

SDG indicator metadata

(Harmonized metadata template - format version 1.0)

0. Indicator information

0.a. Goal

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

0.b. Target

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

0.c. Indicator

Indicator 3.8.2: Proportion of population with ~~positive out-of-pocket large~~ household expenditures on health ~~exceeding 40% of as a share of total household discretionary budget expenditure or income~~

Suggested shorter name: proportion of population facing financial hardship

0.d. Series

SH_XPD_EARN25 and SH_XPD_EARN10 ~~→CHANGE TO OOP_XPD_EARNNET40~~

0.e. Metadata update

2022-03-01

0.f. Related indicators

Financial hardship due to out-of-pocket (OOP) health spending is a key consequence of inadequate of financial risk protection mechanisms. SDG indicator 3.8.2 is designed to capture financial hardship due to OOP health spending which hinders progress towards the universal health coverage target 3.8. It should always be interpreted together with the other SDG UHC indicator, SDG_UHC indicators: 3.8.1; which measures service coverage.

Financial hardship induced by OOP health spending also deters efforts to eradicate poverty and reduce inequalities between and within countries and as such other relevant SDG indicators include

1.1.1 and; 1.2.1; 10.1.1; 10.2.1

0.g. International organisations(s) responsible for global monitoring

World Health Organization (WHO) and the World Bank

1. Data reporter

1.a. Organisation

World Health Organization (WHO)

2. Definition, concepts, and classifications

2.a. Definition and concepts

Definition:

Proportion of the population with large-positive out-of-pocket household expenditure on health exceeding 40% of as a share of total household discretionary budget. The discretionary household budget is defined as total household consumption expenditure or income minus the societal poverty line (SPL). Using 2017 purchasing power parities (PPPs), the SPL corresponds to whichever is greater: \$2.15 (the international poverty line) or \$1.15 + 50% of median household consumption expenditure or income, excluding out-of-pocket household expenditure on health. All amounts are measured on a per capita daily basis. ~~Two thresholds are used to define “large household expenditure on health”: greater than 10% and greater than 25% of total household expenditure or income.~~

Concepts:

~~Indicator 3.8.2 is defined as the “Proportion of the population with large household expenditure on health as a share of total household expenditure or income”. In effect it is based on a ratio exceeding a threshold. The two main concepts of interest behind this ratio are household expenditure on health (numerator) and total household consumption expenditure or, when unavailable, income (denominator).~~ discretionary budget.

~~Numerator~~Out-of-pocket household expenditure on health

Out-of-pocket household expenditure on health follows the definition of Out-Of-Pocket (OOP) payments in the classification of health care financing schemes (HF) of the international Classification for Health Accounts (ICHA). It is defined as it includes any expenditure incurred at the time-of-service use to get any type of care (promotive, preventive, curative, rehabilitative, palliative or long-term care) including all medicines, vaccines and other pharmaceutical preparations as well as all health products, *from any type of provider and for all members of the household.* ~~These health expenditures are characterized by direct payments that~~ It is ~~are~~ financed by a household’s income (including remittances), savings or loans **but do not include any third-party payer reimbursement.** ~~They are labelled Out-Of-Pocket (OOP) payments in the classification of health care financing schemes (HF) of the international Classification for Health Accounts (ICHA).~~ They are the most unequitable source of funding for the health system as they are solely based on the willingness and ability to pay of the household; they only grant access to the health services and health products individuals can pay for, without any solidarity between the healthy and the sick beyond the household¹, the rich and the poor; they represent a barrier to access for those people who are unable to find the economic resources need to pay out of their own pocket.

The components of household expenditure on health should be consistent with division 06 on health of the UN Classification of Individual Consumption According to Purpose (COICOP) on medicines and medical products (06.1), outpatient care services (06.2) inpatient care services (06.3) and other health services (06.4)².

The components of out-of-pocket household expenditure on health can be aggregated after they have been rescaled to the same time period (e.g., the year or month). Next, out-of-pocket household expenditure on health per capita is estimated using total out-of-pocket household expenditure on health

¹ http://www.oecd-ilibrary.org/social-issues-migration-health/a-system-of-health-accounts/classification-of-health-care-financing-schemes-icha-hf_9789264116016-9-en

² Agenda item 3(I) available at <https://unstats.un.org/unsd/statcom/49th-session/documents/>; <http://unstats.un.org/unsd/cr/registry/regcs.asp?Cl=5&Lg=1&Co=06.1>

divided by the total household size. Lastly, these per capita values are further converted to daily equivalent by applying relevant constant factors (e.g. dividing by 365 if the total is annual).

Further information on definitions and classifications of health expenditures should be consistent with the [international classification for health accounts \(ICHA\)](#) and its family of classifications (for example by type of provider).

Household discretionary budget

Denominator

The discretionary household budget is defined as total household consumption expenditure or income minus the societal poverty line (SPL).

Household consumption expenditure or income

Expenditure on H household consumption expenditure and household income are both monetary welfare measures.

Household consumption expenditure³ is a function of permanent income, which is a measure of a household's long-term economic resources that determine living standards. Consumption is generally defined as the sum of the monetary values of all items consumed by the household on domestic account during a reference period. It includes monetary expenditures on food and non-food non-durable goods and services consumed as well as the imputed values of goods and services that are not purchased but procured otherwise for consumption (value of in-kind consumption); the value use of durables, and the value use of owner-occupied housing. The household total consumption or income includes expenditures on health. Information on household consumption is usually collected in household surveys that may use different approaches to measure 'consumption' depending on whether items refer to durable or non-durable goods and/or are directly produced by households.

