



National Center for
Geriatrics and Gerontology

NILS-LSA Data Catalog



Department of Epidemiology of Aging
National Center for Geriatrics and Gerontology

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How to use

I . NLS-LSA research outline and descriptive statistics

- For the NLS-LSA research outline including the purpose and participants, please see the web page of the Department of Epidemiology of Aging.

<https://www.ncgg.go.jp/research/lab/cgss/departement/ep/>

- For the descriptive statistics of the variables by sex and age group, please see [Published Data] and [Monograph] in the site above.
- The survey periods for each wave are shown below:

Wave	Period
1st	1997 - 2000.4
2nd	2000 - 2002.5
3rd	2003 - 2004.5
4th	2005 - 2006.7
5th	2007 - 2008.7
6th	2009 - 2010.7
7th	2011 - 2012.7

II . Notes

1. Some items were implemented only for a subset of participants, mainly due to starting or stopping data collection during the wave.

If there is a substantial amount of missing data for the certain items, it is indicated with Δ instead of \checkmark ^(*1,2).

*1 Some of items marked with \checkmark are administered only to participants meeting specific criteria. (e.g., men only, those over 60 years of age)

*2 Some of items marked with \checkmark use different response formats/measurement methods depending on waves.

For more details, please refer to the footnotes of this catalog and remarks in the Japanese version of Data Catalog.

2. For the demographic variables such as income and employment status, please refer the "Background Examinations" and "Psychological Examinations" pages.
3. If you find any of the following abbreviations, please refer to the corresponding pages.
 - BG : Background Examinations
 - PE : Psychological Examinations
 - PF : Physical Function and Activities

Background Examinations (2020.9.2 edition)

Variable	1st Wave	2nd Wave	3rd Wave	4th Wave	5th Wave	6th Wave	7th Wave
1. Medical history							
1) Past and present illness							
Cerebrovascular disease or stroke (stroke, cerebral thrombosis, cerebral hemorrhage)	✓	✓	✓	✓	✓	✓	✓
Hypertension	✓	✓	✓	✓	✓	✓	✓
Angina pectoris or myocardial infarction	✓	✓	✓	✓	✓	✓	✓
Other heart disease (arrhythmia, valvular disease, heart failure, etc.)	✓	✓	✓	✓	✓	✓	✓
Dyslipidemia	✓	✓	✓	✓	✓	✓	✓
Renal disease	✓	✓	✓	✓	✓	✓	✓
Liver disease	✓	✓	✓	✓	✓	✓	✓
Cholecystitis or gallstone	✓	✓	✓	✓	✓	✓	✓
Diabetes	✓	✓	✓	✓	✓	✓	✓
Peptic ulcer	✓	✓	✓	✓	✓	✓	✓
Tuberculosis or pleuritis	✓	✓	✓	✓	✓	✓	✓
Asthma	✓	✓	✓	✓		✓	✓
Chronic bronchitis	✓	✓	✓	✓		✓	✓
Anemia	✓	✓	✓	✓	✓	✓	✓
Osteoporosis	✓	✓	✓	✓	✓	✓	✓
Rheumatoid arthritis	✓	✓	✓	✓	✓	✓	✓
Knee osteoarthritis					✓	✓	✓
Gout or hyperuricacidemia	✓	✓	✓	✓	✓	✓	✓
Thyroid disease			✓	✓	✓	✓	✓
Parathyroid disease			✓	✓	✓	✓	✓
Cancer	✓	✓	✓	✓	✓	✓	✓
Fracture	✓	✓	✓	✓	✓	✓	✓
Benign prostatic hyperplasia	✓	✓	✓	✓	✓	✓	✓
Dementia	✓	✓	✓	✓	✓	✓	✓
Parkinson's disease	✓	✓	✓	✓			
Other illness	✓	✓	✓				
2) Medication							
Antihypertensive drug				✓	✓	✓	✓
Oral diabetic medicine				✓	✓	✓	✓
Insulin				✓	✓	✓	✓
3) History of surgery							
History of gastrectomy	✓	✓	✓	✓	✓	✓	✓

Variable	1st Wave	2nd Wave	3rd Wave	4th Wave	5th Wave	6th Wave	7th Wave
History of gall bladder surgery		✓	✓	✓	✓	✓	✓
History of head surgery	✓	✓	✓	✓	✓	✓	✓
History of cardiac surgery	✓	✓	✓	✓	✓	✓	✓
History of lung surgery	✓	✓	✓	✓	✓	✓	✓
History of thyroid surgery	✓	✓	✓	✓	✓	✓	✓
History of other surgery	✓						
History of blood transfusion		✓	✓	✓			
4) History of hospitalization							
History of hospitalization in the past two years	✓	✓	✓	✓	✓	✓	✓
5) History of fracture							
History of proximal femoral fracture in the past two years				✓			
History of distal radial fracture in the past two years				✓			
History of proximal humeral fracture in the past two years				✓			
History of spinal fracture in the past two years				✓			
History of other fracture in the past two years				✓			
6) Family history of illness							
Family history of hypertension	✓	✓	✓	✓	✓	✓	✓
Family history of diabetes	✓	✓	✓	✓	✓	✓	✓
Family history of dyslipidemia	✓	✓	✓	✓	✓	✓	✓
Family history of angina pectoris or myocardial infarction	✓	✓	✓	✓	✓	✓	✓
Family history of cerebrovascular disease or stroke	✓	✓	✓	✓	✓	✓	✓
Family history of dementia	✓	✓	✓	✓	✓	✓	✓
Family history of benign prostatic hyperplasia	✓	✓	✓	✓	✓	✓	✓
Family history of Parkinson's disease	✓	✓	✓	✓			
Family history of glaucoma	✓						
Family history of night blindness	✓						
2. Gynecology (females only)							
1) Menopausal indices (Kupperman index)							✓
2) Menstruation							
Estrogen therapy for osteoporosis or menopausal disorder				✓	✓	✓	✓
Age at first menstruation	✓				✓	✓	✓
Presence of menstruation	✓	✓	✓	✓	✓	✓	✓
Age at menopause	✓	✓	✓	✓	✓	✓	✓
History of hysterectomy	✓	✓	✓	✓	✓	✓	✓
Age at hysterectomy	✓	✓	✓	✓	✓	✓	✓
With or without ovarian conservation	✓	✓	✓	✓	✓	✓	✓

Variable	1st Wave	2nd Wave	3rd Wave	4th Wave	5th Wave	6th Wave	7th Wave
Duration of menstruation	✓	✓					
Most recent menstrual cycle	✓	✓					
Currently menstruating	✓	✓					
Bleeding outside of menstruation	✓	✓					
Changes in menstruation in the past year	✓	✓					
Changes in menstrual cycle	✓	✓	✓	✓	✓	✓	✓
Previous menstrual cycle	✓	✓					
Changes in amount of bleeding	✓	✓					
3. Daily life and health							
1) Health							
Self-rated health	✓	✓	✓	✓	✓	✓	✓
Vertigo, dizziness, disorientation, orthostatic syncope, etc.		✓					
Regular health examinations	✓	✓	✓	✓			
Family doctor	✓	✓	✓				
Affiliated clinical department			✓				
Regular dental examinations			✓				
2) Sleep							
Average duration of sleep	✓ (PF)	✓ (PF)	✓ (PF)	(PF)	(PF)	(PF)	(PF)
Quality of sleep	✓	✓	✓				
Number of naps	✓	✓	✓				
3) Smoking							
Presence of smoking	✓	✓	✓	✓	✓	✓	✓
Former smokers: Age of smoking initiation	✓	✓	✓	✓	✓	✓	✓
Former smokers: Age of cessation of smoking	✓	✓	✓	✓	✓	✓	✓
Former smokers: Number of cigarettes smoked per day in the past	✓	✓	✓	✓	✓	✓	✓
Current smokers: Age of smoking initiation	✓	✓	✓	✓	✓	✓	✓
Current smokers: Number of cigarettes smoked per day currently	✓	✓	✓	✓	✓	✓	✓
Former smokers: Reason for cessation	✓	✓	✓	✓	✓	✓	✓
Inhales the smoke from the cigarettes	✓	✓	✓				
Smokes filtered cigarettes	✓	✓	✓				
Presence of secondhand smoke at home	✓	✓	✓				
Presence of secondhand smoke at home as a school-age child	✓						
Presence of secondhand smoke outside the home	✓	✓	✓				
4) Going out							
Frequency of going out			✓	✓	✓	✓	✓
Main reason for going out			✓	✓	✓	✓	✓

Variable	1st Wave	2nd Wave	3rd Wave	4th Wave	5th Wave	6th Wave	7th Wave
Reason for not going out often			✓	✓	✓	✓	✓
Frequency of meeting and talking with friends, neighbors, or family/relatives who live separately			✓	✓	✓	✓	✓
Needs help when going out			✓	✓	✓	✓	✓
Embarrassed to be seen outside due to a physical disability			✓	✓	✓	✓	✓
Floor number of mainly active rooms			✓	✓	✓	✓	✓
Sometimes uncomfortable going/being outside			✓	✓	✓	✓	✓
5) Disorders relating to daily life activities							
SF-36v2 Japanese version							
Perform vigorous activities				✓	✓	✓	✓
Perform moderate activities				✓	✓	✓	✓
Lift and carry somewhat heavy objects				✓	✓	✓	✓
Climb several flights of stairs				✓	✓	✓	✓
Climb one floor of stairs				✓	✓	✓	✓
Bend forward, kneel, and crouch				✓	✓	✓	✓
Walk more than 1km				✓	✓	✓	✓
Walk more than several hundred meters				✓	✓	✓	✓
Walk more than 100m				✓	✓	✓	✓
Will bathe and dress oneself				✓	✓	✓	✓
Sit in "seiza" posture (sitting on the floor Japanese-style)					✓	✓	✓
Regarding movements that present daily difficulty		✓	✓				
6) Locomotive syndrome							
Stumbles and slips around the house							✓
Cannot walk for 15 minutes continuously							✓
Has difficulty performing heavy work around the house							✓
Cannot cross a crosswalk while the light is green							✓
Needs handrails to climb stairs							✓
Has difficulty carrying ~2kg worth of groceries							✓
Cannot stand on one foot to put on socks							✓
7) Certification of long-term care need							
Certification of long-term care need						✓	✓
Current care level						✓	✓
8) Bodily pain (Back, lower back, knees)							
Experienced some kind of bodily pain in the past month				✓			
Currently experiencing some kind of bodily pain		✓					
Occasional back / lower back pain severe enough to disrupt daily activities		✓	✓	✓			
Trigger of the pain		✓	✓				

Variable	1st Wave	2nd Wave	3rd Wave	4th Wave	5th Wave	6th Wave	7th Wave
Course of the pain		✓	✓				
Presence of lower back pain in the past three months							✓
Severity of pain							✓
History of knee surgery					✓		
History of knee trauma that inhibited walking for two weeks or more					✓		
Has experienced pain in the right knee not due to trauma					✓		
Pain when walking on level surfaces					✓		
Pain when climbing or descending stairs					✓		
Pain when getting into bed					✓		
Pain when getting up from a chair					✓		
Pain when sitting in "seiza" posture (sitting on the floor Japanese-style)					✓		
Has experienced pain in the left knee not due to trauma					✓		
Pain when walking on level surfaces					✓		
Pain when climbing or descending stairs					✓		
Pain when getting into bed					✓		
Pain when getting up from a chair					✓		
Pain when sitting in "seiza" posture (sitting on the floor Japanese-style)					✓		
9) Family history of fracture							
One or more family members have a history of fracture		✓	✓				
One or more family members have kyphosis		✓	✓				
One or both parents have a history of fracture				✓			
One or both parents have kyphosis				✓			
One or both parents have a history of proximal femoral fracture						✓	✓
One or both parents have a history of distal radial fracture						✓	✓
One or both parents have a history of proximal humeral fracture						✓	✓
One or both parents have a history of vertebral fracture						✓	✓
10) Change in height							
Is aware that one's height has decreased		✓	✓	✓		✓	
Is aware that one has kyphosis		✓	✓	✓		✓	
Is concerned about the decrease in one's height or kyphosis		✓	✓				
11) Weight management							
Takes care to maintain a healthy weight	✓	✓					
Has lost 4kg or more within three months by going on a diet before	✓	✓					
Age of first time going on a diet	✓	✓					
Weight lost after first diet	✓	✓					
Age of most recent time going on a diet	✓	✓					

Variable	1st Wave	2nd Wave	3rd Wave	4th Wave	5th Wave	6th Wave	7th Wave
Weight lost after most recent diet	✓	✓					
Has lost 4kg or more within three months from illness or stress before	✓	✓					
Has gained 4kg or more within three months before	✓	✓					
Body type	✓						
Weight at age 18	✓	△	△	△	△	△	△
4. Dental and oral health							
Gingival hyperplasia			✓	△			
Occasional tooth sensitivity			✓	△			
Has a hobby or hobbies			✓	△			
Has a habit of snacking			✓	△			
Has a family dentist			✓	△			
Goes to the dentist for early treatment			✓	△			
Bleeding gums			✓	△			
Brushes at least twice a day			✓	△			
Has one's own toothbrush			✓	△			
5. Eyesight							
Wears glasses	✓	✓	✓	✓	✓	✓	✓
Wears contact lenses		✓	✓	✓	✓	✓	✓
Type of glasses	✓	✓	✓	✓	✓	✓	✓
Type of contact lenses		✓	✓	✓	✓	✓	✓
History of contact lens usage		✓	✓	✓	✓	✓	
Number of days worked outside	✓						
History of surgery in the right eye	✓	✓	✓	✓	✓	✓	✓
History of surgery in the left eye	✓	✓	✓	✓	✓	✓	✓
History of glaucoma	✓	✓	✓	✓	✓	✓	✓
History of cataracts	✓	✓	✓	✓	✓	✓	✓
Finds it difficult to see in daily life	✓						
Eyes sometimes feel fatigued	✓						
Eyes sometimes feel dry	✓						
Looks at computer screens	✓						
Feels headache or numbness in the hands when looking at a computer screen	✓						
Screen time (TV, videos, etc.)	✓						
Feels range of activities is limited due to poor eyesight	✓						
Feels loss of confidence due to poor eyesight	✓						
Has experienced temporary loss of vision	✓						
Has experienced double vision	✓						

