

Joint Malnutrition Estimates (JME)

Introduction to JME work and the WHO Anthro Survey Analyser

Giovanna Gatica-Domínguez



OVERWEIGHT
38.9 million

An estimated 5.7 per cent or 38.9 million children under 5 around the world were overweight in 2020.*



WASTING
45.4 million

In 2020,* wasting continued to threaten the lives of an estimated 6.7 per cent or 45.4 million children under 5 globally.



STUNTING
149.2 million

Stunting affected an estimated 22.0 per cent or 149.2 million children under 5 globally in 2020.*

December 2021

JME group members (2021)

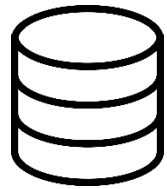
- **UNICEF:** Chika Hayashi, Julia Krasevec, Richard Kumapley, Fikrewold Bitew and Vrinda Mehra
- **WHO:** Elaine Borghi, Elisa Dominguez, Monica Flores-Urrutia and Giovanna Gatica-Domínguez
- **The World Bank Group:** Umar Serajuddin and Emi Suzuki

PROCESS

Milestones & timelines of the data source catalogue

Milestones

Database updates are underpinned by:



1. Data source catalogue updates (4914 sources & 2100 datasets*)

compiles data source metadata and related documents (reports, questionnaire, technical documents, datasets).



2. Standardized in-depth review

of MICS, DHS and other sources for anthropometric data quality.



3. Re-analysis of surveys

when microdata are available, to standardize definitions across countries and over time and also to produce various disaggregations.



4. Country consultations

with member states. UNICEF organizes the country consultation for the JME.

* as of November 5th, 2021

Timelines

January	February	March	April	May	June	July	August	September	October	November	December
---------	----------	-------	-------	-----	------	------	--------	-----------	---------	----------	----------

1. Data Source Catalogue Updates – All year round

2. In-depth review – August to December

3. Re-analysis of surveys – August to January

4. Country Consultations – November to January

<- 5. Database closure and SDG Submission (February)

<- 6. SDG Data Release on March 29th, along with all the JME products (Brochure, Databases, Visualization, PPT)

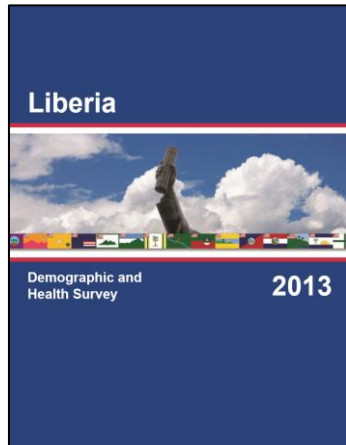
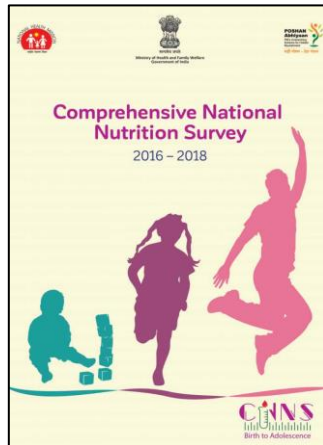
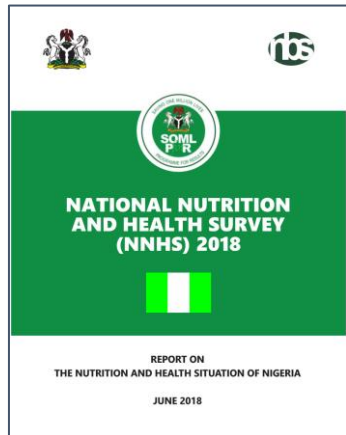
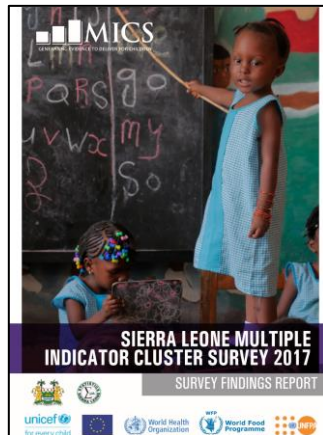
DATA SOURCE CATALOGUE

(1) Updates & (2) Review

Documents collected

Documents needed for review:

1. Final Report



Documents needed to facilitate review:

