

Financial protection analysis List of variables and format required to use the FP-STATS tools

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What is the purpose of this document?

This document provides guidance on the data inputs required to generate SDG 3.8.2 and related financial hardship components using the FP-STATS tools. It is organized into sections describing data sources, dataset structure and content divided into three types: essential, optional, and identifier variables.

WHO can provide country-specific guidance if the relevant household survey questionnaire and data dictionary are shared. WHO can also provide generic STATA syntax to produce the desired dataset. Please contact fprotectionstats@who.int to request the syntax or for country-specific guidance. During country consultations, you may also contact us at uhc_stats@who.int.

Data sources

All indicators of financial hardship in health are produced using micro-level data on household health expenditures (out-of-pocket payments) and household consumption expenditures (preferred) or income from nationally representative surveys, which are routinely conducted by national statistical offices (NSOs). Only household surveys that contain information on household health expenditures and sufficient information to produce a comprehensive consumption or income aggregate (including consumption or income from own production) are suitable.

Dataset to produce SDG 3.8.2 and related indicators

Format

To produce SDG 3.8.2 and related indicators, access to a dataset with key variables aggregated at the household level in the following wide format is required for each survey year (see Table 1).

Table 1. The required format of a dataset at the household level (incomplete preview)

Household ID (hhid)	Household weight (hhw)	Household size (hhsz)	Household total consumption expenditure gross of imputed rent (exp)	Household out-of-pocket health expenditure (hexp)	Year of survey (year)	...
1000001	0.11	3	50000	1000	2023	...
1000002	0.98	3	30000	2000	2023	...
1000003	0.85	5	20000	3000	2023	...
1000004	0.21	5	50000	5000	2023	...
1000005	0.23	4	40000	1000	2023	...

Content

Essential variables

To produce SDG 3.8.2 and related indicators, the dataset should be prepared at the household level and must include all the essential variables as indicated in the table below.

Table 2. List of essential variables to produce SDG 3.8.2 and related indicators

Description	Definition	Variable name
<i>Survey year</i>	The year that the survey was conducted (in 4 digits). If the data collection spans two years, select the year it began. If there are multiple rounds of data, select the year that uniquely identifies the round.	year
<i>Household size</i>	Number of household members.	hhsz
<i>Household sample weight</i>	Sample weight of the household in the survey.	hhw
<i>Reference period</i>	The time period used for household consumption (C), expenditure (Exp), and income (Y) data, as well as health expenditure data. The options are: - 0 = temporal unit is a day; - 1 = a week, - 2 = a month; and - 3 = a year. It presumes that all expenditure/consumption and income variables have been rescaled to the same time period.	standard_pds
<i>Household (HHD) total consumption expenditure</i>	Monetary welfare measure expressed in nominal local currency units (LCU) at the household level. A monetary welfare measure at the household level is needed to track progress on financial protection. Household income and household consumption expenditures are measures of household welfare. The total consumption expenditure for the household in LCU is preferred. Total household expenditure is the second-best option. Total household income can be used only if neither consumption expenditure nor expenditure is available. See notes 1 and 2.	exp
<i>HHD total out-of-pocket health expenditure</i>	Household total out-of-pocket (OOP) health expenditure in LCU. Includes direct payments for health goods and services financed by the household through income, remittances, savings, or loans from any source (e.g. banks, traditional societies, friends/family, or microcredit). Excludes third-party payer reimbursements, gifts, government/NGO/philanthropic cash transfers, and health insurance premiums. If the survey follows COICOP 2018 classifications, OOP health expenditure corresponds to Division 06 (Health). See notes 3 and 4 and table A1.	hexp
Variables provided by WHO Financial Protection team → Please contact fprotectionstats@who.int to get this data for your country		
<i>Absolute international poverty line - national</i>	The international poverty line of PPP\$3.00 per person per day (in 2021 Purchasing Power Parities, PPP), converted into nominal LCU at national level.	pl_ipl_lcu

<i>Derived PPP Conversion Factor</i>	The 2021 PPP conversion factor (reference year), expressed in PPP 2021 dollars and adjusted using Consumer Price Index (CPI) to account for inflation or deflation, used to convert PPP-denominated variables into nominal LCU.	ppp_cpi
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Optional variables