Variable	1st Wave	2nd Wave	3rd Wave	4th Wave	5th Wave	6th Wave	7th Wave
Has experienced distorted vision	✓						
Sometimes feels that it is too bright	✓						
Difficulty seeing in the dark	✓						
Has had a vision test in the past two years				✓	✓	✓	
Has had an ophthalmological exam in the past two years				✓	✓	✓	
Wears a hat or uses a parasol		✓	✓	✓	✓	✓	
Wears sunglasses		✓	✓	✓	✓	✓	
Self-rated vision (including eyesight)		✓	✓	✓	✓	✓	
Japanese version of the 25-item National Eye Institute Visual Function Questionnaire (NEI VFQ-25)							
Overall health							✓
Eyesight							✓
Anxiety about eyesight							✓
Pain or discomfort in and/or around the eyes							✓
Level of difficulty of reading a newspaper article							✓
Level of difficulty of seeing things up close							✓
Level of difficulty of reading small print							✓
Level of difficulty of reading street signs and shop signs							✓
Level of difficulty of walking down stairs or down from curbs in the dark							✓
Frequency of not noticing objects in one's surroundings while walking							✓
Level of difficulty of seeing reactions of people whom one is talking to							✓
Level of difficulty of putting an outfit together							✓
Level of difficulty of going to visit someone at their home, attending a get-together, or going to a restaurant							✓
Level of difficulty of enjoying a TV show							✓
Currently drives a car							✓
Those not currently driving: Driving experience to date							✓
Those who stopped driving: Reason for stopping driving							✓
Those who are currently driving: Difficulty with driving during the day							✓
Those who are currently driving: Difficulty with driving at night							✓
Frequency of not being able to finish a task due to poor eyesight							✓
Frequency of not being able to continue a task for a long period due to poor eyesight							✓
Frequency of eye pain or discomfort being a hindrance when performing tasks							✓
Stays home often due to poor eyesight							✓
Feels frustrated due to poor eyesight							✓
Cannot do the things one wants due to poor eyesight							✓
Must depend on what others say due to poor eyesight							✓
Needs help due to poor eyesight							✓

Variable	1st Wave	2nd Wave	3rd Wave	4th Wave	5th Wave	6th Wave	7th Wave
Worries about getting in an awkward situation due to poor eyesight							✓
6. Hearing							
Uses a hearing aid(s)	✓	✓	✓	✓	✓	✓	✓
Presence of tinnitus	✓	✓	✓	✓	✓	✓	✓
Position of tinnitus			✓	✓	✓	✓	✓
Difficulty hearing important sounds due to tinnitus			✓	✓	✓	✓	✓
Feels discomfort when tinnitus occurs			✓	✓	✓	✓	✓
History of ear disorders	✓	✓	✓	✓	✓	✓	✓
Type of ear disorder	✓	✓	✓	✓	✓	✓	✓
History of ear surgery	✓	✓	✓	✓	✓	✓	✓
Underwent examination at a hospital after head injury					✓	✓	✓
Presence of loud noises at the workplace	✓	✓	✓	✓	✓	✓	✓
Lives in a noisy area		✓	✓	✓	✓	✓	✓
Number of years one has been living in a noisy area		✓	✓	✓			
Age when one moved into the noisy area		✓	✓	✓			
Number of years one lived in a noisy area in the past		✓	✓	✓			
Frequency of visiting noisy place(s)		✓	✓	✓	✓	✓	✓
Feels that one's own hearing is poor	✓	✓	✓	✓	✓	✓	✓
Has been told that one's hearing is poor			✓	✓	✓	✓	✓
Feels range of activities is limited due to poor hearing	✓	✓	✓	✓	✓	✓	✓
Feels loss of confidence due to poor hearing	✓	✓	✓	✓	✓	✓	✓
Sometimes has difficulty making out what people are saying	✓	✓	✓	✓	✓	✓	✓
Can understand what is being said on the news on TV	✓	✓	✓	✓	✓	✓	✓
Can follow a conversation among 4–5 people in a quiet room	✓	✓	✓	✓	✓	✓	✓
Has had hearing exam results that indicate something is wrong	✓	✓	✓	✓			
Uses headphones	✓	✓	✓	✓			
Uses earphones	✓	✓	✓	✓			
7. Falling							
About one's daily life	✓						
Fear of falling	✓	✓	✓	✓	✓	✓	✓
Fear of falling is a hindrance to daily activities	✓	✓					
Has falling in the past year	✓	✓	✓	✓	✓	✓	✓
Number of times fallen in the past year		✓	✓	✓	✓	✓	✓
Month when the fall occurred	✓	✓	✓	✓	✓	✓	✓
Time of day when the fall occurred	✓	✓	✓	✓	✓	✓	✓
Direction of the fall			✓	✓	✓	✓	✓

Variable	1st Wave	2nd Wave	3rd Wave	4th Wave	5th Wave	6th Wave	7th Wave
Place where the fall occurred	✓	✓	✓	✓	✓	✓	✓
Footwear worn when the fall occurred	✓	✓	✓	✓	✓	✓	✓
Activity being performed when the fall occurred	✓	✓	✓	✓	✓	✓	✓
Most significant cause of the fall	✓	✓	✓	✓	✓	✓	✓
Physical trauma(s) caused by the fall	✓	✓	✓	✓	✓	✓	✓
8. Urination							
1) Urinary symptoms							
Number of urinations		✓					
Number of nighttime urinations		✓					
	✓	✓					
Feeling of there "still being more" after urinating	Males only	Males only	✓	✓	✓	✓	✓
	✓	✓					
Sometimes have to go again within two hours of urinating	Males only	Males only	✓	✓	✓	✓	✓
	✓	✓					
Flow of urine sometimes stops during urination	Males only	Males only	✓	✓	✓	✓	✓
	✓	✓					
Sometimes difficult to "hold it"	Males only	Males only	✓	✓	✓	✓	✓
	✓	✓					
Flow of urine is sometimes weak	Males only	Males only	✓	✓	✓	✓	✓
	✓	✓					
Needs to strain at the beginning of urination	Males only	Males only	✓	✓	✓	✓	✓
	✓	✓					
Number of urinations between going to bed and waking up in the morning	Males only	Males only	✓	✓	✓	✓	✓
	✓	✓					
Self-rated urination status	Males only	Males only	✓	✓	✓	✓	✓
2) Urinary incontinence							
	✓	✓					
Has experienced urinary incontinence	Females only	Females only	✓	✓	✓	✓	✓
Currently experiences urinary incontinence					✓	✓	✓

Variable	1st Wave	2nd Wave	3rd Wave	4th Wave	5th Wave	6th Wave	7th Wave
Frequency of urinary incontinence	✓ Females only	✓ Females only	✓	✓	✓	✓	✓
Amount of urine leaked	✓ Females only	✓ Females only	✓	✓	✓	✓	✓
Degree of impact on daily life		✓ Females only	✓	✓	✓	✓	✓
Trigger of urinary incontinence	✓ Females only	✓ Females only	✓	✓	✓	✓	✓
9. Demographic variables							
Employment status	✓	✓	✓	(PE)	(PE)	(PE)	(PE)
Category of current occupation	✓	✓	✓	(PE)	(PE)	(PE)	(PE)
Works a night shift	✓	✓	✓				
Number of night shift days	✓	✓	✓				
Job title	✓						
Has direct subordinates	✓						
Number of employees at workplace	✓						
Number of weekly overtime hours	✓	✓	✓				
Has retired		✓					
Longest-held job	✓	✓	✓				
Years worked at longest-held job	✓	✓	✓				
Total household income	✓	✓	✓	(PE)	(PE)	(PE)	(PE)
Level of satisfaction with financial situation		✓	✓	(PE)	(PE)	(PE)	(PE)
Educational background	✓	✓	✓	(PE)	(PE)	(PE)	(PE)
Marital status	✓	✓	✓	(PE)	(PE)	(PE)	(PE)
10. Leisure time and sense of life purpose							
Leisure time activities		✓	✓	(PE)	(PE)	(PE)	(PE)
Sense of life purpose	✓	✓	✓	(PE)	(PE)	(PE)	(PE)
11. Family							
Family member(s) the respondent lives with	✓	✓	✓	(PE)	(PE)	(PE)	(PE)
Family member(s) acting as caregivers	✓	✓	✓				
Relationship to the respondent of those needing care	✓	✓	✓				
Relationship to the respondent of those giving care	✓	✓					
Degree of care			✓				

Variable	1st Wave	2nd Wave	3rd Wave	4th Wave	5th Wave	6th Wave	7th Wave
Living situation of the one needing care			✓				
Hires a home care nursing service			✓				
Children living separately		✓	✓				
Number of children living separately			✓				
Frequency with which the children who live separately visit the respondent	✓	✓	✓				
Frequency of phone or email exchanges with children living separately	✓	✓	✓				
Living children	✓	✓					
Number of living children	✓	✓					
Age of youngest living child	✓	✓					
Living grandchildren	✓	✓					
Number of living grandchildren	✓	✓					
Family member(s) who have moved away from their family for work		✓					
Relationship to the respondent of the aforementioned family member(s)		✓					
12. ADL							
Katz Index	(PE)	(PE)	(PE)	(PE)	(PE)	✓	✓

Note 1:

The Background Examinations were given as a self-administered questionnaire.

Medication (2020.9.2 edition)

Category Number	Variable	1st Wave	2nd Wave	3rd Wave	4th Wave	5th Wave	6th Wave	7th Wave
1. Agents affecting nervous system and sensory organs								
11	Agents affecting central nervous system							
111	General anesthetics	✓	✓	✓	✓	✓	✓	✓
112	Hypnotics and sedatives, antianxiotics	✓	✓	✓	✓	✓	✓	✓
113	Antiepileptics	✓	✓	✓	✓	✓	✓	✓
114	Antipyretics, analgesics and anti-inflammatory agents	✓	✓	✓	✓	✓	✓	✓
115	Central nervous system stimulants	✓	✓	✓	✓	✓	✓	✓
116	Antiparkinsonism agents	✓	✓	✓	✓	✓	✓	✓
117	Psychotropic agents	✓	✓	✓	✓	✓	✓	✓
118	Agents used for common cold	✓	✓	✓	✓	✓	✓	✓
119	Other agents affecting central nervous system	✓	✓	✓	✓	✓	✓	✓
12	Agents affecting peripheral nervous system							
121	Local anesthetics	✓	✓	✓	✓	✓	✓	✓
122	Skeletal muscle relaxants	✓	✓	✓	✓	✓	✓	✓
123	Autonomic agents	✓	✓	✓	✓	✓	✓	✓
124	Antispasmodics	✓	✓	✓	✓	✓	✓	✓
125	Diaphoretics and anhidrotics	✓	✓	✓	✓	✓	✓	✓
129	Other agents affecting peripheral nervous system	✓	✓	✓	✓	✓	✓	✓
13	Agents affecting sensory organs							
13100	Agents for ophthalmic use (others)	✓	✓	✓	✓	✓	✓	✓
13111	Agents for ophthalmic use (cataract)	✓	✓	✓	✓	✓	✓	✓
13121	Agents for ophthalmic use (pilocarpine)	✓	✓	✓	✓	✓	✓	✓
13122	Agents for ophthalmic use (β-blocker)	✓	✓	✓	✓	✓	✓	✓
13123	Agents for ophthalmic use (epinephrine)	✓	✓	✓	✓	✓	✓	✓
13124	Agents for ophthalmic use (other glaucoma agents)	✓	✓	✓	✓	✓	✓	✓
13131	Agents for ophthalmic use (steroid)	✓	✓	✓	✓	✓	✓	✓
13199	Agents for ophthalmic use (unknown)	✓	✓	✓	✓	✓	✓	✓
132	Agents for otic and nasal use	✓	✓	✓	✓	✓	✓	✓
133	Antimotion sickness agents	✓	✓	✓	✓	✓	✓	✓
139	Other agents affecting sensory organs	✓	✓	✓	✓	✓	✓	✓
2. Agents affecting individual organs								
21	Cardiovascular agents							
21101	Digitalis preparations	✓	✓	✓	✓	✓	✓	✓
21102	Xanthine preparations	✓	✓	✓	✓	✓	✓	✓

Category Number	Variable	1st Wave	2nd Wave	3rd Wave	4th Wave	5th Wave	6th Wave	7th Wave
21103	Other cardiotonics	✓	✓	✓	✓	✓	✓	✓
21201	β-blocking agents	✓	✓	✓	✓	✓	✓	✓
21202	Membrane stabilizer	✓	✓	✓	✓	✓	✓	✓
21203	Other antiarrhythmic agents	✓	✓	✓	✓	✓	✓	✓
21301	Thiazide derivatives preparations	✓	✓	✓	✓	✓	✓	✓
21302	Loop diuretics	✓	✓	✓	✓	✓	✓	✓
21303	Potassium-sparing diuretics	✓	✓	✓	✓	✓	✓	✓
21304	Carbonic anhydrase inhibitors	✓	✓	✓	✓	✓	✓	✓
21305	Other diuretics	✓	✓	✓	✓	✓	✓	✓
214	Unknown antihypertensives	✓	✓	✓	✓	✓	✓	✓
21401	ACE inhibitors	✓	✓	✓	✓	✓	✓	✓
21402	Calcium channel blockers	✓	✓	✓	✓	✓	✓	✓
21403	Other antihypertensives	✓	✓	✓	✓	✓	✓	✓
215	Capillary stabilizers	✓	✓	✓	✓	✓	✓	✓
216	Vasoconstrictors	✓	✓	✓	✓	✓	✓	✓
217	Vasodilators	✓	✓	✓	✓	✓	✓	✓
218	Agents for hyperlipidemias	✓	✓	✓	✓	✓	✓	✓
219	Other cardiovascular agents	✓	✓	✓	✓	✓	✓	✓
22	Agents affecting respiratory organs							
221	Respiratory stimulants	✓	✓	✓	✓	✓	✓	✓
222	Antitussives	✓	✓	✓	✓	✓	✓	✓
223	Expectorants	✓	✓	✓	✓	✓	✓	✓
224	Antitussives and expectorants	✓	✓	✓	✓	✓	✓	✓
225	Bronchodilators	✓	✓	✓	✓	✓	✓	✓
226	Gargles	✓	✓	✓	✓	✓	✓	✓
229	Other agents affecting respiratory organs	✓	✓	✓	✓	✓	✓	✓
23	Agents affecting digestive organs							
231	Antidiarrheals, intestinal regulators	✓	✓	✓	✓	✓	✓	✓
232	Agents for peptic ulcer	✓	✓	✓	✓	✓	✓	✓
233	Stomachics and digestives	✓	✓	✓	✓	✓	✓	✓
234	Antacids	✓	✓	✓	✓	✓	✓	✓
235	Purgatives and clysters	✓	✓	✓	✓	✓	✓	✓
236	Cholagogues	✓	✓	✓	✓	✓	✓	✓
237	Combined gastrointestinal agents	✓	✓	✓	✓	✓	✓	✓
239	Other agents affecting digestive organs	✓	✓	✓	✓	✓	✓	✓

