities	Participants (persons)	Prefecture	No. of medical facilities	Participants (persons)
Hokkaido	6	8	Fukui	1	0	Hiroshima	2	2
Aomori	3	3	Yamanashi	2	1	Yamaguchi	1	1
Iwate	3	7	Nagano	4	8	Tokushima	1	0
Miyagi	2	56	Gifu	2	0	Kagawa	1	1
Akita	1	1	Shizuoka	3	2	Ehime	3	1
Yamagata	3	11	Aichi	6	11	Kochi	1	0
Ibaraki	4	37	Mie	1	1	Fukuoka	3	3
Tochigi	8	28	Shiga	1	1	Saga	1	2
Gunma	2	8	Kyoto	3	6	Nagasaki	3	1
Saitama	4	40	Osaka	10	14	Kumamoto	1	0
Chiba	5	18	Hyogo	2	1	Oita	1	0
Tokyo	22	249	Nara	2	0	Miyazaki	1	0
Kanagawa	7	49	Wakayama	1	0	Kagoshima	1	0
Niigata	3	6	Tottori	1	0	Okinawa	1	1
Toyama	2	0	Shimane	1	0			
Ishikawa	1	1	Okayama	3	4	Total	140	583

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

Appendix 3 Primary Survey results, by area

As of September 30, 2023

	Number of participants (persons)	Those with finalized results (persons)	Number of participants by final result (persons) (%)				Those with nodules (persons) (%)		Those with cysts (persons) (%)	
			Details by grade (%)				≥ 5.1mm	≤ 5.0mm	≥ 20.1mm	≤ 20.0mm
	a	b b/a (%)	A1	A2	B	C				
Number of eligible persons (Those born in 1992)										
13 municipalities 1)	222	221 99.5	103 46.6	97 43.9	21 9.5	0 0.0	21 9.5	8 3.6	0 0.0	110 49.8
Nakadori 2)	895	889 99.3	377 42.4	434 48.8	78 8.8	0 0.0	77 8.7	37 4.2	1 0.1	472 53.1
Hamadori 3)	294	293 99.7	139 47.4	128 43.7	26 8.9	0 0.0	26 8.9	10 3.4	0 0.0	134 45.7
Aizu 4)	160	159 99.4	77 48.4	73 45.9	9 5.7	0 0.0	9 5.7	4 2.5	0 0.0	79 49.7
Total	1,571	1,562 99.4	696 44.6	732 46.9	134 8.6	0 0.0	133 8.5	59 3.8	1 0.1	795 50.9

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

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

3) Iwaki City, Soma City, Shinchi Town

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

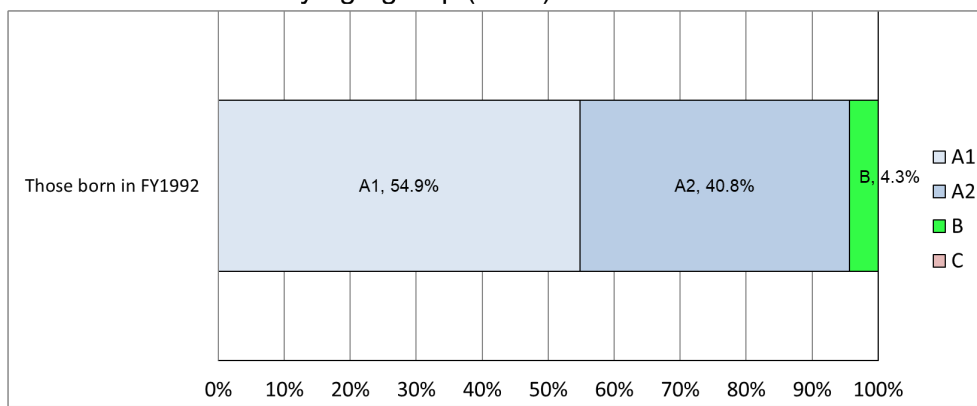
Appendix 4.1 Summary for participants with finalized results, by gender