1. Microdata

2. Data Dictionary

3. Methodological Report

4. Questionnaires

Annexe 6- Questionnaire ANJE

ENQUÊTE SMART NATIONALE AU TOGO JUIN 2012 ALIMENTATION DU NOURRISSON ET DU JEUNE ENFANT			
N° REGION:	DISTRICT:	N°ZD:	N° EQUIPE:
NOM DE LOCALITE:		DATE:	N° MENAGE:
301	Inclure tous les enfants âgés de moins de 24 mois. Posez les questions ci-dessous à la mère de l'enfant. Posez toutes les questions		
	Prénom de l'enfant		
302	Numéro de l'enfant (N° du questionnaire anthropométrique)	NUMERO	NUMERO
303	Sexe de l'enfant	Masculin=M Feminin=F	Masculin=M Feminin=F
304	Age de l'enfant en mois	ÂGE EN MOIS	ÂGE EN MOIS
305	Avez-vous allaité (NOM) après l'accouchement ?	OUI 1 NON 2 NSP 8 (2 ou 8 PASSER À 309)	OUI 1 NON 2 NSP 8 (2 ou 8 PASSER À 309)
306	Combien de temps après la naissance avez-vous mis (NOM) au sein pour la première fois ? Si moins d'1 heure, noter "00" heure. Si moins de 24 heures, noter le nombre heures. Si plus de 24 heures, noter en nombre de jours	IMMEDIATEMENT <30 min 000 HEURES 1 JOURS 2 NE SAIT PAS 998	IMMEDIATEMENT <30 min 000 HEURES 1 JOURS 2 NE SAIT PAS 998
307	Allaitiez-vous encore (NOM) ?	OUI 1 (PASSER À 309) ← NON 2	OUI 1 (PASSER À 309) ← NON 2
308	Pendant combien de mois avez-vous allaité (NOM) ?	MOIS NE SAIT PAS 99	MOIS NE SAIT PAS 99
309	Est-ce que (NOM) a bu quelque chose au biberon hier durant le jour ou la nuit ?	OUI 1 NON 2 NE SAIT PAS 8	OUI 1 NON 2 NE SAIT PAS 8

How are sources added?

Active Collection

- DHS Website
- MICS Website
- World Bank Microdata Catalogue
- GHDx
- GFDx
- Groundwork Health
- IHSN
- NSO websites

Passive Collection

- Ongoing through UNICEF Regional Offices
- UNICEF Country Offices CRAVE
- IGME Consultation
- JMP Consultation
- WUENIC Consultation
- UN Pop Division
- UNICEF SDG Consultation

WHO ANTHRO SURVEY ANALYSER

Presentation of the tool to do the (3) reanalysis of surveys

WHO Anthro Survey Analyser

← Child growth standards

Software

WHO Multicentre Growth Reference Study (MGRS)

Standards ▾

Publications and peer-reviewed articles

The WHO Anthro Survey Analyser

To facilitate re-running of nutritional survey data based on standardized approach, WHO has developed an online tool to analyse child anthropometric data. The WHO Anthro Survey Analyser aims to promote best practices on data collection, analyses and reporting of anthropometric indicators. It offers analysis for four indicators: length/height-for-age, weight-for-age, weight-for-length, weight-for-height and body mass index-for-age.

The methodology was updated considering the complex sample design of most of the recent surveys, compared to the methodology used in Anthro software (below). Improvements affect only measures of accuracy around estimates (i.e. standard errors and confidence intervals). The tool is based on R, with Shiny package.

Outputs include a set of z-scores, a file with prevalence estimates by the various stratification variables following the format in the expanded database, a report template on data quality assessments and a summary report with a template to be filled in with basic required survey information and ready-to-use graphics and tables depicting survey analysis results.

The tool online and offline versions can be accessed from the links below. Users are encouraged to read the quick guide carefully before using it.

Quick guide
[pdf, 2.78Mb]

Browse online



• **Offline version**
Before downloading the tool's offline version, please read the

WHO Anthro Survey Analyser



Home

Analysers

About

Upload data
(.csv format)

Browse...

Sample.csv

Upload complete

Filename:

Sample

Show/hide mapping variables

Age mapping

Compute age using Date of birth and Date of visit

Date format

dd/mm/yyyy

Date of birth

None

Date of visit

None

Other variables

Sex

(Male = 1/m/M;
Female = 2/f/F)

None

Weight (kg)

None

Length or height (cm)