Category Number	Variable	1st Wave	2nd Wave	3rd Wave	4th Wave	5th Wave	6th Wave	7th Wave
24	Hormone preparations (including antihormone preparations)							
241	Pituitary hormone preparations	✓	✓	✓	✓	✓	✓	✓
242	Salivary gland hormone preparations	✓	✓	✓	✓	✓	✓	✓
243	Thyroid and para-thyroid hormone preparations	✓	✓	✓	✓	✓	✓	✓
244	Anabolic steroids and preparations	✓	✓	✓	✓	✓	✓	✓
245	Adrenal hormone preparations	✓	✓	✓	✓	✓	✓	✓
246	Androgen preparations	✓	✓	✓	✓	✓	✓	✓
247	Estrogen and gestagen preparations	✓	✓	✓	✓	✓	✓	✓
248	Mixed hormone preparations	✓	✓	✓	✓	✓	✓	✓
249	Other hormone preparations	✓	✓	✓	✓	✓	✓	✓
25	Agents for uro-genital and anal organs							
251	Agents affecting urinary organs	✓	✓	✓	✓	✓	✓	✓
252	Agents affecting genital organs	✓	✓	✓	✓	✓	✓	✓
253	Oxytocics	✓	✓	✓	✓	✓	✓	✓
254	Contraceptives	✓	✓	✓	✓	✓	✓	✓
255	Antihemorrhoidals	✓	✓	✓	✓	✓	✓	✓
259	Other agents for uro-genital and anal organ	✓	✓	✓	✓	✓	✓	✓
26	Agents for epidermis							
261	Antimicrobials for dermatologic use	✓	✓	✓	✓	✓	✓	✓
262	Surgical dressings	✓	✓	✓	✓	✓	✓	✓
263	Dermatics for purulence	✓	✓	✓	✓	✓	✓	✓
264	Analgesics, anti-itchings, astrigents and anti-inflammatory agents	✓	✓	✓	✓	✓	✓	✓
265	Anti-dermo-infectives	✓	✓	✓	✓	✓	✓	✓
266	Emollients	✓	✓	✓	✓	✓	✓	✓
267	Hair remedies	✓	✓	✓	✓	✓	✓	✓
268	Bath preparations	✓	✓	✓	✓	✓	✓	✓
269	Other agents for epidermis	✓	✓	✓	✓	✓	✓	✓
270	Topical steroids		✓	✓	✓	✓	✓	✓
27	Agents for dental and oral use							
271	Local anesthetics for dental use	✓	✓	✓	✓	✓	✓	✓
272	Pulp devitalizing remedies	✓	✓	✓	✓	✓	✓	✓
273	Analgesics and sedatives for dental use	✓	✓	✓	✓	✓	✓	✓
274	Pulp mummifying remedies	✓	✓	✓	✓	✓	✓	✓
275	Pulp capping remedies	✓	✓	✓	✓	✓	✓	✓
276	Antibiotic preparations for dental use	✓	✓	✓	✓	✓	✓	✓

Category Number	Variable	1st Wave	2nd Wave	3rd Wave	4th Wave	5th Wave	6th Wave	7th Wave
279	Other agents for dental and oral use	✓	✓	✓	✓	✓	✓	✓
290	Other agents affecting individual organs	✓	✓	✓	✓	✓	✓	✓
3.	Agents affecting metabolism							
31	Vitamin preparations							
311	Vitamin A, D preparations	✓	✓	✓				
31101	Vitamin A preparations				✓	✓	✓	✓
31102	Vitamin D preparations				✓	✓	✓	✓
312	Vitamin B1 preparations	✓	✓	✓	✓	✓	✓	✓
313	Vitamin B preparations (except Vitamin B1)	✓	✓	✓	✓	✓	✓	✓
314	Vitamin C preparations	✓	✓	✓	✓	✓	✓	✓
315	Vitamin E preparations	✓	✓	✓	✓	✓	✓	✓
316	Vitamin K preparations	✓	✓	✓	✓	✓	✓	✓
317	Mixed vitamin preparations	✓	✓	✓	✓	✓	✓	✓
319	Other vitamin preparations	✓	✓	✓	✓	✓	✓	✓
32	Nutrients and tonics alteratives							
321	Calcium compounds preparations	✓	✓	✓	✓	✓	✓	✓
322	Mineral preparations	✓	✓	✓	✓	✓	✓	✓
323	Saccharide preparations	✓	✓	✓	✓	✓	✓	✓
324	Organic acid preparations	✓	✓	✓	✓	✓	✓	✓
325	Proteins and amino acid preparations	✓	✓	✓	✓	✓	✓	✓
326	Organotherapeutics	✓	✓	✓	✓	✓	✓	✓
327	Agents for pediatric use	✓	✓	✓	✓	✓	✓	✓
329	Other nutrients, tonics and alteratives	✓	✓	✓	✓	✓	✓	✓
33	Agents relating to blood and body fluids							
331	Blood substitutes	✓	✓	✓	✓	✓	✓	✓
332	Hemostatics	✓	✓	✓	✓	✓	✓	✓
333	Anticoagulants	✓	✓	✓	✓	✓	✓	✓
339	Other agents relating to blood and body fluids	✓	✓	✓	✓	✓	✓	✓
34	Agents for artificial dialysis							
341	Agents for artificial kidney dialysis	✓	✓	✓	✓	✓	✓	✓
342	Agents for peritoneal dialysis	✓	✓	✓	✓	✓	✓	✓
349	Other agents for artificial dialysis	✓	✓	✓	✓	✓	✓	✓
39	Other agents affecting metabolism							
391	Agents for liver disease	✓	✓	✓	✓	✓	✓	✓
392	Antidotes	✓	✓	✓	✓	✓	✓	✓

Category Number	Variable	1st Wave	2nd Wave	3rd Wave	4th Wave	5th Wave	6th Wave	7th Wave
393	Agents for habitual intoxication	✓	✓	✓	✓	✓	✓	✓
394	Agents for treatment of gout	✓	✓	✓	✓	✓	✓	✓
395	Enzyme preparations	✓	✓	✓	✓	✓	✓	✓
396	Antidiabetic agents	✓	✓	✓				
39600	Insulin				✓	✓	✓	✓
39601	Oral hypoglycemic agents				✓	✓	✓	✓
397	Combined preparations for metabolic disease	✓	✓	✓	✓	✓	✓	✓
399	Agents affecting metabolism, n.e.c.	✓	✓	✓	✓	✓	✓	✓
39911	Calcitonin preparations (elcatonin)				✓	✓	✓	✓
39912	Calcitonin preparations (Salmon calcitonin)				✓	✓	✓	✓
39921	Bisphosphonates (alendronate sodium hydrate)				✓	✓	✓	✓
39922	Bisphosphonates (sodium risedronate hydrate)				✓	✓	✓	✓
39923	Bisphosphonates (disodium etidronate)				✓	✓	✓	✓
39924	Bisphosphonates (minodronic acid hydrate)							✓
39931	Ipriflavone				✓	✓	✓	✓
39941	Selective estrogen receptor modulator				✓	✓	✓	✓
4. Agents affecting cellular function								
41	Agents activating cellular function							
411	Chlorophyll preparations	✓	✓	✓	✓	✓	✓	✓
412	Dye preparations	✓	✓	✓	✓	✓	✓	✓
419	Other agents activating cellular function	✓	✓	✓	✓	✓	✓	✓
42	Antineoplastic agents							
421	Alkylating agents	✓	✓	✓	✓	✓	✓	✓
422	Antimetabolic agents	✓	✓	✓	✓	✓	✓	✓
423	Antitumor antibiotics preparations	✓	✓	✓	✓	✓	✓	✓
424	Antineoplastic preparations extracted from plants	✓	✓	✓	✓	✓	✓	✓
429	Other antitumor agents	✓	✓	✓	✓	✓	✓	✓
44	Antiallergic agents							
441	Antihistamines	✓	✓	✓	✓	✓	✓	✓
442	Agents for stimulation therapy	✓	✓	✓	✓	✓	✓	✓
443	Nonspecific immunogen preparations	✓	✓	✓	✓	✓	✓	✓
449	Other antiallergic agents	✓	✓	✓	✓	✓	✓	✓
5. Crude drug and Chinese medicine formulations								
510	Crude drugs	✓	✓	✓	✓	✓	✓	✓
520	Chinese medicines	✓	✓	✓	✓	✓	✓	✓

Category Number	Variable	1st Wave	2nd Wave	3rd Wave	4th Wave	5th Wave	6th Wave	7th Wave
590	Other crude drug and Chinese medicine formulations	✓	✓	✓	✓	✓	✓	✓
6.	Agents against pathogenic organisms and parasites							
61	Antibiotic preparations							
611	Antibiotic preparations acting mainly on gram-positive bacteria	✓	✓	✓	✓	✓	✓	✓
612	Antibiotic preparations acting mainly on gram-negative bacteria	✓	✓	✓	✓	✓	✓	✓
613	Antibiotic preparations acting mainly on gram-positive, gram-negative bacteria	✓	✓	✓	✓	✓	✓	✓
614	Antibiotic preparations acting mainly on gram-positive bacteria and mycoplasma	✓	✓	✓	✓	✓	✓	✓
615	Antibiotic preparations acting mainly on gram-positive, gram-negative bacteria, rickettsia and chlamydia	✓	✓	✓	✓	✓	✓	✓
616	Antibiotic preparations acting mainly on acid-fast bacteria	✓	✓	✓	✓	✓	✓	✓
617	Antibiotic preparations acting mainly on mold	✓	✓	✓	✓	✓	✓	✓
619	Other antibiotic preparations	✓	✓	✓	✓	✓	✓	✓
62	Chemotherapeutics							
621	Sulfonamide preparations	✓	✓	✓	✓	✓	✓	✓
622	Anti-tuberculous agents	✓	✓	✓	✓	✓	✓	✓
623	Antileprotic agents	✓	✓	✓	✓	✓	✓	✓
624	Synthetic antibacterials	✓	✓	✓	✓	✓	✓	✓
625	Anti-virus agents	✓	✓	✓	✓	✓	✓	✓
629	Other chemotherapeutics	✓	✓	✓	✓	✓	✓	✓
63	Biological preparations							
631	Vaccines	✓	✓	✓	✓	✓	✓	✓
632	Toxins and toxoids	✓	✓	✓	✓	✓	✓	✓
634	Human blood preparations	✓	✓	✓	✓	✓	✓	✓
635	Preparations for biological test	✓	✓	✓	✓	✓	✓	✓
636	Mixed biological preparations	✓	✓	✓	✓	✓	✓	✓
639	Other biological preparations	✓	✓	✓	✓	✓	✓	✓
64	Agents against parasites							
641	Antiprotozoan agents	✓	✓	✓	✓	✓	✓	✓
642	Anthelmintics	✓	✓	✓	✓	✓	✓	✓
649	Other agents against parasites	✓	✓	✓	✓	✓	✓	✓
7.	Agents for not mainly purpose of therapeutic							
71	Agents for dispensing use							
711	Excipients	✓	✓	✓	✓	✓	✓	✓
712	Ointment bases	✓	✓	✓	✓	✓	✓	✓
713	Solvents	✓	✓	✓	✓	✓	✓	✓
714	Flavoring, odor improving and coloring agents	✓	✓	✓	✓	✓	✓	✓

Category Number	Variable	1st Wave	2nd Wave	3rd Wave	4th Wave	5th Wave	6th Wave	7th Wave
715	Emulsifying agents	✓	✓	✓	✓	✓	✓	✓
719	Other agents for dispensing use	✓	✓	✓	✓	✓	✓	✓
72	Diagnostic agents (except extracorporeal diagnostic medicines)							
721	X-ray contrast agents	✓	✓	✓	✓	✓	✓	✓
722	Reagents for various function tests	✓	✓	✓	✓	✓	✓	✓
729	Other diagnostic agents	✓	✓	✓	✓	✓	✓	✓
73	Agents for public health							
731	Antiseptics	✓	✓	✓	✓	✓	✓	✓
732	Germicides and disinfectants for control of infective disease	✓	✓	✓	✓	✓	✓	✓
733	Insect-repellants	✓	✓	✓	✓	✓	✓	✓
734	Insecticides	✓	✓	✓	✓	✓	✓	✓
735	Rodenticides	✓	✓	✓	✓	✓	✓	✓
739	Other agents for public health	✓	✓	✓	✓	✓	✓	✓
74	Extracorporeal diagnostic medicines							
741	Reagents for general tests	✓	✓	✓	✓	✓	✓	✓
742	Reagents for blood tests	✓	✓	✓	✓	✓	✓	✓
743	Reagents for biochemical tests	✓	✓	✓	✓	✓	✓	✓
744	Reagents for serum-immunological tests	✓	✓	✓	✓	✓	✓	✓
745	Agents for bacteriological tests	✓	✓	✓	✓	✓	✓	✓
746	Reagents for patho-tissue tests	✓	✓	✓	✓	✓	✓	✓
747	Extracorporeal diagnostic radioactive medicines	✓	✓	✓	✓	✓	✓	✓
749	Other extracorporeal diagnostic radioactive medicines	✓	✓	✓	✓	✓	✓	✓
79	Other agents for not mainly purpose of therapeutic							
791	Adhesive plasters	✓	✓	✓	✓	✓	✓	✓
799	Agents for not mainly purpose of therapeutic, n.e.c.	✓	✓	✓	✓	✓	✓	✓
8.	Narcotics							
81	Alkaloidal narcotics (Natural narcotics)							
811	Opium alkaloids preparations	✓	✓	✓	✓	✓	✓	✓
812	Coca alkaloids preparations	✓	✓	✓	✓	✓	✓	✓
819	Other alkaloidal narcotics	✓	✓	✓	✓	✓	✓	✓
82	Non-alkaloidal narcotics							
821	Synthetic narcotics	✓	✓	✓	✓	✓	✓	✓
9.	Unclassifiable agents							
999	Unclassifiable agents	✓	✓	✓	✓	✓	✓	✓
.	No agents used	✓	✓	✓	✓	✓	✓	✓

Category Number	Variable	1st Wave	2nd Wave	3rd Wave	4th Wave	5th Wave	6th Wave	7th Wave
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Note 1:

Category Number: Agents were coded by the three digits of the corresponding efficacy category numbers in the Japan Standard Commodity Classification Number, deleted the "87" indicating a pharmaceutical product. Subsequent digits are the NILS-LSA's own codes.

Note 2:

All prescription and over-the-counter agents used in the past two weeks were coded. All agents were coded based on the classification of their efficacyas listed in the Japanese Pharmacopoeia.

Note 3:

The classification code for "unclassifiable agents" is "999" for convenience.

Note 4:

In the 1st-2nd waves, "13100: Agents for ophthalmic use (others)" and "13199: Agents for ophthalmic use (unknown)" were mixed.

