

Malawi - All anthropometry data

Malawi Epidemiology and Intervention Research Unit

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Identification

SURVEY ID NUMBER

MWI-MEIRU-All-anthro-data-2020-v1

TITLE

All anthropometry data

COUNTRY

Name	Country code
Malawi	MWI

STUDY TYPE

Demographic Surveillance

ABSTRACT

Anthropometric measurements have been taken in many studies in Karonga: this dataset combines and harmonises all these sources.

UNIT OF ANALYSIS

Individual

Version

VERSION DATE

2020-06-18

Producers and sponsors

PRIMARY INVESTIGATORS

Name	Affiliation
Malawi Epidemiology and Intervention Research Unit	London School of Hygein and Tropical Medicine

OTHER IDENTIFICATIONS/ACKNOWLEDGMENTS

Name
MEIRU Core datamanagement team

Data collection

DATA COLLECTION MODE

Face-to-face [f2f]

DATA COLLECTORS

Name	Abbreviation
Malawi Epidemiology and Intervention Research Unit	MEIRU

Access policy

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ACCESS AUTHORITY

Name
Malawi Epidemiology and Intervention Research Unit

ARCHIVE WHERE STUDY IS ORIGINALLY STORED

Karonga District

Metadata production

DDI DOCUMENT ID

DDI-MWI-MEIRU-All-anthro-data-2020-v1

PRODUCERS

Name	Abbreviation	Affiliation	Role
Chifundo Kanjala	CK	MEIRU	Documentation planning and supervision
Elizabeth Munthali	EM	MEIRU	Metadata entry and editing
Estelle McLean	EM	LSHTM	Production of the documentation used to create this DDI document

DATE OF METADATA PRODUCTION

2020-06-18

Data Dictionary

Data file	Cases	Variables
all_anthro_data This data file is all anthropometry measurements carried out in Karonga in any study. Each record can be linked to the rest of Karonga's database through the ident. Users should be aware that some studies were looking only at specific subgroups, or ill people so whole dataset should not be used to draw conclusions about the general population: those marked in the list below can be considered population-representative (notwithstanding non-response issues). source description type ARK Kidney disease study selected ART ART clinic selected BFUP Baby follow-up population-representative BIS Baby immunology study selected CBR CRS birth registration population-representative CPT selected FHS Family health study selected FIS Fertility intentions study selected GAP Adolescent study population-representative GP General form selected IIS Immunology study selected KDU Kidney disease study selected NCD Non-communicable disease study population-representative PHD Pre-diabetes/hypertension selected SEI Socio-economic survey population-representative STS Stroke/TIA study selected TBH TB household study selected TBI TB immunology study selected TBO TB controls selected TBS TB spouse study selected TBX TB cases selected TMT Transmission of TB study selected	152783	21
In the variable labels (S) indicates that the variable is unchanged from the original source and (D) indicates that it is a 'derived' variable, often using more than one source variable. For both types information on where the data come from and how they are processed is found in the 'Recoding and Derivation' section		

Data file: all_anthro_data

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source description type

ARK Kidney disease study selected

ART ART clinic selected

BFUP Baby follow-up population-representative

BIS Baby immunology study selected

CBR CRS birth registration population-representative

CPT selected

FHS Family health study selected

FIS Fertility intentions study selected

GAP Adolescent study population-representative

GP General form selected

IIS Immunology study selected

KDU Kidney disease study selected

NCD Non-communicable disease study population-representative

PHD Pre-diabetes/hypertension selected

SEI Socio-economic survey population-representative

STS Stroke/TIA study selected

TBH TB household study selected

TBI TB immunology study selected

TBO TB controls selected

TBS TB spouse study selected

TBX TB cases selected

TMT Transmission of TB study selected

In the variable labels (S) indicates that the variable is unchanged from the original source and (D) indicates that it is a 'derived' variable, often using more than one source variable. For both types information on where the data come from and how they are processed is found in the 'Recoding and Derivation' section

