# Package: surveyPrev (via r-universe)

October 10, 2026

**Type** Package

**Title** Mapping the Prevalence of Binary Indicators using Survey Data in Small Areas

**Version** 2.0.0

**Description** Provides a pipeline to perform small area estimation and prevalence mapping of binary indicators using health and demographic survey data, described in Dong et al. (2026) <doi:10.1093/jssam/smaf048>, Wakefield et al. (2025) <doi:10.48550/arXiv.2110.09576> and Wakefield et al. (2020) <doi:10.1111/insr.12400>.

**URL** https://github.com/richardli/surveyPrev

**BugReports** https://github.com/richardli/surveyPrev/issues

**Depends** R (>= 4.1.0), survey

**License** GPL (>= 2)

**Imports** stats, rlang, rdhs, SUMMER, ggplot2, ggridges, raster, terra, sp, sf, spdep, stringr, dplyr, data.table, matrixStats, scales, expss, labelled, sjlabelled, naniar, jsonlite, haven, tidyr

**Encoding** UTF-8

**LazyData** true

**RoxygenNote** 7.3.2

**Additional_repositories** https://inla.r-inla-download.org/R/testing/

**Suggests** INLA, knitr, rmarkdown, R.rsp, kableExtra, geodata, patchwork, htmltools, leaflegend, leaflet, plotly, viridisLite

**VignetteBuilder** R.rsp, knitr

**NeedsCompilation** no

**Config/build/clean-inst-doc** FALSE

**Config/pak/sysreqs** libabsl-dev libcairo2-dev cmake libfontconfig1-dev libfreetype6-dev libgdal-dev gdal-bin libgeos-dev make libicu-dev libpng-dev libuv1-dev libxml2-dev libssl-dev libproj-dev libsqlite3-dev libudunits2-dev libx11-dev zlib1g-dev

**Repository** https://richardli.r-universe.dev

**Date/Publication** 2026-10-10 17:04:27 UTC

**RemoteUrl** https://github.com/richardli/surveyprev

**RemoteRef** HEAD

**RemoteSha** e65434aea061c1603d1deaa585230bb5e7c07f31

# Contents

addNewIndicator . . . 12
addUpper . . . 13
adminInfo . . . 15
aggPopulation . . . 16
aggSurveyWeight . . . 18
AH_BTHP_M_ALW . . . 19
AH_BTHP_M_EMG . . . 20
AH_BTHP_M_IMG . . . 20
AH_BTHP_W_ALW . . . 21
AH_BTHP_W_EMG . . . 21
AH_BTHP_W_IMG . . . 22
AH_HINS_M_ANY . . . 22
AH_HINS_W_ANY . . . 23
AH_MIGR_M_DIS . . . 23
AH_MIGR_M_EDU . . . 24
AH_MIGR_M_EMP . . . 24
AH_MIGR_M_FAM . . . 25
AH_MIGR_M_MAR . . . 25
AH_MIGR_W_EDU . . . 26
AH_MIGR_W_EMP . . . 26
AH_MIGR_W_FAM . . . 27
AH_MIGR_W_MAR . . . 27
AH_MIGT_M_RTR . . . 28
AH_MIGT_M_RTU . . . 28
AH_MIGT_M_UTR . . . 29
AH_MIGT_M_UTU . . . 29
AH_MIGT_W_RTR . . . 30
AH_MIGT_W_RTU . . . 30
AH_MIGT_W_UTR . . . 31
AH_MIGT_W_UTU . . . 31
AH_TOBC_W_OTH . . . 32
AH_TOBU_M_ASM . . . 32
AH_TOBU_M_SNN . . . 33
AH_TOBU_W_SNM . . . 34
AH_TOBU_W_SNN . . . 34
AN_ANEM_W_ANY . . . 35
AN_NUTS_W_OVW . . . 36
AN_NUTS_W_THN . . . 37
CH_ARIS_C_ADV . . . 37
CH_DIAT_C_ABI . . . 38

CH_DIAT_C_ADV . . . . . 39
CH_DIAT_C_AMO . . . . . 40
CH_DIAT_C_NOT . . . . . 40
CH_DIAT_C_ORS . . . . . 41
CH_DIAT_C_ORT . . . . . 42
CH_DIAT_C_OSI . . . . . 42
CH_DIAT_C_RHF . . . . . 43
CH_DIFP_C_FAL . . . . . 44
CH_DISA_C_NUM . . . . . 44
CH_FEVR_C_FEV . . . . . 45
CH_FEVT_C_ADV . . . . . 46
CH_SZWT_C_L25 . . . . . 46
CH_VAC1_C_VCD . . . . . 47
CH_VACC_C_APP . . . . . 48
CH_VACC_C_BAS . . . . . 48
CH_VACC_C_BCG . . . . . 49
CH_VACC_C_DP1 . . . . . 50
CH_VACC_C_DP3 . . . . . 50
CH_VACC_C_MSL . . . . . 51
CH_VACC_C_NON . . . . . 52
CH_VACC_C_PN3 . . . . . 53
CH_VACC_C_RT1 . . . . . 53
CH_VACS_C_APP . . . . . 54
CH_VACS_C_BAS . . . . . 55
CH_VACS_C_BCG . . . . . 55
CH_VACS_C_DP1 . . . . . 56
CH_VACS_C_DP2 . . . . . 56
CH_VACS_C_DP3 . . . . . 57
CH_VACS_C_HP1 . . . . . 57
CH_VACS_C_HP2 . . . . . 58
CH_VACS_C_HP3 . . . . . 58
CH_VACS_C_IP1 . . . . . 59
CH_VACS_C_MS2 . . . . . 59
CH_VACS_C_MSL . . . . . 60
CH_VACS_C_NON . . . . . 60
CH_VACS_C_OP0 . . . . . 61
CH_VACS_C_OP1 . . . . . 61
CH_VACS_C_OP2 . . . . . 62
CH_VACS_C_OP3 . . . . . 62
CH_VACS_C_PN1 . . . . . 63
CH_VACS_C_PN2 . . . . . 63
CH_VACS_C_PN3 . . . . . 64
CH_VACS_C_PT1 . . . . . 64
CH_VACS_C_PT2 . . . . . 65
CH_VACS_C_PT3 . . . . . 65
CH_VACS_C_RT1 . . . . . 66
CH_VACS_C_RT2 . . . . . 66
clusterInfo . . . . . 67

clusterModel . . . 68
clusterModel_u5mr . . . 70
CM_ECMR_C_IMF . . . 72
CM_ECMR_C_IMR . . . 72
CM_ECMR_C_NNF . . . 73
CM_ECMR_C_NNR . . . 74
CM_ECMR_C_U5F . . . 75
CM_ECMR_C_U5M . . . 75
CN_ANMC_C_ANY . . . 76
CN_BRFI_C_EVR . . . 77
CN_BRFS_C_EXB . . . 78
CN_IYCF_C_4FA . . . 78
CN_IYCF_C_BTB . . . 79
CN_IYCF_C_MNA . . . 80
CN_IYCF_C_MNB . . . 80
CN_MIAC_C_IRF . . . 81
CN_NUTS_C_HA2 . . . 81
CN_NUTS_C_HA3 . . . 82
CN_NUTS_C_WA2 . . . 83
CN_NUTS_C_WA3 . . . 83
CN_NUTS_C_WAP . . . 84
CN_NUTS_C_WH2 . . . 85
CN_NUTS_C_WH3 . . . 85
CN_NUTS_C_WHP . . . 86
CO_INUS_M_EVU . . . 87
CO_INUS_M_U12 . . . 87
CO_INUS_M_WEK . . . 88
CO_INUS_W_EVU . . . 88
CO_INUS_W_U12 . . . 89
CO_INUS_W_WEK . . . 90
CO_MOBB_M_BNK . . . 90
CO_MOBB_M_MBF . . . 91
CO_MOBB_M_MOB . . . 91
CO_MOBB_M_SPT . . . 92
CO_MOBB_W_BNK . . . 92
CO_MOBB_W_DFT . . . 93
CO_MOBB_W_DWM . . . 93
CO_MOBB_W_MBF . . . 94
CO_MOBB_W_MOB . . . 95
CO_MOBB_W_OSP . . . 95
CO_MOBB_W_SPT . . . 96
CP_BREG_C_CRT . . . 96
CP_BREG_C_NCT . . . 97
CP_BREG_C_REG . . . 98
datainfo . . . 98
directEST . . . 100
directEST_u5mr . . . 102
directEST_varfix . . . 102

DV_AFSV_W_A10 . . . 104
DV_AFSV_W_A12 . . . 105
DV_EXPV_W_12M . . . 106
DV_EXSV_W_12M . . . 107
DV_EXSV_W_EVR . . . 107
DV_FMVL_W_PAS . . . 108
DV_FMVL_W_POS . . . 109
DV_FSVL_W_PHS . . . 109
DV_PCPV_W_CBF . . . 110
DV_PCPV_W_CHD . . . 110
DV_PCPV_W_CHP . . . 111
DV_PCPV_W_EMP . . . 112
DV_PCPV_W_FHP . . . 112
DV_PCPV_W_FLW . . . 113
DV_PCPV_W_OLW . . . 114
DV_PCSV_W_EMP . . . 114
DV_PCSV_W_RLG . . . 115
DV_SPV1_W_ANY . . . 115
DV_STPS_W_BFR . . . 116
DV_STPV_W_HLP . . . 117
DV_VPRG_W_VPG . . . 117
ED_EDAT_B_CPR . . . 118
ED_EDAT_B_CSC . . . 119
ED_EDAT_B_HGH . . . 119
ED_EDAT_B_NED . . . 120
ED_EDAT_B_PRI . . . 120
ED_EDAT_B_SEC . . . 121
ED_EDAT_B_SPR . . . 121
ED_EDAT_M_CPR . . . 122
ED_EDAT_M_CSC . . . 122
ED_EDAT_M_NED . . . 123
ED_EDAT_M_PRI . . . 123
ED_EDAT_M_SEC . . . 124
ED_EDAT_M_SPR . . . 124
ED_EDAT_W_CPR . . . 125
ED_EDAT_W_CSC . . . 125
ED_EDAT_W_NED . . . 126
ED_EDAT_W_PRI . . . 126
ED_EDAT_W_SEC . . . 127
ED_EDAT_W_SPR . . . 127
ED_EDUC_W_CPR . . . 128
ED_EDUC_W_CSC . . . 128
ED_EDUC_W_HGH . . . 129
ED_EDUC_W_NED . . . 129
ED_EDUC_W_PRI . . . 130
ED_EDUC_W_SEH . . . 130
ED_EDUC_W_SPR . . . 131
ED_EDUC_W_SSC . . . 131

ED_LITR_M_LIT . . . 132
ED_LITR_M_SCH . . . 132
ED_LITR_W_LIT . . . 133
ED_LITR_W_RDW . . . 133
ED_LITR_W_SCH . . . 134
ED_MDIA_M_RDO . . . 134
ED_MDIA_M_TLV . . . 135
ED_MDIA_W_3MD . . . 135
ED_MDIA_W_N3M . . . 136
ED_MDIA_W_NWS . . . 137
ED_MDIA_W_RDO . . . 137
ED_MDIA_W_TLV . . . 138
EM_EMPM_W_EMP . . . 139
exceedPlot . . . 139
FE_BBAG_W_A18 . . . 141
FE_FRTR_W_A15 . . . 142
FE_FRTR_W_TF4 . . . 142
FE_FRTR_W_TFR . . . 143
FG_KFCC_M_HFC . . . 143
FG_KFCC_W_HFC . . . 144
FG_PFCC_W_WCC . . . 144
fhModel . . . 145
FI_EXFI_W_EEX . . . 147
FI_EXFI_W_HRD . . . 148
FP_CUSA_W_ANY . . . 148
FP_CUSA_W_EMC . . . 149
FP_CUSA_W_FCN . . . 150
FP_CUSA_W_FST . . . 150
FP_CUSA_W_IMP . . . 151
FP_CUSA_W_INJ . . . 152
FP_CUSA_W_IUD . . . 152
FP_CUSA_W_MCN . . . 153
FP_CUSA_W_MOD . . . 154
FP_CUSA_W_MST . . . 154
FP_CUSA_W_PIL . . . 155
FP_CUSA_W_STD . . . 156
FP_CUSA_W_TRA . . . 157
FP_CUSA_W_WTH . . . 157
FP_CUSM_W_MOD . . . 158
FP_DMKF_W_UDK . . . 159
FP_DMKF_W_UHS . . . 159
FP_DMKF_W_UJN . . . 160
FP_DMKF_W_UWF . . . 160
FP_DMKP_W_MHS . . . 161
FP_DMKP_W_MJN . . . 161
FP_DMKP_W_MWF . . . 162
FP_EFPM_M_NWS . . . 162
FP_EFPM_M_TLV . . . 163