Diet Assessments (2020.9.2 edition)

Variable	Number of items	1st Wave	2nd Wave	3rd Wave	4th Wave	5th Wave	6th Wave	7th Wave
1. Three-day dietary record with photographs (recorded with a food scale and disposable camera)								
Nutrient intake	123							
Energy	Kcal	✓	✓	✓	✓	✓	✓	✓
Water	g	✓	✓	✓	✓	✓	✓	✓
Protein	g	✓	✓	✓	✓	✓	✓	✓
Protein as calculated from amino acid composition	g	✓	✓	✓	✓	✓	✓	✓
Lipids	g	✓	✓	✓	✓	✓	✓	✓
Triacylglycerol equivalents	g	✓	✓	✓	✓	✓	✓	✓
Carbohydrates	g	✓	✓	✓	✓	✓	✓	✓
Ash (mineral content)	g	✓	✓	✓	✓	✓	✓	✓
Sodium	mg	✓	✓	✓	✓	✓	✓	✓
Potassium	mg	✓	✓	✓	✓	✓	✓	✓
Calcium	mg	✓	✓	✓	✓	✓	✓	✓
Magnesium	mg	✓	✓	✓	✓	✓	✓	✓
Phosphorus	mg	✓	✓	✓	✓	✓	✓	✓
Iron	mg	✓	✓	✓	✓	✓	✓	✓
Zinc	mg	✓	✓	✓	✓	✓	✓	✓
Copper	mg	✓	✓	✓	✓	✓	✓	✓
Manganese	mg	✓	✓	✓	✓	✓	✓	✓
Iodine	μg	✓	✓	✓	✓	✓	✓	✓
Selenium	μg	✓	✓	✓	✓	✓	✓	✓
Chromium	μg	✓	✓	✓	✓	✓	✓	✓
Molybdenum	μg	✓	✓	✓	✓	✓	✓	✓
Retinol	μg	✓	✓	✓	✓	✓	✓	✓
α-carotene	μg	✓	✓	✓	✓	✓	✓	✓
β-carotene	μg	✓	✓	✓	✓	✓	✓	✓
Cryptoxanthin	μg	✓	✓	✓	✓	✓	✓	✓
β-carotene equivalents	μg	✓	✓	✓	✓	✓	✓	✓
Retinol equivalents	μg	✓	✓	✓	✓	✓	✓	✓

Variable		Number of items	1st Wave	2nd Wave	3rd Wave	4th Wave	5th Wave	6th Wave	7th Wave
Vitamin D	μg		✓	✓	✓	✓	✓	✓	✓
α-tocopherols	mg		✓	✓	✓	✓	✓	✓	✓
β-tocopherols	mg		✓	✓	✓	✓	✓	✓	✓
γ-Tocopherols	mg		✓	✓	✓	✓	✓	✓	✓
δ-Tocopherols	mg		✓	✓	✓	✓	✓	✓	✓
α-Tocopherols equivalents	mg		✓	✓	✓	✓	✓	✓	✓
Vitamin K	μg		✓	✓	✓	✓	✓	✓	✓
Vitamin B1	mg		✓	✓	✓	✓	✓	✓	✓
Vitamin B2	mg		✓	✓	✓	✓	✓	✓	✓
Niacin	mg		✓	✓	✓	✓	✓	✓	✓
Vitamin B6	mg		✓	✓	✓	✓	✓	✓	✓
Vitamin B12	μg		✓	✓	✓	✓	✓	✓	✓
Folate	μg		✓	✓	✓	✓	✓	✓	✓
Pantothenic acid	mg		✓	✓	✓	✓	✓	✓	✓
Biotin	μg		✓	✓	✓	✓	✓	✓	✓
Vitamin C	mg		✓	✓	✓	✓	✓	✓	✓
Cholesterol	mg		✓	✓	✓	✓	✓	✓	✓
Soluble dietary fiber	g		✓	✓	✓	✓	✓	✓	✓
Insoluble dietary fiber	g		✓	✓	✓	✓	✓	✓	✓
Total dietary fiber	g		✓	✓	✓	✓	✓	✓	✓
Salt	g		✓	✓	✓	✓	✓	✓	✓
Isoleucine	mg		✓	✓	✓	✓	✓	✓	✓
Leucine	mg		✓	✓	✓	✓	✓	✓	✓
Lysine	mg		✓	✓	✓	✓	✓	✓	✓
Methionine	mg		✓	✓	✓	✓	✓	✓	✓
Cystine	mg		✓	✓	✓	✓	✓	✓	✓
Total sulfur-containing amino acids	mg		✓	✓	✓	✓	✓	✓	✓
Phenylalanine	mg		✓	✓	✓	✓	✓	✓	✓
Tyrosine	mg		✓	✓	✓	✓	✓	✓	✓
Aromatic amino acids	mg		✓	✓	✓	✓	✓	✓	✓
Threonine	mg		✓	✓	✓	✓	✓	✓	✓

Variable			Number of items	1st Wave	2nd Wave	3rd Wave	4th Wave	5th Wave	6th Wave	7th Wave
Tryptophan		mg		✓	✓	✓	✓	✓	✓	✓
Valine		mg		✓	✓	✓	✓	✓	✓	✓
Histidine		mg		✓	✓	✓	✓	✓	✓	✓
Arginine		mg		✓	✓	✓	✓	✓	✓	✓
Alanine		mg		✓	✓	✓	✓	✓	✓	✓
Aspartic acid		mg		✓	✓	✓	✓	✓	✓	✓
Glutamic acid		mg		✓	✓	✓	✓	✓	✓	✓
Glycine		mg		✓	✓	✓	✓	✓	✓	✓
Proline		mg		✓	✓	✓	✓	✓	✓	✓
Serine		mg		✓	✓	✓	✓	✓	✓	✓
Total amino acids		mg		✓	✓	✓	✓	✓	✓	✓
Ammonia		mg		✓	✓	✓	✓	✓	✓	✓
Total fatty acids		g		✓	✓	✓	✓	✓	✓	✓
Saturated fatty acids		g		✓	✓	✓	✓	✓	✓	✓
Monounsaturated fatty acids		g		✓	✓	✓	✓	✓	✓	✓
Polyunsaturated fatty acids		g		✓	✓	✓	✓	✓	✓	✓
Unsaturated fatty acids		g		✓	✓	✓	✓	✓	✓	✓
n-6 fatty acids		g		✓	✓	✓	✓	✓	✓	✓
n-3 fatty acids		g		✓	✓	✓	✓	✓	✓	✓
Butyric acid		mg		✓	✓	✓	✓	✓	✓	✓
Hexanoic acid	6:0	mg		✓	✓	✓	✓	✓	✓	✓
Heptanoic acid	7:0	mg		✓	✓	✓	✓	✓	✓	✓
Octanoic acid	8:0	mg		✓	✓	✓	✓	✓	✓	✓
Decanoic acid	10:0	mg		✓	✓	✓	✓	✓	✓	✓
Lauric acid	12:0	mg		✓	✓	✓	✓	✓	✓	✓
Tridecanoic acid	13:0	mg		✓	✓	✓	✓	✓	✓	✓
Myristic acid	14:0	mg		✓	✓	✓	✓	✓	✓	✓
Pentadecanoic acid	15:0	mg		✓	✓	✓	✓	✓	✓	✓
Pentadecanoic acid (ant)	15:0	mg		✓	✓	✓	✓	✓	✓	✓
Palmitic acid	16:0	mg		✓	✓	✓	✓	✓	✓	✓
Palmitic acid (iso)	16:0	mg		✓	✓	✓	✓	✓	✓	✓

Variable			Number of items	1st Wave	2nd Wave	3rd Wave	4th Wave	5th Wave	6th Wave	7th Wave
Heptadecanoic acid	17:0	mg		✓	✓	✓	✓	✓	✓	✓
Heptadecanoic acid (ant)	17:0	mg		✓	✓	✓	✓	✓	✓	✓
Stearic acid	18:0	mg		✓	✓	✓	✓	✓	✓	✓
Arachidic acid	20:0	mg		✓	✓	✓	✓	✓	✓	✓
Behenic acid	22:0	mg		✓	✓	✓	✓	✓	✓	✓
Lignoceric acid	24:0	mg		✓	✓	✓	✓	✓	✓	✓
Decenoic acid	10:1	mg		✓	✓	✓	✓	✓	✓	✓
Myristoleic acid	14:1	mg		✓	✓	✓	✓	✓	✓	✓
Pentadecenoic acid	15:1	mg		✓	✓	✓	✓	✓	✓	✓
Palmitoleic acid	16:1	mg		✓	✓	✓	✓	✓	✓	✓
Heptadecenoic acid	17:1	mg		✓	✓	✓	✓	✓	✓	✓
Oleic acid	18:1	mg		✓	✓	✓	✓	✓	✓	✓
Eicosenoic acid	20:1	mg		✓	✓	✓	✓	✓	✓	✓
Docosenoic acid	22:1	mg		✓	✓	✓	✓	✓	✓	✓
Tetracosenoic acid	24:1	mg		✓	✓	✓	✓	✓	✓	✓
Hexadecadienoic acid	16:2	mg		✓	✓	✓	✓	✓	✓	✓
Hexadecatrenoic acid	16:3	mg		✓	✓	✓	✓	✓	✓	✓
Hexadecatetraenoic acid	16:4	mg		✓	✓	✓	✓	✓	✓	✓
Linoleic acid	18:2 n-6	mg		✓	✓	✓	✓	✓	✓	✓
α-Linolenic acid	18:3 n-3	mg		✓	✓	✓	✓	✓	✓	✓
γ-Linolenic acid	18:3 n-6	mg		✓	✓	✓	✓	✓	✓	✓
Octadecatetraenoic acid	18:4 n-3	mg		✓	✓	✓	✓	✓	✓	✓
Eicosadienoic acid	20:2 n-6	mg		✓	✓	✓	✓	✓	✓	✓
Eicosatrienoic acid	20:3 n-6	mg		✓	✓	✓	✓	✓	✓	✓
Eicosatetraenoic acid	20:4 n-3	mg		✓	✓	✓	✓	✓	✓	✓
Arachidonic acid	20:4 n-6	mg		✓	✓	✓	✓	✓	✓	✓
Eicosapentaenoic acid	20:5 n-3	mg		✓	✓	✓	✓	✓	✓	✓
Henicosapentaenoic acid	21:5 n-3	mg		✓	✓	✓	✓	✓	✓	✓
Docosadienoic acid	22:2	mg		✓	✓	✓	✓	✓	✓	✓
Docosatetraenoic acid	22:4 n-6	mg		✓	✓	✓	✓	✓	✓	✓
n-3 docosapentaenoic acid	22:5 n-3	mg		✓	✓	✓	✓	✓	✓	✓

Variable		Number of items	1st Wave	2nd Wave	3rd Wave	4th Wave	5th Wave	6th Wave	7th Wave
n-6 docosapentaenoic acid	22:5 n-6 mg		✓	✓	✓	✓	✓	✓	✓
Docosahexaenoic acid	22:6 n-3 mg		✓	✓	✓	✓	✓	✓	✓
Alcohol	ml		✓	✓	✓	✓	✓	✓	✓
Intake by food group		19							
Cereals	g		✓	✓	✓	✓	✓	✓	✓
Potatoes and starches	g		✓	✓	✓	✓	✓	✓	✓
Sugars and sweeteners	g		✓	✓	✓	✓	✓	✓	✓
Pulses	g		✓	✓	✓	✓	✓	✓	✓
Nuts and seeds	g		✓	✓	✓	✓	✓	✓	✓
Vegetables (other)	g		✓	✓	✓	✓	✓	✓	✓
Vegetables (dark green and yellow)	g		✓	✓	✓	✓	✓	✓	✓
Fruits	g		✓	✓	✓	✓	✓	✓	✓
Mushrooms	g		✓	✓	✓	✓	✓	✓	✓
Seaweed	g		✓	✓	✓	✓	✓	✓	✓
Fish and shellfish	g		✓	✓	✓	✓	✓	✓	✓
Meats	g		✓	✓	✓	✓	✓	✓	✓
Eggs	g		✓	✓	✓	✓	✓	✓	✓
Milk	g		✓	✓	✓	✓	✓	✓	✓
Fats and oils	g		✓	✓	✓	✓	✓	✓	✓
Confectioneries	g		✓	✓	✓	✓	✓	✓	✓
Beverages	g		✓	✓	✓	✓	✓	✓	✓
Seasonings and spices	g		✓	✓	✓	✓	✓	✓	✓
Water	g		✓	✓	✓	✓	✓	✓	✓
Intake by food portion type		1878	✓	✓	✓	✓	✓	✓	✓
Intake from dietary supplements		-							
2. Favorite beverages and citrus fruits (face-to-face questionnaire)									
Alcoholic beverages		6							
Japanese sake (frequency, amount)				✓	✓	✓	✓	✓	✓
Shochu (Japanese spirits) (frequency, amount)				✓	✓	✓	✓	✓	✓
Shochu-based beverages (Chuhai, etc.) (frequency, amount)							✓	✓	✓
Regular or draft beer (frequency, amount)				✓	✓	✓	✓	✓	✓

Variable	Number of items	1st Wave	2nd Wave	3rd Wave	4th Wave	5th Wave	6th Wave	7th Wave
Wine (frequency, amount)			✓	✓	✓	✓	✓	✓
Hard liquor (frequency, amount)			✓	✓	✓	✓	✓	✓
Other beverages	7							
Coffee (frequency, amount)			✓	✓	✓	✓	✓	✓
Black tea (frequency, amount)			✓	✓	✓	✓	✓	✓
Japanese (green) tea (frequency, amount)			✓	✓	✓	✓	✓	✓
Oolong tea (frequency, amount)			✓	✓	✓	✓	✓	✓
Milk (frequency, amount)								✓
Carbonated beverages			✓	✓	✓			
Sports beverages			✓	✓	✓			
Citrus fruits	3							
Satsuma mandarin (frequency, amount)						✓	✓	✓
Other citrus fruits (frequency, amount)						✓	✓	✓
Mandarin or orange juice (frequency, amount)						✓	✓	✓
3. Frequency of food intake (FFQ)								
Food intake frequency questionnaire	172	✓						
Foods/dishes	(151)							
Beverages	(13)							
Vitamins	(8)							
Database created using NILS-LSA								
Amino acid intake based on the NILS-LSA amino acid composition chart	20							
Isoleucine	mg	✓	✓	✓	✓	✓	✓	✓
Leucine	mg	✓	✓	✓	✓	✓	✓	✓
Lysine	mg	✓	✓	✓	✓	✓	✓	✓
Methionine	mg	✓	✓	✓	✓	✓	✓	✓
Cystine	mg	✓	✓	✓	✓	✓	✓	✓
Total sulfur-containing amino acids	mg	✓	✓	✓	✓	✓	✓	✓
Phenylalanine	mg	✓	✓	✓	✓	✓	✓	✓
Tyrosine	mg	✓	✓	✓	✓	✓	✓	✓
Aromatic amino acids	mg	✓	✓	✓	✓	✓	✓	✓

Variable		Number of items	1st Wave	2nd Wave	3rd Wave	4th Wave	5th Wave	6th Wave	7th Wave
Threonine	mg		✓	✓	✓	✓	✓	✓	✓
Tryptophan	mg		✓	✓	✓	✓	✓	✓	✓
Valine	mg		✓	✓	✓	✓	✓	✓	✓
Histidine	mg		✓	✓	✓	✓	✓	✓	✓
Alginine	mg		✓	✓	✓	✓	✓	✓	✓
Alanine	mg		✓	✓	✓	✓	✓	✓	✓
Aspartic acid	mg		✓	✓	✓	✓	✓	✓	✓
Glutamic acid	mg		✓	✓	✓	✓	✓	✓	✓
Glycine	mg		✓	✓	✓	✓	✓	✓	✓
Proline	mg		✓	✓	✓	✓	✓	✓	✓
Serine	mg		✓	✓	✓	✓	✓	✓	✓
Supplement database		-		✓	✓	✓	✓	✓	✓

Bone Mineral Density (2020.9.2 edition)

