

1-1. Abstract

In 2009, based on the Act on Assurance of Medical Care for Elderly People, the Ministry of Health, Labour and Welfare (MHLW) started operating the National Database of Health Insurance Claims (NDB), correcting data on health insurance claims and specific health checkups and guidance. The database accumulates health insurance claims since FY 2009 and specific health checkup/guidance data since FY 2008, resulting in one of the largest and the most comprehensive healthcare databases in the world. Researchers have been using the NDB data as a third party since 2011.

The NDB contains extensive data on health insurance in Japan where the national health insurance covers most of medical care; thus, the NDB reflects the national trend of medical care in Japan. Therefore, the NDB data is considered useful in policymaking and research regarding healthcare. On the other hand, the use of NDB requires a high level of security because it contains sensitive data. NDB data has been provided to third parties for over a decade, and private-sector business can use NDB data in addition to the ministries, local governments, and researchers; consequently, the use of the NDB has become increasingly more common.

The NDB is a shared possession of the nation. The MHLW published the 1st *NDB Open Data Japan* in October 2016 as comprehensible statistics on nationwide medical care and specific health checkups. It consists of freely available spreadsheets that summarize the data on claims (regarding inpatient and outpatient medical care, diagnosis procedure combination [DPC], dispensing, and inpatient and outpatient dental care) and specific health checkups. The 11th *NDB Open Data Japan* includes spreadsheets of new items requested by users in addition to the updated spreadsheets provided in the 10th. As statistics of large-scale Japanese healthcare data, the *NDB Open Data Japan* is expected to provide useful information for many citizens interested in healthcare.



1-2. The statistics from the *NDB Open Data Japan*

The NDB stores digitized data on health insurance claims and specific health checkups and guidance. Health insurance claims are statements of medical expenses that are issued by healthcare providers for the reimbursement of expenses. The claims are issued to insurers per healthcare provider, per patient, and per month. Specific health checkups are conducted to the insured aged between 40 and 74 years old to prevent and improve metabolic syndrome.* Specific health guidance is provided to those with checkup results that fulfill certain criteria.

The current *NDB Open Data Japan* is the 11th in the series and has improved the compilation contents based on requests from users in addition to the data of the 10th *NDB Open Data Japan*. The 11th *NDB Open Data Japan* contains statistics grouped under eight categories of medical treatments, dental treatments, dental diseases, dispensing, prescriptions, medical devices, examinations of the specific health checkups, and questionnaires of the specific health checkups.

The medical treatments category shows the number of times that each medical treatment was reimbursed as in the previous *NDB Open Data Japan*. The spreadsheets are categorized according to the list issued by the MHLW; for example, basic services, medical care, pathological diagnosis, and others. The numbers of times treatments provided are tabulated by each prefecture, gender/age, secondary medical region, and treatment month. Furthermore, cross tabulations by prefecture and gender/age are shown for some medical treatments and the numbers of patients who received each medical treatment (such as basic services, medical care, in-home treatments, rehabilitation, and psychiatric services) are newly tabulated and published by prefecture, gender/age, secondary medical region, and treatment month.

The dental treatments category provides the numbers of times that each dental treatment was reimbursed. The spreadsheets are categorized according to the list issued by the MHLW as in the 10th *NDB Open Data Japan*; namely, basic services, dental care, in-home treatments, examinations, image diagnosis, prescriptions, injections, rehabilitation,

interventions, surgeries, blood transfusions, anesthesia, radiotherapy, coronal restoration and prosthesis, orthodontics, and pathological diagnosis. These statistics are tabulated by prefecture, gender/age, secondary medical region, and treatment month. The numbers of patients who received each dental treatment (basic services, dental care, in-home treatments, and rehabilitation) are newly published and then tabulated by prefecture, gender/age, secondary medical region, and treatment month.

The dental diseases category provides the numbers of claims with dental caries, periodontal diseases, and missing teeth categorized by prefecture and gender/age as provided in the 10th *NDB Open Data Japan*. The diagnosis is based on disease information stored in claims on dental treatments.