Cases: 152783

Variables: 21

Variables

ID	Name	Label	Question
V1	examdate	date of measurement (S)	
V2	ident	unique identifier (S)	
V3	weight	weight in kg (D)	
V4	height	height in cm (D)	
V5	waisc	waist circumference in cm (D)	
V6	hipcu	hip circumference in cm (D)	
V7	muac	mid-upper arm circumference in cm (D)	
V8	source	source of data (D)	
V9	bthweight	birthweight (S)	
V10	bthwt_date	date of birthweight (S)	
V11	headc	head circumference (S)	
V12	sex	sex (S)	

ID	Name	Label	Question
V13	birth_date	birth date (D)	
V14	age_y	age in years (D)	
V15	age_m	age in months (D)	
V16	wfh	weight for height (D)	
V17	malnut	whether malnourished (D)	
V18	agegp	group age variable (D)	
V19	examyyear	year of examination (D)	
V20	lastincrs	last date seen in CRS (D)	
V21	crs	whether CRS member (D)	

Total: 21

EXAMDATE: date of measurement (S)**Data file:** all_anthro_data**Overview**

Valid: 152782 Minimum: 1996-11-19 Maximum: 2020-02-25
 Type: Discrete Width: 10 Range: - Format: character

Description

DEFINITION

date of measurement

Imputation and derivation

DERIVATION

variable: examdate (table[s]: css_fis1)

variable: intdate (table[s]: art_artn, arv_amf, arv_scf, bis_mother, fhs_tktaik, fhs_tktcik, iis_mother, gp_gpform, css_sei, tb_tbh, tb_tbot2007, tb_tbx, tb_tbxto2007, tbold_tbp1, tb_tbs, tb_tbs5, tmt_tmt1, art_arto, art_artx, tb_tbi, cpt_f3, crs_birth, crs_bfup)

variable: epdate (table[s]: art_arte)

variable: intdate3 (table[s]: tb_tbi)

variable: a_intdt (table[s]: gap_combined)

variable: comdate (table[s]: ncd_combined)

variable: consdate (table[s]: ves_vese)

The date of measurement variable for the various tables is renamed to examdate

BTHWT_DATE: date of birthweight (S)**Data file:** all_anthro_data**Overview**

Valid: 7300 Minimum: 2012-04-08 Maximum: 2020-02-21
 Type: Discrete Width: 10 Range: - Format: character

Description

DEFINITION

date of birthweight

Imputation and derivation

DERIVATION

variable: bthwt_date (table[s]: crs_birth)

IDENT: unique identifier (S)**Data file:** all_anthro_data

Overview

Valid: 152783 Invalid: 0
 Type: Discrete Width: 7 Range: - Format: character

Description

DEFINITION
 unique identifier

Imputation and derivation

DERIVATION
 All data sources already link to ident

WEIGHT: weight in kg (D)

Data file: all_anthro_data

Overview

Valid: 124841 Invalid: 27942 Minimum: 0 Maximum: 150 Mean: 31.588 Standard deviation: 22.6
 Type: Continuous Decimal: 0 Width: 3 Range: 0 - 150 Format: Numeric

Description

DEFINITION
 weight in kg

Imputation and derivation

DERIVATION
 variable: weight (table[s]: art_arte, art_artn, arv_amf, arv_scf, bis_mother, fhs_tktaik, fhs_tktcik, iis_mother, gp_gpform, css_sei, tb_tbh, tb_tboto2007, tb_tbx, tb_tbxto2007, tbold_tbp1, tb_tbs, tb_tbs5, tmt_tmt1, ncd_combined, css_fis1, arkk_arkq, ves_vese)
 variable: weight2 (table[s]: art_arto, art_artx, tb_tbi)
 variable: wt (table[s]: cpt_f3)
 variable: bweight (table[s]: crs_birth, crs_bfup)
 variable: a_wt (table[s]: gap_combined)
 variable: weif/weigs (table[s]: sts_fup, sts_stsf, sts_stsp)
 variable: weightf/weights (table[s]: kduk_kduq, phdk_phdq)
 Weight from STS, KDU and PHD were collected twice so average of the 2 readings is calculated. All weight variables from the various tables are in kg so if necessary are renamed to weight.