Variable	1st Wave	2nd Wave	3rd Wave	4th Wave	5th Wave	6th Wave	7th Wave
1. Bone Mineral Density							
Whole body bone mineral weight (kg)	✓	✓	✓	✓	✓	✓	✓
Whole body bone mineral density (g/cm ²)	✓	✓	✓	✓	✓	✓	✓
Head bone mineral weight (kg)	✓	✓	✓	✓	✓	✓	✓
Head bone mineral density (g/cm ²)	✓	✓	✓	✓	✓	✓	✓
Left arm bone mineral weight (kg)	✓	✓	✓	✓	✓	✓	✓
Left arm bone mineral density (g/cm ²)	✓	✓	✓	✓	✓	✓	✓
Right arm bone mineral weight (kg)	✓	✓	✓	✓	✓	✓	✓
Right arm bone mineral density (g/cm ²)	✓	✓	✓	✓	✓	✓	✓
Left rib cage bone mineral weight (kg)	✓	✓	✓	✓	✓	✓	✓
Left rib cage bone mineral density (g/cm ²)	✓	✓	✓	✓	✓	✓	✓
Right rib cage bone mineral weight (kg)	✓	✓	✓	✓	✓	✓	✓
Right rib cage bone mineral density (g/cm ²)	✓	✓	✓	✓	✓	✓	✓
Thoracic spine bone mineral weight (kg)	✓	✓	✓	✓	✓	✓	✓
Thoracic spine bone mineral density (g/cm ²)	✓	✓	✓	✓	✓	✓	✓
Lumbar spine bone mineral weight (kg)	✓	✓	✓	✓	✓	✓	✓
Lumbar spine bone mineral density (g/cm ²)	✓	✓	✓	✓	✓	✓	✓
Pelvic bone mineral weight (kg)	✓	✓	✓	✓	✓	✓	✓
Pelvic bone mineral density (g/cm ²)	✓	✓	✓	✓	✓	✓	✓
Left leg bone mineral weight (kg)	✓	✓	✓	✓	✓	✓	✓
Left leg bone mineral density (g/cm ²)	✓	✓	✓	✓	✓	✓	✓
Right leg bone mineral weight (kg)	✓	✓	✓	✓	✓	✓	✓
Right leg bone mineral density (g/cm ²)	✓	✓	✓	✓	✓	✓	✓
Lumbar vertebrae (L2-L4) bone mineral density (g/cm ²)	✓	✓	✓	✓	✓	✓	✓
Lumbar vertebrae (L2-L4) bone mineral density (YAM%)			✓	✓	✓		
Right femoral neck bone mineral density (g/cm ²)	✓	✓	✓	✓	✓	✓	✓
Right trochanter region mineral density (g/cm ²)	✓	✓	✓	✓	✓	✓	✓
Right Ward's triangle bone mineral density (g/cm ²)	✓	✓	✓	✓	✓	✓	✓
Left femoral neck bone mineral density (g/cm ²)	✓	✓	✓	✓	✓	✓	✓
Left trochanter region mineral density (g/cm ²)	✓	✓	✓	✓	✓	✓	✓

Variable	1st Wave	2nd Wave	3rd Wave	4th Wave	5th Wave	6th Wave	7th Wave
Left Ward's triangle bone mineral density (g/cm ²)	✓	✓	✓	✓	✓	✓	✓
Amount of Osteoporosis by lumbar spine bone mineral density						✓	✓
Amount of Osteoporosis by femoral neck bone mineral density						✓	✓
2. Quantitative CT of the peripheral skeleton (pQCT)							
Distal radius cancellous bone mineral density (mg/cm ³)	✓	✓	✓				
Distal radius overall bone mineral density (mg/cm ³)	✓	✓	✓				
Proximal radius cortical bone mineral density (mg/cm ³)	✓	✓	✓				

Blood Analysis (2020.9.2 edition)

Variable	Variable abbreviation	1st Wave		2nd Wave	3rd Wave	4th Wave	5th Wave	6th Wave	7th Wave
		97.11-	98.04-						
1. Blood biochemistry test									
Total protein (g/dL)	TP	✓		✓	✓	✓	✓	✓	✓
Total bilirubin (mg/dL)	TB	✓		✓					
Triglycerides (mg/dL)	TG	✓		✓	✓	✓	✓	✓	✓
Total cholesterol (mg/dL)	TC, T-Cho	✓		✓	✓	✓	✓	✓	✓
HDL cholesterol (mg/dL)	HDL-C	✓		✓	✓	✓	✓	✓	✓
LDL cholesterol (mg/dL)	LDL-C	✓							
Urea nitrogen (mg/dL)	UN, BUN	✓							
Uric acid (mg/dL)	UA	✓		✓	✓	✓	✓	✓	✓
Creatinine (mg/dL)	Cr, CRE	✓		✓	✓	✓	✓	✓	✓
GOT (U/L)	GOT: Glutamate oxaloacetate transaminase	✓		✓	✓	✓	✓	✓	✓
GPT (U/L)	GPT: Glutamate pyruvate transaminase	✓		✓	✓	✓	✓	✓	✓
LDH (U/L)	LDH: Lactate dehydrogenase	✓							
Alkaline phosphatase (U/L)	ALP	✓		✓					
γ-GTP (U/L)	γ-GTP: γ-glutamyl transpeptidase	✓		✓	✓	✓	✓	✓	✓
Cholinesterase (U/L)	ChE	✓		✓	✓	✓	✓	✓	✓
Fibrinogen (mg/dL)	FIB	✓							
Total homocysteine (nmol/mL)	Hcy	✓							
Apolipoprotein A1 (mg/dL)	apo A- I : Apolipoprotein A-I	✓							
Apolipoprotein A2 (mg/dL)	apo A- II : Apolipoprotein A- II	✓							
Apolipoprotein B (mg/dL)	apo B: Apolipoprotein B	✓							
Apolipoprotein C2 (mg/dL)	apo C- II : Apolipoprotein C- II	✓							
Apolipoprotein C3 (mg/dL)	apo C- III: Apolipoprotein C- III	✓							
Apolipoprotein E (mg/dL)	apo E: Apolipoprotein E	✓							
Leptin (ng/mL)		✓					✓		
High molecular weight adiponectin (μg/mL)							✓		
Platelet-activating factor acetylhydrolase (U/L)	PAF-AH	✓							
Lipoprotein(a) (mg/dL)		✓							
Paraoxonase (nmol/min/mL)	PON	✓							
Osteocalcin (ng/mL)	BGP (bone turnover marker)	✓							
Bone-specific alkaline phosphatase (U/L)	BAP (bone turnover marker)	✓							

Variable	Variable abbreviation	1st Wave		2nd	3rd	4th	5th	6th	7th
		97.11-	98.04-	Wave	Wave	Wave	Wave	Wave	Wave
High-sensitivity C-reactive protein (ng/mL)	hs-CRP: High-sensitivity C-reactive protein	✓					✓		
2. Serum minerals									
Magnesium (mg/dL)	Mg	✓		✓	✓		✓		
Lipid peroxide (nmol/mL)		✓		✓	✓				
Iron (µg/dL)	Fe	✓		✓	✓	✓	✓	✓	✓
Ferritin (ng/mL)							✓		✓
Sodium (mEq/L)	Na	✓							
Chloride (mEq/L)	Cl	✓							
Potassium (mEq/L)	K	✓							
Calcium (mg/dL)	Ca	✓		✓	✓	✓	✓	✓	✓
Phosphorus (mg/dL)	P	✓		✓	✓	✓	✓	✓	✓
Copper (µg/dL)	Cu	✓					✓		✓
Zinc (µg/dL)	Zn	✓		✓					
3. Serum vitamins									
Vitamin A (IU/dL)		✓		✓	✓				
Lutein (µg/mL)							✓		
Zeaxanthin (µg/mL)							✓		
α-Carotene (µg/mL)							✓		
Lycopene (µg/mL)							✓		
β-Carotene (µg/mL)							✓		
β-Cryptoxanthin (µg/mL)							✓		
Folic Acid (ng/mL)		✓							
25-OH Vitamin D (ng/mL)							✓		✓
4. Thyroid hormones									
Free triiodothyronine (T3) (pg/mL)	FT3, Free T3	⊙		✓	✓				✓
Free thyroxine (T4) (ng/dL)	FT4, Free T4	✓		✓	✓				✓
Thyroid-stimulating hormone (µIU/mL)	TSH	✓		✓	✓				✓
5. Sex hormones									
Estradiol (pg/mL)	E ₂	✓							
Testosterone (ng/mL)	TS	⊙					✓ Males only		✓

Variable	Variable abbreviation	1st Wave		2nd	3rd	4th	5th	6th	7th
		97.11-	98.04-	Wave	Wave	Wave	Wave	Wave	Wave
Free testosterone (pg/mL)	f-TS	✓					✓ Males only		✓
Sex hormone binding globulin (nmol/L)	SHBG	△							
DHEA-S (µg/dL)	DHEA-S: Dehydroepiandrosterone sulfate	◎		◎	◎		✓		✓
6. Glucose metabolism									
Fasting insulin (µIU/mL)	IRI	✓		✓	✓	✓	✓		✓
Sialic acid (mg/dL)		✓		✓	✓	✓	✓		
Fasting glucose (mg/dL)	GLU, BS	✓		✓	✓	✓	✓	✓	✓
Hemoglobin A1c (%)	HbA1c	✓		✓	✓	✓	✓	✓	✓
7. Protein fractionation									
Albumin (direct method) (g/dL)	ALB		✓	✓	✓	✓	✓	✓	✓
Albumin (fraction) (%)	ALB	✓							
α1 Globulin (%)		✓							
α2 Globulin (%)		✓							
β Globulin (%)		✓							
γ Globulin (%)		✓							
A/G ratio	(Alternate name) Albumin/globulin ratio	✓							
8. Fatty acid fractionation									
Four fractions (µg/dL)	DHLA, AA, EPA, DHA	✓		✓	✓				
All (24) fractions (µg/dL)							✓		✓
9. Amino acid fractionation									
Amino acid fractions (39 types) (nmol/mL)		△							
10. Blood cell count									
White blood cell count (/µL)	WBC	✓		✓	✓	✓	✓	✓	✓
Red blood cell count (x10000/µL)	RBC	✓		✓	✓	✓	✓	✓	✓
Hemoglobin (g/dL)	Hb	✓		✓	✓	✓	✓	✓	✓
Hematocrit (%)	Ht	✓		✓	✓	✓	✓	✓	✓
MCV (fL)	MCV: Mean corpuscular volume	✓		✓	✓	✓	✓	✓	✓
MCH (pg)	MCH: Mean corpuscular hemoglobin	✓		✓	✓	✓	✓	✓	✓
MCHC (%)	MCHC: Mean corpuscular hemoglobin concentration	✓		✓	✓	✓	✓	✓	✓
Platelet count (x10000/µL)	PLT: Number of platelets	✓		✓	✓	✓	✓	✓	✓

Variable	Variable abbreviation	1st Wave		2nd Wave	3rd Wave	4th Wave	5th Wave	6th Wave	7th Wave
		97.11-	98.04-						
11. Antiviral and antibacterial antibodies									
Anti-Helicobacter pylori antibodies (U/mL)									✓
Anti-Herpes simplex virus antibodies	HSV IgG (EIA)								✓
Anti-Epstein-Barr virus antibodies	EBVVCA IgG (EIA)								✓
Anti-Cytomegalovirus antibodies	CMV IgG (EIA)								✓

Note 1:

Participants fasted from 9 p.m. the night before the examination, and had blood drawn around 9:00 to 9:30 a.m. on the day of the survey.

Note 2:

Data from November 1997 to March 1998 of the 1st wave survey includes approximately 150 participants, while data from April 1998 onwards of the 1st survey includes approximately 2100 participants.

Note 3:

For non-fasting participants, blood glucose, insulin, and triglycerides are treated as missing values in the 1st to 5th and 7th wave surveys, while blood glucose and triglycerides are treated as missing values in the 6th wave survey.

Note 4:

© denotes that conversion to a new testing method is necessary due to changes in the testing method.

Urinalysis (2020.9.2 edition)

Variable	1st Wave	2nd Wave	3rd Wave	4th Wave	5th Wave	6th Wave	7th Wave
Hemoglobin (/μL)	✓	✓	✓				
Occult blood (/μL)	✓	✓	✓				
Ketone bodies (mg/dL)	✓	✓	✓				
Bilirubin (mg/dL)	✓	✓	✓				
Urobilinogen (mg/dL)	✓	✓	✓				
Protein (mg/dL)	✓	✓	✓				
Glucose (mg/dL)	✓	✓	✓				
pH	✓	✓	✓				
Nitrites	✓	✓	✓				
Urinary type I collagen cross-linked N-telopeptide (nmol BCE)	✓						
Urinary deoxypyridinoline (nmol)	✓						
Urinary creatinine (mg/dL)	✓						

Note 1:

Participants fasted from 9 p.m. the night before the examination and provided a urine sample between 8:30 a.m. and 9 a.m. on the morning of the survey.

Psychological Examinations (2020.9.2 edition)

Variable	Number of items	1st Wave	2nd Wave	3rd Wave	4th Wave	5th Wave	6th Wave	7th Wave
1. Self-report questionnaire survey								
1) Depression								
Center for Epidemiologic Studies Depression Scale (CES-D)	20	✓	✓	✓	✓	✓	✓	✓
Depressed affect	(7)							
Positive affect	(4)							
Somatic symptoms and psychomotor retardation	(7)							
Issues in interpersonal relations	(2)							
Geriatric Depression Scale (abridged edition)	15	✓	✓	✓	✓			
2) ADL								
Tokyo Metropolitan Institute of Gerontology (TMIG) Index of Competence	13	✓	✓	✓	✓	✓	✓	✓
Instrumental self-maintenance	(5)							
Intellectual activity	(4)							
Social role	(4)							
3) Happiness								
Life Satisfaction Index K (LSI-K)	9	✓	✓	✓	✓	✓	✓	✓
Satisfaction with Life Scale	5	✓						
Psychological Well-Being	43						✓	✓
Personal growth	(8)							
Purpose in life	(8)							
Autonomy	(8)							
Self-acceptance	(7)							
Environmental mastery	(6)							
Positive relationship with others	(6)							
4) QOL								
WHO/QOL-26	26				✓		✓	
Overall QOL	(2)							
Physical domain	(7)							
Psychological domain	(6)							
Social relationships	(3)							
Environmental domain	(8)							
5) Self and ego								
Self-esteem Scale	10	✓	✓	✓	✓	✓	✓	✓
Autonomy Scale	8	✓	✓					

Variable	Number of items	1st Wave	2nd Wave	3rd Wave	4th Wave	5th Wave	6th Wave	7th Wave
Erikson Psychosocial Stage Inventory (EPSI)	56	✓						
Trust	(7)							
Autonomy	(7)							
Initiative	(7)							
Industry	(7)							
Identity	(7)							
Intimacy	(7)							
Generativity	(7)							
Ego integrity	(7)							
Locus of Control	18			✓				
6) Personality								
NEO-FFI	60		✓			✓		
Neuroticism	(12)							
Extraversion	(12)							
Openness	(12)							
Agreeableness	(12)							
Conscientiousness	(12)							
Type A Behavior Patterns	23		✓					
Anger/Impatience	(7)							
Competitiveness/Hard-driving	(8)							
Speed	(4)							
Eagerness/Interest	(4)							
7) Views on life and death								
Attitudes Toward Death Scale	31	✓		✓		✓		✓
Fear of death	(9)							
Belief in the existence of an afterlife	(4)							
Intention to live out one's life	(4)							
Meaning of death for life	(5)							
Approval of death with dignity	(3)							
8) Work-life balance								
Work family conflict/ Work family facilitation scale	16							✓
Negative spillover work to family	(5)							
Negative spillover family to work	(5)							
Positive spillover work to family	(3)							
Positive spillover family to work	(3)							