If possible, please also include the optional variables listed in Table 3 in the dataset to enable equity (disaggregation) analyses. To analyse the composition of out-of-pocket (OOP) health spending, the first step is to review the household survey questionnaire and data dictionary to distinguish spending on health services and health products. See Annex Table 1. Given the heterogeneity of survey questionnaires used to collect OOP health spending data across countries and over time, WHO maps the expenditure categories listed in Annex Table 1 into four mutually exclusive OOP categories for comparative analysis (Table 4). If you are using the WHO STATA MS package, there is no need to create these variables, as they are automatically generated based on the formulas indicated in the last column of Table 4.

Table 3. List of optional variables for equity analyses

Description	Definition	Variable name
<i>HHD total food consumption</i>	Household food and non-alcoholic beverage consumption expenditure in local currency units (LCU).	fexp
<i>Place of residence</i>	Place of residence of the household. It should be a numeric variable with values 0 and 1, where 0=rural and 1=urban. For surveys using a 'degree of urbanization' classification, cities, towns, and semi-dense areas are classified as urban.	res
<i>Number of children (age 0-9 years old)</i>	Number of household members who are under the age of 10.	chld
<i>Number of adolescents (age 10-19 years old)</i>	Number of household members who are 10 to 19 years old.	ado
<i>Number of adults, including older adults (age ≥ 20 years old)</i>	Number of household members who are 20 years or older (including older adults).	adlt
<i>Number of older adults (age ≥ 60 years old)</i>	Number of household members who are 60 years old or older.	adlto
<i>Household head is more than 60 years old</i>	Household head's age. It should be a numeric variable with values 0 and 1, where 0=under the age of 60, and 1= 60 years old or older.	hh1_age60d
<i>Household head is male</i>	Sex of the household head. It should be a numeric variable with values 0 and 1, where 0=female and 1=male.	hh1_male

Table 4. List of OOP health expenditure categories for global analysis

Description	Definition	Variable name & computation
<i>Medicines and pharmaceutical preparations</i>	Household total OOP expenditure on medicines (branded, generic, herbal, homeopathic), vaccines, oral contraceptives, and other pharmaceutical preparations intended for consumption or use outside a health facility or institution. If the survey follows COICOP 2018, this category corresponds to code 06.1.1 (in nominal LCU).	oop_drug
<i>Health products</i>	Household total OOP expenditure on health products, which include medical products (e.g., antigen tests, glucose meters, masks), assistive health products for vision (e.g., glasses), hearing (e.g., hearing aids), and mobility (e.g., crutches, therapeutic footwear), including repair, rental, maintenance and online purchases. If the survey follows COICOP 2018, this category corresponds to the sum of categories coded 06.1.2, 06.1.3, and 06.1.4 (in nominal LCU).	oop_hlthp
<i>Total on outpatient care and ancillary services</i>	Household total OOP expenditure on outpatient care and ancillary services provided without overnight stay. If the survey follows COICOP 2018, this category corresponds to the sum of categories coded 06.2 and 06.4 .	oop_outanc_total = oop_othoutp + oop_dent + oop_diag + oop_emerg + oop_outanc_mix
<i>Total on inpatient care services</i>	Household total OOP expenditure on inpatient care, including all health products and services related to an overnight stay. If the survey follows COICOP 2018, this category corresponds to code 06.3	oop_inp
➔ All variables are expressed in nominal local currency units (LCU). ➔ See Annex Table 1 for the definition of the detailed components included in each aggregated category. ➔ Third-party payer reimbursements, gifts, cash transfers, and health insurance premiums are excluded.		

Identifier variables

Finally, the information in the table below will be requested to create a unique identifier for the analysis.