None

LH measure

None

Oedema

None

Sampling Weight

None

Team

None

Cluster

None

Strata

None

Residence type

None

Geographical region

None

Wealth quintile

None

Mother education

None

Other grouping variable

None

Data filter

Filter variables

Apply filters

Dataset

Z-scores

Prevalence

Data Quality Assessment

Summary Report

Show 10 entries

	id	sw	int_day	int_month	int_year	int_date	birth_day	birth_month	birth_year	birth_date	agedays	age
1	1	5598.0313	16	11	2021	16/11/2021	2	1	2020	02/01/2020	683.3219	
2	2	28113.578	16	11	2021	16/11/2021	1	2	2020	01/02/2020	653.4931	
3	3	2865.4717	16	11	2021	16/11/2021	26	3	2021	26/03/2021	234.36874	
4	4	53687.992	16	11	2021	16/11/2021	21	10	2016	21/10/2016	1851.5132	
5	5	5988.6499	16	11	2021	16/11/2021	16	6	2020	16/06/2020	517.74188	
6	6	16455.426	16	11	2021	16/11/2021	12	2	2017	12/02/2017	1737.3726	
7	7	6660.1455	16	11	2021	16/11/2021	1	7	2019	01/07/2019	868.07751	
8	8	6629.9634	16	11	2021	16/11/2021	7	7	2020	07/07/2020	496.43561	
9	9	53306.688	16	11	2021	16/11/2021	14	6	2017	14/06/2017	1615.9269	
10	10	8594.2246	16	11	2021	16/11/2021	29	4	2020	29/04/2020	565.52875	

Showing 1 to 10 of 498 entries

Previous

1

2

3

4

5

...

50

Next

Nombre

Sample_dq-report.docx

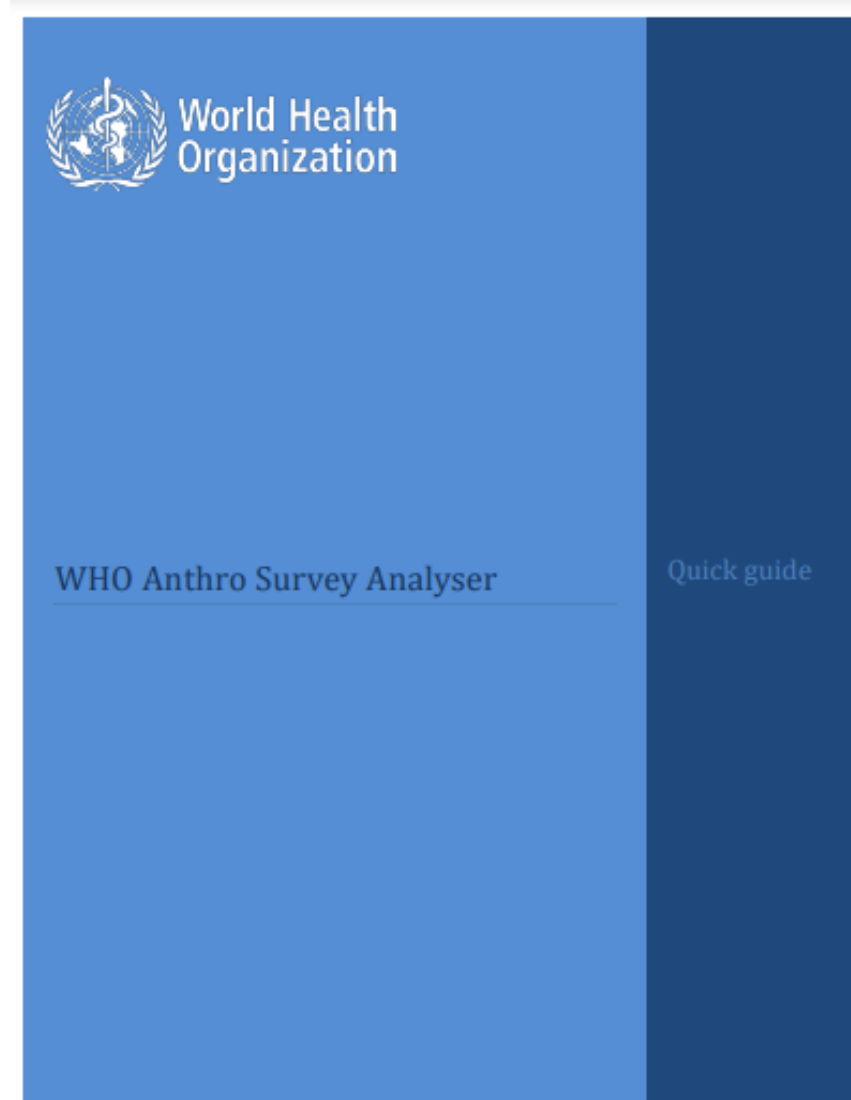
Sample_prevalence.csv

Sample_report.docx

Sample_zscore.csv

<https://www.who.int/tools/child-growth-standards/software>

WHO Anthro Survey Analyser - Quick guide



WHO Anthro Survey Analyser

Upload data
(.csv format)