Variable	Number of items	1st Wave	2nd Wave	3rd Wave	4th Wave	5th Wave	6th Wave	7th Wave
Commitment to Work scale	16					✓	✓	✓
Satisfaction	(7)							
Absorption	(6)							
9) Interpersonal relationships								
IPR Inventory	39				✓			
Social support	(13)							
Reciprocity	(13)							
Interpersonal conflict	(13)							
Social Support for the Elderly	12	✓	✓	✓			✓	✓
Emotional support	(4)							
Instrumental support	(4)							
Negative support	(4)							
Perceived social support	10	✓	✓					
10) Stress management								
Stress Management Behaviors Scale	30	✓						
Negative coping	(8)							
Conscious forgetting	(5)							
Emotional detachment	(3)							
Talking to someone	(3)							
Direct action	(3)							
Positive coping	(3)							
Suppression	(3)							
Coping Behaviors Scale	31		✓	✓				
Positive problem-solving	(9)							
Avoidance	(7)							
Seeking help from others	(5)							
Resignation	(5)							
Suppression of behavior or emotions	(5)							
11) Temporal perspective								
Temporal perspective	3	✓						
Scales regarding cognitive age and comparative age	5		✓					
Questions about self-awareness of aging	2			✓				
12) Individual background factors								
Questions about marital status and living arrangement	2	(BG)	(BG)	(BG)	✓	✓	✓	✓
Questions about economic status, occupation, and educational background	3-7	(BG)	(BG)	(BG)	✓	✓	✓	✓

Variable	Number of items	1st Wave	2nd Wave	3rd Wave	4th Wave	5th Wave	6th Wave	7th Wave
Questions about roles and social activities	12-27			✓	✓	✓	✓	✓
Questions about sense of life's purpose	11-18	(BG)	(BG)	(BG)	✓	✓	✓	✓
Questions about retirement	5						✓	
2. Face-to-face interview								
1) Cognitive function								
WAIS-R-SF	157	✓	✓	✓	✓	✓	✓	✓
Information	(29)							
Similarities	(14)							
Picture Completion	(21)							
Digit symbol-coding	(93)							
WAIS-R Digit Span	28			✓	✓	✓	✓	✓
WMS-R Logical Memory I / II	4				✓			
Mini-Mental State Examination (MMSE)	11		✓	✓	✓	✓	✓	✓
2) Life events								
Life Events Checklist	35-63	✓	✓	✓	✓	✓	✓	✓
Daily Hassles Checklist	23-34		✓	✓	✓	✓	✓	✓
Life events and coping behaviors	7-8	✓	✓					
Most significant event	1-4			✓	✓	✓	✓	✓
3) Leisure Activities								
Questions about leisure activities	3-23	(BG)	(BG)	(BG)	✓	✓	✓	✓
4) Interpersonal relationships								
Social network	1	✓	✓	✓	✓	✓	✓	✓
5) ADL								
Katz Index	6	✓	✓	✓	✓	✓	(BG)	(BG)
6) Individual background factors								
Supplemental questions about occupation	4	(BG)	✓					

Note 1:

Few participants wrote in the free-response space next to responses such as "Other."

Note 2:

If a scale includes subscales, the subscale names are indented with an indentation, and the number of items for each subscale is listed in parentheses.

Auditory Examinations (2020.9.2 edition)

Variable	1st Wave	2nd Wave	3rd Wave	4th Wave	5th Wave	6th Wave	7th Wave
1. Pure-tone audiometry							
Right air conduction	125Hz	✓	✓	✓	✓	✓	✓
	250Hz		✓	✓	✓	✓	✓
	500Hz	✓	✓	✓	✓	✓	✓
	1000Hz	✓	✓	✓	✓	✓	✓
	2000Hz	✓	✓	✓	✓	✓	✓
	3000Hz					✓	✓
	4000Hz	✓	✓	✓	✓	✓	✓
	6000Hz					✓	✓
Right bone conduction	8000Hz	✓	✓	✓	✓	✓	✓
	250Hz		✓	✓	✓	✓	✓
	500Hz	✓	✓	✓	✓	✓	✓
	1000Hz	✓	✓	✓	✓	✓	✓
	2000Hz	✓	✓	✓	✓	✓	✓
	4000Hz	✓	✓	✓	✓	✓	✓
	125Hz		✓	✓	✓	✓	✓
	250Hz		✓	✓	✓	✓	✓
Left air conduction	500Hz	✓	✓	✓	✓	✓	✓
	1000Hz	✓	✓	✓	✓	✓	✓
	2000Hz	✓	✓	✓	✓	✓	✓
	3000Hz					✓	✓
	4000Hz	✓	✓	✓	✓	✓	✓
	6000Hz					✓	✓
	8000Hz	✓	✓	✓	✓	✓	✓
	250Hz		✓	✓	✓	✓	✓
Left bone conduction	500Hz	✓	✓	✓	✓	✓	✓
	1000Hz	✓	✓	✓	✓	✓	✓
	2000Hz	✓	✓	✓	✓	✓	✓
	4000Hz	✓	✓	✓	✓	✓	✓
	4000Hz	✓	✓	✓	✓	✓	✓

Variable		1st Wave	2nd Wave	3rd Wave	4th Wave	5th Wave	6th Wave	7th Wave
2. Impedance audiometry								
Pressure on external auditory canal during Tympanometric peak pressure	Right	✓	✓	✓	✓	✓	✓	✓
	Left	✓	✓	✓	✓	✓	✓	✓
Static compliance	Right	✓	✓	✓	✓	✓	✓	✓
	Left	✓	✓	✓	✓	✓	✓	✓
Middle ear resonance frequency	Right	✓	✓	✓	✓	✓	✓	✓
	Left	✓	✓	✓	✓	✓	✓	✓
3. Video recording of tympanic membrane; otoscope								
Otoscope findings	Right		△	✓	✓	✓	✓	✓
	Left		△	✓	✓	✓	✓	✓

Visual Examinations (2020.9.2 edition)

Variable	1st Wave	2nd Wave	3rd Wave	4th Wave	5th Wave	6th Wave	7th Wave
1. Refraction							
Spherical equivalent of refractive error (right eye) (diopters)	✓	✓	✓	✓	✓	✓	✓
Spherical equivalent of refractive error (left eye) (diopters)	✓	✓	✓	✓	✓	✓	✓
2. Visual acuity (5m)							
Presenting distant visual acuity (right eye)	✓	✓	✓	✓	✓	✓	✓
Presenting distant visual acuity (left eye)	✓	✓	✓	✓	✓	✓	✓
Best-corrected distant visual acuity (right eye)	✓	✓	✓	✓	✓	✓	✓
Best-corrected distant visual acuity (left eye)	✓	✓	✓	✓	✓	✓	✓
3. Near visual acuity (33cm)							
Presenting near visual acuity (right eye)	✓		✓				✓
Presenting near visual acuity (left eye)	✓		✓				✓
4. Contrast sensitivity							
Contrast sensitivity at 1.5 cycles/degree (right eye)	✓	✓	✓	✓	✓	△	✓
Contrast sensitivity at 1.5 cycles/degree (left eye)	✓	✓	✓	✓	✓	△	✓
Contrast sensitivity at 3 cycles/degree (right eye)	✓	✓	✓	✓	✓	△	✓
Contrast sensitivity at 3 cycles/degree (left eye)	✓	✓	✓	✓	✓	△	✓
Contrast sensitivity at 6 cycles/degree (right eye)	✓	✓	✓	✓	✓	△	✓
Contrast sensitivity at 6 cycles/degree (left eye)	✓	✓	✓	✓	✓	△	✓
Contrast sensitivity at 12 cycles/degree (right eye)	✓	✓	✓	✓	✓	△	✓
Contrast sensitivity at 12 cycles/degree (left eye)	✓	✓	✓	✓	✓	△	✓
Contrast sensitivity at 18 cycles/degree (right eye)	✓	✓	✓	✓	✓	△	✓
Contrast sensitivity at 18 cycles/degree (left eye)	✓	✓	✓	✓	✓	△	✓
5. Intraocular pressure							
Intraocular pressure (right eye) (mmHg)	✓	✓	✓	✓	✓	✓	✓
Intraocular pressure (left eye) (mmHg)	✓	✓	✓	✓	✓	✓	✓
6. Retinal fundus camera							
Arteriosclerosis (right eye) (Keith-Wagener)	✓	✓	✓	✓	✓	✓	✓
Arteriosclerosis (left eye) (Keith-Wagener)	✓	✓	✓	✓	✓	✓	✓
Optic nerve coloboma (right eye) (ratio)	✓	✓	✓	✓	✓	✓	
Optic nerve coloboma (left eye) (ratio)	✓	✓	✓	✓	✓	✓	
Diabetic retinopathy (right eye)	✓	✓	✓	✓	✓	✓	
Diabetic retinopathy (left eye)	✓	✓	✓	✓	✓	✓	

Variable	1st Wave	2nd Wave	3rd Wave	4th Wave	5th Wave	6th Wave	7th Wave
Macular degeneration (right eye)	✓	✓	✓	✓	✓	✓	
Macular degeneration (left eye)	✓	✓	✓	✓	✓	✓	
7. Specular microscopy							
Corneal thickness (right eye) (mm)	✓	✓	✓	✓	✓	Δ	
Corneal thickness (left eye) (mm)	✓	✓	✓	✓	✓	Δ	
Corneal endothelial cell density (right eye) (/mm ²)	✓	✓			Δ		
Corneal endothelial cell density (left eye) (/mm ²)	✓	✓			Δ		
8. Lens opacity							
Anterior subcapsular cortical opacity (right eye) (scattering intensity)	✓	✓					
Anterior subcapsular cortical opacity (left eye) (scattering intensity)	✓	✓					
Opacity of lens nucleus (right eye) (scattering intensity)	✓	✓					
Opacity of lens nucleus (left eye) (scattering intensity)	✓	✓					
Opacity of anterior capsular cortex (right eye) (scattering intensity)	✓	✓					
Opacity of anterior capsular cortex (left eye) (scattering intensity)	✓	✓					
Opacity of anterior nucleus of lens (right eye) (scattering intensity)	✓	✓					
Opacity of anterior nucleus of lens (left eye) (scattering intensity)	✓	✓					
9. Visual field							
Central visual field threshold (right eye) (dB)	✓						
Central visual field threshold (left eye) (dB)	✓						
Mean sensitivity in the visual field (right eye) (dB)	✓						
Mean sensitivity in the visual field (left eye) (dB)	✓						
Visual field (right eye)	✓						
Visual field (left eye)	✓						
10. Color vision							
Blue-yellow color discrimination test (% of correct responses)	✓						
Red-green color discrimination test (% of correct responses)	✓						
11. Dynamic visual acuity							
Static visual acuity	✓						
Dynamic visual acuity	✓						
12. Stereoscopic acuity							
Stereoscopic acuity (Titmus Stereo Test)	✓		✓				
Stereoscopic acuity (TNO Stereo Test)	✓						
13. Optic disc							
Cup-to-disc area ratio (right eye)			✓				

Variable	1st Wave	2nd Wave	3rd Wave	4th Wave	5th Wave	6th Wave	7th Wave
Cup-to-disc area ratio (left eye)			✓				
Mean cup depth (right eye) (mm)			✓				
Mean cup depth (left eye) (mm)			✓				

Note 1:

The starting time for each test in the 1st wave is slightly different.

Physiological Examinations (2020.9.2 edition)

Variable	1st Wave	2nd Wave	3rd Wave	4th Wave	5th Wave	6th Wave	7th Wave
1. Cardiovascular system							
1) Blood pressure and pulse rate							
Systolic blood pressure (mmHg)	✓	✓	✓	✓	✓	✓	✓
Diastolic blood pressure (mmHg)	✓	✓	✓	✓	✓	✓	✓
Pulse rate (/min)	✓	✓	✓	✓	✓	✓	✓
2) Fingertip plethysmogram, pulse wave velocity (PWV), and ankle-brachial index (ABI)							
SX (mm)	✓	✓					
SS (mm)	✓	✓					
Corrected upstroke time (sec)	✓	✓					
Pulse wave velocity (cm/sec)	Right				✓	✓	✓
	Left				✓	✓	✓
Ankle-brachial index	Right				✓	✓	✓
	Left				✓	✓	✓
Automated diagnosis of arterial stiffness					✓	✓	✓
3) Electrocardiogram							
Heart rate (/min)	✓	✓	✓	✓	✓	✓	✓
PR-interval (msec)	✓	✓	✓	✓	✓	✓	✓
QRS-width (msec)	✓	✓	✓	✓	✓	✓	✓
QT-interval (msec)	✓	✓	✓	✓	✓	✓	✓
QTc-interval (msec)	✓	✓	✓	✓	✓	✓	✓
S (V1)-height (mV)	✓	✓	✓	✓	✓	✓	✓
R (V5)-height (mV)	✓	✓	✓	✓	✓	✓	✓
QRS-axis (degrees)	✓	✓	✓	✓	✓	✓	✓
P-axis (degrees)	✓	✓	✓	✓	✓	✓	✓
T-axis (degrees)	✓	✓	✓	✓	✓	✓	✓
Coefficient of variation of R-R interval		✓	✓	✓			
Minnesota Code	✓	✓	✓	✓	✓	✓	✓
4) Cardiovascular ultrasound							
Aortic root diameter in diastole (AoD) (mm)	✓	✓	✓	✓	✓	△	
Left atrial diameter (LAD) (mm)	✓	✓	✓	✓	✓	△	
Left atrial-to-aortic root diameter ratio (LAD/AoD ratio)	✓	✓	✓	✓	✓	△	

Variable	1st Wave	2nd Wave	3rd Wave	4th Wave	5th Wave	6th Wave	7th Wave
E-wave amplitude (E-Amp) (mm)	✓	✓	✓	✓	✓	△	
A-wave amplitude (A-Amp) (mm)	✓	✓	✓	✓	✓	△	
TV diastolic descent rate (DDR) (mm/s)	✓	✓	✓	✓	✓	△	
A wave/E wave ratio	✓	✓	✓	✓	✓	△	
Left ventricular end-diastolic diameter (LVEdD) (mm)	✓	✓	✓	✓	✓	△	
Left ventricular end-systolic diameter (LVEsD) (mm)	✓	✓	✓	✓	✓	△	
Left ventricular posterior wall thickness in end diastole (LVPWd) (mm)	✓	✓	✓	✓	✓	△	
Left ventricular posterior wall thickness in end systole (LVPWs) (mm)	✓	✓	✓	✓	✓	△	
Interventricular septal thickness in end diastole (IVSd) (mm)	✓	✓	✓	✓	✓	△	
Interventricular septal thickness in end systole (IVSs) (mm)	✓	✓	✓	✓	✓	△	
Left ventricular end-diastolic volume (LVEdV) (mm)	✓	✓	✓	✓	✓	△	
Left ventricular end-systolic volume (LVEsV) (mm)	✓	✓	✓	✓	✓	△	
Stroke volume (SV) (mL)	✓	✓	✓	✓	✓	△	
Cardiac output (CO) (L/min)	✓	✓	✓	✓	✓	△	
Ejection fraction (EF) (%)	✓	✓	✓	✓	✓	△	
Fractional shortening (FS) (%)	✓	✓	✓	✓	✓	△	
Heart rate (HR) (/min)	✓	✓	✓	✓	✓	△	
5) Common carotid artery intima-media thickness of carotid artery							
Max left common carotid artery intima-media thickness (mm)	✓	✓	✓	✓	✓	△	✓
Min left common carotid artery intima-media thickness (mm)	✓	✓	✓	✓	✓	△	✓
Max left common carotid sinus intima-media thickness (mm)	✓	✓	✓	✓	✓	△	✓
Min left common carotid sinus intima-media thickness (mm)	✓	✓	✓	✓	✓	△	✓
Max right common carotid artery intima-media thickness (mm)	✓	✓	✓	✓	✓	△	✓
Min right common carotid artery intima-media thickness (mm)	✓	✓	✓	✓	✓	△	✓
Max right common carotid sinus intima-media thickness (mm)	✓	✓	✓	✓	✓	△	✓
Min right common carotid sinus intima-media thickness (mm)	✓	✓	✓	✓	✓	△	✓
2. Respiratory system							
1) Pulmonary function							
Vital capacity (VC)	✓	✓					
Inspiratory capacity (IC)	✓	✓					
Tidal volume (TV)	✓	✓					
Expiratory reserve volume (ERV)	✓	✓					
Inspiratory reserve volume (IRV)	✓	✓					