HEIGHT: height in cm (D)

Data file: all_anthro_data

Overview

Valid: 126147 Invalid: 26636 Minimum: 0 Maximum: 224.5 Mean: 119.524 Standard deviation: 40.937
 Type: Continuous Decimal: 0 Width: 5 Range: 0 - 224.5 Format: Numeric

Description

DEFINITION

height in cm

Imputation and derivation

DERIVATION

variable: height (table[s]: art_arte, art_artn, arv_amf, arv_scf, bis_mother, fhs_tktaik, fhs_tktcik, iis_mother, gp_gpform, css_sei, tb_tbh, tb_tbot2007, tb_tbx, tb_tbxto2007, tbold_tbp1, tb_tbs, tb_tbs5, tmt_tmt1, ncd_combined, css_fis1, arkk_arkq)

variable: height2 (table[s]: art_arto, art_artx, tb_tbi)

variable: wt (table[s]: cpt_f3)

variable: blength (table[s]: crs_birth, crs_bfup)

variable: a_hghtop1 (table[s]: gap_combined)

variable: heigf/heigs (table[s]: sts_fup, sts_stsf, sts_stsp)

variable: heightf/heights (table[s]: kduk_kduq, phdk_phdq)

variable: length (table[s]: ves_vese)

Height from STS, KDU and PHD were collected twice so average of the 2 readings is calculated. All height variables from the various tables are in cm so if necessary are renamed to height

WAISC: waist circumference in cm (D)

Data file: all_anthro_data

Overview

Valid: 35730 Invalid: 117053 Minimum: 21 Maximum: 184.1 Mean: 77.396 Standard deviation: 10.754
Type: Continuous Decimal: 0 Width: 16 Range: 21 - 184.100006103516 Format: Numeric

Description

DEFINITION

waist circumference in cm

Imputation and derivation

DERIVATION

variable: waisc (table[s]: css_sei)

variable: waist_op1 (table[s]: gap_combined)

variable: waist (table[s]: ncd_combined)

variable: waiscf/waiscs (table[s]: sts_fup, sts_stsf, sts_stsp, arkk_arkq, kduk_kduq, phdk_phdq)

Waist circumference from ARK, STS, KDU and PHD were collected twice so average of the 2 readings is calculated. All waist circumference variables from the various tables are in cm so if necessary are renamed to waisc

HIPCU: hip circumference in cm (D)

Data file: all_anthro_data

Overview

Valid: 36628 Invalid: 116155 Minimum: 45 Maximum: 190.05 Mean: 90.006 Standard deviation: 10.42

Type: Continuous Decimal: 0 Width: 16 Range: 45 - 190.050003051758 Format: Numeric

Description

DEFINITION

hip circumference in cm

Imputation and derivation

DERIVATION

variable: hipcu (table[s]: css_sei)

variable: hip_op1 (table[s]: gap_combined)

variable: hip (table[s]: ncd_combined)

variable: hipcuf/hipcus (table[s]: sts_fup, sts_stsf, sts_stsp, arkk_arkq, kduk_kduq, phdk_phdq)

Hip circumference from ARK, STS, KDU and PHD were collected twice so average of the 2 readings is calculated. All hip circumference variables from the various tables are in cm so if necessary are renamed to hipcu

MUAC: mid-upper arm circumference in cm (D)

Data file: all_anthro_data

Overview

Valid: 107651 Invalid: 45132 Minimum: 0 Maximum: 70.75 Mean: 21.776 Standard deviation: 6.575
 Type: Continuous Decimal: 0 Width: 5 Range: 0 - 70.75 Format: Numeric