Table 5. List of identifier variables

Description	Definition	Name of variables in dataset
<i>Country name</i>	Name of the country, territory, or area where the survey data was collected.	cname
<i>ISO3C code</i>	Three-letter ISO code representing the country or territory (e.g., Tanzania = TZA, South Africa = ZAF, Nepal = NPL).	iso3c
<i>Survey acronym</i>	Acronym of the survey. For example, LSMS = Living Standards Measurement Survey, CWIQ = Core Welfare Indicators Questionnaire, HBS = Household Budget Survey. This is an optional field.	survey
<i>Data version</i>	Dataset version. It should be in the format 'vNN_M' (where NN is the version number, starting from v01). For example, 'v01_M' for the first version, 'v02_M' for the second version, etc.	version
<i>Producers</i>	Acronym of the affiliation of the data analyst (e.g. WHO, MoH)	producers
<i>Monetary welfare indicator</i>	Indicate the welfare measure that is used to measure financial hardship. This can be: "consumption", "expenditure", "income", "wealth", etc.	welfare

Notes

1. Household consumption expenditure is generally defined as the sum of the monetary values of all items (goods and services) consumed by the household during a reference period. These goods and services are obtained through the purchase of goods and services in the market, as in-kind income from employers, from self-employment (through the barter of goods and services produced by the household), or from property or other investments (e.g., portion of crop provided by share-farming tenant); from the household's own production of goods and services; or as transfers in kind from other households or from businesses. Because consumption expenditures fluctuate less than do incomes, they can be considered a better proxy of living standards. *References (1,2,3,4)*
 2. Income refers to the flow of economic resources an individual or household receives over time. It consists of all receipts, whether monetary or in-kind (goods and services), that are received by the household or individual household members at annual or more frequent intervals but excludes windfall gains and other irregular and typically one-time receipts. *References (1,2)*. Total household income covers: *i*) income from employment (both paid and self-employment); *ii*) property income; *iii*) income from the production of household services for own consumption; *iv*) current transfers received (other than social transfers in kind). *References (1,2)*
 3. Out-of-pocket health expenditure consists of any direct expenditure incurred by the household to obtain health goods and services, including any type of care (promotive, preventive, curative, rehabilitative, palliative, or long-term care), medicines, vaccines, other pharmaceutical preparations, and health products, from any type of provider and for all members of the household. These health expenditures exclude third-party payer reimbursements, gifts, government/NGO/philanthropic cash transfers, and health insurance premiums. *Reference (5)*. Limitation: In countries with retrospective reimbursement – for example, via a health insurance scheme - the amount reported by a household on health expenditures may be fully or partially reimbursed at a later point in time, perhaps outside the recall period of the household survey. Please indicate whether this is a concern in your country and, if relevant, whether it affects the whole population or specific population subgroups. The components of a household health expenditure should be consistent with Division 06 (Health) of the UN Classification of Individual Consumption According to Purpose (COICOP).
 4. The most commonly used expenditure classification in most (but not all) countries is the Classification of Individual Consumption According to Purpose (COICOP) developed by the United Nations. *Reference (6)*. The most recent version is COICOP 2018, which has been used for classification purposes since 2019. Where relevant, Table 4 and Annex Table 1 indicate the applicable COICOP 2018 code.
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References

1. OECD (2013), OECD Framework for Statistics on the Distribution of Household Income, Consumption and Wealth, OECD Publishing. <http://dx.doi.org/10.1787/9789264194830-en>
 2. UNECE (2011), [The Canberra Group Handbook on Household Income Statistics](#), Second Edition, ECE/CES/11, Geneva.
 3. Deaton, Angus; Zaidi, Salman. 2002. [Guidelines for Constructing Consumption Aggregates for Welfare Analysis](#). LSMS Working Paper; No. 135. World Bank.
 4. Mancini, Giulia; Vecchi, Giovanni. *On the Construction of a Consumption Aggregate for Inequality and Poverty Analysis (English)*. Washington, D.C. : World Bank Group. <http://documents.worldbank.org/curated/en/099225003092220001>
 5. OECD (2011). A System of Health Accounts. Paris. Available at: 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
 6. UN Statistics Division. [Classification of Individual Consumption According to Purpose \(COICOP\) 2018](#).
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Annex

For household out-of-pocket (OOP) health expenditure composition analyses, spending should always be assigned to the most specific category listed below; use *_mix* categories only when items are bundled or not separately identifiable. Please contact fprotectionstats@who.int in case of doubt.