Variable	1st Wave	2nd Wave	3rd Wave	4th Wave	5th Wave	6th Wave	7th Wave
Forced vital capacity (FVC)	✓	✓					
Forced expiratory volume in one second (FEV1.0)	✓	✓					
FEV1.0% by the Gaensler method (FEV1.0%G)	✓	✓					
FEV1.0% by the Tiffeneau method (FEV1.0%T)	✓	✓					
Maximum mid-expiratory flow (MMF)	✓	✓					
Peak expiratory flow (PEF)	✓	✓					
V75 (L/s)	✓	✓					
V50 (L/s)	✓	✓					
V25 (L/s)	✓	✓					
Peak flow time (sec) (PEF time)	✓	✓					
Extrapolated Volume (EV)	✓	✓					
2) Blood oxygen saturation							
Blood oxygen saturation (%O ²)	✓	✓					
3. Cutaneous sensory system							
Current perception threshold (mA)	2000Hz	✓					
	250Hz	✓					
	5Hz	✓					
Two-point discrimination test (mm)	✓						

Physical Function and Activities (2020.9.2 edition)

Variable	1st Wave	2nd Wave	3rd Wave	4th Wave	5th Wave	6th Wave	7th Wave
1. Strength measurement							
Sitting trunk flexion (cm)	✓	✓	✓	✓	✓	✓	✓
Right hand grip strength (kg)	✓	✓	✓	✓	✓	✓	✓
Left hand grip strength (kg)	✓	✓	✓	✓	✓	✓	✓
Length of time standing on one leg with eyes closed (sec)	✓	✓	✓	✓	✓	✓	✓
Length of time standing on one leg with eyes open (sec) (65 years and older)			✓	✓	✓	✓	✓
Full body reaction time (sec)	✓	✓	✓	✓	✓	✓	✓
Leg extension power (W)	✓	✓	✓	✓	✓	✓	✓
Sit-up (number of times)	✓	✓	✓	✓	✓	✓	✓
Right knee extension strength (kg)	△	✓	✓	✓	✓	✓	✓
Left knee extension strength (kg)	△	✓	✓	✓	✓	✓	✓
Maximum stride length (cm)		✓	✓	✓	✓		
2. Gait measurement							
Normal walking							
Stride length (cm)	✓	✓	✓	✓	✓	✓	✓
Cadence (steps/min)	✓	✓	✓	✓	✓	✓	✓
Velocity (m/min)	✓	✓	✓	✓	✓	✓	✓
Fast walking							
Stride length (cm)	✓	✓	✓	✓	✓	✓	✓
Cadence (steps/min)	✓	✓	✓	✓	✓	✓	✓
Velocity (m/min)	✓	✓	✓	✓	✓	✓	✓
3. 3-dimensional gait analysis (Normal walking)							
Mean velocity during stance phase (right leg) (m/s)		✓	✓	✓	✓	✓	△
Mean velocity during swing phase (right leg) (m/s)		✓	✓	✓	✓	✓	△
Mean velocity during one right leg gait cycle (m/s)		✓	✓	✓	✓	✓	△
Cadence (Hz)		✓	✓	✓	✓	✓	△
Stride length (m)		✓	✓	✓	✓	✓	△
Stance time (sec)		✓	✓	✓	✓	✓	△
Swing time (sec)		✓	✓	✓	✓	✓	△
Double support time (sec)		✓	✓	✓	✓	✓	△
Duration of one gait cycle (sec)		✓	✓	✓	✓	✓	△
Stance time (% of one gait cycle)		✓	✓	✓	✓	✓	△
Swing time (% of one gait cycle)		✓	✓	✓	✓	✓	△

Variable	1st Wave	2nd Wave	3rd Wave	4th Wave	5th Wave	6th Wave	7th Wave
Double support time (% of one gait cycle)		✓	✓	✓	✓	✓	△
Range of motion at hip joint (deg) during stance phase (right leg)		✓	✓	✓	✓	✓	△
Range of motion at hip joint (deg) during swing phase (right leg)		✓	✓	✓	✓	✓	△
Range of motion at hip joint (deg) during one right leg gait cycle		✓	✓	✓	✓	✓	△
Range of motion at knee joint (deg) during stance phase (right leg)		✓	✓	✓	✓	✓	△
Range of motion at knee joint (deg) during swing phase (right leg)		✓	✓	✓	✓	✓	△
Range of motion at knee joint (deg) during one right leg gait cycle		✓	✓	✓	✓	✓	△
Range of motion at ankle joint (deg) during stance phase (right leg)		✓	✓	✓	✓	✓	△
Range of motion at ankle joint (deg) during swing phase (right leg)		✓	✓	✓	✓	✓	△
Range of motion at ankle joint (deg) during one right leg gait cycle		✓	✓	✓	✓	✓	△
Torque (Nm) (right leg stance phase, at peak of plantar flexion)		✓	✓	✓	✓	✓	△
Trunk sway during one right leg gait cycle (standard deviation of the residual)					✓	✓	△
Trunk sway during one right leg gait cycle (displacement) (m)					✓	✓	△
Maximal trunk displacement (rightward sway) during one right leg gait cycle (m)					✓	✓	△
Minimal trunk displacement (leftward sway) during one right leg gait cycle (m)					✓	✓	△
Trunk sway during one left leg gait cycle (standard deviation of the residual)					✓	✓	△
Trunk sway during one left leg gait cycle (displacement) (m)					✓	✓	△
Maximal trunk displacement (rightward sway) during one left leg gait cycle (m)					✓	✓	△
Minimal trunk displacement (leftward sway) during one left leg gait cycle (m)					✓	✓	△
Forward trunk excursion during one right leg gait cycle (displacement) (m)					✓	✓	△
Forward trunk excursion during one left leg gait cycle (displacement) (m)					✓	✓	△
Vertical trunk excursion during one right leg gait cycle (standard deviation of the residual)					✓	✓	△
Vertical trunk excursion during one right leg gait cycle (displacement) (m)					✓	✓	△
Vertical trunk excursion during one left leg gait cycle (standard deviation of the residual)					✓	✓	△
Vertical trunk excursion during one left leg gait cycle (displacement) (m)					✓	✓	△
4. 3-dimensional gait analysis (Fast walking)							
Mean velocity during stance phase (right leg) (m/s)		✓	✓	✓	✓	✓	△
Mean velocity during swing phase (right leg) (m/s)		✓	✓	✓	✓	✓	△
Mean velocity during one right leg gait cycle (m/s)		✓	✓	✓	✓	✓	△
Cadence (Hz)		✓	✓	✓	✓	✓	△
Stride length (m)		✓	✓	✓	✓	✓	△
Stance time (sec)		✓	✓	✓	✓	✓	△
Swing time (sec)		✓	✓	✓	✓	✓	△
Double support time (sec)		✓	✓	✓	✓	✓	△
Duration of one gait cycle (sec)		✓	✓	✓	✓	✓	△

Variable	1st Wave	2nd Wave	3rd Wave	4th Wave	5th Wave	6th Wave	7th Wave
Stance time (% of one gait cycle)		✓	✓	✓	✓	✓	△
Swing time (% of one gait cycle)		✓	✓	✓	✓	✓	△
Double support time (% of one gait cycle)		✓	✓	✓	✓	✓	△
Range of motion at hip joint (deg) during stance phase (right leg)		✓	✓	✓	✓	✓	△
Range of motion at hip joint (deg) during swing phase (right leg)		✓	✓	✓	✓	✓	△
Range of motion at hip joint (deg) during one right leg gait cycle		✓	✓	✓	✓	✓	△
Range of motion at knee joint (deg) during stance phase (right leg)		✓	✓	✓	✓	✓	△
Range of motion at knee joint (deg) during swing phase (right leg)		✓	✓	✓	✓	✓	△
Range of motion at knee joint (deg) during one right leg gait cycle		✓	✓	✓	✓	✓	△
Range of motion at ankle joint (deg) during stance phase (right leg)		✓	✓	✓	✓	✓	△
Range of motion at ankle joint (deg) during swing phase (right leg)		✓	✓	✓	✓	✓	△
Range of motion at ankle joint (deg) during one right leg gait cycle		✓	✓	✓	✓	✓	△
Torque (Nm) (right leg stance phase, at peak of plantar flexion)		✓	✓	✓	✓	✓	△
Trunk sway during one right leg gait cycle (standard deviation of the residual)					✓	✓	△
Trunk sway during one right leg gait cycle (displacement) (m)					✓	✓	△
Maximal trunk displacement (rightward sway) during one right leg gait cycle (m)					✓	✓	△
Minimal trunk displacement (leftward sway) during one right leg gait cycle (m)					✓	✓	△
Trunk sway during one left leg gait cycle (standard deviation of the residual)					✓	✓	△
Trunk sway during one left leg gait cycle (displacement) (m)					✓	✓	△
Maximal trunk displacement (rightward sway) during one left leg gait cycle (m)					✓	✓	△
Minimal trunk displacement (leftward sway) during one left leg gait cycle (m)					✓	✓	△
Forward trunk excursion during one right leg gait cycle (displacement) (m)					✓	✓	△
Forward trunk excursion during one left leg gait cycle (displacement) (m)					✓	✓	△
Vertical trunk excursion during one right leg gait cycle (standard deviation of the residual)					✓	✓	△
Vertical trunk excursion during one right leg gait cycle (displacement) (m)					✓	✓	△
Vertical trunk excursion during one left leg gait cycle (standard deviation of the residual)					✓	✓	△
Vertical trunk excursion during one left leg gait cycle (displacement) (m)					✓	✓	△
5. Stabilometric measurement							
Sway area (with eyes open) (cm ²)		✓	✓	✓	✓	✓	✓
Total power X (with eyes open) (cm ²)		✓	✓	✓	✓	✓	✓
Total power Y (with eyes open) (cm ²)		✓	✓	✓	✓	✓	✓
X-coordinate of center (with eyes open) (cm)		✓	✓	✓	✓	✓	✓
Y-coordinate of center (with eyes open) (cm)		✓	✓	✓	✓	✓	✓
Anterior-posterior length (with eyes open) (cm)		✓	✓	✓	✓	✓	✓
Medio-lateral length (with eyes open) (cm)		✓	✓	✓	✓	✓	✓

Variable	1st Wave	2nd Wave	3rd Wave	4th Wave	5th Wave	6th Wave	7th Wave
Total path length (with eyes open) (cm)		✓	✓	✓	✓	✓	✓
Sway area (with eyes closed) (cm ²)		✓	✓	✓	✓	✓	✓
Total power X (with eyes closed) (cm ²)		✓	✓	✓	✓	✓	✓
Total power Y (with eyes closed) (cm ²)		✓	✓	✓	✓	✓	✓
X-coordinate of center (with eyes closed) (cm)		✓	✓	✓	✓	✓	✓
Y-coordinate of center (with eyes closed) (cm)		✓	✓	✓	✓	✓	✓
Anterior-posterior length (with eyes closed) (cm)		✓	✓	✓	✓	✓	✓
Medio-lateral length (with eyes closed) (cm)		✓	✓	✓	✓	✓	✓
Total path length (with eyes closed) (cm)		✓	✓	✓	✓	✓	✓
6. Daily activity from pedometer readings							
Total energy expenditure (kcal)	△	✓	✓	✓	✓	✓	✓
Exercise energy expenditure (kcal)	△	✓	✓	✓	✓	✓	✓
Number of steps (steps)	△	✓	✓	✓	✓	✓	✓
7. Physical activity questionnaire (face-to-face interview)							
Frequency of leisure-time physical activity at 2.5METs (by intensity)	✓	✓	✓	✓	✓	✓	✓
Frequency of leisure-time physical activity at 4.5METs (by intensity)	✓	✓	✓	✓	✓	✓	✓
Frequency of leisure-time physical activity at 6.5METs (by intensity)	✓	✓	✓	✓	✓	✓	✓
Frequency of leisure-time physical activity at 8.5METs (by intensity)	✓	✓	✓	✓	✓	✓	✓
Amount of leisure-time physical activity at 2.5METs (METs*min/1000/year) (by intensity)	✓	✓	✓	✓	✓	✓	✓
Amount of leisure-time physical activity at 4.5METs (METs*min/1000/year) (by intensity)	✓	✓	✓	✓	✓	✓	✓
Amount of leisure-time physical activity at 6.5METs (METs*min/1000/year) (by intensity)	✓	✓	✓	✓	✓	✓	✓
Amount of leisure-time physical activity at 8.5METs (METs*min/1000/year) (by intensity)	✓	✓	✓	✓	✓	✓	✓
Yearly amount of leisure-time physical activity (METs*min/1000/year)	✓	✓	✓	✓	✓	✓	✓
Yearly time spent on leisure-time physical activity (hours/year)	✓	✓	✓	✓	✓	✓	✓
Daily amount of leisure-time physical activity (METs*min/1000/day)	✓	✓	✓	✓	✓	✓	✓
Daily time spent on leisure-time physical activity (hours/day) (by intensity)	✓	✓	✓	✓	✓	✓	✓
Frequency of on-the-job physical activity at 1.5METs (by intensity)	✓	✓	✓	✓	✓	✓	✓
Frequency of on-the-job physical activity at 2.5METs (by intensity)	✓	✓	✓	✓	✓	✓	✓
Frequency of on-the-job physical activity at 4.5METs (by intensity)	✓	✓	✓	✓	✓	✓	✓
Frequency of on-the-job physical activity at 7.5METs (by intensity)	✓	✓	✓	✓	✓	✓	✓
Amount of on-the-job physical activity at 1.5METs (METs*min/1000/year) (by intensity)	✓	✓	✓	✓	✓	✓	✓
Amount of on-the-job physical activity at 2.5METs (METs*min/1000/year) (by intensity)	✓	✓	✓	✓	✓	✓	✓
Amount of on-the-job physical activity at 4.5METs (METs*min/1000/year) (by intensity)	✓	✓	✓	✓	✓	✓	✓
Amount of on-the-job physical activity at 7.5METs (METs*min/1000/year) (by intensity)	✓	✓	✓	✓	✓	✓	✓
Yearly amount of on-the-job physical activity (METs*min/1000/year)	✓	✓	✓	✓	✓	✓	✓