The most relevant measure of income is disposable income as it is close to the maximum available to the household for consumption expenditure during the accounting-reference period. Disposable income is defined as total income less direct taxes (net of refunds), compulsory fees and fines. Total income is generally composed of income from employment, property income, income from household production of services for own consumption, transfers received in cash and goods, and transfers received as services⁴.

Per capita income or consumption expenditure is estimated using total household income or consumption expenditure divided by the total household size. These per capita values are further converted to daily equivalent by applying relevant constant factors. For example, if household per capita income is available for the year, then the amounts will be divided by 365.

Income is more difficult to measure accurately due to its greater variability over time. Consumption is less variable over time and easier to measure. It is therefore recommended that whenever there is

³ [Mancini, Giulia; Vecchi, Giovanni. On the Construction of a Consumption Aggregate for Inequality and Poverty Analysis \(English\). Washington, D.C. : World Bank Group. \(link\)](#)

⁴ <http://www.ilo.org/public/english/bureau/stat/download/17thicls/r2hies.pdf>

information on both household consumption and income the former is used (see the “comments and limitations” section to learn more about the sensitivity of 3.8.2 to the income/expenditure choice in the denominator). Statistics on 3.8.2 currently produced by WHO and the World Bank predominantly rely on consumption (see section on data sources).

This indicator uses the same data on household income and consumption that is used for monitoring SDG indicators 1.1.1 and 10.1.1, which have been classified as Tier 1 indicators.

The societal poverty line

The societal poverty line is a parameterization of a global relative poverty line, defined as the maximum between the international poverty line (as used by SDG indicator 1.1.1) and a formula that include a fixed element and a relative gradient in consumption or income levels. The societal poverty line was developed by the World Bank in 2017 to acknowledge that estimated minimum cost of needs and social participation varies across countries an over time, conditional on the overall level of economic development.

Other methods can be used the assess the cost of basic needs and define a discretionary budget. Since cross-country comparability is an important property in a global SDG monitoring framework, the use of a single definition for the cost of basic needs which is relevant across all countries (the SPL) is a preferred approach. Moreover, the SPL is calibrated as the closest empirical fit to existing definitions of national poverty lines⁵.

Thresholds

It is argued that out-of-pocket household expenditure on health are a source of financial hardship when they exceed a given threshold of household’s discretionary budget. The 40% cut-off value is chosen based on international practice⁶. Previous research has shown that discretionary budget approaches are more robust to the choice of the threshold for cross-country comparison than methods based on household total budget⁷. Two thresholds are used for global reporting to identify large household expenditure on health as share of total household consumption or income: **a lower threshold of 10% (3.8.2_10) and a higher threshold of 25% (3.8.2_25)**. With these two thresholds the indicator measures financial hardship

(see section on comments and limitations).

2.b. Unit of measure

~~Percentage~~ Percent (%). The unit of measure is the ~~{~~proportion of people~~}~~

2.c. Classifications

~~For the definition of health expenditures (numerator)~~ out-of-pocket household expenditure on health:

⁵ Jolliffe, Dean, and Espen Beer Prydz. "Societal poverty: A relative and relevant measure." *The World Bank Economic Review* 35, no. 1 (2021): 180-206.

⁶ Xu, K., Evans, D. B., Carrin, G., Aguilar-Rivera, A. M., Musgrove, P., and Evans, T. (2007), “Protecting Households From Catastrophic Health Spending,” *Health Affairs*, 26, 972–983. Xu, K., Evans, D., Kawabata, K., Zeramdini, R., Klavus, J., and Murray, C. (2003). “Households Catastrophic Health Expenditure: A Multi-Country Analysis,” *The Lancet*. 326, 111–117.

⁷ Hsu, J., Flores, G., Evans, D. et al. Measuring financial protection against catastrophic health expenditures: methodological challenges for global monitoring. *Int J Equity Health* 17, 69 (2018). <https://doi.org/10.1186/s12939-018-0749-5>

- http://www.oecd-ilibrary.org/social-issues-migration-health/a-system-of-health-accounts/classification-of-health-care-financing-schemes-icha-hf_9789264116016-9-en

For the components of *out-of-pocket household expenditure on health* ~~health expenditures; (numerator)~~

- division 06 of the UN Classification of Individual Consumption According to Purpose (COICOP)
https://unstats.un.org/unsd/class/revisions/coicop_revision.asp;
<http://unstats.un.org/unsd/cr/registry/regcs.asp?Cl=5&Lg=1&Co=06.1>

For the components of *household total consumption*; ~~(preferred denominator)~~

- UN Classification of Individual Consumption According to Purpose (COICOP)
https://unstats.un.org/unsd/class/revisions/coicop_revision.asp;
<http://unstats.un.org/unsd/cr/registry/regcs.asp?Cl=5&Lg=1&Co=06.1>

3. Data source type and data collection method

3.a. Data sources

The recommended data sources for the monitoring of this indicator e-~~“Proportion of the population with large household expenditure on health as a share of total household expenditure or income”~~ are household surveys with information on both household consumption expenditure on health and total household consumption expenditures, which are routinely conducted by ~~National~~ ~~Statistical~~ ~~Statistical~~ ~~Offices~~ ~~Offices~~ (NSOs). Household budget surveys (HBS) and household income and expenditure surveys (HIES) typically collect these as they are primarily conducted to provide inputs to the calculation of consumer price indices or the compilation of national accounts. Another potential source of information is socio-economic or living standards surveys; however, some of these surveys may not collect information on total household consumption expenditures – for example, when a country measures poverty using income as the welfare indicator⁸. The most important criterion for selecting a data source to measure SDG indicator 3.8.2 is the availability of both household consumption expenditure on health and total household consumption expenditures.

