

## Indicator 3.8.1

### Name of Indicator, Target and Goal

**Indicator 3.8.1** Coverage of essential health services (defined as the average coverage of essential services based on tracer interventions that include reproductive, maternal, newborn and child health, infectious diseases, non-communicable diseases and service capacity and access, among the general and the most disadvantaged population)

**Target 3.8** Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all

**Goal 3** Ensure healthy lives and promote well-being for all at all ages

### Definition and Concept

#### ○ Definition

Coverage of essential health services (defined as the average coverage of essential services based on tracer interventions that include reproductive, maternal, newborn and child health, infectious diseases, non-communicable diseases and service capacity and access, among the general and the most disadvantaged population).

The indicator is an index reported on a unitless scale of 0 to 100, which is computed as the geometric mean of 14 tracer indicators of health service coverage described as below.

#### ○ Concept

The index of health service coverage is computed as the geometric means of 14 tracer indicators. The 14 tracer indicators are as follows, organized by four broad categories of service coverage:

<RMNCH (Reproductive, maternal, newborn and child health) >

Tracer indicator	1. Family Planning
Definition	Percentage of women of reproductive age (15–49 years) who are married or in- union

	who have their need for family planning satisfied with modern methods
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Tracer indicator	2 . Pregnancy and delivery care
Definition	Percentage of women aged 15-49 years with a live birth in a given time period who received antenatal care four or more times

Tracer indicator	3 . Child immunization
Definition	Percentage of infants receiving three doses of diphtheria-tetanus-pertussis containing vaccine

Tracer indicator	4 . Child treatment (care-seeking for symptoms of pneumonia)
Definition	Percentage of children under 5 years of age with suspected pneumonia (cough and difficult breathing NOT due to a problem in the chest and a blocked nose) in the two weeks preceding the survey taken to an appropriate health facility or provider

<Infectious diseases>

Tracer indicator	5 . Tuberculosis treatment
Definition	Percentage of incident TB cases that are detected and successfully treated

Tracer indicator	6 . HIV/AIDS treatment
Definition	Percentage of people living with HIV currently receiving antiretroviral therapy

Tracer indicator	7 . Malaria prevention
Definition	Percentage of population in malaria-endemic areas who slept under an insecticide-treated net

	the previous night [only for countries with high malaria burden] ※Japan is not Malaria endemic country.
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Tracer indicator	8 . Water and sanitation
Definition	Percentage of households using improved sanitation facilities

<Non communicable diseases>

Tracer indicator	9 . Prevention of cardiovascular disease
Definition	Age-standardized prevalence of non-raised blood pressure (systolic blood pressure <140 mm Hg or diastolic blood pressure <90 mm Hg) among adults aged 20 years and older

Tracer indicator	1 0 . Management of diabetes
Definition	Age-standardized mean fasting plasma glucose (mmol/L) for adults aged 25 years and older

Tracer indicator	1 1 . Tobacco control
Definition	Age-standardized prevalence of adults $\geq$ 20 years not smoking tobacco

<Service capacity and access>

Tracer indicator	1 2 . Hospital access
Definition	Hospital beds per capita, relative to a maximum threshold of 18 per 10,000 population

Tracer indicator	1 3 . Health workforce
Definition	Health professionals (physicians, psychiatrists, and surgeons) per capita, relative to maximum thresholds for each cadre  Maximum threshold

	Physicians 0.9 per 1,000 population Psychiatrists 1 per 100,000 population Surgeons 14 per 100,000 population
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Tracer indicator	1 4. Health security
Definition	International Health Regulations (IHR) core capacity index, which is the average percentage of attributes of 13 core capacities that have been attained  The 13 core capacities are: (1) National legislation, policy and financing; (2) Coordination and National Focal Point communications; (3) Surveillance; (4) Response; (5) Preparedness; (6) Risk communication; (7) Human resources; (8) Laboratory; (9) Points of entry; (10) Zoonotic events; (11) Food safety; (12) Chemical events; (13) Radionuclear emergencies.

○ Rationale

Target 3.8 is defined as “Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all”. The concern is with all people and communities receiving the quality health services they need (including medicines and other health products), without financial hardship. Two indicators have been chosen to monitor target 3.8 within the SDG framework. Indicator 3.8.1 is for health service coverage and indicator 3.8.2 focuses on health expenditures in relation to a household’s budget to identify financial hardship caused by direct health care payments. Taken together, indicators 3.8.1 and 3.8.2 are meant to capture the service coverage and financial protection dimensions, respectively, of target 3.8. These two indicators should be always monitored jointly.