FP_EFPM_W_NWS . . . 164
FP_EFPM_W_RDO . . . 164
FP_EFPM_W_TLV . . . 165
FP_EVUM_W_MOD . . . 166
FP_KMTA_M_ANY . . . 166
FP_KMTA_M_MOD . . . 167
FP_KMTA_W_ANY . . . 167
FP_KMTA_W_EMC . . . 168
FP_KMTA_W_FCN . . . 169
FP_KMTA_W_FST . . . 169
FP_KMTA_W_IMP . . . 170
FP_KMTA_W_INJ . . . 171
FP_KMTA_W_IUD . . . 171
FP_KMTA_W_MST . . . 172
FP_KMTA_W_OMD . . . 173
FP_KMTA_W_PIL . . . 173
FP_KMTA_W_STD . . . 174
FP_KMTA_W_TRA . . . 175
FP_KMTA_W_WTH . . . 175
FP_KMTM_M_ANY . . . 176
FP_KMTM_M_MOD . . . 177
FP_KMTM_W_ANY . . . 177
FP_KMTM_W_MOD . . . 178
FP_NADA_W_MNT . . . 178
FP_NADA_W_PDM . . . 179
FP_NADA_W_PDS . . . 179
FP_NADA_W_TDT . . . 180
FP_NADA_W_UMT . . . 180
FP_NADA_W_UNT . . . 181
FP_NADM_W_MNT . . . 181
FP_NADM_W_PDM . . . 182
FP_NADM_W_PDS . . . 183
FP_NADM_W_TDT . . . 183
FP_NADM_W_UMT . . . 184
FP_NADM_W_UNT . . . 184
FP_NDYA_W_MNT . . . 185
FP_NDYA_W_PDM . . . 185
FP_NDYA_W_PDS . . . 186
FP_NDYA_W_TDT . . . 187
FP_NDYA_W_UMT . . . 187
FP_NDYA_W_UNT . . . 188
FP_NDYM_W_MNT . . . 188
FP_NDYM_W_PDM . . . 189
FP_NDYM_W_PDS . . . 189
FP_NDYM_W_TDT . . . 190
FP_NDYM_W_UMT . . . 190
FP_NDYM_W_UNT . . . 191
get_api_table . . . 191

get_geoBoundaries . . . 192
getCovariate . . . 193
getDHSdata . . . 194
getDHSgeo . . . 195
getDHSindicator . . . 196
getUR . . . 198
HA_AFSY_M_A15 . . . 201
HA_AFSY_M_A18 . . . 202
HA_AFSY_W_A18 . . . 202
HA_ANSS_M_CND . . . 203
HA_ANSS_W_CND . . . 204
HA_ANSS_W_RSX . . . 204
HA_CATH_W_ATN . . . 205
HA_CATH_W_NRS . . . 206
HA_CKNA_W_CKA . . . 207
HA_HIVP_B_HIV . . . 207
HA_HRSX_W_CND . . . 208
HA_HVST_M_HRD . . . 209
HA_HVST_M_USD . . . 209
HA_HVTY_M_TRR . . . 210
HA_HVTY_W_TRR . . . 211
HA_KAID_M_HRD . . . 211
HA_KAID_W_HRD . . . 212
HA_KHVP_M_CS1 . . . 213
HA_KHVP_W_CS1 . . . 213
HA_STIS_M_DIS . . . 214
HA_STIS_M_SOR . . . 214
HA_STIS_W_STI . . . 215
HC_AGEG_P_ADL . . . 216
HC_ELEC_H_ELC . . . 216
HC_FLRM_H_CER . . . 217
HC_HEFF_H_RDO . . . 218
HC_TRNS_H_CAR . . . 218
HC_TRNS_H_SCT . . . 219
HC_WIXQ_P_12Q . . . 219
HC_WIXQ_P_2ND . . . 220
HC_WIXQ_P_LOW . . . 221
indicatorList . . . 221
intervalPlot . . . 222
MA_CWIV_W_CWV . . . 224
MA_MBAG_W_B15 . . . 225
MA_MBAG_W_B18 . . . 225
MA_MBAY_W_B15 . . . 226
MA_MBAY_W_B18 . . . 227
MA_MSTA_W_NMA . . . 228
MA_MSTA_W_UNI . . . 228
MA_MSTY_W_MAR . . . 229
MA_MSTY_W_UNI . . . 229

match_all_result . . . 230
ML_CMLT_C_RDT . . . 230
ML_FEVA_C_NUM . . . 231
ML_FEVT_C_ADV . . . 231
ML_IRSM_H_I2I . . . 232
ML_NETC_C_ITN . . . 232
ML_NETP_H_IT2 . . . 233
ML_NETU_P_ITN . . . 234
ML_PMAL_C_RDT . . . 235
PR_DESL_W_WNM . . . 235
prevMap . . . 236
prevMap.web . . . 238
rankPlot . . . 239
RH_ANCN_W_N01 . . . 241
RH_ANCN_W_N4F . . . 241
RH_ANCN_W_N4P . . . 242
RH_ANCN_W_NON . . . 243
RH_ANCP_W_CHW . . . 244
RH_ANCP_W_DOC . . . 244
RH_ANCP_W_NON . . . 245
RH_ANCP_W_NRS . . . 245
RH_ANCP_W_OHW . . . 246
RH_ANCP_W_SKP . . . 246
RH_ANCP_W_TBA . . . 247
RH_DELA_C_DOC . . . 247
RH_DELA_C_NON . . . 248
RH_DELA_C_NRS . . . 248
RH_DELA_C_OHW . . . 249
RH_DELA_C_SKF . . . 249
RH_DELA_C_SKP . . . 250
RH_DELA_C_TBA . . . 251
RH_DELP_C_DHF . . . 251
RH_DELP_C_DHT . . . 252
RH_DELP_C_HOM . . . 253
RH_DELP_C_HOT . . . 253
RH_DELP_C_PNG . . . 254
RH_DELP_C_PNN . . . 255
RH_DELP_C_PRT . . . 255
RH_DELP_C_PRV . . . 256
RH_DELP_C_PUB . . . 257
RH_DELP_C_PUT . . . 257
RH_DFHC_W_LTH . . . 258
RH_DFHC_W_MOT . . . 259
RH_DFHC_W_MTT . . . 259
RH_DFHC_W_NMO . . . 260
RH_DFHC_W_OTH . . . 260
RH_DFHC_W_SXO . . . 261
RH_DFHC_W_THF . . . 261

RH_ICSP_W_B69 . . . 262
RH_ICSP_W_B99 . . . 262
RH_ICSP_W_IDK . . . 263
RH_ICSP_W_L60 . . . 263
RH_ICSP_W_M18 . . . 264
RH_ICSP_W_TNI . . . 264
RH_ICSP_W_TOT . . . 265
RH_PAHC_W_DIS . . . 265
RH_PAHC_W_FEM . . . 266
RH_PAHC_W_MON . . . 266
RH_PAHC_W_PR1 . . . 267
RH_PAHC_W_PRM . . . 268
RH_PAHC_W_TRN . . . 268
RH_PCCP_C_CHW . . . 269
RH_PCCP_C_DOC . . . 269
RH_PCCP_C_NON . . . 270
RH_PCCP_C_OHW . . . 270
RH_PCCP_C_TBA . . . 271
RH_PCCT_C_D12 . . . 271
RH_PCCT_C_D36 . . . 272
RH_PCCT_C_DKM . . . 272
RH_PCCT_C_DY2 . . . 273
RH_PCCT_C_H13 . . . 273
RH_PCCT_C_H4P . . . 274
RH_PCCT_C_L1H . . . 274
RH_PCCT_C_NON . . . 275
RH_PCCT_C_TOT . . . 275
RH_PCMP_W_CHW . . . 276
RH_PCMP_W_DOC . . . 276
RH_PCMP_W_NON . . . 277
RH_PCMP_W_NRS . . . 277
RH_PCMP_W_OHW . . . 278
RH_PCMP_W_TBA . . . 278
RH_PCMT_W_23H . . . 279
RH_PCMT_W_D12 . . . 279
RH_PCMT_W_D7P . . . 280
RH_PCMT_W_DKM . . . 280
RH_PCMT_W_DY2 . . . 281
RH_PCMT_W_L4H . . . 281
RH_PCMT_W_NON . . . 282
RH_PCMT_W_TOT . . . 283
ridgeprevPlot . . . 283
scatterPlot . . . 284
scatterPlot.web . . . 286
WE_AWBT_M_AGR . . . 288
WE_AWBT_M_ARG . . . 288
WE_AWBT_M_BFD . . . 289
WE_AWBT_M_OUT . . . 290

WE_AWBT_M_REF . . . 291
WE_AWBT_W_AGR . . . 291
WE_AWBT_W_ARG . . . 292
WE_AWBT_W_BFD . . . 293
WE_AWBT_W_NEG . . . 293
WE_AWBT_W_OUT . . . 294
WE_AWBT_W_REF . . . 295
WE_DMAK_M_OHC . . . 295
WE_DMAK_W_OHC . . . 296
WE_DMKH_M_HUS . . . 296
WE_DMKH_M_JNT . . . 297
WE_DMKH_M_WIF . . . 297
WE_DMKH_W_HUS . . . 298
WE_DMKH_W_JNT . . . 298
WE_DMKH_W_WIF . . . 299
WE_DMKP_M_HUS . . . 299
WE_DMKP_M_JNT . . . 300
WE_DMKP_M_WIF . . . 300
WE_DMKP_W_HUS . . . 301
WE_DMKP_W_JNT . . . 301
WE_DMKP_W_WIF . . . 302
WS_HNDW_H_BAS . . . 302
WS_HNDW_H_OBS . . . 303
WS_SRCE_H_BAS . . . 303
WS_SRCE_H_IMP . . . 304
WS_SRCE_H_LTD . . . 304
WS_SRCE_H_USG . . . 305
WS_SRCE_P_BAS . . . 305
WS_TLET_H_BAS . . . 306
WS_TLET_H_IMP . . . 307
WS_TLET_P_BAS . . . 307
WS_TLET_P_IMP . . . 308
WS_WTRT_H_BLC . . . 309
WS_WTRT_H_BOL . . . 309
WS_WTRT_H_STN . . . 310
WS_WTRT_P_BLC . . . 310
WS_WTRT_P_BOL . . . 311
WS_WTRT_P_SOL . . . 312
WS_WTRT_P_STN . . . 312
ZambiaAdm1 . . . 313
ZambiaAdm2 . . . 313
ZambiaPopWomen . . . 314

**Index** **315**

addNewIndicator *Create new row to add in indicatorList.*

## Description

Create new row to add in indicatorList.

## Usage

```
addNewIndicator(
  new_id,
  dictionary,
  IR = FALSE,
  PR = FALSE,
  KR = FALSE,
  BR = FALSE,
  HR = FALSE,
  MR = FALSE,
  AR = FALSE,
  CR = FALSE,
  chapter_map = NULL
)
```

## Arguments

| | |
|---|---|
| new_id | The ID of the new indicator (e.g., "FE_FRTR_W_A10"). |
| dictionary | The DHS indicator dictionary data frame, e.g.sae4health::DHS_ind_dictionary |
| IR | Logical flag indicating whether the IR recode file is required. |
| PR | Logical flag indicating whether the PR recode file is required. |
| KR | Logical flag indicating whether the KR recode file is required. |
| BR | Logical flag indicating whether the BR recode file is required. |
| HR | Logical flag indicating whether the HR recode file is required. |
| MR | Logical flag indicating whether the MR recode file is required. |
| AR | Logical flag indicating whether the AR recode file is required. |
| CR | Logical flag indicating whether the CR recode file is required. |
| chapter_map | Optional data.frame giving the report chapter per ID, e.g. `read.csv("sideproject/results/passing_c` from the DHS-indicator-factory repo. Must have columns `dhs_id` and `chap_abbrev`; an optional `recode` column ("IR", "PR", ...) fills the recode flag when all eight flags are left FALSE. When `new_id` is found in the map, its `chap_abbrev` is used and the built-in prefix/topic crosswalk is bypassed. |

### Details

The chapter comes from chapter_map when it holds new_id; otherwise the ID prefix (the token before the first underscore) must itself be a DHS report-chapter acronym (e.g. FP, RH, CH). StatCompiler chapter codes that are not report acronyms (AH, ED, CO, HA, HC, WS, MA, CN, FI, ...) therefore require a chapter_map row. Chapter numbers and titles follow the package's existing indicatorList (DHS-7 report numbering: WASH sits in Chapter 02, Fistula is Chapter 19).

### Value

The a row to rbind into indicator_df

### Author(s)

Qianyu Dong

### Examples

```
## Not run:
newrow=addNewIndicator(new_id="RH_DELP_C_HOM", dictionary= sae4health::DHS_ind_dictionary,
IR=FALSE, PR=FALSE, KR=FALSE, BR=TRUE,
HR=FALSE, MR=FALSE, AR=FALSE, CR=FALSE )
newrow <- newrow[, names(indicatorList)]
indicatorList <- rbind(indicatorList, newrow)

## End(Not run)
```

---

## addUpper *Attach upper-level admin names to lower-level polygons*

---

### Description

Maps each polygon in a lower administrative layer (e.g., ADM2) to its containing polygon in an upper layer (e.g., ADM1), populating an upper-level name column. If containment fails for some polygons (e.g., due to slivers or minor topology issues), a nearest-centroid fallback is used.

### Usage

```
addUpper(
  poly.adm.upper,
  poly.adm,
  by.adm,
  by.adm.upper,
  out_lower = "NAME_2",
  out_upper = "NAME_1",
  sort = TRUE
)
```

## Arguments

| | |
|---|---|
| poly.adm.upper | Spatial polygons for the *upper* admin level (e.g., Admin 1 when the desired output is Admin 2). Can be an sf object or an sp::SpatialPolygonsDataFrame. |
| poly.adm | Spatial polygons for the *target* admin level you want returned (e.g., Admin 2). Can be an sf object or an sp::SpatialPolygonsDataFrame. |
| by.adm | Character scalar. Column name in poly.adm that contains the admin names for the target level (e.g., "NAME_2"). |
| by.adm.upper | Character scalar. Column name in poly.adm.upper that contains the admin names for the upper level (e.g., "NAME_1"). |
| out_lower | Character scalar. Name of the output column to hold the lower-level names in the returned object. Defaults to "NAME_2". |
| out_upper | Character scalar. Name of the output column to hold the upper-level names in the returned object. Defaults to "NAME_1". |
| sort | Logical. If TRUE (default), alphabetically sorts the output by out_upper then out_lower. |

## Details

Inputs may be either sf or sp polygon data. If sp inputs are provided, they are converted to sf internally. Containment is determined via sf::st_within(). For polygons not matched by containment, the function uses sf::st_nearest_feature() on centroids (sf::st_centroid()) to assign an upper-level name.

## Value

An sf object at the target (lower) admin level containing:

- out_lower: lower-level admin name (copied from by.adm)
- out_upper: upper-level admin name (derived via spatial matching)
- geometry: polygon geometry
- admin2.name.full: convenience concatenation paste0(out_upper, "_", out_lower)

## Examples

```
## Not run:
library(sf)
adm1 <- st_read("geoBoundaries/geoBoundaries-NGA-ADM1-all/geoBoundaries-NGA-ADM1.shp")
adm2 <- st_read("geoBoundaries/geoBoundaries-NGA-ADM2-all/geoBoundaries-NGA-ADM2.shp")

# If both layers use "shapeName" but you want outputs named NAME_1/NAME_2:
res <- addUpper(
  poly.adm.upper = adm1,
  poly.adm       = adm2,
  by.adm         = "shapeName",   # lower-level names
  by.adm.upper   = "shapeName",   # upper-level names
  out_lower      = "NAME_2",
  out_upper      = "NAME_1",
```

```
  sort           = TRUE
)

# If the columns are already NAME_1 / NAME_2:
res2 <- addUpper(
  poly.adm.upper = adm1,
  poly.adm       = adm2,
  by.adm         = "NAME_2",
  by.adm.upper   = "NAME_1"
)

## End(Not run)
```

---

`adminInfo` *Get admin information*

---

## Description

This function get admin information including name, character, population and unban/rural proportion.