3.b. Data collection method

WHO and the World Bank contact Ministries of Health and/or National statistical offices for two purposes: a) request access to the household survey microdata in order to produce SDG indicator 3.8.2; b) request estimates produced by the country itself.

A) The first type of request is done by each organization separately. WHO obtains access to the household survey microdata from national statistical offices through its regional offices or country offices. Access request is often part of technical assistance programs on health financing issues.

The World Bank also typically receives data from National Statistical Offices (NSOs) directly. In other cases, it uses NSO data received indirectly. For example, it receives data from Eurostat and from LIS (Luxembourg Income Study), who provide the World Bank NSO data in its original form or harmonized for comparability. The Universidad Nacional de La Plata, Argentina and the World Bank jointly maintain the

⁸ <http://unstats.un.org/sdgs/metadata/files/Metadata-01-01-01a.pdf>

SEDLAC (Socio-Economic Database for Latin American and Caribbean) database that includes harmonized statistics on poverty and other distributional and social variables from 24 Latin American and Caribbean countries, based on microdata from household surveys conducted by NSOs. Data is obtained through country specific programs, including technical assistance programs and joint analytical and capacity building activities. The World Bank has relationships with NSOs on work programs involving statistical systems and data analysis. Poverty economists from the World Bank typically engage with NSOs broadly on poverty measurement and analysis as part of technical assistance activities.

The World Health Organization and the World Bank regularly undertake training events on the measurement of lack of financial protection coverage to produce SDG 3.8.2 indicator. This type of activity involves participants from the Ministry of Health as well as from the National Statistical Office.

All the country-year estimates produced by both organizations are assembled in a joint database following a quality assessment process (see section 4.j). Such estimates are included in a country consultation conducted to give an opportunity to i) review the estimates, the data sources and the methods used for computation; ii) provide information about additional data sources; iii) build mutual understanding of the strengths and weaknesses of available data and ensure broad ownership of the results; and iv) request estimates produced by the country as further explained hereafter.

B) Estimates produced by each country are requested through a country consultation conducted by the World Health Organization. Following the WHO Executive Board resolution (EB107.R8), this process starts with WHO sending a formal request to ministries of health to nominate a focal point for the consultation. WHO sends draft estimates and methodological descriptions to them, copying countries' focal point for SDG reporting wherewere nominated at the request of UNSD. STATA codes are available to reproduce the estimates shared. The focal points then send to WHO their comments, often including new data or revised country estimates that are used to update the country estimates. Estimates produced by the countries are subject to the same quality assessment process and included in the joint database if they are not flagged -in consumption or in the health budget share (see section 4.j).

3.c. Data collection calendar

A country consultation on SDG 3.8.2 estimates is typically conducted between January and March every two years (see 4.i).

3.d. Data release calendar

SDG 3.8.2 estimates at country, regional and global levels are released every two years either on December 12 (Universal Health Coverage Day) or in September (UN General Assembly).

3.e. Data providers

National Statistical Offices in collaboration with Ministries of health. See data sources for further details.

3.f. Data compilers

The World Health Organization and the World Bank.

3.g. Institutional mandate

WHO support for monitoring the financial protection dimension of Universal Health Coverage (target 3.8, indicator 3.8.2 specifically) is underpinned by Resolution [WHA58.33](#) on sustainable health financing, universal coverage and social health insurance.

Within the World Bank the [Global Engagement Unit of the Health Nutrition and Population Global Practice \(HNP\)](#) is in charge of the collection, validation, and estimation of the [SDG 3.8.2 indicator](#).

4. Other methodological considerations

4.a. Rationale

Target 3.8 is about UHC and 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. Financial hardship is a key consequence of inadequate of financial risk protection mechanisms and can be experienced in any country, regardless of the income level and type of health system. Indicator 3.8.2 is about identifying people facing financial hardship because with out-of-pocket health-household spending on health exceeds ing their ability to pay, which might lead to cutting spending on other basic needs such as education, food, housing and utilities. The household discretionary budget is a better measure of household ability to pay than the household total budget. The latter doesn't consider that poorer household tend to devote most of their resources to necessities. That is embedded in the definition of discretionary budget adopted for this indicator by using a poverty line to approximate the cost of basic needs, and by deducting the poverty line from each household's budget. tThe societal poverty line (SPL). The SPL is a standard method, relevant across a wide range of countries, to assess the cost of basic needs, considering that it varies across countries and over time. By using this societal poverty line indicator 3.8.2 takes into account that OOP health spending deters efforts to “End poverty in all its form everywhere” (SDG 1), reduce inequalities within and between countries (SDG 10) and can better track progress towards the overarching objective of the SDGs which is leaving no one behind.

Reducing financial hardship in health is important on the global development agenda as well as a priority of the health sector of many countries across all regions.