Table A1 Type of household out-of-pocket (OOP) health expenditure

Description	Definition	Variable name
Medicines and pharmaceutical preparations	Household total OOP expenditure on medicines (branded, generic, herbal, homeopathic), vaccines, oral contraceptives, and other pharmaceutical preparations intended for consumption or use outside a health facility or institution. If the survey follows COICOP 2018, this category corresponds to code 06.1.1 (in nominal LCU).	oop_drug
Health products	Household total OOP expenditure on health products, which include medical products (e.g., antigen tests, glucose meters, masks), assistive health products for vision (e.g., glasses), hearing (e.g., hearing aids), and mobility (e.g., crutches, therapeutic footwear), including repair, rental, maintenance and online purchases. If the survey follows COICOP 2018, this category corresponds to the sum of categories coded 06.1.2, 06.1.3, and 06.1.4 (in nominal LCU).	oop_hlthp
Bundled medicines, pharmaceutical preparations & health products (bundled or not separately identifiable only)	<i>Bundled or not separately identifiable household total OOP expenditure on medicines, pharmaceutical preparations and health products (only). Spending mapped to this category cannot be and should not be mapped into the previous specific categories on medicines (oop_drug) or health products (oop_hlthp) to avoid double counting.</i> If the survey follows COICOP 2018, this bundled category corresponds to COICOP 06.1 (in nominal LCU).	oop_drughp_mix
Dental care	Household total OOP expenditure on outpatient dental care, i.e. dental care provided without an overnight stay. If the survey follows COICOP 2018, this category corresponds to code 06.2.2 (in nominal LCU).	oop_dent
Other outpatient care (excluding Dental)	Household total OOP expenditure other outpatient care than dental provided without an overnight stay and on preventive care. If the survey follows COICOP 2018, this category corresponds to the sum of categories coded 06.2.1 and 06.2.3 (in nominal LCU).	oop_othoutp
Diagnostic and laboratory ancillary services	Household total OOP expenditure on diagnostic and laboratory ancillary services, such as blood tests and x-rays. If the survey follows COICOP 2018, this category corresponds to code 06.4.1 designating this type ancillary services (in nominal LCU).	oop_diag
Emergency transportation & emergency rescue ancillary services	Household total OOP expenditure on emergency transportation, and/or emergency rescue services. If the survey follows COICOP 2018, this category corresponds to code 06.4.2 designating this type ancillary services (in nominal LCU).	oop_emerg

Description	Definition	Variable name
Bundled dental, other outpatient and ancillary services (bundled or not separately identifiable only)	Bundled or not separately identifiable household OOP expenditure on dental care, other outpatient care, diagnostic and laboratory services, emergency transportation and emergency rescue, all provided <u>without</u> an overnight stay. Spending mapped to this category cannot be and should not be mapped into any of the previous specific categories oop_dent, oop_othoutp, oop_diag or oop_emerg to avoid double counting. This variable is expressed in nominal LCU.	oop_outanc_mix
Inpatient care services	Household total OOP expenditure on medical and dental care with overnight stay. If the survey follows COICOP 2018, this category corresponds to code 06.3 (in nominal LCU).	oop_inp
Bundled health services (bundled or not separately identifiable only)	Bundled or not separately identifiable household OOP expenditure on any health care service (with or without an overnight stay). Spending mapped to this category cannot be and should not be mapped into any of the previous specific categories oop_dent, oop_othoutp, oop_diag, oop_emerg, or oop_inp nor mixed categories (oop_outanc_mix) to avoid double counting. This variable is expressed in nominal LCU.	oop_serv_mix
Other OOP health expenditure not classified elsewhere	Household OOP expenditure not further specified or bundled across services and products and are <u>not</u> classified elsewhere. Spending mapped to this category cannot be and should not mapped into any of the previous specific categories oop_drug, oop_hlthp, oop_dent, oop_othoutp, oop_diag, oop_emerg, or oop_inp nor mixed categories (oop_drughp_mix, oop_outanc_mix, oop_serv_mix) to avoid double counting. This variable is expressed in nominal LCU.	oop_servprod_mix
➔ The sum of the 11 previous variables equals total household out-of-pocket (OOP) expenditure (hexp in Table 2). ➔ Third-party payer reimbursements, gifts, cash transfers, and health insurance premiums are excluded.		