## Usage

```
adminInfo(
  poly.adm,
  by.adm,
  admin,
  by.adm.upper = NULL,
  agg.pop = NULL,
  proportion = NULL
)
```

## Arguments

| | |
|---|---|
| `poly.adm` | spatial polygons dataframe for Admin levels such as Admin 1 or Admin 2. This object can be either an sp::SpatialPolygonsDataFrame object or an sf object. |
| `by.adm` | the column name of column for Admin names for desired output Admin level, can be such as "NAME_1" or "NAME_2". |
| `admin` | desired admin level for the output, can be 1 or 2. |
| `by.adm.upper` | the column name of column for Admin names for upper level of your desired output Admin level when admin=2, can be "NAME_1" when by.adm="NAME_2". |
| `agg.pop` | data frame of aggregated poplulation from aggPopulation function. It should have two columns: "admin2.name.full" and "population". |

proportion — data frame of urban/rural proportions. For admin1, is should have two columns: "admin1.name" and "urban". For admin2, in order to avoid issues merging datasets with duplicated admin2 names, either of the following two formats can be used: (a) three columns: "admin1.name", "admin2.name", and "urban"; and (b) two columns: "admin2.name.full" and "urban", where "admin2.name.full" takes both the admin1 and admin2 name and connect them with an "_", i.e., "Lusaka_Chilanga".

## Value

This function returns the 1. dataframe that contains admin 1 and admin 2 information and coordinates for each cluster and 2. Adjacency matrix.

## Author(s)

Qianyu Dong

## Examples

```
# For sp::SpatialPolygonsDataFrame object
data(ZambiaAdm1)
class(ZambiaAdm1)
info <- adminInfo(poly.adm=ZambiaAdm1, admin = 1, by.adm="NAME_1")
data(ZambiaAdm2)
class(ZambiaAdm2)
info2 <- adminInfo(poly.adm=ZambiaAdm2, admin = 2,by.adm="NAME_2",by.adm.upper="NAME_1")

# For sf object
geo.sf <- sf::st_as_sf(ZambiaAdm1)
info <- adminInfo(poly.adm=geo.sf, admin = 1,by.adm="NAME_1")

# To include the population information
data(ZambiaPopWomen)
info <- adminInfo(poly.adm = ZambiaAdm1,
                  admin = 1,by.adm="NAME_1",
                  agg.pop = ZambiaPopWomen$admin1_pop,
                  proportion = ZambiaPopWomen$admin1_urban )
```

---

# aggPopulation *Get population information*

---

## Description

This function aggregate population to particular admin levels

## Usage

```
aggPopulation(tiff, fact = 10, poly.adm, by.adm, by.adm.upper = NULL)
```

## Arguments

| | |
|---|---|
| tiff | spatial raster of population estimates. |
| fact | factor to aggregate pixels. Default to be 10, i.e., the population estimates will be saved on 1km by 1km grids if the input is 100m by 100m tiff. Larger values of aggregation factor improves the computation speed, but can introduce more errors when the regions defined by the polygon are small in size. |
| poly.adm | spatial polygons dataframe. |
| by.adm | the column name of column for Admin names for desired output Admin level, can be such as "NAME_1" or "NAME_2". Duplicated admin names are handled internally when by.adm.upper is specified |
| by.adm.upper | the column name of column for Admin names for upper level of your desired output Admin level when admin=2, can be "NAME_1" when by.adm="NAME_2". |

## Value

This function returns the dataset that contain district name and population for given tiff files and polygons of admin level

## Author(s)

Qianyu Dong

## Examples

```
## Not run:
library(raster)

# Download and find total population in age group 0 to 12 months
pre <- "https://data.worldpop.org/GIS/AgeSex_structures/"
f <- paste0(pre, "Global_2000_2020/2018/ZMB/zmb_f_0_2018.tif")
m <- paste0(pre, "Global_2000_2020/2018/ZMB/zmb_m_0_2018.tif")
pop_f_0 <- raster(f)
pop_m_0 <- raster(m)

pop_raster <- pop_f_0 + pop_m_0

# admin1 population
agg.pop1 <- aggPopulation(
  tiff = pop_raster,
  poly.adm = ZambiaAdm1,
  by.adm = "NAME_1")


# admin2 population
agg.pop2 <- aggPopulation(
  tiff = ZambiaPopWomen_raster,
  poly.adm = ZambiaAdm2,
  by.adm = "NAME_2",
  by.adm.upper="NAME_1")
```

```
## End(Not run)
```

---

`aggSurveyWeight` *Get survey weight by admin levels*

---

## Description

This function aggregate survey weight to particular admin levels

## Usage

```
aggSurveyWeight(
  data,
  cluster.info,
  admin,
  poly.adm = NULL,
  by.adm = NULL,
  by.adm.upper = NULL
)
```

## Arguments

| | |
|---|---|
| `data` | dataframe that contains the indicator of interests, output of getDHSindicator function |
| `cluster.info` | list that contains admin 1 and admin 2 information and coordinates for each cluster, output of clusterinfo function |
| `admin` | desired admin level for aggregation |
| `poly.adm` | spatial polygons dataframe |
| `by.adm` | the column name of column for Admin names for desired output Admin level, can be such as "NAME_1" or "NAME_2". |
| `by.adm.upper` | the column name of column for Admin names for upper level of your desired output Admin level when admin=2, can be "NAME_1" when by.adm="NAME_2". |

## Value

This function returns the dataset that contain admin name and survey weight.

## Author(s)

Qianyu Dong

## Examples

```
## Not run:

# admin1 population

year <- 2018
country <- "Zambia"
indicator="nmr"

geo <- getDHSgeo(country = country, year = year)
dhsData <- getDHSdata(country = country, indicator=indicator, year = year)
data<- getDHSindicator(dhsData, indicator = indicator)

poly.adm1=ZambiaAdm1
poly.adm2=ZambiaAdm2

cluster.info<-clusterInfo(geo=geo, poly.adm1=poly.adm1, poly.adm2=poly.adm2,
by.adm1 = "NAME_1",by.adm2 = "NAME_2")

agg.survey1<-aggSurveyWeight(data=data,cluster.info=cluster.info,admin=1)
agg.survey2<-aggSurveyWeight(data=data,cluster.info=cluster.info,admin=2,
                             poly.adm = poly.adm2,  by.adm="NAME_2",
                             by.adm.upper ="NAME_1")

## End(Not run)
```

---

# AH_BTHP_M_ALW *Always lived in current place of residence [Men]*

---

## Description

Percentage of men who have always lived in current place of residence

## Usage

```
AH_BTHP_M_ALW(MRdata)
```

## Arguments

| | |
|---|---|
| MRdata | A DHS Men's Recode (MR) data.frame. |

## Value

A data.frame with a 'value' column (1/0/NA), ready for surveyPrev::getDHSindicator().

## Source

DHS-indicator-factory sideproject/results/passing_current/Chap_AH/AH_BTHP_M_ALW.R; validated on TZ_2022 (published 63.6, observed 63.6249, abs_error 0.0249).

## AH_BTHP_M_EMG *Born outside of the country [Men]*

### Description

Percentage of men who were born outside of the country

### Usage

```
AH_BTHP_M_EMG(MRdata)
```

### Arguments

| | |
|---|---|
| MRdata | A DHS Men's Recode (MR) data.frame. |

### Value

A data.frame with a 'value' column (1/0/NA), ready for surveyPrev::getDHSindicator().

### Source

DHS-indicator-factory sideproject/results/passing_current/Chap_AH/AH_BTHP_M_EMG.R; validated on TZ_2022 (published 0.2, observed 0.0016, abs_error 0.1984).

## AH_BTHP_M_IMG *Born in the country but outside of current place of residence [Men]*

### Description

Percentage of men who were born in the country but outside of current place of residence

### Usage

```
AH_BTHP_M_IMG(MRdata)
```

### Arguments

| | |
|---|---|
| MRdata | A DHS Men's Recode (MR) data.frame. |

### Value

A data.frame with a 'value' column (1/0/NA), ready for surveyPrev::getDHSindicator().

### Source

DHS-indicator-factory sideproject/results/passing_current/Chap_AH/AH_BTHP_M_IMG.R; validated on TZ_2022 (published 36.2, observed 36.2172, abs_error 0.0172).

## AH_BTHP_W_ALW *Always lived in current place of residence [Women]*

### Description

Percentage of women who have always lived in current place of residence

### Usage

```
AH_BTHP_W_ALW(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column (1/0/NA), ready for surveyPrev::getDHSindicator().

### Source

DHS-indicator-factory sideproject/results/passing_current/Chap_AH/AH_BTHP_W_ALW.R; validated on TZ_2022 (published 65.2, observed 65.1984, abs_error 0.0016).

## AH_BTHP_W_EMG *Born outside of the country [Women]*

### Description

Percentage of women who were born outside of the country

### Usage

```
AH_BTHP_W_EMG(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column (1/0/NA), ready for surveyPrev::getDHSindicator().

### Source

DHS-indicator-factory sideproject/results/passing_current/Chap_AH/AH_BTHP_W_EMG.R; validated on TZ_2022 (published 0.3, observed 0.0029, abs_error 0.2971).

## AH_BTHP_W_IMG *Born in the country but outside of current place of residence [Women]*

### Description

Percentage of women who were born in the country but outside of current place of residence

### Usage

```
AH_BTHP_W_IMG(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column (1/0/NA), ready for surveyPrev::getDHSindicator().

### Source

DHS-indicator-factory sideproject/results/passing_current/Chap_AH/AH_BTHP_W_IMG.R; validated on TZ_2022 (published 34.5, observed 34.5067, abs_error 0.0067).

## AH_HINS_M_ANY *Any health insurance*

### Description

Percentage of men with any health insurance

### Usage

```
AH_HINS_M_ANY(MRdata)
```

### Arguments

| | |
|---|---|
| MRdata | A DHS Men’s Recode (MR) data.frame. |

### Value

A data.frame with a ‘value‘ column (1/0/NA), ready for surveyPrev::getDHSindicator().

### Source

DHS-indicator-factory sideproject/results/passing_current/Chap_AH/AH_HINS_M_ANY.R; validated on ZM_2018 (published 3.1, observed 3.0966, abs_error 0.0034).

## AH_HINS_W_ANY *Any health insurance*

### Description

Percentage of women with any health insurance

### Usage

```
AH_HINS_W_ANY(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

## AH_MIGR_M_DIS *Migration reason: forced displacement [Men]*

### Description

Percentage who moved because of forced displacement

### Usage

```
AH_MIGR_M_DIS(MRdata)
```

### Arguments

| | |
|---|---|
| MRdata | A DHS Men’s Recode (MR) data.frame. |

### Value

A data.frame with a ‘value‘ column (1/0/NA), ready for surveyPrev::getDHSindicator().

### Source

DHS-indicator-factory sideproject/results/passing_current/Chap_AH/AH_MIGR_M_DIS.R; validated on TZ_2022 (published 3.9, observed 3.868, abs_error 0.032).

## AH_MIGR_M_EDU *Migration reason: education/ training [Men]*

### Description

Percentage who moved because of education/ training

### Usage

```
AH_MIGR_M_EDU(MRdata)
```

### Arguments

| | |
|---|---|
| MRdata | A DHS Men's Recode (MR) data.frame. |

### Value

A data.frame with a 'value' column (1/0/NA), ready for surveyPrev::getDHSindicator().

### Source

DHS-indicator-factory sideproject/results/passing_current/Chap_AH/AH_MIGR_M_EDU.R; validated on TZ_2022 (published 5, observed 5.0024, abs_error 0.0024).

## AH_MIGR_M_EMP *Migration reason: employment [Men]*

### Description

Percentage who moved because of employment

### Usage

```
AH_MIGR_M_EMP(MRdata)
```

### Arguments

| | |
|---|---|
| MRdata | A DHS Men's Recode (MR) data.frame. |

### Value

A data.frame with a 'value' column (1/0/NA), ready for surveyPrev::getDHSindicator().

### Source

DHS-indicator-factory sideproject/results/passing_current/Chap_AH/AH_MIGR_M_EMP.R; validated on TZ_2022 (published 27.9, observed 27.9172, abs_error 0.0172).

AH_MIGR_M_FAM *Migration reason: family reunification/ other family-related reason [Men]*

## Description

Percentage who moved because of family reunification/ other family-related reason

## Usage

```
AH_MIGR_M_FAM(MRdata)
```

## Arguments

| | |
|---|---|
| MRdata | A DHS Men's Recode (MR) data.frame. |

## Value

A data.frame with a 'value' column (1/0/NA), ready for surveyPrev::getDHSindicator().

## Source

DHS-indicator-factory sideproject/results/passing_current/Chap_AH/AH_MIGR_M_FAM.R; validated on TZ_2022 (published 37.7, observed 37.7029, abs_error 0.0029).

AH_MIGR_M_MAR *Migration reason: marriage formation [Men]*

## Description

Percentage who moved because of marriage formation

## Usage

```
AH_MIGR_M_MAR(MRdata)
```

## Arguments

| | |
|---|---|
| MRdata | A DHS Men's Recode (MR) data.frame. |

## Value

A data.frame with a 'value' column (1/0/NA), ready for surveyPrev::getDHSindicator().

## Source

DHS-indicator-factory sideproject/results/passing_current/Chap_AH/AH_MIGR_M_MAR.R; validated on TZ_2022 (published 1.1, observed 1.0652, abs_error 0.0348).

## AH_MIGR_W_EDU *Migration reason: education/ training [Women]*

### Description

Percentage who moved because of education/ training

### Usage

```
AH_MIGR_W_EDU(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column (1/0/NA), ready for surveyPrev::getDHSindicator().

### Source

DHS-indicator-factory sideproject/results/passing_current/Chap_AH/AH_MIGR_W_EDU.R; validated on TZ_2022 (published 3.4, observed 3.3598, abs_error 0.0402).

## AH_MIGR_W_EMP *Migration reason: employment [Women]*

### Description

Percentage who moved because of employment

### Usage

```
AH_MIGR_W_EMP(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column (1/0/NA), ready for surveyPrev::getDHSindicator().

### Source

DHS-indicator-factory sideproject/results/passing_current/Chap_AH/AH_MIGR_W_EMP.R; validated on TZ_2022 (published 13.9, observed 13.9326, abs_error 0.0326).