The dispensing category demonstrates the dispensing numbers tabulated by prefecture and gender/age as shown in the 10th *NDB Open Data Japan*. Additionally, the numbers of patients who received dispensing are newly published and tabulated by prefecture and gender/age.

The prescription category provides the numbers of major prescribed drugs based on inpatient and outpatient care, DPC, and dispensing claims as in the 10th *NDB Open Data Japan*. The drugs are tabulated by prefecture, gender/age, and treatment month. The *NDB Open Data Japan* publishes the top prescribed drugs for each therapeutic category specified by the top three digits of the therapeutic category code.

The medical devices category based on inpatient and outpatient care, DPC, and dispensing claims is tabulated and published by prefecture, gender/age, and treatment month like the 10th *NDB Open Data Japan*.

In the 11th *NDB Open Data Japan*, the spreadsheets without public reimbursement claims are also shown for medical treatments, dental treatments, dental diseases, dispensing, prescriptions, and medical devices as in the 10th *NDB Open Data Japan* for ease of observation of the changes by year from the 10th or earlier *NDB Open Data*.

The examinations of the specific health checkups category provides data on body mass index, abdominal circumference, fasting glucose, HbA1c, systolic and diastolic blood pressure, triglyceride, HDL and LDL cholesterol, GOT (AST), GPT (ALT), γ -GT (γ -GTP), hemoglobin, funduscopy, urine protein, urine sugar, casual blood glucose, serum creatinine, eGFR, electrocardiogram, and CGA classification just as in the 10th *NDB Open Data Japan*. The data are tabulated by prefecture (or secondary medical region) and gender/age. As the CGA classification, cross tabulations of the eGFR/urine protein are categorized by prefecture (or secondary medical region) and gender/age. Moreover, regarding hemoglobin, funduscopy, serum creatinine, eGFR, and electrocardiogram, spreadsheets of detailed information are demonstrated in addition to records of results.

Note that the *NDB Open data* shows the tabulations of all data on funduscopy, serum creatinine, eGFR, and electrocardiogram irrespective of comorbidities, although these examinations are supposed to be examined only in participants with specific comorbidities (e.g., patients with hypertension). Additionally, use of dialysis and quantitative results of urine albumin are excluded from the statistics.

The questionnaires of the specific health checkups category demonstrate the numbers of answers to 22 questionnaire items tabulated by prefecture (or secondary medical region) and gender/ age as in the 10th *NDB Open Data Japan*. Note that unanswered items were excluded from the statistics.

*Metabolic syndrome is a condition in which visceral fat is stored, and all or two of the following, blood pressure, blood glucose, or the serum lipid, exceed certain criteria. It is known to increase the risk of lifestyle-related diseases.

An overview of the update of the tabulation data from the 11th *NDB Open Data* is as follows.

Statistics	Update summary
Medical treatments	<ul style="list-style-type: none"> • The category "Others" is added*.
Dental treatments	<ul style="list-style-type: none"> • The category "Others" is added*.
Dental diseases	No change from last time.
Dispensing	No change from last time.
Prescription	<ul style="list-style-type: none"> • Narrowing down by the number of prescriptions to the top 100/300/500 is abolished.
Medical devices	No change from last time.
Examinations of the specific health checkups	No change from last time.
Questionnaires of the specific health checkups	No change from last time.
Others	No change from last time.

The numbers of NDB claims and checkups used to provide the 11th *NDB Open Data* are as follows.

Statistics	Types and periods of data source	Subtypes of claims	Approx. No. of Data *Including public reimbursement claims
<ul style="list-style-type: none"> ● Medical treatments ● Dental treatments ● Dental diseases ● Dispensing ● Prescriptions ● Medical devices 	Claims from Apr. 2024 to Mar. 2025	Inpatient medical care	15.4 million
		Outpatient medical care	1,082.0 million
		DPC	16.2 million
		Inpatient dental care	220,000
		Outpatient dental care	256.1 million
		Dispensing	752.3 million
<ul style="list-style-type: none"> ● Examinations ● Questionnaires 	Specific health checkups from Apr. 2023 to Mar. 2024	Specific health checkups	31.0 million