As of September 30, 2023

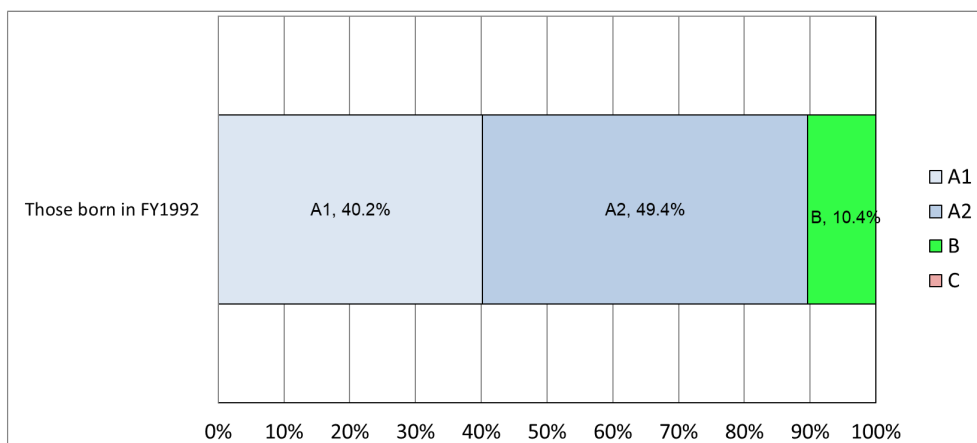
(persons)

Grade / Gender	A						B			C			Total			
	A1			A2			Male	Female	Total	Male	Female	Total	Male	Female	Total	
	Male	Female	Total	Male	Female	Total										
Participants																