4.b. Comments and limitations

It is feasible to monitor indicator 3.8.2 on a regular basis using the same household survey data that is used to monitor SDG target 1.1 and 1.2 on poverty⁹. These surveys are also regularly conducted for other purposes such as calculating weights for the Consumer Price Index. These surveys are conducted typically by NSOs. Thus, monitoring the proportion of the population with large household expenditures on health as a share of total household consumption or income does not add any additional data collection burden so long as the health expenditure component of the household non-food consumption data can be

⁹ <http://unstats.un.org/sdgs/metadata/files/Metadata-01-01-01a.pdf>

identified. While this is an advantage, indicator 3.8.2 suffers from the same challenges of timeliness, frequency, data quality and comparability of surveys than SDG indicator 1.1.1. However, indicator 3.8.2 has its own conceptual and empirical limitations.

First, challenges to track out-of-pocket health spending ~~(numerator)~~: indicator 3.8.2 attempts to identify financial hardship that individuals face when using their income, savings or taking loans to pay for health care. However, most household surveys fail to identify the source of funding used by a household who is reporting health expenditure. In countries where there is no retrospective reimbursement of household spending on health this is not a problem. If a household does report any expenditure on health, it would be because it is not going to be reimbursed by any third-party payer. It is therefore consistent with the definition given for direct health care payments ~~(the numerator)~~.

For those countries on the other hand where there is retrospective reimbursement – for example, via a contributory health insurance scheme - the amount reported by a household on health expenditures might be totally or partially reimbursed at some later point, perhaps outside the recall period of the household survey.

Clearly, more work is needed to ensure that survey instruments gather information on the sources of funding used by the household to pay for health care, or the household survey instrument always specifies that health expenditures should be net of any reimbursement. Survey instrument and sample design should also be carefully reviewed to minimize measurement errors due to both non-sampling errors such as a very short or very long recall periods precluding proper data collection of all health care components (overnight stay, medicines, etc.); or sampling errors such as over-sample of areas with a particularly low burden of disease.

~~Second, sensitivity of the indicator to the choice of the welfare metric for disaggregation (consumption or income in the denominator): in the current definition of indicator 3.8.2 large health expenditures can be identified by comparing how much household spend on health to either household income or total household expenditure. Expenditure is the recommended measure of household's resources (see concept section) but recent empirical work has demonstrated that while statistics on 3.8.2 at country level are fairly robust to such choice, their disaggregation by income group is pretty sensitive to it. Income based measures show a greater concentration of the proportion of the population with large household expenditure on health among the poor than expenditure based measures (see chapter 2 in the WHO and World Bank 2017 report on tracking universal health coverage – as well as Wagstaff et al 2018).~~

~~Third, cut-off values to identify large health expenditures:~~ indicator 3.8.2. relies on a single cut-off point, 40% of household ~~consumption expenditure or income~~ discretionary budget, to identify what constitutes 'large health expenditure as a share of total household expenditure or income'. People just below such threshold are not taken into account, which is always the problem with measures based on cut-offs. ~~This is simply avoided by plotting the cumulative distribution function of the health expenditure ratio behind 3.8.2. By doing so, it is possible to identify for any threshold the proportion of the population that is devoting any share of its household's budget to health. However, Empirical evidence shows that the choice of the threshold level affects~~ the level of the indicator but not the trends over time.

~~Fourth~~ Third, there are other indicators used to measure financial hardship in health, all based on the same data sources. ~~These measures typically focus on the percentage of the population rate of with~~

~~either large or impoverishing out-of-pocket household spending on health^{10,11,12}. using different thresholds to identify large and different poverty lines.~~ Focusing only on either large or impoverishing health spending doesn't capture the full spectrum of people who have their living standards deteriorate due to out-of-pocket household spending on health. ~~Theis current~~ definition of SDG indicator 3.8.2, ~~by~~ provides a unified framework to capture both large and impoverishing out-of-pocket household spending on health using a poverty line that has been developed to be relevant for all countries at all income levels and a threshold that has been widely used to identify large out-of-pocket household expenditure on health defined in relation to household discretionary budget rather than the total budget.

~~is based on a combination of both using one single threshold and one single poverty line that is relevant to countries at all income levels.~~ This approach builds on a methodology proposed by ~~based on~~ methodologies dating back to the 1990s developed in collaboration with academics at the World Bank and the World Health Organization and corresponds to an indicator of the incidence of catastrophic health spending using a budget share approach and that both organization have been using for global reporting since 2021 and WHO for regional reporting since 2017 (see references).

In addition to indicator 3.8.2, WHO also defines large health expenditure in relation to non-subsistence spending^{13,14,15} and both WHO and the World Bank use indicators of impoverishing health spending to assess to what extent OOP health spending deters efforts to “End poverty in all its form everywhere” (SDG 1).

~~Fifth~~Fourth, indicator 3.8.2. needs to be tracked jointly with SDG indicator 3.8.1 as well as indicators of barriers to access: ~~Two two~~ indicators have been chosen to monitor target 3.8 on Universal Health Coverage within the SDG framework. Indicator 3.8.1 is for the health service coverage dimension of UHC and Indicator 3.8.2 to track the financial protection dimensions. These two indicators should be always monitored jointly. Indeed, some of the people seeking care face barriers to access related to financial constraints, acceptability issues, unavailability of services, or accessibility. Those unable to overcome such barriers (financial and non-financial ones) will not report any spending on health which will tend to reduce SDG 3.8.2 rates. When this happens, SDG 3.8.1 levels should also be low as the tracer indicators of service coverage should reflect that large fractions of the population are unable to get the services they

¹⁰ Chapter 2 in “Tracking universal health coverage: 2017 global monitoring report”, World Health Organization and International Bank for Reconstruction and Development/ The World Bank; 2017; <http://www.who.int/healthinfo/indicators/2015/en/>;

¹¹Xu, K., Evans, D. B., Carrin, G., Aguilar-Rivera, A. M., Musgrove, P., and Evans, T. (2007), “Protecting Households From Catastrophic Health Spending,” *Health Affairs*, 26, 972–983. Xu, K., Evans, D., Kawabata, K., Zeramdini, R., Klavus, J., and Murray, C. (2003), “Households Catastrophic Health Expenditure: A Multi-Country Analysis,” *The Lancet*, 326, 111–117.