AH_MIGR_W_FAM *Migration reason: family reunification/ other family-related reason [Women]*

## Description

Percentage who moved because of family reunification/ other family-related reason

## Usage

```
AH_MIGR_W_FAM(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

## Value

A data.frame with a 'value' column (1/0/NA), ready for surveyPrev::getDHSindicator().

## Source

DHS-indicator-factory sideproject/results/passing_current/Chap_AH/AH_MIGR_W_FAM.R; validated on TZ_2022 (published 38.4, observed 38.3604, abs_error 0.0396).

AH_MIGR_W_MAR *Migration reason: marriage formation [Women]*

## Description

Percentage who moved because of marriage formation

## Usage

```
AH_MIGR_W_MAR(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

## Value

A data.frame with a 'value' column (1/0/NA), ready for surveyPrev::getDHSindicator().

## Source

DHS-indicator-factory sideproject/results/passing_current/Chap_AH/AH_MIGR_W_MAR.R; validated on TZ_2022 (published 25.1, observed 25.1362, abs_error 0.0362).

## AH_MIGT_M_RTR *Type of migration: Rural to rural [Men]*

### Description

Percentage of men who moved from rural to rural

### Usage

```
AH_MIGT_M_RTR(MRdata)
```

### Arguments

| | |
|---|---|
| MRdata | A DHS Men's Recode (MR) data.frame. |

### Value

A data.frame with a 'value' column (1/0/NA), ready for surveyPrev::getDHSindicator().

### Source

DHS-indicator-factory sideproject/results/passing_current/Chap_AH/AH_MIGT_M_RTR.R; validated on TZ_2022 (published 30.2, observed 30.1974, abs_error 0.0026).

## AH_MIGT_M_RTU *Type of migration: Rural to urban [Men]*

### Description

Percentage of men who moved from rural to urban

### Usage

```
AH_MIGT_M_RTU(MRdata)
```

### Arguments

| | |
|---|---|
| MRdata | A DHS Men's Recode (MR) data.frame. |

### Value

A data.frame with a 'value' column (1/0/NA), ready for surveyPrev::getDHSindicator().

### Source

DHS-indicator-factory sideproject/results/passing_current/Chap_AH/AH_MIGT_M_RTU.R; validated on TZ_2022 (published 17.2, observed 17.1551, abs_error 0.0449).

## AH_MIGT_M_UTR *Type of migration: Urban to rural [Men]*

### Description

Percentage of men who moved from urban to rural

### Usage

```
AH_MIGT_M_UTR(MRdata)
```

### Arguments

| | |
|---|---|
| MRdata | A DHS Men's Recode (MR) data.frame. |

### Value

A data.frame with a 'value' column (1/0/NA), ready for surveyPrev::getDHSindicator().

### Source

DHS-indicator-factory sideproject/results/passing_current/Chap_AH/AH_MIGT_M_UTR.R; validated on TZ_2022 (published 13.6, observed 13.6076, abs_error 0.0076).

## AH_MIGT_M_UTU *Type of migration: Urban to urban [Men]*

### Description

Percentage of men who moved from urban to urban

### Usage

```
AH_MIGT_M_UTU(MRdata)
```

### Arguments

| | |
|---|---|
| MRdata | A DHS Men's Recode (MR) data.frame. |

### Value

A data.frame with a 'value' column (1/0/NA), ready for surveyPrev::getDHSindicator().

### Source

DHS-indicator-factory sideproject/results/passing_current/Chap_AH/AH_MIGT_M_UTU.R; validated on TZ_2022 (published 39, observed 39.04, abs_error 0.04).

## AH_MIGT_W_RTR *Type of migration: Rural to rural [Women]*

### Description

Percentage of women who moved from rural to rural

### Usage

```
AH_MIGT_W_RTR(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column (1/0/NA), ready for surveyPrev::getDHSindicator().

### Source

DHS-indicator-factory sideproject/results/passing_current/Chap_AH/AH_MIGT_W_RTR.R; validated on TZ_2022 (published 32.1, observed 32.091, abs_error 0.009).

## AH_MIGT_W_RTU *Type of migration: Rural to urban [Women]*

### Description

Percentage of women who moved from rural to urban

### Usage

```
AH_MIGT_W_RTU(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column (1/0/NA), ready for surveyPrev::getDHSindicator().

### Source

DHS-indicator-factory sideproject/results/passing_current/Chap_AH/AH_MIGT_W_RTU.R; validated on TZ_2022 (published 23.3, observed 23.332, abs_error 0.032).

AH_MIGT_W_UTR *Type of migration: Urban to rural [Women]*

## Description

Percentage of women who moved from urban to rural

## Usage

```
AH_MIGT_W_UTR(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

## Value

A data.frame with a ‘value‘ column (1/0/NA), ready for surveyPrev::getDHSindicator().

## Source

DHS-indicator-factory sideproject/results/passing_current/Chap_AH/AH_MIGT_W_UTR.R; validated on TZ_2022 (published 16.3, observed 16.2678, abs_error 0.0322).

AH_MIGT_W_UTU *Type of migration: Urban to urban [Women]*

## Description

Percentage of women who moved from urban to urban

## Usage

```
AH_MIGT_W_UTU(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

## Value

A data.frame with a ‘value‘ column (1/0/NA), ready for surveyPrev::getDHSindicator().

## Source

DHS-indicator-factory sideproject/results/passing_current/Chap_AH/AH_MIGT_W_UTU.R; validated on TZ_2022 (published 28.3, observed 28.3092, abs_error 0.0092).

AH_TOBC_W_OTH *AH_TOBC_W_OTH*

## Description

AH_TOBC_W_OTH

## Usage

```
AH_TOBC_W_OTH(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "AH_TOBC_W_OTH", year = 2018)

## End(Not run)
```

AH_TOBU_M_ASM *AH_TOBU_M_ASM*

## Description

AH_TOBU_M_ASM

## Usage

```
AH_TOBU_M_ASM(MRdata)
```

## Arguments

| | |
|---|---|
| MRdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "AH_TOBU_M_ASM", year = 2018)

## End(Not run)
```

---

`AH_TOBU_M_SNN` *AH_TOBU_M_SNN*

---

## Description

AH_TOBU_M_SNN

## Usage

```
AH_TOBU_M_SNN(MRdata)
```

## Arguments

| | |
|---|---|
| `MRdata` | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "AH_TOBU_M_SNN", year = 2018)

## End(Not run)
```

AH_TOBU_W_SNM *AH_TOBU_W_SNM*

## Description

AH_TOBU_W_SNM

## Usage

```
AH_TOBU_W_SNM(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "AH_TOBU_W_SNM", year = 2018)

## End(Not run)
```

AH_TOBU_W_SNN *AH_TOBU_W_SNN*

## Description

AH_TOBU_W_SNN

## Usage

```
AH_TOBU_W_SNN(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "AH_TOBU_W_SNN", year = 2018)

## End(Not run)
```

---

`AN_ANEM_W_ANY` *AN_ANEM_W_ANY IRdata Percentage of women aged 15-49 classified as having any anemia*

---

## Description

AN_ANEM_W_ANY IRdata Percentage of women aged 15-49 classified as having any anemia

## Usage

```
AN_ANEM_W_ANY(Rdata)
```

## Arguments

| | |
|---|---|
| `Rdata` | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia",
                                  indicator = "AN_ANEM_W_ANY",
                                  year = 2018)
data <- getDHSindicator(dhsData, indicator = NULL,
                         FUN = surveyPrev::AN_ANEM_W_ANY)

## End(Not run)
```

---

`AN_NUTS_W_OVW` *AN_NUTS_W_OVW Women who are overweight according to BMI (25.0-29.9) nt_wm_ovwt in github IR*

---

## Description

AN_NUTS_W_OVW Women who are overweight according to BMI (25.0-29.9) nt_wm_ovwt in github IR

## Usage

```
AN_NUTS_W_OVW(Rdata)
```

## Arguments

| | |
|---|---|
| `Rdata` | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "AN_NUTS_W_OVW", year = 2018)

## End(Not run)
```

AN_NUTS_W_THN *AN_NUTS_W_THN IRdata Women who are thin according to BMI (<18.5)*

## Description

AN_NUTS_W_THN IRdata Women who are thin according to BMI (<18.5)

## Usage

```
AN_NUTS_W_THN(Rdata)
```

## Arguments

| | |
|---|---|
| Rdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia",
                                  indicator = "AN_NUTS_W_THN",
                                  year = 2018)
data <- getDHSindicator(dhsData, indicator = NULL,
                          FUN = surveyPrev::AN_NUTS_W_THN)

## End(Not run)
```

CH_ARIS_C_ADV *CH_ARIS_C_ADV Children with ARI for whom advice or treatment was sought; ch_ari_care in github KR*

## Description

CH_ARIS_C_ADV Children with ARI for whom advice or treatment was sought; ch_ari_care in github KR

### Usage

```
CH_ARIS_C_ADV(Rdata)
```

### Arguments

| | |
|---|---|
| Rdata | data.frame from surveyPrev::getDHSdata |

### Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

### Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

### Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "CH_ARIS_C_ADV", year = 2018)

## End(Not run)
```

---

## CH_DIAT_C_ABI *CH_DIAT_C_ABI*

---

### Description

CH_DIAT_C_ABI

### Usage

```
CH_DIAT_C_ABI(KRdata)
```

### Arguments

| | |
|---|---|
| KRdata | data.frame from surveyPrev::getDHSdata |

### Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

### Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "CH_DIAT_C_ABI", year = 2018)

## End(Not run)
```

---

CH_DIAT_C_ADV *CH_DIAT_C_ADV Treatment of diarrhea: Advice or treatment was sought; ch_diar_care in github KR*

---

## Description

CH_DIAT_C_ADV Treatment of diarrhea: Advice or treatment was sought; ch_diar_care in github KR

## Usage

```
CH_DIAT_C_ADV(Rdata)
```

## Arguments

| | |
|---|---|
| Rdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "CH_DIAT_C_ADV", year = 2018)

## End(Not run)
```

CH_DIAT_C_AMO *CH_DIAT_C_AMO*

## Description

CH_DIAT_C_AMO

## Usage

```
CH_DIAT_C_AMO(KRdata)
```

## Arguments

| | |
|---|---|
| KRdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "CH_DIAT_C_AMO", year = 2018)

## End(Not run)
```

CH_DIAT_C_NOT *CH_DIAT_C_NOT*

## Description

CH_DIAT_C_NOT

## Usage

```
CH_DIAT_C_NOT(KRdata)
```

## Arguments

| | |
|---|---|
| KRdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "CH_DIAT_C_NOT", year = 2018)

## End(Not run)
```

---

`CH_DIAT_C_ORS` *CH_DIAT_C_ORS*

---

## Description

CH_DIAT_C_ORS

## Usage

```
CH_DIAT_C_ORS(KRdata)
```

## Arguments

| | |
|---|---|
| `KRdata` | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "CH_DIAT_C_ORS", year = 2018)

## End(Not run)
```

## CH_DIAT_C_ORT *CH_DIAT_C_ORT*

### Description

CH_DIAT_C_ORT

### Usage

```
CH_DIAT_C_ORT(KRdata)
```

### Arguments

| | |
|---|---|
| KRdata | data.frame from surveyPrev::getDHSdata |

### Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

### Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

### Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "CH_DIAT_C_ORT", year = 2018)

## End(Not run)
```

## CH_DIAT_C_OSI *CH_DIAT_C_OSI*

### Description

CH_DIAT_C_OSI

### Usage

```
CH_DIAT_C_OSI(KRdata)
```

### Arguments

| | |
|---|---|
| KRdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "CH_DIAT_C_OSI", year = 2018)

## End(Not run)
```

---

`CH_DIAT_C_RHF` *CH_DIAT_C_RHF*

---

## Description

CH_DIAT_C_RHF

## Usage

```
CH_DIAT_C_RHF(KRdata)
```

## Arguments

| | |
|---|---|
| `KRdata` | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "CH_DIAT_C_RHF", year = 2018)

## End(Not run)
```

## CH_DIFP_C_FAL *CH_DIFP_C_FAL*

### Description

CH_DIFP_C_FAL

### Usage

```
CH_DIFP_C_FAL(KRdata)
```

### Arguments

| | |
|---|---|
| KRdata | data.frame from surveyPrev::getDHSdata |

### Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

### Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

### Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "CH_DIFP_C_FAL", year = 2018)

## End(Not run)
```

## CH_DISA_C_NUM *Number of children with diarrhea for whom advice or treatment was sought*

### Description

Number of children under age 5 with diarrhea in the 2 weeks preceding the survey for whom advice or treatment was sought

### Usage

```
CH_DISA_C_NUM(KRdata)
```

### Arguments

| | |
|---|---|
| KRdata | A DHS Children's Recode (KR) data.frame. |

### Value

A data.frame with a 'value' column (1/0/NA), ready for surveyPrev::getDHSindicator().

### Source

DHS-indicator-factory sideproject/results/passing_current/Chap_CH/CH_DISA_C_NUM.R; validated on ZM_2018 (published 989, observed 989.4279, abs_error 0.4279).

---

## CH_FEVR_C_FEV *CH_FEVR_C_FEV*

---

### Description

CH_FEVR_C_FEV

### Usage

```
CH_FEVR_C_FEV(KRdata)
```

### Arguments

| | |
|---|---|
| KRdata | data.frame from surveyPrev::getDHSdata |

### Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

### Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

### Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "CH_FEVR_C_FEV", year = 2018)

## End(Not run)
```

CH_FEVT_C_ADV *CH_FEVT_C_ADV Children with fever for whom advice or treatment was sought ch_fev_care in github ml_fev_care should produce the same data KR*

## Description

CH_FEVT_C_ADV Children with fever for whom advice or treatment was sought ch_fev_care in github ml_fev_care should produce the same data KR

## Usage

```
CH_FEVT_C_ADV(Rdata)
```

## Arguments

| | |
|---|---|
| Rdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "CH_FEVT_C_ADV", year = 2018)

## End(Not run)
```

CH_SZWT_C_L25 *CH_SZWT_C_L25*

## Description

CH_SZWT_C_L25

## Usage

```
CH_SZWT_C_L25(KRdata)
```

### Arguments

| | |
|---|---|
| KRdata | data.frame from surveyPrev::getDHSdata |

### Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

### Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

### Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "CH_SZWT_C_L25", year = 2018)

## End(Not run)
```

---

## CH_VAC1_C_VCD *Percentage showing a vaccination card*

---

### Description

Percentage of children one to four years of age for whom a vaccination card was shown

### Usage

```
CH_VAC1_C_VCD(KRdata)
```

### Arguments

| | |
|---|---|
| KRdata | A DHS Children's Recode (KR) data.frame. |

### Value

A data.frame with a 'value' column.