Variable	1st Wave	2nd Wave	3rd Wave	4th Wave	5th Wave	6th Wave	7th Wave
Yearly time spent on on-the-job physical activity (hours/year)	✓	✓	✓	✓	✓	✓	✓
Daily amount of on-the-job physical activity (METs*min/1000/day)	✓	✓	✓	✓	✓	✓	✓
Daily time spent on on-the-job physical activity (hours/day)	✓	✓	✓	✓	✓	✓	✓
Yearly amount of residual physical activity (METs*min/1000/year)	✓	✓	✓	✓	✓	✓	✓
Daily time spent on residual physical activity (hours/day)	✓	✓	✓	✓	✓	✓	✓
Sleeping time (hours/day)	(BG)	(BG)	(BG)	✓	✓	✓	✓
Amount of physical activity during sleep (METs*min/1000/year)	✓	✓	✓	✓	✓	✓	✓
Total yearly physical activity (METs*min/1000/year)	✓	✓	✓	✓	✓	✓	✓
Total daily physical activity (METs*min/1000/day)	✓	✓	✓	✓	✓	✓	✓
Total intensity of physical activity (METs/year)	✓	✓	✓	✓	✓	✓	✓
Total intensity of physical activity excluding sleep (METs/year)	✓	✓	✓	✓	✓	✓	✓

Anthropometry and Body Composition (2020.9.2 edition)

Variable	1st Wave	2nd Wave	3rd Wave	4th Wave	5th Wave	6th Wave	7th Wave
1. Anthropometric measurements							
Height (cm)	✓	✓	✓	✓	✓	✓	✓
Weight (kg)	✓	✓	✓	✓	✓	✓	✓
Body mass index: BMI (kg/m ²)	✓	✓	✓	✓	✓	✓	✓
Trochanterion height (cm)	✓	✓	✓	✓	✓	✓	✓
Cristal height (cm)	✓	✓	✓				
Waist circumference (cm)	✓	✓	✓	✓	✓	✓	✓
Abdominal girth at navel (cm)	✓	✓	✓	✓	✓	✓	✓
Hip circumference (cm)	✓	✓	✓	✓	✓	✓	✓
Thigh circumference (cm)	✓	✓	✓	✓	✓	✓	✓
Thigh circumference 10cm above the knee (cm)	✓	✓	✓				
Thigh circumference 5cm above the knee (cm)	✓						
Calf circumference (cm)	✓	✓	✓	✓	✓	✓	✓
Upper arm circumference (cm)	✓	✓	✓	✓	✓	✓	✓
Sagittal abdominal diameter (cm)	✓	✓	✓				
Waist-to-hip ratio: WHR	✓						
2. Thickness of subcutaneous fat and muscle tissue							
Thickness of abdominal subcutaneous fat (mm)	✓	✓	✓	✓	✓	✓	✓
Thickness of rectus abdominis (mm)	✓	✓	✓	✓	✓	✓	✓
Thickness of subcutaneous fat at solar plexus (mm)	✓	✓					
Thickness of visceral fat at solar plexus (mm)	✓	✓					
Thickness of subcutaneous fat at mid-thigh (mm)	✓	✓	✓	✓	✓	✓	✓
Thickness of rectus femoris at mid-thigh (mm)	✓	✓	✓	✓	✓	✓	✓
Thickness of subcutaneous fat at anterior calf (mm)			✓	✓	✓	✓	✓
Thickness of tibialis anterior (mm)			✓	✓	✓	✓	✓
Thickness of subcutaneous fat 10cm above the knee (mm)	△	✓					
Thickness of muscle 10cm above the knee (mm)	△	✓					
Thickness of subcutaneous fat 5cm above the knee (mm)	△						
Thickness of muscle 5cm above the knee (mm)	△						
Thickness of subcutaneous fat at posterior upper arm (mm)	✓	✓	✓	✓	✓	✓	✓
Thickness of triceps brachii (mm)	✓	✓	✓	✓	✓	✓	✓
Thickness of subscapular subcutaneous fat (mm)			✓				

Variable	1st Wave	2nd Wave	3rd Wave	4th Wave	5th Wave	6th Wave	7th Wave
Thickness of subscapularis muscle (mm)			✓				
Thickness of subcutaneous fat at posterior mid-thigh (mm)			✓	✓	✓	✓	✓
Thickness of subcutaneous fat at posterior calf (mm)			✓	✓	✓	✓	✓
Thickness of gastrocnemius and soleus (mm)			✓	✓	✓	✓	✓
Thickness of subcutaneous fat at anterior upper arm (mm)			✓				
Thickness of biceps brachii (mm)			✓				
Thickness of subcutaneous fat at anterior forearm (mm)			✓				
Thickness of anterior forearm muscles (mm)			✓				
3. Area of visceral and subcutaneous fat							
Intra-abdominal fat area, CT reading (cm ²)		✓	✓	✓	✓	✓	✓
Subcutaneous fat area, CT reading (cm ²)		✓	✓	✓	✓	✓	✓
Waist circumference, CT reading (cm)		✓	✓	✓	✓	✓	✓
4. Body composition							
1) As measured by BODPOD							
Body fat percentage, BODPOD reading (%)	✓	✓	✓				
Body density, BODPOD reading (kg/m ³)	✓	✓	✓				
Body volume, BODPOD reading (L)		✓	✓				
2) As measured by DXA							
Head fat mass (kg)	✓	✓	✓	✓	✓	✓	✓
Head lean mass (kg)	✓	✓	✓	✓	✓	✓	✓
Left arm fat mass (kg)	✓	✓	✓	✓	✓	✓	✓
Left arm lean mass (kg)	✓	✓	✓	✓	✓	✓	✓
Right arm fat mass (kg)	✓	✓	✓	✓	✓	✓	✓
Right arm lean mass (kg)	✓	✓	✓	✓	✓	✓	✓
Trunk fat mass (kg)	✓	✓	✓	✓	✓	✓	✓
Trunk lean mass (kg)	✓	✓	✓	✓	✓	✓	✓
Left leg fat mass (kg)	✓	✓	✓	✓	✓	✓	✓
Left leg lean mass (kg)	✓	✓	✓	✓	✓	✓	✓
Right leg fat mass (kg)	✓	✓	✓	✓	✓	✓	✓
Right leg lean mass (kg)	✓	✓	✓	✓	✓	✓	✓
Total fat mass (kg)	✓	✓	✓	✓	✓	✓	✓
Lean body mass (kg)	✓	✓	✓	✓	✓	✓	✓
Body fat percentage (%)	✓	✓	✓	✓	✓	✓	✓

Variable	1st Wave	2nd Wave	3rd Wave	4th Wave	5th Wave	6th Wave	7th Wave
3) As measured by the multi-frequency bioelectrical impedance method							
Impedance according to the Tanita body composition monitor reading (ohms)	✓						
Body fat percentage according to the Tanita body composition monitor reading (%)	✓						
Total body water according to the Tanita body composition monitor reading (L)	✓						
Total body water according to the XITRON body composition monitor reading (L)	✓	✓	✓				
Extracellular fluid volume according to the XITRON body composition monitor reading (L)	✓	✓	✓				
Intracellular fluid volume according to the XITRON body composition monitor reading (L)	✓	✓	✓				
Body fat percentage according to the Sekisui Chemical body composition monitor reading (%)	✓						
Total body water according to the Sekisui Chemical body composition monitor reading (L)	✓						
Extracellular fluid volume according to the Sekisui Chemical body composition monitor reading (L)	✓						
Intracellular fluid volume according to the Sekisui Chemical body composition monitor reading (L)	✓						
5. Resting metabolic rate							
Resting metabolic rate (kcal/24h)		✓	✓				
Oxygen uptake (L/min)		✓	✓				
Carbon dioxide (CO ₂) emissions (L/min)		✓	✓				
Respiratory exchange ratio		✓	✓				

Note 1:

The following mass was deducted based on the clothing participants wore when weighed:

1st-7th wave (when wearing a long-sleeve T-shirt): -1.1kg (full track suit), -0.8kg (track pants only), -0.4kg (no track suit)

1st-7th wave (when wearing a short-sleeve T-shirt): -1.0kg (full track suit), -0.7kg (track pants only), -0.3kg (no track suit)

8th wave (Nov–Mar): -1.0kg, 8th wave (Apr–Oct): -0.5kg

Head MRI Examinations (2020.9.2 edition)

Variable	1st Wave	2nd Wave	3rd Wave	4th Wave	5th Wave	6th Wave	7th Wave
1. Periventricular hyperintensity (PVH)							
Periventricular hyperintensity (PVH)	✓	✓	✓	✓	✓	✓	✓
2. Ventricular dilatation							
Ventricular dilatation	✓	✓	✓	✓	✓	✓	✓
Ventricular dilatation (anterior horn)	✓	✓	✓	✓	✓	✓	✓
Ventricular dilatation (posterior horn)	✓	✓	✓	✓	✓	✓	✓
3. Brain atrophy							
Brain atrophy	✓	✓	✓	✓	✓	✓	✓
Brain atrophy (frontal lobe)	✓	✓	✓	✓	✓	✓	✓
Brain atrophy (temporal lobe)	✓	✓	✓	✓	✓	✓	✓
4. Cerebrovascular disease (CVD)							
Cerebrovascular diseases	✓	✓	✓	✓	✓	✓	✓
Cerebral infarction	✓	✓	✓	✓	✓	✓	✓
Lacuna	✓	✓	✓	✓	✓	✓	✓
Thrombosis	✓	✓	✓	✓	✓	✓	✓
Cerebral emboli	✓	✓	✓	✓	✓	✓	✓
Cerebral hemorrhage	✓	✓	✓	✓	✓	✓	✓
5. Head MRI measurements							
Total cerebral parenchymal area (cm ²)	△						
Total cerebral parenchymal volume (cm ³)	△						
Area of cerebellar vermis (sagittal) (cm ²)	△						
Area of pons (sagittal) (cm ²)	△						
Area of corpus callosum (sagittal) (cm ²)	△						
Cross-sectional area of skull (sagittal) (cm ²)	△						
Cross-sectional area of lateral ventricle (cm ²)	△						
Cross-sectional area of cerebral parenchyma (cm ²)	△						
Area of subarachnoid cerebrospinal fluid (frontal) (cm ²)	△						
Area of subarachnoid cerebrospinal fluid (lateral) (cm ²)	△						

Note 1: 1st-5th waves (1997.11-2008.2): MRI 1.5 Tesla (Toshiba Medical Systems Corp.), 5th wave (2008.2-2008.3): MRI 1.5 Tesla (Siemens Healthineers),

5th-7th wave (2008.4-2012.7): MRI 3 Tesla (Siemens Healthineers)

Note 2: All were based on T1/T2 weighted images.

Oral Examinations (2020.9.2 edition)

Variable	1st Wave	2nd Wave	3rd Wave	4th Wave	5th Wave	6th Wave	7th Wave
1. State of remaining teeth							
Number of intact teeth			✓	△			
Number of filled teeth			✓	△			
Number of teeth requiring caries observation			✓	△			
Number of decayed teeth			✓	△			
Number of missing teeth			✓	△			
Others			✓	△			
2. Periodontal status							
Periodontal index			✓	△			
3. Denture use							
Habitual use of dentures			✓	△			
4. Tongue coat							
Amount of tongue coating			✓	△			
5. Tongue wetness							
Tongue wetness (mm)				△			
6. Occlusion condition							
Occlusal area (mm ²)				△			
Maximum occlusal force (MPa)				△			
Average occlusal force (N)				△			

Note 1:

Data available for only about 900 participants in 4th wave. Data collection was stopped in the middle of the 4th wave (April, 2005).

Genetic Examinations (2021.2.4 edition)

Variable	1st Wave	2nd Wave	3rd Wave	4th Wave	5th Wave	6th Wave	7th Wave
1. Genes							
aldehyde dehydrogenase 2 (ALDH2) E/K	✓						
amylin S20D	✓						
angiotensin converting enzyme (ACE) I/D	✓						
angiotensinogen C235T	✓						
angiotensin II type I receptor A1166C	✓						
angiotensin II type I receptor G-2228A	✓						
angiotensin II type I receptor C-1424G	✓						
apolipoprotein E A-491T	✓	△	△	△	△	△	△
beta2-adrenergic receptor (ADRB2) Gln27Glu	✓						
calcitonin receptor C1377T	✓						
chemokine receptor 2 (CCR2) G190A (Val64Ile)	✓						
cholesterol ester transfer protein (CETP) A1324G (Asp442Gly)	✓						
coagulation factor XIII (FXIII) Val34Leu	✓						
calpain 10 G43A	✓						
catechol-o-methyltransferase (COMT) GA (Val158Met)	✓						
CYP2D6-3 1base-ID (CYP2D6B)	✓						
dopamine transporter (DAT) A1215G	✓						
dihydrolipoamide succinyltransferase (DLST) 19117 in intron 13 (A or G)	✓						
dihydrolipoamide succinyltransferase (DLST) 19183 in intron 14 (T or C)	✓						
dopamine receptor D2 CG(Ser311Cys)	✓						
estrogen receptor alpha (ESRRA) PP/pp	✓						
estrogen Receptor alpha (ESRRA) XX/xx	✓						
fibrinogen beta-polypeptide chain (FGB) G-455A	✓						
guanine nucleotide binding protein beta-3 (GNB3) C825T	✓						
glycogen synthetase M416V	✓						
interleukin 10 (IL10) A-592C	✓						
interleukin 1 alpha (IL1A) C-889T	✓						
interleukin-1β (IL1B) (C-511T)	✓						
interleukin 6 (IL6) G-634C	✓						
monoamine oxidase B (MAOB) GA (intron13/exon14)	✓						
melanocortin-4 receptor (MC-4) AG (Ile103Val)	✓						

Variable	1st Wave	2nd Wave	3rd Wave	4th Wave	5th Wave	6th Wave	7th Wave
matrix-degrading metalloproteinase 1 (MMP-1) (1G/2G at-1607)	✓						
mitochondria 15524 (A/G)	✓						
mitochondria 15497 (G/A)	✓						
mitochondria 5178 (C/A)	✓						
synthetic construct methylenetetrahydrofolate reductase (MTHFR) (C677T)	✓						
NADH/NADPHxp22phox (242C/T(His/Try))	✓						
nitric oxide synthase 3 (eNOS) G894T (Glu298Asp)	✓						
nitric oxide synthase 3 (eNOS) I/D	✓						
ostecalcin C298T	✓						
platelet-activating factor acetylhydrolase (PAF-AH) G994T	✓						
paraoxonase (PON1) 192 Gln/Arg	✓						
paraoxonase (PON1) 55 Leu/Met	✓						
paraoxonase (PON2) 311 Cys/Ser	✓						
24kDa protein of complex I CT (Ala29Val)	✓						
manganese superoxide dismutase (SOD2) C47T	✓						
transferrin C1/C2 (Pro570Ser)	✓						
transforming growth factor-beta 1 (TGF-b) T-29C	✓						
transforming growth factor-beta 1 (TGF-b) C-509T	✓						
tumor necrosis factor-alpha (TNFA) C-863A	✓						
translocase of the outer mitochondrial membrane 40 (TOM40) T988C	✓						
uncoupling protein 1 (UCP1) A-3826G	✓						
vascular endothelial growth factor (VEGF) C936T	✓						
vascular endothelial growth factor (VEGF) G405C	✓						
Illumina HumanExome BeadChip (244,770 SNP)	Δ	✓	Δ				

Note 1:

All genetic data was handled by specimen number, which differs from the way that other NILS-LSA data was handled (by ID number).