Those born in FY1992	254	442	696	189	543	732	20	114	134	0	0	0	463	1,099	1,562	
Total	254	442	696	189	543	732	20	114	134	0	0	0	463	1,099	1,562	

Examination results by age group (Male)



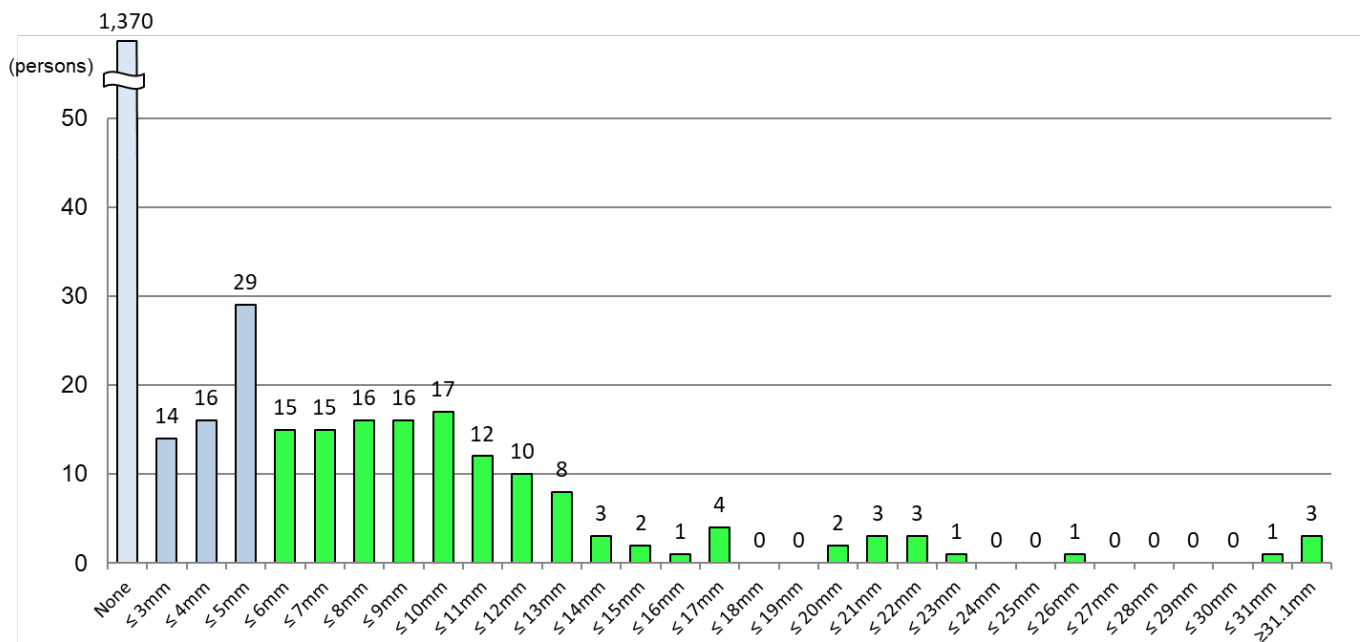
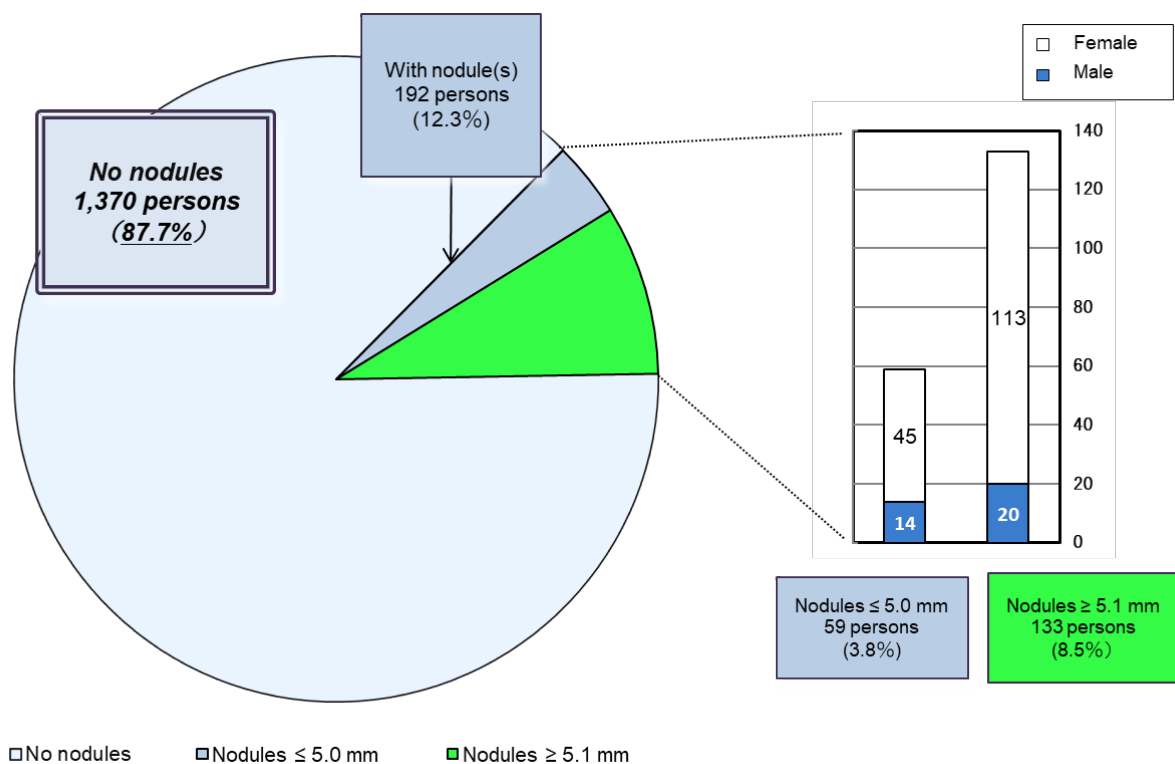
Examination results by age group (Female)