Browse... Sample.csv

Upload complete

Filename:
Sample

Show/hide mapping variables

Age mapping ⓘ

Compute age using Date of birth and Date of visit

Date format

dd/mm/yyyy

Date of birth

None

Date of visit

None

Other variables

Sex
(Male = 1/m/M;
Female = 2/f/F)

None

Weight (kg)

None

Length or height (cm)

None

LH measure

None

Oedema

None

Sampling Weight

None

Team

None

Cluster

None

Strata

None

Residence type

None

Geographical region

None

Wealth quintile

None

Mother education

None

Other grouping variable

None

Data filter

Filter variables

Apply filters

Variable	Accepted values and other details
Date of birth and date of measurement	The day, month and year must be available – The day, month and year should be available; the day should be in numeric, integer format (e.g., 3 or 31), month either in numeric, integer format (e.g., 1 or 12) or as a string (Mar or March) and the year as a 4-digit numeric, integer (e.g. 1990). → DD/MM/AAAA
Sex of the child	Numeric, integer or string (e.g., male/1/"M"/"m" and female/2/"F"/"f").
Weight	Numeric, float value (in kilograms). Weights should be provided with one decimal (e.g., 30.1).
Length/height	Numeric, float value (in centimeters). Length or height measurements should be provided with one decimal (for example, 55.4)
Measurement position for length/height	Numeric, integer or string. To indicate whether the measurement was taken in the standing (i.e., "h") or recumbent position (i.e., "l"). <i>NOTE: If this information is missing, the code for reanalysis will assume that the measurement position was recumbent if child's age was < 24 months and standing if child's age is ≥24 months.</i>

WHO Anthro Survey Analyser

Upload data
(.csv format)

Browse... Sample.csv

Upload complete

Filename:
Sample

Show/hide mapping variables

Age mapping ⓘ

Compute age using Date of birth and Date of visit

Date format
dd/mm/yyyy

Date of birth
None

Date of visit
None

Other variables

Sex
(Male = 1/m/M;
Female = 2/f/F)
None

Weight (kg)
None

Length or height (cm)
None

LH measure
None

Oedema
None

Sampling Weight
None

Team
None

Cluster
None

Strata
None

Residence type
None

Geographical region
None

Wealth quintile
None

Mother education
None

Other grouping variable
None

Data filter

Filter variables

Apply filters

Additional variables required for studies with two-stage design

Strata and Clusters (Primary Sampling Unit – PSU)

Sampling weight

Accepted values and other details

Numeric integer. If not provided, it will be assumed that all children belong to the same strata/cluster.

Numerical. Numeric float. If sampling weights are not provided, the sample will be assumed to be self-weighted, i.e. the sampling weight equals one.

WHO Anthro Survey Analyser

Upload data
(.csv format)

Browse... Sample.csv

Upload complete

Filename:
Sample

Show/hide mapping variables

Age mapping ⓘ

Compute age using Date of birth and Date of visit

Date format
dd/mm/yyyy

Date of birth
None

Date of visit
None

Other variables

Sex
(Male = 1/m/M;
Female = 2/f/F)
None

Weight (kg)
None

Length or height (cm)
None

LH measure
None

Oedema
None

Sampling Weight
None

Team
None

Cluster
None

Strata
None

Residence type
None

Geographical region
None

Wealth quintile
None

Mother education
None

Other grouping variable
None

Data filter

Filter variables

Apply filters

Additional optional variables	Accepted values and other details
Team	Numeric integer. Whenever provided, this variable is used for performing data quality assessment stratified.
Type of residence	Numeric integer or string (e.g., "Rural" or "Urban").
Geographical region	String or numeric integer. NOTE: If geographical region variable is numeric, please provide the value labels in the variables dictionary.
Wealth quintiles	Ordinal numeric integer in ascending order or string (e.g., 1, 2, 3, 4, 5; or "Q1", "Q2", "Q3", "Q4", "Q5"). NOTE: If wealth quintile variable is numeric, please provide the value labels in the variables dictionary.
Maternal education	Numeric integer or string. Recommended values: "None", "Primary", "Secondary" and "Higher". Any number of categories or values are accepted provided the variables dictionary clearly describes each category.

Inclusion decision in JME catalogue and database & data applicability

- The decision to include a survey in the JME dataset is based on whether the data has sufficient **quality**;
- Data from the JME database are used to obtain **modelled estimates** at the national level (for stunting and overweight), as well as regional and global (for all indicators);
- The data is used to update global databases (e.g., WHO Global Child Malnutrition Database*)

* <https://www.who.int/teams/nutrition-and-food-safety/databases/nutgrowthdb>

Thank you!