## CH_VACC_C_APP *Fully vaccinated (according to national schedule)*

### Description

Percentage of children 12-23 (or 24-35) months who were fully vaccinated according to the national schedule

### Usage

```
CH_VACC_C_APP(KRdata)
```

### Arguments

| | |
|---|---|
| KRdata | A DHS Children's Recode (KR) data.frame. |

### Value

A data.frame with a 'value' column.

## CH_VACC_C_BAS *CH_VACC_C_BAS KRdata Children with all 8 basic vaccinations (age 12-23)*

### Description

CH_VACC_C_BAS KRdata Children with all 8 basic vaccinations (age 12-23)

### Usage

```
CH_VACC_C_BAS(Rdata)
```

### Arguments

| | |
|---|---|
| Rdata | data.frame from surveyPrev::getDHSdata |

### Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

### Author(s)

Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia",
                                  indicator = "CH_VACC_C_BAS",
                                  year = 2018)
data <- getDHSindicator(dhsData, indicator = NULL,
                         FUN = surveyPrev::CH_VACC_C_BAS)

## End(Not run)
```

---

`CH_VACC_C_BCG` *CH_VACC_C_BCG Percentage of children 12-23 months who had received BCG vaccination ms_afm_15 in github KR*

---

## Description

CH_VACC_C_BCG Percentage of children 12-23 months who had received BCG vaccination ms_afm_15 in github KR

## Usage

```
CH_VACC_C_BCG(Rdata)
```

## Arguments

| | |
|---|---|
| `Rdata` | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "CH_VACC_C_BCG", year = 2018)

## End(Not run)
```

CH_VACC_C_DP1 *CH_VACC_C_DP1 KRdata Pentavalent 1st dose vaccination Percentage of children (age 12-23) with 1st dose of Pentavalent vaccine*

## Description

CH_VACC_C_DP1 KRdata Pentavalent 1st dose vaccination Percentage of children (age 12-23) with 1st dose of Pentavalent vaccine

## Usage

```
CH_VACC_C_DP1(Rdata)
```

## Arguments

| | |
|---|---|
| Rdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia",
                                  indicator = "CH_VACC_C_DP1",
                                  year = 2018)
data <- getDHSindicator(dhsData, indicator = NULL,
                         FUN = surveyPrev::CH_VACC_C_DP1)

## End(Not run)
```

CH_VACC_C_DP3 *CH_VACC_C_DP3 KRdata Pentavalent 3rd dose vaccination Percentage of children (age 12-23) with 3rd dose of Pentavalent vaccine*

## Description

CH_VACC_C_DP3 KRdata Pentavalent 3rd dose vaccination Percentage of children (age 12-23) with 3rd dose of Pentavalent vaccine

### Usage

```
CH_VACC_C_DP3(Rdata)
```

### Arguments

| | |
|---|---|
| Rdata | data.frame from surveyPrev::getDHSdata |

### Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

### Author(s)

Qianyu Dong

### Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia",
                                  indicator = "CH_VACC_C_DP3",
                                  year = 2018)
data <- getDHSindicator(dhsData, indicator = NULL,
                          FUN = surveyPrev::CH_VACC_C_DP3)

## End(Not run)
```

---

## CH_VACC_C_MSL *CH_VACC_C_MSL KRdata Measles vaccination received Percentage of children (age 12-23)*

---

### Description

CH_VACC_C_MSL KRdata Measles vaccination received Percentage of children (age 12-23)

### Usage

```
CH_VACC_C_MSL(Rdata)
```

### Arguments

| | |
|---|---|
| Rdata | data.frame from surveyPrev::getDHSdata |

### Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

### Author(s)

Qianyu Dong

### Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia",
                                  indicator = "CH_VACC_C_MSL",
                                  year = 2018)
data <- getDHSindicator(dhsData, indicator = NULL,
                         FUN = surveyPrev::CH_VACC_C_MSL)

## End(Not run)
```

---

## CH_VACC_C_NON *CH_VACC_C_NON KRdata Children with no vaccinations (age 12-23)*

---

### Description

CH_VACC_C_NON KRdata Children with no vaccinations (age 12-23)

### Usage

```
CH_VACC_C_NON(Rdata)
```

### Arguments

| | |
|---|---|
| Rdata | data.frame from surveyPrev::getDHSdata |

### Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

### Author(s)

Qianyu Dong

### Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia",
                                  indicator = "CH_VACC_C_NON",
                                  year = 2018)
data <- getDHSindicator(dhsData, indicator = NULL,
                         FUN = surveyPrev::CH_VACC_C_NON)

## End(Not run)
```

CH_VACC_C_PN3 *CH_VACC_C_PN3 KRdata Pneumococcal 3rd dose vaccination Percentage of children (age 12-23)*

## Description

CH_VACC_C_PN3 KRdata Pneumococcal 3rd dose vaccination Percentage of children (age 12-23)

## Usage

```
CH_VACC_C_PN3(Rdata)
```

## Arguments

| | |
|---|---|
| Rdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia",
                                  indicator = "CH_VACC_C_PN3",
                                  year = 2018)
data <- getDHSindicator(dhsData, indicator = NULL,
                          FUN = surveyPrev::CH_VACC_C_PN3)

## End(Not run)
```

CH_VACC_C_RT1 *CH_VACC_C_RT1 KRdata Rotavirus 1 vaccination received*

## Description

CH_VACC_C_RT1 KRdata Rotavirus 1 vaccination received

## Usage

```
CH_VACC_C_RT1(Rdata)
```

### Arguments

| | |
|---|---|
| Rdata | data.frame from surveyPrev::getDHSdata |

### Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

### Author(s)

Qianyu Dong

### Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia",
                                  indicator = "CH_VACC_C_RT1",
                                  year = 2018)
data <- getDHSindicator(dhsData, indicator = NULL,
                          FUN = surveyPrev::CH_VACC_C_RT1)

## End(Not run)
```

---

## CH_VACS_C_APP *Fully vaccinated (according to national schedule)*

---

### Description

Percentage of children 12-23 (or 24-35) months who were fully vaccinated according to the national schedule

### Usage

```
CH_VACS_C_APP(KRdata)
```

### Arguments

| | |
|---|---|
| KRdata | A DHS Children's Recode (KR) data.frame. |

### Value

A data.frame with a 'value' column.

## CH_VACS_C_BAS *Fully vaccinated (8 basic antigens)*

### Description

Percentage of children 12-23 (or 24-35) months who were fully vaccinated with 8 basic antigens (BCG, Polio 1-3, DPT 1-3, Measles)

### Usage

```
CH_VACS_C_BAS(KRdata)
```

### Arguments

| | |
|---|---|
| KRdata | A DHS Children's Recode (KR) data.frame. |

### Value

A data.frame with a 'value' column.

## CH_VACS_C_BCG *BCG vaccination received*

### Description

Percentage of children 12-23 (or 24-35) months who had received BCG vaccination

### Usage

```
CH_VACS_C_BCG(KRdata)
```

### Arguments

| | |
|---|---|
| KRdata | A DHS Children's Recode (KR) data.frame. |

### Value

A data.frame with a 'value' column.

## CH_VACS_C_DP1 *DPT 1 vaccination received*

### Description

Percentage of children 12-23 (or 24-35) months who had received DPT 1 vaccination

### Usage

```
CH_VACS_C_DP1(KRdata)
```

### Arguments

| | |
|---|---|
| KRdata | A DHS Children's Recode (KR) data.frame. |

### Value

A data.frame with a 'value' column.

## CH_VACS_C_DP2 *DPT 2 vaccination received*

### Description

Percentage of children 12-23 (or 24-35) months who had received DPT 2 vaccination

### Usage

```
CH_VACS_C_DP2(KRdata)
```

### Arguments

| | |
|---|---|
| KRdata | A DHS Children's Recode (KR) data.frame. |

### Value

A data.frame with a 'value' column.

## CH_VACS_C_DP3 *DPT 3 vaccination received*

### Description

Percentage of children 12-23 (or 24-35) months who had received DPT 3 vaccination

### Usage

```
CH_VACS_C_DP3(KRdata)
```

### Arguments

| | |
|---|---|
| KRdata | A DHS Children's Recode (KR) data.frame. |

### Value

A data.frame with a 'value' column.

## CH_VACS_C_HP1 *Hepatitis 1 vaccination received*

### Description

Percentage of children 12-23 (or 24-35) months who had received Hepatitis 1 vaccination

### Usage

```
CH_VACS_C_HP1(KRdata)
```

### Arguments

| | |
|---|---|
| KRdata | A DHS Children's Recode (KR) data.frame. |

### Value

A data.frame with a 'value' column.

## CH_VACS_C_HP2 *Hepatitis 2 vaccination received*

### Description

Percentage of children 12-23 (or 24-35) months who had received Hepatitis 2 vaccination

### Usage

```
CH_VACS_C_HP2(KRdata)
```

### Arguments

| | |
|---|---|
| KRdata | A DHS Children's Recode (KR) data.frame. |

### Value

A data.frame with a 'value' column.

## CH_VACS_C_HP3 *Hepatitis 3 vaccination received*

### Description

Percentage of children 12-23 (or 24-35) months who had received Hepatitis 3 vaccination

### Usage

```
CH_VACS_C_HP3(KRdata)
```

### Arguments

| | |
|---|---|
| KRdata | A DHS Children's Recode (KR) data.frame. |

### Value

A data.frame with a 'value' column.

## CH_VACS_C_IP1 *IPV 1 vaccination received*

### Description

Percentage of children 12-23 (or 24-35) months who had received an IPV 1 vaccination

### Usage

```
CH_VACS_C_IP1(KRdata)
```

### Arguments

| | |
|---|---|
| KRdata | A DHS Children's Recode (KR) data.frame. |

### Value

A data.frame with a 'value' column (1/0/NA), ready for surveyPrev::getDHSindicator().

### Source

DHS-indicator-factory sideproject/results/passing_current/Chap_CH/CH_VACS_C_IP1.R; validated on TZ_2022 (published 71.8, observed 72.3562, abs_error 0.5562).

## CH_VACS_C_MS2 *Measles 2 vaccination received*

### Description

Percentage of children 12-23 (or 24-35) months who had received Measles 2 vaccination

### Usage

```
CH_VACS_C_MS2(KRdata)
```

### Arguments

| | |
|---|---|
| KRdata | A DHS Children's Recode (KR) data.frame. |

### Value

A data.frame with a 'value' column.

## CH_VACS_C_MSL *Measles vaccination received*

### Description

Percentage of children 12-23 (or 24-35) months who had received Measles vaccination

### Usage

```
CH_VACS_C_MSL(KRdata)
```

### Arguments

| | |
|---|---|
| KRdata | A DHS Children's Recode (KR) data.frame. |

### Value

A data.frame with a 'value' column.

## CH_VACS_C_NON *Received no vaccinations*

### Description

Percentage of children 12-23 (or 24-35) months who had received no vaccinations

### Usage

```
CH_VACS_C_NON(KRdata)
```

### Arguments

| | |
|---|---|
| KRdata | A DHS Children's Recode (KR) data.frame. |

### Value

A data.frame with a 'value' column.

## CH_VACS_C_OP0 *Polio 0 vaccination received*

### Description

Percentage of children 12-23 (or 24-35) months who had received Polio 0 vaccination

### Usage

```
CH_VACS_C_OP0(KRdata)
```

### Arguments

| | |
|---|---|
| KRdata | A DHS Children's Recode (KR) data.frame. |

### Value

A data.frame with a 'value' column.

## CH_VACS_C_OP1 *Polio 1 vaccination received*

### Description

Percentage of children 12-23 (or 24-35) months who had received Polio 1 vaccination

### Usage

```
CH_VACS_C_OP1(KRdata)
```

### Arguments

| | |
|---|---|
| KRdata | A DHS Children's Recode (KR) data.frame. |

### Value

A data.frame with a 'value' column.

## CH_VACS_C_OP2 *Polio 2 vaccination received*

### Description

Percentage of children 12-23 (or 24-35) months who had received Polio 2 vaccination

### Usage

```
CH_VACS_C_OP2(KRdata)
```

### Arguments

| | |
|---|---|
| KRdata | A DHS Children's Recode (KR) data.frame. |

### Value

A data.frame with a 'value' column.

## CH_VACS_C_OP3 *Polio 3 vaccination received*

### Description

Percentage of children 12-23 (or 24-35) months who had received Polio 3 vaccination

### Usage

```
CH_VACS_C_OP3(KRdata)
```

### Arguments

| | |
|---|---|
| KRdata | A DHS Children's Recode (KR) data.frame. |

### Value

A data.frame with a 'value' column.

## CH_VACS_C_PN1 *Pneumococcal 1 vaccination received*

### Description

Percentage of children 12-23 (or 24-35) months who had received Pneumococcal 1 vaccination

### Usage

```
CH_VACS_C_PN1(KRdata)
```

### Arguments

| | |
|---|---|
| KRdata | A DHS Children's Recode (KR) data.frame. |

### Value

A data.frame with a 'value' column.

## CH_VACS_C_PN2 *Pneumococcal 2 vaccination received*

### Description

Percentage of children 12-23 (or 24-35) months who had received Pneumococcal 2 vaccination

### Usage

```
CH_VACS_C_PN2(KRdata)
```

### Arguments

| | |
|---|---|
| KRdata | A DHS Children's Recode (KR) data.frame. |

### Value

A data.frame with a 'value' column.