Countries provide many essential services for health protection, promotion, prevention, treatment and care. Indicators of service coverage – defined as people receiving the service they need – are the best way to track

progress in providing services under universal health coverage (UHC). Since a single health service indicator does not suffice for monitoring UHC, an index is constructed from 14 tracer indicators selected based on epidemiological and statistical criteria. This includes several indicators that are already included in other SDG targets, thereby minimizing the data collection and reporting burden. The index is reported on a unitless scale of 0 to 100, with 100 being the optimal value.

### Data Sources and Method of collection

Tracer indicator	Data sources
1. Family Planning	<p>Japan's routine surveys do not provide data for this tracer indicator. Therefore, we used annual estimation of Japan produced by the United Nations Department of Economic and Social Affairs (DESA) Population Division following the United Nations Statistics global metadata's recommendation. In particular, we used "Demand for family planning satisfied by any modern method (Percentage)" in the Estimates and Projections of Family Planning Indicators.</p> <p><a href="https://www.un.org/en/development/desa/population/theme/family-planning/index.asp">https://www.un.org/en/development/desa/population/theme/family-planning/index.asp</a></p>
2. Pregnancy and delivery care	<p>Japan's routine surveys do not provide data for this tracer indicator. Also, WHO Global Health Observatory, which is the recommended source by the United Nations Statistics global metadata, does not include estimation for Japan regarding the percentage of women aged 15-49 years with a live birth in a given time period who received antenatal care for four or more times. Thus, we consulted WHO and they advised us to use the median of the following country lists which includes high-income OECD countries and other selected developed countries (※). We calculated the median value among the countries included in this list with available data.</p> <p>(※) WHO recommended list of high-income OECD countries and selected other developed countries</p>

	<p>Andorra, Argentina, Australia, Austria, Belgium, Brunei Darussalam, Canada, Chile, Denmark, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Iceland, Ireland, Israel, Italy, Luxembourg, Malta, Monaco, Netherlands, New Zealand, Norway, Poland, Portugal, Republic of Korea, San Marino, Singapore, Slovakia, Slovenia, Spain, Sweden, Switzerland, United Kingdom, United States of America, Uruguay</p> <p>2017 Global Monitoring Report used in the same method.</p> <p>&lt;Percentage of women aged 15–49 years attended at least four times during pregnancy by any provider&gt;</p> <p><a href="http://www.who.int/gho/maternal_health/who_rhr_anc4_detailed_2017.xls">http://www.who.int/gho/maternal_health/who_rhr_anc4_detailed_2017.xls</a></p>
3. Child immunization	<p>“Trends of third-dose vaccination coverage in DPT-IPV (DPT-IPV 3)” from the number of routine vaccination published by Ministry of Health, Labour and Welfare, JAPAN</p> <p><a href="https://www.mhlw.go.jp/topics/bcg/other/5.html">https://www.mhlw.go.jp/topics/bcg/other/5.html</a></p>
4. Child treatment (care-seeking for symptoms of pneumonia)	<p>Japan’s routine surveys do not provide data for this tracer indicator. Also, WHO database of country-level observations Global Health Observatory, which is the recommended source by the United Nations Statistics global metadata, does not include estimation for Japan on the percentage of children under 5 years of age with suspected pneumonia in the two weeks preceding the survey taken to an appropriate health facility or provider. Thus, we consulted WHO and they advised us to use the median of the following country lists which includes high-income OECD countries and other selected developed countries (※). We calculated the median value among the countries included in this list with available data.</p> <p>(※) WHO recommended list of high-income OECD countries and selected other developed countries</p> <p>Andorra, Argentina, Australia, Austria, Belgium, Brunei Darussalam, Canada, Chile, Denmark, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Iceland,</p>