¹² http://applications.emro.who.int/dsaf/EMROPUB_2016_EN_19169.pdf?ua=1 ;

http://apps.searo.who.int/uhchttp://www.paho.org/hq/index.php?option=com_content&view=article&id=11065%3A2015-universal-health-coverage-latin-america-caribbean&catid=3316%3Apublications&Itemid=3562&lang=en

¹³ Chapter 2 in “Tracking universal health coverage: 2017 global monitoring report”, World Health Organization and International Bank for Reconstruction and Development/ The World Bank; 2017; <http://www.who.int/healthinfo/indicators/2015/en/>;

¹⁴Xu, K., Evans, D. B., Carrin, G., Aguilar-Rivera, A. M., Musgrove, P., and Evans, T. (2007), “Protecting Households From Catastrophic Health Spending,” *Health Affairs*, 26, 972–983. Xu, K., Evans, D., Kawabata, K., Zeramdini, R., Klavus, J., and Murray, C. (2003), “Households Catastrophic Health Expenditure: A Multi-Country Analysis,” *The Lancet*, 326, 111–117.

¹⁵ http://www.euro.who.int/en/health-topics/Health-systems/health-systems-financing/publications/clusters/universal-health-coverage-financial-protection;http://applications.emro.who.int/dsaf/EMROPUB_2016_EN_19169.pdf?ua=1 ; http://apps.searo.who.int/uhchttp://www.paho.org/hq/index.php?option=com_content&view=article&id=11065%3A2015-universal-health-coverage-latin-america-caribbean&catid=3316%3Apublications&Itemid=3562&lang=en

needed. But specific indicators on barriers to access ought to be tracked to understand which type of barriers is precluding access to needed services.

4.c. Method of computation

Population weighted average number of people with large positive out-of-pocket household expenditure on health as a share exceeding 40% of total household consumption expenditure or income minus the societal poverty line (SPL discretionary budget):

$$\frac{\sum_i m_i \omega_i 1 \left(\frac{\text{health expenditure of the household } i \text{ } oop_i^{\text{health}}}{\text{total expenditure of the household } i} oop_i^{\text{health}} >> \tau 0.4 * (y_i - SPL_-)(y_i - SPL) \cap oop_i^{\text{health}} \right)}{\sum_i m_i \omega_i}$$

where i denotes a household, $1()$ is the indicator function that takes on the value 1 if the bracketed expression is true, and 0 otherwise, m_i corresponds to the number of household members of i , ω_i corresponds to the sampling weight of household i , oop_i^{health} is a threshold identifying large corresponds to -daily per capita out-of-pocket household expenditure on health ; $(y_i - SPL)$ is the household discretionary budget with as a share of y_i correspondings to daily per capita total household consumption expenditure or income and SPL is the societal poerty line. (i.e. 10% and 25%).

Using 2017 purchasing power parities (PPPs), the SPL corresponds to whichever is greater: \$2.15 (the international poverty line) or \$1.15 + 50% of median* household consumption expenditure or income. There isn't any explicit health allowance in the definition of the societal poverty line. On these grounds, the median* is computed based on the distribution of household consumption expenditure or income excluding out-of-pocket household expenditure on health.

$$SPL = \max (\$2.15 \text{ a day}; \$1.15 \text{ a day} + 0.5 * \text{median}(y_i - oop_i^{\text{health}}))$$

All amounts defined in PPP values (\$2.15 and \$1.15) are converted to local currencies in 2017 price and then converted to the prices prevailing at the time of the relevant household survey using the best available Consumer Price Index (CPI). This approach is consistent with the methodology used for SDG indicator 1.1.1.

The discretionary budget $(y_i - SPL)$ is negative for people living below the societal poverty line. In such cases, the threshold used to identify if out-of-pocket household expenditure on health is a source of financial hardship is effectively zero as any positive spending on health will exceed the household discretionary budget.

Out-of-pocket H household health-expenditure on health, and household consumption expenditure or income, the societal poverty line (SPL) are defined as explained in the "concept" section. All amounts are measured on a per capita daily basis. For more information about the methodology please refer to Wagstaff et al (2018) and chapter 2 in the WHO and World Bank 2017 report on tracking universal health coverage see references.

4.d. Validation

The microdata obtained by WHO is requested to National Statistical Offices with ~~the denominator (household total consumption expenditure) or income~~ already constructed following their own guidelines and follows those guidelines when the denominator is not provided. WHO generates the ~~numerator (out-of-pocket household total expenditure on health health spending)~~ following the definitions and classifications described in 2.a and 2.c.

The microdata obtained by the World Bank is provided by country governments and typically includes the ~~denominator and the numerator: household consumption expenditure or income, out-of-pocket spending on health~~ already constructed. Sometimes, the World Bank ~~has to~~ must construct the welfare aggregate or adjust the aggregate provided by the country.