## CH_VACS_C_PN3 *CH_VACS_C_PN3 KRdata Pneumococcal 3 vaccination received*

### Description

CH_VACS_C_PN3 KRdata Pneumococcal 3 vaccination received

### Usage

```
CH_VACS_C_PN3(Rdata)
```

### Arguments

| | |
|---|---|
| Rdata | data.frame from surveyPrev::getDHSdata |

### Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

### Author(s)

Qianyu Dong

### Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia",
                                  indicator = "CH_VACS_C_PN3",
                                  year = 2018)
data <- getDHSindicator(dhsData, indicator = NULL,
                          FUN = surveyPrev::CH_VACS_C_PN3)

## End(Not run)
```

## CH_VACS_C_PT1 *Pentavalent 1 vaccination received*

### Description

Percentage of children 12-23 (or 24-35) months who had received Pentavalent 1 vaccination

### Usage

```
CH_VACS_C_PT1(KRdata)
```

### Arguments

| | |
|---|---|
| KRdata | A DHS Children's Recode (KR) data.frame. |

### Value

A data.frame with a 'value' column.

---

## CH_VACS_C_PT2 *Pentavalent 2 vaccination received*

---

### Description

Percentage of children 12-23 (or 24-35) months who had received Pentavalent 2 vaccination

### Usage

```
CH_VACS_C_PT2(KRdata)
```

### Arguments

| | |
|---|---|
| KRdata | A DHS Children's Recode (KR) data.frame. |

### Value

A data.frame with a 'value' column.

---

## CH_VACS_C_PT3 *Pentavalent 3 vaccination received*

---

### Description

Percentage of children 12-23 (or 24-35) months who had received Pentavalent 3 vaccination

### Usage

```
CH_VACS_C_PT3(KRdata)
```

### Arguments

| | |
|---|---|
| KRdata | A DHS Children's Recode (KR) data.frame. |

### Value

A data.frame with a 'value' column.

## CH_VACS_C_RT1 *Rotavirus 1 vaccination received*

### Description

Percentage of children 12-23 (or 24-35) months who had received Rotavirus 1 vaccination

### Usage

```
CH_VACS_C_RT1(KRdata)
```

### Arguments

| | |
|---|---|
| KRdata | A DHS Children's Recode (KR) data.frame. |

### Value

A data.frame with a 'value' column.

## CH_VACS_C_RT2 *Rotavirus 2 vaccination received*

### Description

Percentage of children 12-23 (or 24-35) months who had received Rotavirus 2 vaccination

### Usage

```
CH_VACS_C_RT2(KRdata)
```

### Arguments

| | |
|---|---|
| KRdata | A DHS Children's Recode (KR) data.frame. |

### Value

A data.frame with a 'value' column.

clusterInfo *Get cluster information*

## Description

This function add admin 1 and admin2 information to a particular DHS survey.

## Usage

```
clusterInfo(
  geo,
  poly.adm1,
  poly.adm2 = NULL,
  by.adm1 = "NAME_1",
  by.adm2 = "NAME_2",
  map = FALSE
)
```

## Arguments

| | |
|---|---|
| geo | spatial point dataframe |
| poly.adm1 | spatial polygons dataframe for admin 1 |
| poly.adm2 | spatial polygons dataframe for admin 2 or other lower admin level. |
| by.adm1 | the column name of column for Admin names for admin 1 |
| by.adm2 | the column name of column for Admin names for admin 2 or other lower admin level. |
| map | whether to return a map of clusters or not |

## Value

This function returns the dataset that contains admin 1 and admin 2 information and coordinates for each cluster.

## Author(s)

Qianyu Dong

## Examples

```
## Not run:
geo <- getDHSgeo(country = "Zambia", year = 2018)
data(ZambiaAdm1)
data(ZambiaAdm2)
cluster.info <- clusterInfo(geo = geo,
                            poly.adm1 = ZambiaAdm1,
                            poly.adm2 = ZambiaAdm2)

## End(Not run)
```

`clusterModel` *Calculate cluster model estimates using beta binomial model*

## Description

This function calculate smoothed direct estimates at given admin level.

## Usage

```
clusterModel(
  data,
  cluster.info,
  admin.info,
  X = NULL,
  X.unit = NULL,
  X.pixel = NULL,
  admin,
  CI = 0.95,
  model = c("bym2", "iid"),
  stratification = FALSE,
  aggregation = FALSE,
  nested = FALSE,
  interact = FALSE,
  overdisp.mean = 0,
  overdisp.prec = 0.4,
  pc.u = 1,
  pc.alpha = 0.01,
  pc.u.phi = 0.5,
  pc.alpha.phi = 2/3,
  ...
)
```

## Arguments

| | |
|---|---|
| `data` | dataframe that contains the indicator of interests(column name is value), output of getDHSindicator function |
| `cluster.info` | dataframe that contains admin 1 and admin 2 information and coordinates for each cluster. |
| `admin.info` | dataframe that contains population and urban/rural proportion at specific admin level |
| `X` | dataframe that contains areal covariates, the first column should be the same admin name as in admin.info$data. |
| `X.unit` | dataframe that contains unit covariates, must contain cluster |
| `X.pixel` | dataframe that contains pixel covariates, must contain 1. admin1.name or admin2.name.full, 2. Population, 3. strata if stratification==T |

| | |
|---|---|
| admin | admin level for the model |
| CI | Credible interval to be used. Default to 0.95. |
| model | smoothing model used in the random effect. Options are independent ("iid") or spatial ("bym2"). |
| stratification | whether or not to include urban/rural stratum. |
| aggregation | whether or not report aggregation results. |
| nested | whether or not to fit a nested model. |
| interact | whether or not to fit a admin1 x urban/rural model. |
| overdisp.mean | prior mean for logit(d), where d is the intracluster correlation. |
| overdisp.prec | prior precision for logit(d), where d is the intracluster correlation. |
| pc.u | pc prior u for iid or bym2 precision. |
| pc.alpha | pc prior alpha for iid or bym2 precision. |
| pc.u.phi | pc prior u for bym2 mixing paramete. |
| pc.alpha.phi | pc prior u for bym2 mixing paramete. |
| ... | additional arguments for internal functions. |

## Value

This function returns the dataset that contain district name and population for given tiff files and polygons of admin level,

## Author(s)

Qianyu Dong

## Examples

```
## Not run:
geo <- getDHSgeo(country = "Zambia", year = 2018)
data(ZambiaAdm1)
data(ZambiaAdm2)
data(ZambiaPopWomen)
cluster.info <- clusterInfo(geo = geo,
                            poly.adm1 = ZambiaAdm1,
                            poly.adm2 = ZambiaAdm2)

# "RH_ANCN_W_N4P" is an indicator for having more than four ANC visits.
#  In previous versions of the package, it is labeled "ancvisit4+".
dhsData <- getDHSdata(country = "Zambia",
                                  indicator = "RH_ANCN_W_N4P",
                                  year = 2018)
data <- getDHSindicator(dhsData, indicator = "RH_ANCN_W_N4P")
admin.info1 <- adminInfo(poly.adm = ZambiaAdm1,
                         admin = 1,
                         agg.pop =ZambiaPopWomen$admin1_pop,
                         proportion = ZambiaPopWomen$admin1_urban)
cl_res_ad1 <- clusterModel(data=data,
```

```
                  cluster.info = cluster.info,
                  admin.info = admin.info1,
                  stratification = FALSE,
                  model = "bym2",
                  admin = 1,
                  aggregation = TRUE,
                  CI = 0.95)
cl_res_ad1$res.admin1

# compare with the DHS direct estimates
dhs_table <- get_api_table(country = "ZM",
                           survey = "ZM2018DHS",
                           indicator = "RH_ANCN_W_N4P",
                           simplify = TRUE)
subset(dhs_table, ByVariableLabel == "Five years preceding the survey")


## End(Not run)
```

---

`clusterModel_u5mr` *Calculate cluster model estimates using beta binomial model for U5MR*

---

## Description

This function calculate smoothed direct estimates at given admin level.

## Usage

```
clusterModel_u5mr(
  data,
  cluster.info,
  admin.info,
  X = NULL,
  X.unit = NULL,
  X.pixel = NULL,
  admin,
  CI = 0.95,
  model = c("bym2", "iid"),
  stratification = FALSE,
  aggregation = FALSE,
  nested = FALSE,
  interact = FALSE,
  overdisp.mean = 0,
  overdisp.prec = 0.4,
  pc.u = 1,
  pc.alpha = 0.01,
  pc.u.phi = 0.5,
```

```
  pc.alpha.phi = 2/3,
  age.space.group = c(1, 2, 2, 2, 3, 3, 3, 3)
)
```

## Arguments

| | |
|---|---|
| data | dataframe that contains the indicator of interests(column name is value), output of getDHSindicator function |
| cluster.info | dataframe that contains admin 1 and admin 2 information and coordinates for each cluster. |
| admin.info | dataframe that contains population and urban/rural proportion at specific admin level |
| X | dataframe that contains areal covariates, the first column should be the same admin name as in admin.info$data. |
| X.unit | dataframe that contains unit covariates, must contain cluster |
| X.pixel | dataframe that contains pixel covariates, must contain 1. admin1.name or admin2.name.full, 2. Population, 3. strata if stratification==T |
| admin | admin level for the model |
| CI | Credible interval to be used. Default to 0.95. |
| model | smoothing model used in the random effect. Options are independent ("iid") or spatial ("bym2"). |
| stratification | whether or not to include urban/rural stratum. |
| aggregation | whether or not report aggregation results. |
| nested | whether or not to fit a nested model. |
| interact | whether or not to fit a admin1 x urban/rural model. |
| overdisp.mean | prior mean for logit(d), where d is the intracluster correlation. |
| overdisp.prec | prior precision for logit(d), where d is the intracluster correlation. |
| pc.u | pc prior u for iid or bym2 precision. |
| pc.alpha | pc prior alpha for iid or bym2 precision. |
| pc.u.phi | pc prior u for bym2 mixing paramete. |
| pc.alpha.phi | pc prior u for bym2 mixing paramete. |
| age.space.group | vector indicating grouping of the ages groups in the spatial model. For example, if each age group is assigned a different spatial component, then set age.group.group to c(1:length(age.group)); if all age groups share the same spatial component, then set age.group.group to a rep(1, length(age.group)). The default for 8 age groups is c(1,2,2,2,3,3,3,3), which assigns a separate hazards to the first two groups and a common hazard for the rest of the age groups. The vector should contain values starting from 1. |

## Value

This function returns the dataset that contain district name and population for given tiff files and polygons of admin level,

## CM_ECMR_C_IMF *CM_ECMR_C_IMF imr 5 years prior to survey.*

### Description

BR

### Usage

```
CM_ECMR_C_IMF(Rdata, mort.cut = c(1, 2, 6, 12, 24, 36, 48, 60), mort.year = 5)
```

### Arguments

| | |
|---|---|
| Rdata | data.frame from surveyPrev::getDHSdata |
| mort.cut | age group cutoffs for hazard calculation. Constant hazards are assumed to be within the specified cutoffs. |
| mort.year | The number of years preceding survey. Set to be 5. |

### Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

### Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "CM_ECMR_C_IMF", year = 2018)

## End(Not run)
```

## CM_ECMR_C_IMR *CM_ECMR_C_IMR imr 10 years prior to survey.*

### Description

BR

### Usage

```
CM_ECMR_C_IMR(Rdata, mort.cut = c(1, 2, 6, 12, 24, 36, 48, 60), mort.year = 10)
```

### Arguments

| | |
|---|---|
| Rdata | data.frame from surveyPrev::getDHSdata |
| mort.cut | age group cutoffs for hazard calculation. Constant hazards are assumed to be within the specified cutoffs. |
| mort.year | The number of years preceding survey. Set to be 10. |

### Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

### Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "CM_ECMR_C_IMR", year = 2018)

## End(Not run)
```

---

## CM_ECMR_C_NNF *CM_ECMR_C_NNF NMR five years prior to survey.*

---

### Description

BR

### Usage

```
CM_ECMR_C_NNF(Rdata)
```

### Arguments

| | |
|---|---|
| Rdata | data.frame from surveyPrev::getDHSdata |

### Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

### Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "CM_ECMR_C_NNF", year = 2018)

## End(Not run)
```

---

CM_ECMR_C_NNR *CM_ECMR_C_NNR BRdata Neonatal mortality rate*

---

## Description

CM_ECMR_C_NNR BRdata Neonatal mortality rate

## Usage

```
CM_ECMR_C_NNR(Rdata, nmr.year = 10)
```

## Arguments

| | |
|---|---|
| Rdata | data.frame from surveyPrev::getDHSdata |
| nmr.year | This is an argument specifically for NMR calculation. It specifies births how many years do we include prior to the date of survey. Default to be 10, i.e., NMR in the last 10 years prior to survey. |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia",
                                indicator = "CM_ECMR_C_NNR",
                                year = 2018)
data <- getDHSindicator(dhsData, indicator = NULL,
                        FUN = surveyPrev::CM_ECMR_C_NNR)

## End(Not run)
```

## CM_ECMR_C_U5F *CM_ECMR_C_U5F u5mr 5 years prior to survey.*

### Description

BR

### Usage

```
CM_ECMR_C_U5F(Rdata, mort.cut = c(1, 2, 6, 12, 24, 36, 48, 60), mort.year = 5)
```

### Arguments

| | |
|---|---|
| Rdata | data.frame from surveyPrev::getDHSdata |
| mort.cut | age group cutoffs for hazard calculation. Constant hazards are assumed to be within the specified cutoffs. |
| mort.year | The number of years preceding survey. Set to be 5. |

### Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

### Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "CM_ECMR_C_U5F", year = 2018)

## End(Not run)
```

## CM_ECMR_C_U5M *CM_ECMR_C_U5M u5mr 10 years prior to survey.*

### Description

BR

### Usage

```
CM_ECMR_C_U5M(Rdata, mort.cut = c(1, 2, 6, 12, 24, 36, 48, 60), mort.year = 10)
```

### Arguments

| | |
|---|---|
| Rdata | data.frame from surveyPrev::getDHSdata |
| mort.cut | age group cutoffs for hazard calculation. Constant hazards are assumed to be within the specified cutoffs. |
| mort.year | The number of years preceding survey. Set to be 10. |

### Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

### Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "CM_ECMR_C_U5M", year = 2018)

## End(Not run)
```

---

## CN_ANMC_C_ANY *CN_ANMC_C_ANY PRdata Children with any anemia Children under five with any anemia*

---

### Description

CN_ANMC_C_ANY PRdata Children with any anemia Children under five with any anemia

### Usage

```
CN_ANMC_C_ANY(Rdata)
```

### Arguments

| | |
|---|---|
| Rdata | data.frame from surveyPrev::getDHSdata |

### Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

### Author(s)

Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia",
                                  indicator = "CN_ANMC_C_ANY",
                                  year = 2018)
data <- getDHSindicator(dhsData, indicator = NULL,
                         FUN = surveyPrev::CN_ANMC_C_ANY)

## End(Not run)
```

---

CN_BRFI_C_EVR *CN_BRFI_C_EVR*

---

## Description

CN_BRFI_C_EVR

## Usage

```
CN_BRFI_C_EVR(KRdata)
```

## Arguments

| | |
|---|---|
| KRdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "CN_BRFI_C_EVR", year = 2018)