	<p>Ireland, Israel, Italy, Luxembourg, Malta, Monaco, Netherlands, New Zealand, Norway, Poland, Portugal, Republic of Korea, San Marino, Singapore, Slovakia, Slovenia, Spain, Sweden, Switzerland, United Kingdom, United States of America, Uruguay</p> <p>2017 Global Monitoring Report used in the same method.</p> <p>&lt;Percentage of children under 5 years of age with suspected pneumonia in the two weeks preceding the survey taken to an appropriate health facility or provider&gt;</p> <p><a href="http://www.who.int/gho/child_health/prevention/pneumonia/en/">http://www.who.int/gho/child_health/prevention/pneumonia/en/</a></p>
<p>5. Tuberculosis treatment</p>	<p>This indicator requires three main inputs and we calculate it based on the following formula.</p> <p>The final indicator = (1)/(2) × (3)</p> <p>(1) The annual number of new and relapse TB cases diagnosed and treated</p> <p>“Number of newly notified tuberculosis patients including new and re-treatment tuberculosis” from Tuberculosis in Japan: Annual Report published by the Research Institute of Tuberculosis.</p> <p><a href="http://www.jata.or.jp/rit/ekigaku/toukei/nenpou/">www.jata.or.jp/rit/ekigaku/toukei/nenpou/</a></p> <p>(2) The number of incident TB cases for the same year estimated by WHO</p> <p>“Estimated number of incident cases (all forms)” from WHO TB Burden estimates</p> <p><a href="http://www.who.int/tb/country/data/download/en/">www.who.int/tb/country/data/download/en/</a></p> <p>(3) Percentage of TB cases successfully treated (cured and treatment completed) among TB cases notified to the national health authorities</p> <p>“Treatment outcome of newly notified pulmonary cases by patient classification, prefecture and major city (total number of newly notified active cases, cured and treatment completed)” from TUBERCULOSIS in Japan: Annual Report published by the Research Institute of Tuberculosis.</p> <p><a href="http://www.jata.or.jp/rit/ekigaku/toukei/nenpou/">www.jata.or.jp/rit/ekigaku/toukei/nenpou/</a></p>

6. HIV treatment	Japan's routine surveys does not provide data for this tracer indicator. Therefore, we used estimation of Japan produced by UNAIDS following the United Nations Statistics global metadata's recommendation. In particular, we used "treatment cascade, Coverage of people receiving ART (all ages)" in AIDS info. <a href="http://aidsinfo.unaids.org/">http://aidsinfo.unaids.org/</a>
7. Malaria prevention	Japan is not a Malaria endemic country. Thus, we did not include this tracer indicator following UN metadata's guidance.
8. Water and sanitation	Japan's routine surveys do not provide data for this tracer indicator. Therefore, we used estimation of Japan produced by WHO/UNICEF Joint monitoring program following the United Nations Statistics global metadata's recommendation. In particular, we used "Safely managed proportion of population using improved sanitation facilities (excluding shared)" in WHO/UNICEF Joint monitoring program Report. <a href="http://www.wssinfo.org/">http://www.wssinfo.org/</a>
9. Prevention of cardiovascular disease	<p>"Trend in the prevalence of hypertension" from Annual National Health and Nutrition Survey in Japan published by Ministry of Health, Labour and Welfare, JAPAN  <a href="https://www.mhlw.go.jp/bunya/kenkou/kenkou_eiyou_chousa.html">https://www.mhlw.go.jp/bunya/kenkou/kenkou_eiyou_chousa.html</a></p> <p>(※) We convert this national data to match the WHO World Standard Population.</p>
10. Management of diabetes	<p>Japan's routine surveys do not provide data for this tracer indicator. Therefore, we used estimation of Japan from the Lancet article which follows the United Nations Statistics global metadata's recommendation.</p> <p>"Web table 6: Age-standardized mean FPG by sex and country in 1980, 1990, 2000, and 2008, with uncertainty intervals as defined in Methods" from the Lancet.</p> <p>Danaei, Goodarz, et al. "National, regional, and global trends in fasting plasma glucose and diabetes prevalence since 1980: systematic analysis of health examination surveys and epidemiological studies with 370 country-years and 2·7 million participants." <i>The Lancet</i> 378.9785 (2011): 31-40.</p>



	As the original was divided by gender, we calculated total data using weighted average.
11. Tobacco control	<p>“Trend of age and gender adjusted percentage of smoker” from annual national health and nutrition survey in Japan published by Ministry of Health, Labour and Welfare, JAPAN</p> <p><a href="https://www.mhlw.go.jp/bunya/kenkou/kenkou_eiyou_chousa.html">https://www.mhlw.go.jp/bunya/kenkou/kenkou_eiyou_chousa.html</a></p>
12. Hospital access	<p>“Total number of bed including hospital, clinic and dental clinic” from annual survey of medical institutions published by Ministry of Health, Labour and Welfare, JAPAN</p> <p><a href="https://www.mhlw.go.jp/toukei/list/79-1a.html">https://www.mhlw.go.jp/toukei/list/79-1a.html</a></p>
13. Health workforce	<p>“Total number of Physicians, Psychiatrists and Surgeons” from biennial survey of physicians published by Ministry of Health, Labour and Welfare, JAPAN.</p> <p><a href="https://www.mhlw.go.jp/toukei/list/33-20c.html">https://www.mhlw.go.jp/toukei/list/33-20c.html</a></p> <p>(1) Number of physician is physicians who work in health-care facilities and/or geriatric health service facilities.</p> <p>(2) Number of psychiatrists is physicians who mainly work in the department of psychiatry.</p> <p>(3) Number of surgeons is physicians who mainly work in the department of surgery, thoracic surgery, cardiovascular surgery, breast surgery, broncho-esophagological surgery, gastrointestinal surgery, anal surgery and pediatric surgery.</p>
14. Health security	Same as Indicator 3.d.1