Description

DEFINITION

mid-upper arm circumference in cm

Imputation and derivation

DERIVATION

variable: muac (table[s]: arv_amf, arv_scf, ncd_combined, gp_gpform, css_sei, tb_tbh, tb_tbot2007, tb_tbs, tb_tbs5, tmt_tmt1, css_fis2, arkk_arkq)

variable: armcirc (table[s]: cpt_f3)

variable: armcircumf (table[s]: fhs_tktaik, fhs_tktcik)

variable: buarm (table[s]: crs_birth, crs_bfup)

variable: a_muacop1 (table[s]: gap_combined)

variable: muacf/muacs (table[s]: kduk_kduq, phdk_phdq)

MUAC from KDU and PHD were collected twice so average of the 2 readings is calculated. Most tables had muac already in cm, but GAP, CPT, FHS, TBH, TBO, TMT had to be converted from mm to cm

SOURCE: source of data (D)

Data file: all_anthro_data

Overview

Valid: 152783 Invalid: 0
 Type: Discrete Width: 4 Range: - Format: character

Description

DEFINITION
source of data

Imputation and derivation

DERIVATION
three-letter study code is added when each data source is processed

BTHWEIGHT: birthweight (S)

Data file: all_anthro_data

Overview

Valid: 7742 Invalid: 145041 Minimum: 1 Maximum: 99.9 Mean: 8.641 Standard deviation: 22.463
Type: Continuous Decimal: 0 Width: 4 Range: 1 - 99.9 Format: Numeric

Description

DEFINITION
birthweight

Imputation and derivation

DERIVATION
variable: bthweight (table[s]: crs_birth)

HEADC: head circumference (S)

Data file: all_anthro_data

Overview

Valid: 14652 Invalid: 138131 Minimum: 0 Maximum: 99.9 Mean: 38.605 Standard deviation: 4.372
Type: Continuous Decimal: 0 Width: 4 Range: 0 - 99.9 Format: Numeric

Description

DEFINITION
head circumference

Imputation and derivation

DERIVATION
variable: bhead (table[s]: crs_birth)

SEX: sex (S)**Data file:** all_anthro_data**Overview**

Valid: 152783 Invalid: 0
 Type: Discrete Decimal: 0 Width: 1 Range: 0 - 9 Format: Numeric

Questions and instructions

CATEGORIES

Value	Category	Cases	
0	Male	62991	41.2%
1	Female	89792	58.8%
8	Unknown	0	0%
9	Missing	0	

Description

DEFINITION

sex

Imputation and derivation

DERIVATION

variable: sex (table[s]: gen_identity)

BIRTH_DATE: birth date (D)**Data file:** all_anthro_data**Overview**

Valid: 152783 Minimum: 1898-06-15 Maximum: 2020-02-21
 Type: Discrete Width: 10 Range: - Format: character

Description

DEFINITION

birth date

Imputation and derivation

DERIVATION

variable: birthdd (table[s]: gen_identity)
 variable: birthmm (table[s]: gen_identity)

variable: birthyear (table[s]: gen_identity)

variable: birthest (table[s]: gen_identity)

Birth date is created from individual date elements on gen_identity: if day missing 15 is used, if month missing June is used, if only year estimate the mid-point of the estimate range is used

AGE_Y: age in years (D)

Data file: all_anthro_data

Overview

Valid: 152782 Invalid: 1 Minimum: 0 Maximum: 117 Mean: 19.893 Standard deviation: 19.435
 Type: Continuous Decimal: 0 Width: 3 Range: 0 - 117 Format: Numeric

Description

DEFINITION

age in years

Imputation and derivation

DERIVATION

variable: birth_date (table[s]: derived)

variable: examdate (table[s]: [see above])

Age in years is calculated from examdate and birthdate

gen age_y=int((examdate-birth_date)/365.25)

AGE_M: age in months (D)