The microdata obtained by both institutions to track SDG indicator 3.8.2 has typically already been checked for quality to track other important indicators (e.g. SDG indicator 1.1.1). A quality assessment is performed before consulting countries on SDG 3.8.2 estimates (see section 4.k).

The estimates produced by both organizations are included in a consultation to obtain country's feedback and revised as needed.

4.e. Adjustments

Not applicable

4.f. Treatment of missing values (i) at country level and (ii) at regional level

- **At country level**

At the country level no imputation is attempted to produce estimates. ~~The proportion of the population with large household expenditure on health as a share of total household expenditure or income~~ SDG indicator 3.8.2 is estimated for all years for which a nationally representative survey on household budget, household income and expenditure, socio-economic conditions or living standards is available with information on both total household expenditure or income and total household expenditure on health. When there are multiple surveys over time for the same country a preference is given to estimates produced based on the same survey. A series of tests is performed to retain the best performing series (see 4.k).

- **At regional levels**

Because surveys are not conducted every year in most countries, SDG 3.8.2 estimates across countries are computed for different years. To compute regional and global aggregates for a common reference year (e.g. 2000, 2005, 2010, 2015 etc...), survey-based country estimates are first "lined-up" using a combination of interpolation/extrapolation (when there are at least two survey-based estimates available around the reference year); econometric modelling (one survey-based estimate available around the reference year); and imputation based on regional medians (no survey-based estimates available around the reference year). For more information, see Wagstaff et al., 2018; chapter 2 of the 2017 WHO and World Bank report on tracking universal health care coverage references

The ~~aggregate proportion of the population with large household expenditure on health as a share of total household expenditure or income for a region~~ regional estimate of 3.8.2 corresponds to the total number of people across all the countries in that region with ~~such large positive out-of-pocket household expenditure on health exceeding 40% of household discretionary budget expenditures~~, divided by the total number of people in that region.

4.g. Regional aggregations

Regional and global aggregates correspond to population weighted averages of the “lined-up” country estimates (see 4.f).

The World Bank and the World Health Organization use their own regional grouping, in addition to the regional breakdown used for SDG reporting.

4.h. Methods and guidance available to countries for the compilation of the data at the national level

All documentation needed to compile the data at the national level is shared with nominated focal points every two years. It can be requested by National Statistical Offices as well as Ministries of Health along with STATA codes, to uhc_stats@who.int, subject: package to produce SDG indicator 3.8.2.

4.i. Quality management

For the World Health Organization, the quality of the estimates is managed through the health financing and economics department at headquarters and for the World Bank through the Health Nutrition and Population Global Practice (HNP).

4.j Quality assurance

SDG 3.8.2 estimates released by WHO and the World Bank are quality checked by members of the WHO and World Bank global financial protection monitoring team which include staffs from the WHO health financing and economics department at headquarters and the World Bank Health Nutrition and Population Global Practice (HNP). All estimates selected for publication by the joint global monitoring team based on the criteria described in section 4.k are subject to a country consultation which involves members of the relevant National Statistical Offices and ministry of health (see section 4.j).

4.k Quality assessment

The World Health Organization and the World Bank generate indicator 3.8.2 following the same approach (see methodology). Both institutions combine estimates at the meso-level. Eligibility of the estimates included in a joint global database at country level and used to produce regional and global estimates is based on the following quality assessment:

For ~~the denominator of the health expenditure ratio~~ household consumption expenditure or income

- Compare the average monthly total household per capita consumption or income in a benchmark source with the average monthly value estimated from the survey. The benchmark source values are taken from [the World Bank Poverty and Inequality Platform \(PIP\)-PovcalNet](#)¹⁶, if available, and otherwise from the World Development Indicators (WDI)¹⁷, computed as the household final consumption expenditures in [constant 2011 international the latest available purchasing power parities \(PPP\)](#) divided by [the](#) total population. The comparison is based on the ratio of both averages [medians](#) (benchmark source to the survey-based estimate). If the ratio is greater than 20% (when [the welfare vector used for estimates is the same, either income or consumption both averages are based on consumption](#)) or 30% (when [the benchmark source estimate is based on income and the survey-based one on consumption when welfare vectors used for survey and benchmark estimates are different](#)), the survey point is identified as an outlier in terms of consumption [or income](#) per capita and -flagged for possible exclusion.

For the societal poverty line

- Compare the poverty headcount estimated from the survey at the [\\$1.90 societal poverty line—a day poverty line in 2011 PPPs](#) with the poverty incidence values reported in [PovcalNet-PIP](#) at the same poverty line (benchmark value)¹⁸. The comparison is based on the absolute difference between survey and benchmark poverty headcount values. When the type of welfare vector used for estimates between the survey and benchmark values is the same and [When the absolute difference between the benchmark value and the survey-based estimate exceeds the 10 percentage points](#), the survey-based point is identified as an outlier to track [extreme](#) poverty [based on the societal poverty line](#) and flagged for possible exclusion. [When the type of welfare vector used for estimates differs, the absolute difference is compared against the 20-percentage points threshold to identify an outlier and it flag for possible exclusion.](#)
- Compare the [poverty headcount estimated value of the societal poverty line estimated](#) from the survey [at the \\$3.20 a day poverty line in 2011 PPPs](#) with the poverty incidence reported [in with the benchmark values available from PIP for the same country/year -PovcalNet at the same poverty line \(benchmark values same source as poverty headcount\)](#)¹⁹. [When the type of welfare vector used for estimates is the same and When the absolute difference between the benchmark value and the survey-based estimate exceeds 10%, percentage points](#) the survey point is identified as an outlier to track poverty at the [\\$3.20 a day lines societal poverty line](#) and flagged for possible exclusion. [When the type of welfare vector used for estimates differs, the absolute difference is compared against the 20% threshold to identify an outlier and it flag for possible exclusion.](#)