## Calculation of the index and method

### ○ Calculation

- UHC Service Coverage Index

$$= (A \times B \times C \times D)^{1/4}$$

- A: RMNCH (Reproductive, maternal, newborn and child health) =

$$(\textcircled{1} \times \textcircled{2} \times \textcircled{3} \times \textcircled{4})^{1/4}$$

- B: Infectious diseases =  $(\textcircled{5} \times \textcircled{6} \times \textcircled{8})^{1/3}$

- C: Non communicable diseases =  $(\textcircled{9} \times \textcircled{10} \times \textcircled{11})^{1/3}$

- D: Service capacity and access =  $(\textcircled{12} \times \textcircled{13} \times \textcircled{14})^{1/3}$

① Family Planning	Numerator	Number of women aged 15-49 who are married or in-union who use modern methods
	Denominator	Total number of women aged 15-49 who are married or in-union in need of family planning
② Pregnancy and delivery care	Numerator	Number of women aged 15–49 years with a live birth in a given time period who received antenatal care four or more times
	Denominator	Total number of women aged 15–49 years with a live birth in the same period.
③ Child immunization	Numerator	Children 1 year of age who have received three doses of diphtheria-tetanus-pertussis containing vaccine
	Denominator	All children 1 year of age
④ Child treatment	Numerator	Number of children with suspected pneumonia (cough and difficult breathing NOT due to a problem in the chest and a blocked nose) in the two weeks preceding the survey taken to an appropriate health provider.
	Denominator	Number of children with suspected pneumonia (cough and difficult breathing NOT due to a problem in the chest and a blocked nose) in the two weeks preceding the survey taken to an appropriate health provider.
⑤ Tuberculosis treatment	Numerator	Number of new and relapse cases detected in a given year and successfully treated
	Denominator	Number of new and relapse cases in the same year

	<p>This indicator requires three main inputs:</p> <p>(1) The number of new and relapse TB cases diagnosed and treated in national TB control programmes and notified to WHO in a given year.</p> <p>(2) The number of incident TB cases for the same year, typically estimated by WHO.</p> <p>(3) Percentage of TB cases successfully treated (cured plus treatment completed) among TB cases notified to the national health authorities.</p> <p>Tracer indicator = (1)/(2) x (3)</p>	
⑥ HIV treatment	Numerator	Number of adults and children who are currently receiving ART at the end of the reporting period
	Denominator	Number of adults and children living with HIV during the same period
⑧ Water and sanitation	Numerator	Population living in a household with: flush or pour-flush to piped sewer system, septic tank or pit latrine; ventilated improved pit latrine; pit latrine with slab; or composting toilet.
	Denominator	Total population
⑨ Prevention of cardiovascular disease	Numerator	Number of adults aged 20 or older with systolic blood pressure <140 mm Hg and diastolic blood pressure <90 mm Hg (regardless of treatment status)
	Denominator	Number of adults aged 20 or older
⑩ Management of diabetes	<p>Age-standardized mean fasting plasma glucose for adults aged 25 years and older (mmol/L).</p> <p>Mean fasting plasma glucose, which is a continuous measure (units of mmol/L), is converted to a scale of 0 to 100 using the minimum theoretical biological risk (5.1 mmol/L) and observed maximum across countries (7.1 mmol/L).</p>	