Data file: all_anthro_data

Overview

Valid: 152782 Invalid: 1 Minimum: -10 Maximum: 1406 Mean: 243.283 Standard deviation: 233.135
 Type: Continuous Decimal: 0 Width: 4 Range: -10 - 1406 Format: Numeric

Description

DEFINITION

age in months

Imputation and derivation

DERIVATION

variable: birth_date (table[s]: derived)

variable: examdate (table[s]: [see above])

Age in months is calculated from examdate and birthdate

gen age_m=int((examdate-birth_date)/30.5)

WFH: weight for height (D)**Data file:** all_anthro_data**Overview**

Valid: 122579 Invalid: 30204 Minimum: 0 Maximum: 36160.422 Mean: 18.83 Standard deviation: 103.936
 Type: Continuous Decimal: 0 Width: 12 Range: 0 - 36160.421875 Format: Numeric

Description

DEFINITION

weight for height

Imputation and derivation

DERIVATION

variable: weight (table[s]: derived)
 variable: height (table[s]: derived)
 gen wfh=weight/((height/100)*(height/100))

MALNUT: whether malnourished (D)**Data file:** all_anthro_data**Overview**

Valid: 122579 Invalid: 30204
 Type: Discrete Decimal: 0 Width: 1 Range: 0 - 1 Format: Numeric

Description

DEFINITION

whether malnourished: for children weight for height less than 2 standard deviations below WHO standard for age in months and for adults (18+) BMI<18.5

Imputation and derivation

DERIVATION

variable: wfh (table[s]: derived)
 variable: SD2neg (table[s]: who_bmi_z_scores_month)
 WHO standards for weight for height in children by month of age are used to assess malnutrition in children
 merge m:1 age_m sex using \${nutdata}\who_bmi_z_scores_month, keep(master match)
 gen malnut=0 if wfh~=.
 replace malnut=1 if wfh<SD2neg & wfh~=. & SD2neg~=.
 replace malnut=1 if wfh<18.5 & age_y>=18

AGEGP: group age variable (D)**Data file:** all_anthro_data

Overview

Valid: 152782 Invalid: 1
 Type: Discrete Decimal: 0 Width: 1 Range: 1 - 6 Format: Numeric

Questions and instructions

CATEGORIES

Value	Category	Cases	
1	<1	21149	13.8%
2	1-4y	25369	16.6%
3	5-9y	22064	14.4%
4	10-14y	7317	4.8%
5	15-19y	10182	6.7%
6	20+y	66701	43.7%
Sysmiss		1	

Description

DEFINITION

group age variable

Imputation and derivation

DERIVATION

recode age_y (0=1 "<1") (1/4=2 "1-4y") (5/9=3 "5-9y") (10/14=4 "10-14y") (15/19=5 "15-19y") (20/max=6 "20+y"),
 gen(agegp)

EXAMYEAR: year of examination (D)

Data file: all_anthro_data

Overview

Valid: 152782 Invalid: 1 Minimum: 1996 Maximum: 2020 Mean: 2011.496 Standard deviation: 4.497
 Type: Continuous Decimal: 0 Width: 4 Range: 1996 - 2020 Format: Numeric

Description

DEFINITION

year of examination

Imputation and derivation

DERIVATION

variable: examdate (table[s]: derived)
 gen examyear=year(examdate)

LASTINCRS: last date seen in CRS (D)

Data file: all_anthro_data

Overview

Valid: 130081 Minimum: 2002-11-15 Maximum: 2018-12-31
Type: Discrete Width: 10 Range: - Format: character

Description

DEFINITION

last date seen in CRS

Imputation and derivation

DERIVATION

variable: stopdate (table[s]: crs_memball)
Last date in crs_memball is calculated and merged in

CRS: whether CRS member (D)

Data file: all_anthro_data

Overview

Valid: 130081 Invalid: 22702
Type: Discrete Decimal: 0 Width: 1 Range: 1 - 1 Format: Numeric

Description

DEFINITION

whether CRS member

Imputation and derivation

DERIVATION

variable: stopdate (table[s]: crs_memball)