For the numerator of the out-of-pocket household expenditure on health expenditure ratio

- [Compare the average per capita out-of-pocket household expenditure on health in a benchmark source with the average values estimated from the survey. -The benchmark source values isare taken from the WHO Global Health Expenditure Database \(GHED\)-²⁰ in yearly national local currency per capita units, converted into daily per capita values in PPP2017, using a conversion factor. PPP values are derived from PIP database²¹ if available, else from the World Bank's World](#)

¹⁶ Data can be downloaded using the online portal (<https://pip.worldbank.org/home>). <https://pip.worldbank.org/home> <http://research.worldbank.org/PovcalNet/povOnDemand.aspx> In addition to the online portal, data can be downloaded directly from Stata

¹⁷ <https://datacatalog.worldbank.org/dataset/world-development-indicators>

¹⁸ See footnote (above). Data can be downloaded using the online portal (<https://pip.worldbank.org/home>). In addition to the online portal, data can be downloaded directly from Stata.

¹⁹ Data can be downloaded using the online portal (<https://pip.worldbank.org/home>). In addition to the online portal, data can be downloaded directly from Stata.

²⁰ Data can be downloaded using online portal (<https://apps.who.int/nha/database/Select/Indicators/en/>) by choosing Data explorer, Health expenditure data, Financing schemes, and Household out-of-pocket payments (OOPs).

²¹ Data can be downloaded using the online portal (<https://pip.worldbank.org/home>). In addition to the online portal, data can be downloaded directly from Stata.

Development Indicators database²². The comparison is based on the ratio of the average per capita out-of-pocket household expenditure on health in a benchmark source with the average values estimated from the survey (difference between average expenditures to the survey-based estimate). If the ratio is greater than 10% (when welfare vector used for estimates is the same, either income or consumption) or 20% (when welfare vectors used for survey and benchmark estimates are different), the survey point is identified as an outlier in terms of median consumption or income per capita and flagged for possible exclusion.

- Compare the average out-of-pocket health expenditure ratio-budget share in the survey to a benchmark average out-of-pocket health budget share. The latter is constructed from national health accounts data as the ratio of the aggregate measure of household out-of-pocket expenditures to the final consumption expenditure of households and profit institutions serving households, both in current local currency units. When the absolute difference exceeds 5 percentage points the survey point is identified as an outlier in terms of household budget share spent on health and flagged for possible exclusion. The macro-indicators are available from the WHO Global Health Expenditure Database GHED²³.

These benchmarks are also used to decide between two estimates for those countries and those years for which both institutions have the same data source. For a survey-based estimate of indicator 3.8.2 to be included in the joint database and therefore in the country consultation conducted every two years previously described, it cannot be an outlier in consumption, neither in terms of the health budget share.

Estimates produced by the countries and shared through the country consultation are subject to the same quality assurance process. They are included in the joint database if they are not flagged neither in consumption/income nor in the out-of-pocket household expenditure on health budget share.

5. Data availability and disaggregation

Data availability:

The number of countries or territories with SDG 3.8.2 data increases over time as more surveys become available. In December 2021, the World Bank and WHO published estimates for with at least 150 of the economies (measured in terms of those that have at least 1 data point). This is like the availability for SDG 1.1.1. For the data on 3.8.2 more information and to get the latest updates, please consult WHO and World Bank dedicated data portals:

<https://www.who.int/data/gho/data/themes/topics/financial-protection>

<https://data.who.int/indicators/i/A65146D>

<https://data.who.int/indicators/i/4934B28>

<https://datatopics.worldbank.org/universal-health-coverage/>

Time series:

On average the frequency of such data 3.8.2 estimates is similar to the frequency of the data used to produced SDG indicator 1.1.15.8 data points per country. It varies across countries but on average, this ranges on average from every three years in the WHO European region to every 6.5 years in the WHO African region. from an annual 1-year basis to 3 to 5 years.

²² <https://datacatalog.worldbank.org/search/dataset/0037712/world-development-indicators>

²³ Data can be downloaded using online portal (<https://apps.who.int/nha/database/Select/Indicators/en/>) by choosing Data explorer, Health expenditure data, Financing schemes, and Household out-of-pocket payments (OOPS) and Macro data, Consumptions, Final consumption expenditure of Household and profit institutions serving households (PFC).

Disaggregation:

The following disaggregation is possible in so far as the survey has been designed to provide representative estimates at such level:

- Age (below 60 years old/60 years or older) and gender composition of the household (sex of the head of the household (male/female));
- ~~For the age composition of the household, the following grouping are used by WHO: “only adults only”~~ includes households composed only of people
 - aged between 20 and 59 years old; “multigenerational” households (include adults living with people below 20 years old (children and/or adolescents) as well as people aged
 - ~~60 years old or more~~ older adults (60 years old or more); “younger households” include adults living with children (0 to 9 years old) and/or adolescents (10 to 19 years old); and “older households” include household composed of adults living with at least one older person (60 years and older) or exclusively composed of older people.
 - Geographic location (rural/urban)
 - Quintiles of the household welfare measures (total household consumption expenditure or income). See comments and limitations for the sensitivity of the disaggregation to the choice of the welfare measure.