Appendix 4.2 Nodule characteristics

As of September 30, 2023
(persons)

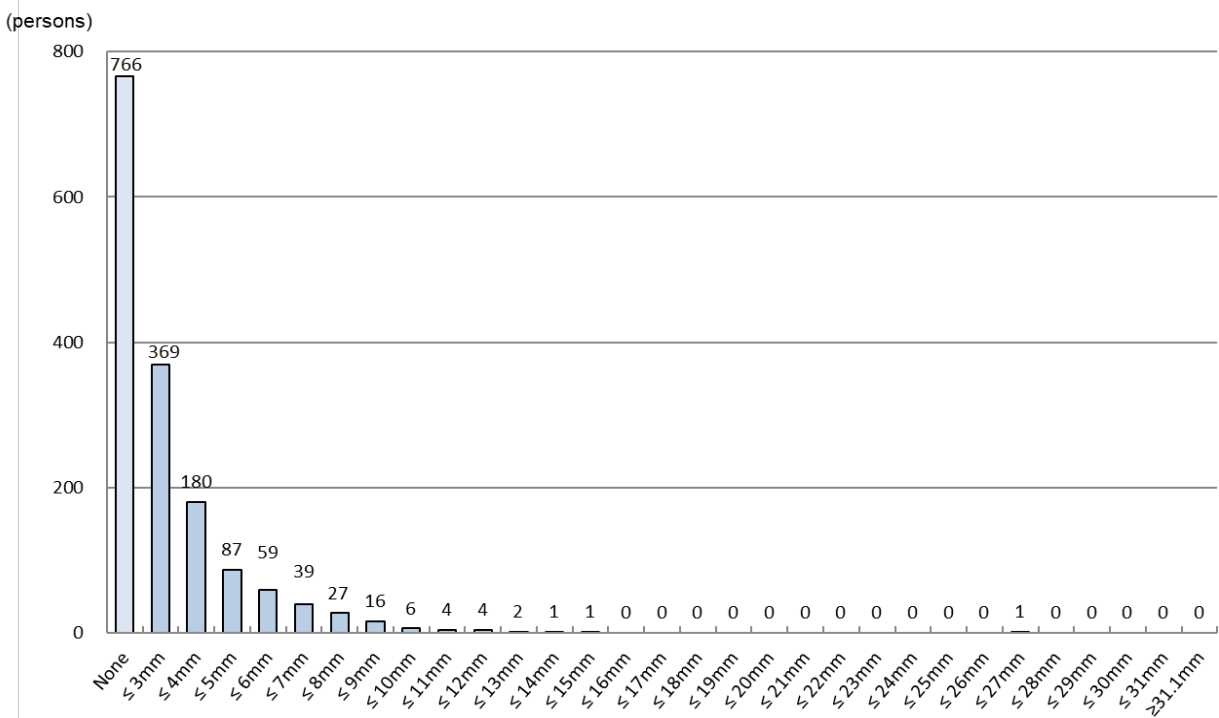
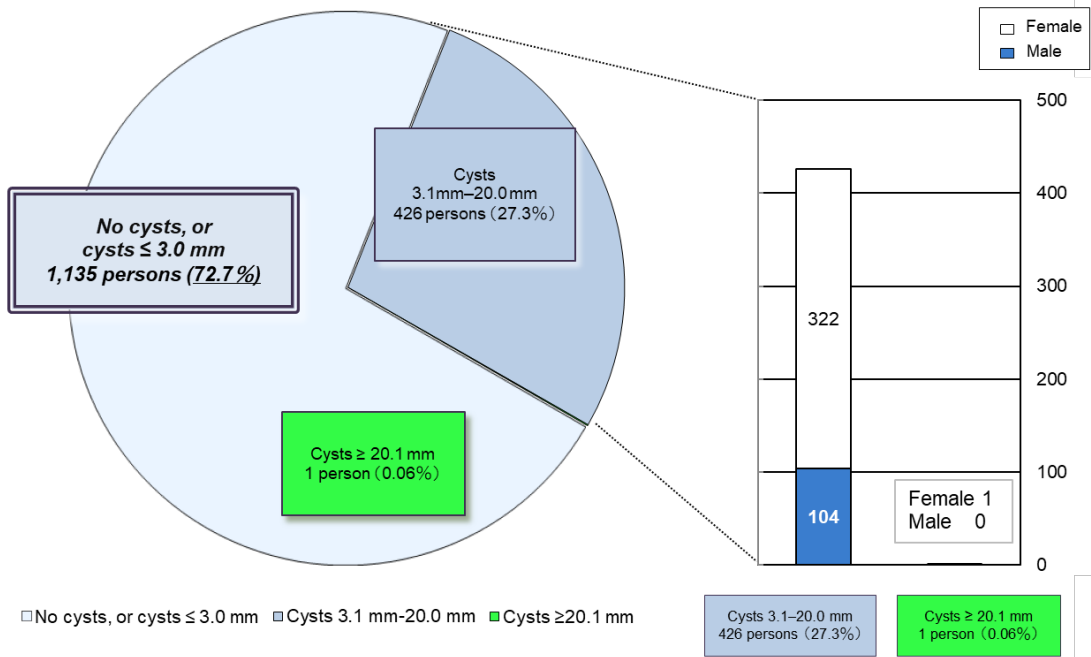
Nodule size	Total	Gender		Grade	
		Male	Female		
None	1,370	429	941	A1	87.7%
≤ 3.0mm	14	3	11	A2	3.8%
3.1–5.0mm	45	11	34		
5.1–10.0mm	79	14	65	B	8.5%
10.1–15.0mm	35	3	32		
15.1–20.0mm	7	1	6		
20.1–25.0mm	7	1	6		
≥ 25.1mm	5	1	4		
Total	1,562	463	1,099		



Appendix 4.3 Cyst characteristics

As of September 30, 2023
(persons)

Cyst size	Total	Gender		Grade	
		Male	Female	Grade	Percentage
None	766	265	501	A1	72.7%
≤ 3.0mm	369	94	275	A2	
3.1–5.0mm	267	70	197		
5.1–10.0mm	147	34	113	B	27.3%
10.1–15.0mm	12	0	12		
15.1–20.0mm	0	0	0		
20.1–25.0mm	0	0	0	B	0.06%
≥ 25.1mm	1	0	1		
Total	1,562	463	1,099		



Appendix 5 Surgical cases for malignancy or suspicion of malignancy

Among those who underwent the Age 30 Survey:			
• Malignant or suspicious for malignancy		5	
	[	Surgical cases	3]
		Papillary thyroid carcinomas	3]