	Tracer indicator = $(7.1 - \text{original value}) / (7.1 - 5.1) * 100$	
⑪ Tobacco control	Numerator	Adults 20 years and older who have not smoked tobacco
	Denominator	Adults 20 years and older
⑫ Hospital access	Numerator	Number of hospital beds
	Denominator	Total population
⑬ Health workforce	Numerator	Number of physicians, psychiatrists and surgeons (1) Number of physician is physicians who work in health-care facilities and/or geriatric health service facilities. (2) Number of psychiatrists is physicians who mainly work in the department of psychiatry. (3) Number of surgeons is physicians who mainly work in the department of surgery, thoracic surgery, cardiovascular surgery, breast surgery, broncho-esophagological surgery, gastrointestinal surgery, anal surgery and pediatric surgery.
	Denominator	Total population
⑭ Health security	Numerator	Number of attributes attained
	Denominator	Total number of attributes

○ Comments and limitations

1. Family Planning

Japan's routine surveys do not provide data for this tracer indicator. Therefore, we used annual estimation of Japan produced by the United Nations Population Division following the United Nations Statistics global metadata's recommendation.

2. Pregnancy and delivery care

Japan's routine surveys do not provide data for this tracer indicator. Also, WHO Global Health Observatory, which is the recommended source by the United Nations Statistics global metadata, does not include estimation for Japan regarding the percentage of women aged 15-49 years with a live birth in a given time period who received antenatal care for four or more times. Thus, we consulted WHO and they advised us to use the median of the following country lists which includes high-income OECD countries and other selected developed countries (※). We calculated the median value among the countries included in this list with available data.

#### 4. Child treatment

Japan's routine surveys do not provide data for this tracer indicator. Also, WHO database of country-level observations Global Health Observatory, which is the recommended source by the United Nations Statistics global metadata, does not include estimation for Japan on the percentage of children under 5 years of age with suspected pneumonia in the two weeks preceding the survey taken to an appropriate health facility or provider. Thus, we consulted WHO and they advised us to use the median of the following country lists which includes high-income OECD countries and other selected developed countries (※). We calculated the median value among the countries included in this list with available data.

#### 6. HIV treatment

Japan's routine surveys does not provide data for this tracer indicator. Therefore, we used estimation of Japan produced by UNAIDS following the United Nations Statistics global metadata's recommendation.

#### 8. Water and sanitation

Japan's routine hold surveys do not provide data for this tracer indicator. Therefore, we used estimation of Japan produced by WHO/UNICEF Joint monitoring program following the United Nations Statistics global metadata's recommendation.

#### 9. Prevention of cardiovascular disease

The definition of United Nations Statistics global metadata targets for adults aged 18 or older, however, we investigated for adults aged 20 or older.

#### 10. Management of diabetes

Japan's routine surveys do not provide data for this tracer indicator. Therefore, we used estimation of Japan from the Lancet article which follows the United Nations Statistics global metadata's recommendation.

#### 1 1 . Tobacco control

The definition of United Nations Statistics global metadata targets for adults 15 years and older who have not smoked tobacco in the last 30 days, however, we investigated for adults aged 20 or older who have not smoked tobacco.

#### 1 2 . Hospital access

The definition of United Nations Statistics global metadata excludes labor and delivery beds; however, our data includes these beds.

#### 1 3 . Health workforce

In this survey, physicians are classified based on their main specialities. The number of psychiatrists and surgeons includes only physicians who mainly work in the each department and they do not include psychiatrists and surgeons who did not register themselves as physicians who mainly work in these specialities.

(※) WHO recommended list of high-income OECD countries and selected other developed countries

Andorra, Argentina, Australia, Austria, Belgium, Brunei Darussalam, Canada, Chile, Denmark, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Iceland, Ireland, Israel, Italy, Luxembourg, Malta, Monaco, Netherlands, New Zealand, Norway, Poland, Portugal, Republic of Korea, San Marino, Singapore, Slovakia, Slovenia, Spain, Sweden, Switzerland, United Kingdom, United States of America, Uruguay

### **Data disaggregation**

10. Management of diabetes has data sorted by gender.

5. Tuberculosis treatment, 9. Prevention of cardiovascular disease and 11. Tobacco control have data sorted by gender and age group.

### **References**

Statistic Decision, Department of Economic and Social Affairs, United Nations : SDG Indicators Metadata repository

<https://unstats.un.org/sdgs/metadata/files/Metadata-03-08-01.pdf>

WHO and World Bank: 2017 Global Monitoring Report

<http://pubdocs.worldbank.org/en/193371513169798347/2017-global-monitoring-report.pdf>

### **Custodian Ministries of Data**

Ministry of Health, Labour and Welfare

### **Custodian Ministries of Related Policies**

Children and Families Agency

Ministry of Health, Labour and Welfare

### **International Organizations**

World Health Organization (WHO)