## End(Not run)
```

CN_BRFS_C_EXB *CN_BRFS_C_EXB KRdata Children exclusively breastfed Prevalence of exclusive breastfeeding of children under six months of age*

## Description

CN_BRFS_C_EXB KRdata Children exclusively breastfed Prevalence of exclusive breastfeeding of children under six months of age

## Usage

```
CN_BRFS_C_EXB(Rdata)
```

## Arguments

| | |
|---|---|
| Rdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia",
                                  indicator = "CN_BRFS_C_EXB",
                                  year = 2018)
data <- getDHSindicator(dhsData, indicator = NULL,
                         FUN = surveyPrev::CN_BRFS_C_EXB)

## End(Not run)
```

CN_IYCF_C_4FA *CN_IYCF_C_4FA Percentage of children age 6-23 months fed five or more food groups. The food groups are a. breastmilk b. infant formula, milk other than breast milk, cheese or yogurt or other milk products; c. foods made from grains, roots, and tubers, including porridge and fortified baby food from grains; d. vitamin A-rich fruits and vegetables (and red palm oil); e. other fruits and vegetables; f. eggs; g. meat, poultry, fish, and shellfish (and organ meats); h. legumes and nuts. nt_mdd in github KR*

## Description

CN_IYCF_C_4FA Percentage of children age 6-23 months fed five or more food groups. The food groups are a. breastmilk b. infant formula, milk other than breast milk, cheese or yogurt or other milk products; c. foods made from grains, roots, and tubers, including porridge and fortified baby food from grains; d. vitamin A-rich fruits and vegetables (and red palm oil); e. other fruits and vegetables; f. eggs; g. meat, poultry, fish, and shellfish (and organ meats); h. legumes and nuts. nt_mdd in github KR

## Usage

```
CN_IYCF_C_4FA(Rdata)
```

## Arguments

| | |
|---|---|
| Rdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "CN_IYCF_C_4FA", year = 2018)

## End(Not run)
```

---

# CN_IYCF_C_BTB *Breastfed children 6-23 months fed both 4+ food groups and the minimum meal frequency*

---

## Description

Percentage of breastfed children age 6-23 months fed four or more food groups and the minimum meal frequency

## Usage

```
CN_IYCF_C_BTB(KRdata)
```

## Arguments

| | |
|---|---|
| KRdata | A DHS Children's Recode (KR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

---

## CN_IYCF_C_MNA *Children 6-23 months fed the minimum meal frequency*

---

### Description

Percentage of children age 6-23 months fed the minimum meal frequency defined as receiving solid or semi-solid food at least twice a day for infants 6-8 months and at least three times a day for children 9-23 months

### Usage

```
CN_IYCF_C_MNA(KRdata)
```

### Arguments

| | |
|---|---|
| KRdata | A DHS Children’s Recode (KR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

---

## CN_IYCF_C_MNB *Breastfed children 6-23 months fed the minimum meal frequency*

---

### Description

Percentage of breastfed children age 6-23 months fed the minimum meal frequency defined as receiving solid or semi-solid food at least twice a day for infants 6-8 months and at least three times a day for children 9-23 months

### Usage

```
CN_IYCF_C_MNB(KRdata)
```

### Arguments

| | |
|---|---|
| KRdata | A DHS Children’s Recode (KR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

## CN_MIAC_C_IRF *Children 6-23 months that consumed foods rich in iron in the last 24 hours*

### Description

Percentage of youngest children age 6-23 months living with the mother who consumed foods rich in iron in the 24 hours preceding the survey. Food rich in iron include meat (and organ meat), fish, poultry, eggs.

### Usage

```
CN_MIAC_C_IRF(KRdata)
```

### Arguments

| | |
|---|---|
| KRdata | A DHS Children's Recode (KR) data.frame. |

### Value

A data.frame with a 'value' column.

## CN_NUTS_C_HA2 *CN_NUTS_C_HA2*

### Description

CN_NUTS_C_HA2

### Usage

```
CN_NUTS_C_HA2(PRdata)
```

### Arguments

| | |
|---|---|
| PRdata | data.frame from surveyPrev::getDHSdata |

### Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

### Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "CN_NUTS_C_HA2", year = 2018)

## End(Not run)
```

---

CN_NUTS_C_HA3 *CN_NUTS_C_HA3*

---

## Description

CN_NUTS_C_HA3

## Usage

```
CN_NUTS_C_HA3(PRdata)
```

## Arguments

| | |
|---|---|
| PRdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "CN_NUTS_C_HA3", year = 2018)

## End(Not run)
```

CN_NUTS_C_WA2 *CN_NUTS_C_WA2*

## Description

CN_NUTS_C_WA2

## Usage

```
CN_NUTS_C_WA2(PRdata)
```

## Arguments

| | |
|---|---|
| PRdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "CN_NUTS_C_WA2", year = 2018)

## End(Not run)
```

CN_NUTS_C_WA3 *CN_NUTS_C_WA3*

## Description

CN_NUTS_C_WA3

## Usage

```
CN_NUTS_C_WA3(PRdata)
```

## Arguments

| | |
|---|---|
| PRdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "CN_NUTS_C_WA3", year = 2018)

## End(Not run)
```

---

`CN_NUTS_C_WAP` *CN_NUTS_C_WAP*

---

## Description

CN_NUTS_C_WAP

## Usage

```
CN_NUTS_C_WAP(PRdata)
```

## Arguments

| | |
|---|---|
| `PRdata` | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "CN_NUTS_C_WAP", year = 2018)

## End(Not run)
```

CN_NUTS_C_WH2 *CN_NUTS_C_WH2*

## Description

CN_NUTS_C_WH2

## Usage

```
CN_NUTS_C_WH2(PRdata)
```

## Arguments

| | |
|---|---|
| PRdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "CN_NUTS_C_WH2", year = 2018)

## End(Not run)
```

CN_NUTS_C_WH3 *CN_NUTS_C_WH3*

## Description

CN_NUTS_C_WH3

## Usage

```
CN_NUTS_C_WH3(PRdata)
```

## Arguments

| | |
|---|---|
| PRdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "CN_NUTS_C_WH3", year = 2018)

## End(Not run)
```

---

`CN_NUTS_C_WHP` *CN_NUTS_C_WHP*

---

## Description

CN_NUTS_C_WHP

## Usage

```
CN_NUTS_C_WHP(PRdata)
```

## Arguments

| | |
|---|---|
| `PRdata` | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "CN_NUTS_C_WHP", year = 2018)

## End(Not run)
```

## CO_INUS_M_EVU *Men who ever used the internet*

### Description

Percentage of men who ever used the internet

### Usage

```
CO_INUS_M_EVU(MRdata)
```

### Arguments

| | |
|---|---|
| MRdata | A DHS Men's Recode (MR) data.frame. |

### Value

A data.frame with a 'value' column.

## CO_INUS_M_U12 *Men who used the internet in the past 12 months*

### Description

Percentage of men who used the internet in the last 12 months

### Usage

```
CO_INUS_M_U12(MRdata)
```

### Arguments

| | |
|---|---|
| MRdata | A DHS Men's Recode (MR) data.frame. |

### Value

A data.frame with a 'value' column.

## CO_INUS_M_WEK *Men who used the internet at least once a week*

### Description

Percentage of men who used the internet at least once a week of those who used the internet in the last 12 months

### Usage

```
CO_INUS_M_WEK(MRdata)
```

### Arguments

| | |
|---|---|
| MRdata | A DHS Men's Recode (MR) data.frame. |

### Value

A data.frame with a 'value' column (1/0/NA), ready for surveyPrev::getDHSindicator().

### Source

DHS-indicator-factory sideproject/results/passing_current/Chap_CO/CO_INUS_M_WEK.R; validated on ZM_2018 (published 34.4, observed 34.1641, abs_error 0.2359).

## CO_INUS_W_EVU *CO_INUS_W_EVU*

### Description

CO_INUS_W_EVU

### Usage

```
CO_INUS_W_EVU(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | data.frame from surveyPrev::getDHSdata |

### Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

### Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

### Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "CO_INUS_W_EVU", year = 2018)

## End(Not run)
```

---

## CO_INUS_W_U12 *CO_INUS_W_U12*

---

### Description

CO_INUS_W_U12

### Usage

```
CO_INUS_W_U12(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | data.frame from surveyPrev::getDHSdata |

### Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

### Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

### Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "CO_INUS_W_U12", year = 2018)

## End(Not run)
```

## CO_INUS_W_WEK *Women who used the internet at least once a week*

### Description

Percentage of women who used the internet at least once a week of those who used the internet in the last 12 months

### Usage

```
CO_INUS_W_WEK(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column (1/0/NA), ready for surveyPrev::getDHSindicator().

### Source

DHS-indicator-factory sideproject/results/passing_current/Chap_CO/CO_INUS_W_WEK.R; validated on ZM_2018 (published 28.2, observed 28.2097, abs_error 0.0097).

## CO_MOBB_M_BNK *Men who have a bank account*

### Description

Percentage of men who have and use a bank account

### Usage

```
CO_MOBB_M_BNK(MRdata)
```

### Arguments

| | |
|---|---|
| MRdata | A DHS Men’s Recode (MR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

## CO_MOBB_M_MBF *Men who use a mobile phone for financial transactions*

### Description

Percentage of men who use a mobile phone for financial transactions

### Usage

```
CO_MOBB_M_MBF(MRdata)
```

### Arguments

| | |
|---|---|
| MRdata | A DHS Men's Recode (MR) data.frame. |

### Value

A data.frame with a 'value' column.

## CO_MOBB_M_MOB *Men who own a mobile phone*

### Description

Percentage of men who own a mobile phone

### Usage

```
CO_MOBB_M_MOB(MRdata)
```

### Arguments

| | |
|---|---|
| MRdata | A DHS Men's Recode (MR) data.frame. |

### Value

A data.frame with a 'value' column (1/0/NA), ready for surveyPrev::getDHSindicator().

### Source

DHS-indicator-factory sideproject/results/passing_current/Chap_CO/CO_MOBB_M_MOB.R; validated on ZM_2018 (published 66, observed 65.9917, abs_error 0.0083).

## CO_MOBB_M_SPT *Men who used a mobile phone for financial transactions [all men]*

### Description

Percentage of all men who have used a mobile phone for financial transactions in the last 12 months

### Usage

```
CO_MOBB_M_SPT(MRdata)
```

### Arguments

| | |
|---|---|
| MRdata | A DHS Men's Recode (MR) data.frame. |

### Value

A data.frame with a 'value' column.

## CO_MOBB_W_BNK *CO_MOBB_W_BNK*

### Description

CO_MOBB_W_BNK

### Usage

```
CO_MOBB_W_BNK(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | data.frame from surveyPrev::getDHSdata |

### Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

### Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "CO_MOBB_W_BNK", year = 2018)

## End(Not run)
```

---

# CO_MOBB_W_DFT *Women who have and used a bank account or used a mobile phone for financial transactions*

---

## Description

Percentage of women who have and used a bank account or used a mobile phone for financial transactions in the last 12 months

## Usage

```
CO_MOBB_W_DFT(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

## Value

A data.frame with a ‘value‘ column.

---

# CO_MOBB_W_DWM *Women who deposited or withdrew money from their account*

---

## Description

Percentage of women who deposited or withdrew money from their own account in the last 12 months

## Usage

```
CO_MOBB_W_DWM(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

## Value

A data.frame with a ‘value‘ column (1/0/NA), ready for surveyPrev::getDHSindicator().

## Source

DHS-indicator-factory sideproject/results/passing_current/Chap_CO/CO_MOBB_W_DWM.R; validated on TZ_2022 (published 0.2, observed 0.0713, abs_error 0.1287).

---

`CO_MOBB_W_MBF` *CO_MOBB_W_MBF*

---

## Description

CO_MOBB_W_MBF

## Usage

```
CO_MOBB_W_MBF(IRdata)
```

## Arguments

| | |
|---|---|
| `IRdata` | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "CO_MOBB_W_MBF", year = 2018)

## End(Not run)
```

## CO_MOBB_W_MOB *CO_MOBB_W_MOB*

### Description

CO_MOBB_W_MOB

### Usage

```
CO_MOBB_W_MOB(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | data.frame from surveyPrev::getDHSdata |

### Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

### Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

### Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "CO_MOBB_W_MOB", year = 2018)

## End(Not run)
```

## CO_MOBB_W_OSP *Women who have a smartphone*

### Description

Percentage of women who have a smartphone

### Usage

```
CO_MOBB_W_OSP(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

## Value

A data.frame with a ‘value‘ column (1/0/NA), ready for surveyPrev::getDHSindicator().

## Source

DHS-indicator-factory sideproject/results/passing_current/Chap_CO/CO_MOBB_W_OSP.R; validated on TZ_2022 (published 14.8, observed 14.838, abs_error 0.038).

---

# CO_MOBB_W_SPT *Women who used a mobile phone for financial transactions [all women]*

---

## Description

Percentage of all women who have used a mobile phone for financial transactions in the last 12 months

## Usage

```
CO_MOBB_W_SPT(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

## Value

A data.frame with a ‘value‘ column.

---

# CP_BREG_C_CRT *CP_BREG_C_CRT*

---

## Description

CP_BREG_C_CRT

## Usage

```
CP_BREG_C_CRT(PRdata)
```

## Arguments

| | |
|---|---|
| PRdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "CP_BREG_C_CRT", year = 2018)

## End(Not run)
```

---

`CP_BREG_C_NCT` *CP_BREG_C_NCT*

---

## Description

CP_BREG_C_NCT

## Usage

```
CP_BREG_C_NCT(PRdata)
```

## Arguments

| | |
|---|---|
| `PRdata` | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "CP_BREG_C_NCT", year = 2018)

## End(Not run)
```

## CP_BREG_C_REG *CP_BREG_C_REG*

### Description

CP_BREG_C_REG

### Usage

```
CP_BREG_C_REG(PRdata)
```

### Arguments

| | |
|---|---|
| PRdata | data.frame from surveyPrev::getDHSdata |

### Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

### Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

### Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "CP_BREG_C_REG", year = 2018)

## End(Not run)
```

## datainfo *Summarize Sample and Event Information by Administrative Level*

### Description

Computes summary statistics on the number of sampled observations, events, and unique clusters at national, admin1, and admin2 levels. The function merges the input dataset with cluster- and admin-level metadata and returns counts of samples, events, and clusters per geographic unit.