6. Comparability / deviation from international standards

Sources of discrepancies:

Definition of the discretionary budget budget/ cost of basic needs:

For global reporting, the cost of basic needs/discretionary budget is defined in relation to the societal poverty line. While the societal poverty line is highly correlated with national poverty lines, they are different. Countries can use their own national poverty lines to produce the same indicator and at regional level there may be other more relevant regional assessments of the cost of basic needs.

Data sources:

Country level estimates are all based on nationally representative surveys with information on both household total expenditure or income and household expenditure on health (see data sources). In most cases such data come from non-standard household surveys and ex-post standardization processes can be designed to increase the degree of comparability across countries. For instance, regional teams from the World Bank produce standardized versions of raw datasets following common regional procedures: the ECAPOV harmonized datasets are based on the Living Standards Measurement Study datasets – LSMS²⁴ or household budget surveys (HBS) collected in the World Bank’s Europe and Central Asia region; the SHIP collection results from a poverty program on harmonized household surveys in the World Bank’s African region, while the SHES collection was developed by the World Bank for the international comparison program²⁵. The Luxembourg income study (LIS) datasets results from effort to harmonize datasets from many high and middle-income countries²⁶.

In some cases, the raw data is accessible to produce country level estimates. In some countries both raw data and standardized versions are available while in some countries only the standardized version is available. When multiple versions of the same survey are available, the estimate which performed best in

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<http://econ.worldbank.org/WBSITE/EXTERNAL/EXTDEC/EXTRESEARCH/EXTLSMS/0,,contentMDK:21610833~pagePK:64168427~piPK:64168435~theSitePK:3358997,00.html>

²⁵ A detailed documentation describing the harmonization procedures is available from the accompanying pdf documents

²⁶ <http://www.lisdatacenter.org/>

a series of quality assurance tests is retained (see collection process). When a standardized version of a nationally designed survey instruments is chosen there are differences between expenditure variables generated using the raw data, and the expenditure variables generated using the harmonization procedures which might result in different estimated incidence of the population with large household expenditure on health as a share of household total expenditure or income.

7. References and Documentation

URL:

<https://www.who.int/data/gho/data/themes/topics/financial-protection;>

<http://datatopics.worldbank.org/universal-health-coverage/>

References:

Global monitoring reports on universal health coverage and financial protection in health (e.g. 2015, 2017, 2019, 2021, 2023)

<https://www.who.int/teams/health-systems-governance-and-financing/global-monitoring-report>

Methodology:

Discretionary budget approach

- Chapter 2 on Financial protection in “Tracking universal health coverage: 2017 global monitoring report”, World Health Organization and International Bank for Reconstruction and Development/ The World Bank; 2017; Wagstaff A, Eozenou P (2014). CATA meets IMPOV: a unified approach to measuring financial protection in health. Washington (DC): World Bank Policy Research Working Paper No. 6861. (link)
- Cylus J, Thomson S, Evetovits T. Catastrophic health spending in Europe: equity and policy implications of different calculation methods. Bull World Health Organ. 2018; 96(9):599–609. (link)

On the societal poverty line:

- Jolliffe, Dean, and Espen Beer Prydz. "Societal poverty: A relative and relevant measure." The World Bank Economic Review 35, no. 1 (2021): 180-206.
 - Wagstaff, A., Flores, G., Hsu J., Smitz, M-F., Chepynoga, K., Buisman, L.R., van Wilgenburg, K. and Eozenou, P., (2018), “Progress on catastrophic health spending in 133 countries: a retrospective observational study”, the Lancet Global Health, volume 6, issue 2, e169-e179. [http://dx.doi.org/10.1016/S2214-109X\(17\)30429-1](http://dx.doi.org/10.1016/S2214-109X(17)30429-1)
- Regional reports:

On internationally comparable evidence based on the discretionary budget approach using a 40% threshold

- Thomson S, Cylus J, Evetovits T (2019). Can people afford to pay for health care? New evidence on financial protection in Europe. Copenhagen: WHO Regional Office for Europe. <https://iris.who.int/handle/10665/311654>
- WHO Regional Office for Europe (2023). Can people afford to pay for health care? Evidence on financial protection in 40 countries in Europe. Copenhagen: WHO Regional Office for Europe.

On internationally comparable evidence based on one single indicator to capture large and impoverishing out-of-pocket health spending

- Tracking universal health coverage: 2021 global monitoring report. Geneva: World Health Organization and International Bank for Reconstruction and Development / The World Bank; 2021
- Monitoring progress on universal health coverage and the health-related Sustainable Development Goals in the WHO South-East Asia Region: 2022 update. New Delhi: World Health Organization, Regional Office for South-East Asia; 2022. Licence: CC BY-NC-SA 3.0 IGO.
- Progress towards universal health coverage: monitoring financial protection in the Western Pacific Region. Manila: World Health Organization Regional Office for the Western Pacific; 2023. Licence: CC BY-NC-SA 3.0 IGO.
- Tracking universal health coverage: 2023 global monitoring report. Geneva: World Health Organization and International Bank for Reconstruction and Development / The World Bank; 2023
- ~~Chapter 18 of “Analysing health equity using household survey data”. Washington, DC: World Bank Group; 2008, <http://www.worldbank.org/en/topic/health/publication/analyzing-health-equity-using-household-survey-data>~~