### Usage

```
datainfo(data, cluster.info, admin.info1 = NULL, admin.info2 = NULL)
```

## Arguments

| | |
|---|---|
| data | A data frame containing at least the variables cluster and value. Typically the raw or processed indicator data (e.g., from getDHSdata()). |
| cluster.info | A list containing the element data, a data frame with cluster-level information. Must include a cluster column for merging. |
| admin.info1 | A list containing the element data, a data frame with admin1-level identifiers and names. Must include the variable admin1.name. |
| admin.info2 | A list containing the element data, a data frame with admin2-level identifiers and names. Must include the variable admin2.name.full. |

## Details

The function performs left and right joins to associate each observation in data with its cluster and administrative region. It removes rows with missing values before summarizing. For each administrative level:

- n_samples: number of non-missing observations.
- n_events: number of cases where value == 1.
- n_clusters: number of distinct survey clusters.

If admin.info1 or admin.info2 is NULL, the corresponding summaries are omitted.

## Value

A list with up to three data frames:

| | |
|---|---|
| summary.ad0 | National-level totals across all clusters. |
| summary.ad1 | Admin1-level summaries (if admin.info1 provided). |
| summary.ad2 | Admin2-level summaries (if admin.info2 provided). |

## Examples

```
## Not run:
datainfo(
  data = data,
  cluster.info = cluster.info,
  admin.info1 = admin.info1,
  admin.info2 = admin.info2
)

## End(Not run)
```

directEST *Calculate direct estimates*

## Description

This function calculate direct estimates at given admin level.

## Usage

```
directEST(
  data,
  cluster.info,
  admin,
  strata = "all",
  CI = 0.95,
  weight = c("population", "survey")[1],
  admin.info = NULL,
  aggregation = FALSE,
  alt.strata = NULL,
  var.fix = FALSE,
  threshold = 1e-12,
  ...
)
```

## Arguments

| | |
|---|---|
| data | dataframe that contains the indicator of interests, output of getDHSindicator function |
| cluster.info | list contains data and wrong.points. data contains admin 1 and admin 2 information and coordinates for each cluster. wrong.points. contains cluster id for cluster without coordinates or admin 1 information. Output of getDHSindicator function |
| admin | admin level for the model. |
| strata | use only urban or rural data, only for national level model |
| CI | Credible interval to be used. Default to 0.95. |
| weight | the weight used for aggregating result, "population" or "survey" |
| admin.info | list contains data and mat, data contains population and urban/rural proportion at specific admin level and mat is the adjacency matrix, output of adminInfo function |
| aggregation | whether or not report aggregation results. |
| alt.strata | the variable name in the data frame that correspond to the stratification variable. Most of the DHS surveys are stratified by admin 1 area crossed with urban/rural, which is the default stratification variable created by the function (when `alt.strata = NULL`). When a different set of strata is used. The stratification variable should be included in the data and `alt.strata` should be set to the column name. |

| | |
|---|---|
| var.fix | Whether to add phantom cluster to fix admin 2 direct estimate with variance close to 0. |
| threshold | the threshold of variance to implement the variance fix method. |
| ... | Additional arguments passed on to the 'smoothSurvey' function |

## Value

This function returns the dataset that contain district name and population for given tiff files and polygons of admin level,

## Author(s)

Qianyu Dong

## Examples

```
## Not run:

##
## Direct estimation of ANC visit 4+ proportion
##

geo <- getDHSgeo(country = "Zambia", year = 2018)
data(ZambiaAdm1)
data(ZambiaAdm2)
data(ZambiaPopWomen)
cluster.info<-clusterInfo(geo=geo, poly.adm1=ZambiaAdm1, poly.adm2=ZambiaAdm2,
by.adm1 = "NAME_1",by.adm2 = "NAME_2")
# "RH_ANCN_W_N4P" is an indicator for having more than four ANC visits.
#  In previous versions of the package, it is labeled "ancvisit4+".
dhsData <- getDHSdata(country = "Zambia",
                                  indicator = "RH_ANCN_W_N4P",
                                  year = 2018)
data <- getDHSindicator(dhsData, indicator = "RH_ANCN_W_N4P")
res_ad1 <- directEST(data = data,
                 cluster.info = cluster.info,
                 admin = 1,
                 aggregation = FALSE)
res_ad1
# compare with the DHS direct estimates
dhs_table <- get_api_table(country = "ZM",
                           survey = "ZM2018DHS",
                           indicator = "RH_ANCN_W_N4P",
                           simplify = TRUE)
subset(dhs_table, ByVariableLabel == "Five years preceding the survey")

##
## Changing customized stratification variable
##

data_alt <- data
# Assuming the stratification is done with only admin1 area
```

```
# and not stratified by urban and rural
# Note that this is not the correct stratification, but we use
#  this as an illustration to create user-specified strata variable
data_alt$new_strata <- data_alt$v024
res_ad1_wrong <- directEST(data = data_alt,
                  cluster.info = cluster.info,
                  admin = 1,
                  aggregation = FALSE,
                  alt.strata = "new_strata")
res_ad1_wrong

## End(Not run)
```

---

`directEST_u5mr` *Helper function for the U5MR direct estimation*

---

## Description

Helper function for the U5MR direct estimation

## Usage

```
directEST_u5mr(modt, regionVar)
```

## Arguments

| | |
|---|---|
| `modt` | input data frame internally constructed from directEST() function |
| `regionVar` | region column |

## Value

a fitted object in the same format as smoothSurvey() function, to be slotted in directEST() internal script.

---

`directEST_varfix` *Calculate direct estimates*

---

## Description

This function calculate direct estimates at given admin level.

## Usage

```
directEST_varfix(
  data,
  cluster.info,
  admin,
  strata = "all",
  CI = 0.95,
  weight = c("population", "survey")[1],
  admin.info = NULL,
  aggregation = FALSE,
  alt.strata = NULL,
  var.fix = TRUE,
  eps = 1e-12,
  floor_var = 1e-12,
  tol = 1e-12,
  all.fix = FALSE,
  ...
)
```

## Arguments

| | |
|---|---|
| data | dataframe that contains the indicator of interests, output of getDHSindicator function |
| cluster.info | list contains data and wrong.points. data contains admin 1 and admin 2 information and coordinates for each cluster. wrong.points. contains cluster id for cluster without coordinates or admin 1 information. Output of getDHSindicator function |
| admin | admin level for the model. |
| strata | use only urban or rural data, only for national level model |
| CI | Credible interval to be used. Default to 0.95. |
| weight | the weight used for aggregating result, "population" or "survey" |
| admin.info | list contains data and mat, data contains population and urban/rural proportion at specific admin level and mat is the adjacency matrix, output of adminInfo function |
| aggregation | whether or not report aggregation results. |
| alt.strata | the variable name in the data frame that correspond to the stratification variable. Most of the DHS surveys are stratified by admin 1 area crossed with urban/rural, which is the default stratification variable created by the function (when `alt.strata = NULL`). When a different set of strata is used. The stratification variable should be included in the data and `alt.strata` should be set to the column name. |
| var.fix | Whether to add phantom cluster to fix direct estimate with variance close to 0. |
| eps | the threshold of variance to implement the variance fix method. |
| floor_var | the threshold of variance to implement the variance fix method. |
| tol | the threshold of variance to implement the variance fix method. |

| | |
|---|---|
| all.fix | Whether to add phantom cluster to all areas |
| ... | Additional arguments passed on to the ‘smoothSurvey‘ function |

## Value

This function returns the dataset that contain district name and population for given tiff files and polygons of admin level,

## Examples

```
## Not run:

##
## Direct estimation of ANC visit 4+ proportion
##

geo <- getDHSgeo(country = "Zambia", year = 2018)
data(ZambiaAdm1)
data(ZambiaAdm2)
data(ZambiaPopWomen)
cluster.info<-clusterInfo(geo=geo, poly.adm1=ZambiaAdm1, poly.adm2=ZambiaAdm2,
by.adm1 = "NAME_1",by.adm2 = "NAME_2")
# "RH_ANCN_W_N4P" is an indicator for having more than four ANC visits.
#  In previous versions of the package, it is labeled "ancvisit4+".
dhsData <- getDHSdata(country = "Zambia",
                                indicator = "RH_ANCN_W_N4P",
                                year = 2018)
data <- getDHSindicator(dhsData, indicator = "RH_ANCN_W_N4P")
res_ad1 <- directEST_new(data = data,
                 cluster.info = cluster.info,
                 admin = 1,
                 aggregation = FALSE)

## End(Not run)
```

---

DV_AFSV_W_A10 *DV_AFSV_W_A10*

---

## Description

DV_AFSV_W_A10

## Usage

```
DV_AFSV_W_A10(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:

## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "DV_AFSV_W_A10", year = 2018)

## End(Not run)
```

---

`DV_AFSV_W_A12` *DV_AFSV_W_A12*

---

## Description

DV_AFSV_W_A12

## Usage

```
DV_AFSV_W_A12(IRdata)
```

## Arguments

| | |
|---|---|
| `IRdata` | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:

## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "DV_AFSV_W_A12", year = 2018)

## End(Not run)
```

---

DV_EXPV_W_12M *DV_EXPV_W_12M Percentage of women who have experienced physical violence in the past 12 months often or sometimes dv_phy_12m in github IR*

---

## Description

DV_EXPV_W_12M Percentage of women who have experienced physical violence in the past 12 months often or sometimes dv_phy_12m in github IR

## Usage

```
DV_EXPV_W_12M(Rdata)
```

## Arguments

| | |
|---|---|
| Rdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "DV_EXPV_W_12M", year = 2018)

## End(Not run)
```

DV_EXSV_W_12M *DV_EXSV_W_12M Percentage of women who ever experienced sexual violence dv_sex_12m in github IR*

## Description

DV_EXSV_W_12M Percentage of women who ever experienced sexual violence dv_sex_12m in github IR

## Usage

```
DV_EXSV_W_12M(Rdata)
```

## Arguments

| | |
|---|---|
| Rdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "DV_EXSV_W_12M", year = 2018)

## End(Not run)
```

DV_EXSV_W_EVR *DV_EXSV_W_EVR Percentage of women who ever experienced sexual violence dv_sex in github IR*

## Description

DV_EXSV_W_EVR Percentage of women who ever experienced sexual violence dv_sex in github IR

## Usage

```
DV_EXSV_W_EVR(Rdata)
```

### Arguments

| | |
|---|---|
| Rdata | data.frame from surveyPrev::getDHSdata |

### Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

### Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

### Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "DV_EXSV_W_EVR", year = 2018)

## End(Not run)
```

---

## DV_FMVL_W_PAS *Women who experienced physical and sexual violence*

---

### Description

Percentage of women who experienced physical and sexual violence

### Usage

```
DV_FMVL_W_PAS(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

## DV_FMVL_W_POS *Women who experienced physical or sexual violence*

### Description

Percentage of women who experienced physical or sexual violence

### Usage

```
DV_FMVL_W_POS(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column (1/0/NA), ready for surveyPrev::getDHSindicator().

### Source

DHS-indicator-factory sideproject/results/passing_current/Chap_DV/DV_FMVL_W_POS.R; validated on ZM_2018 (published 39.2, observed 38.5855, abs_error 0.6145).

## DV_FSVL_W_PHS *Intimate partner violence: Any physical violence*

### Description

Percentage of ever married women or never married women who ever had an intimate partner whose current or most recent husband/partner committed any physical violence

### Usage

```
DV_FSVL_W_PHS(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

DV_PCPV_W_CBF *DV_PCPV_W_CBF*

## Description

DV_PCPV_W_CBF

## Usage

```
DV_PCPV_W_CBF(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "DV_PCPV_W_CBF", year = 2018)

## End(Not run)
```

DV_PCPV_W_CHD *DV_PCPV_W_CHD*

## Description

DV_PCPV_W_CHD

## Usage

```
DV_PCPV_W_CHD(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "DV_PCPV_W_CHD", year = 2018)

## End(Not run)
```

---

# DV_PCPV_W_CHP *Physical violence committed by current husband/partner*

---

## Description

Percentage of women for whom physical violence was committed by current husband or partner

## Usage

```
DV_PCPV_W_CHP(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

## Value

A data.frame with a ‘value‘ column (1/0/NA), ready for surveyPrev::getDHSindicator().

## Source

DHS-indicator-factory sideproject/results/passing_current/Chap_DV/DV_PCPV_W_CHP.R; validated on ZM_2018 (published 54.2, observed 54.2494, abs_error 0.0494).

DV_PCPV_W_EMP *DV_PCPV_W_EMP*

## Description

DV_PCPV_W_EMP

## Usage

```
DV_PCPV_W_EMP(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "DV_PCPV_W_EMP", year = 2018)

## End(Not run)
```

DV_PCPV_W_FHP *Physical violence committed by former husband/partner*

## Description

Percentage of women for whom physical violence was committed by former husband or partner

## Usage

```
DV_PCPV_W_FHP(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

## Value

A data.frame with a ‘value‘ column.

---

DV_PCPV_W_FLW *DV_PCPV_W_FLW*

---

## Description

DV_PCPV_W_FLW

## Usage

```
DV_PCPV_W_FLW(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "DV_PCPV_W_FLW", year = 2018)

## End(Not run)
```

DV_PCPV_W_OLW *DV_PCPV_W_OLW*

## Description

DV_PCPV_W_OLW

## Usage

```
DV_PCPV_W_OLW(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "DV_PCPV_W_OLW", year = 2018)

## End(Not run)
```

DV_PCSV_W_EMP *Sexual violence committed by employer/someone at work*

## Description

Percentage of women for whom sexual violence was committed by employer/someone at work

## Usage

```
DV_PCSV_W_EMP(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column (1/0/NA), ready for surveyPrev::getDHSindicator().

### Source

DHS-indicator-factory sideproject/results/passing_current/Chap_DV/DV_PCSV_W_EMP.R; validated on TZ_2022 (published 0.6, observed 0.0016, abs_error 0.5984).

---

## DV_PCSV_W_RLG *Sexual violence committed by priest/religious leader*

---

### Description

Percentage of women for whom sexual violence was committed by priest/religious leader

### Usage

```
DV_PCSV_W_RLG(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column (1/0/NA), ready for surveyPrev::getDHSindicator().

### Source

DHS-indicator-factory sideproject/results/passing_current/Chap_DV/DV_PCSV_W_RLG.R; validated on TZ_2022 (published 0, observed 1e-04, abs_error 1e-04).

---

## DV_SPV1_W_ANY *Physical or sexual or emotional violence committed by husband/partner in last 12 months*

---

### Description

Percentage of ever married women or never married women who have experienced physical or sexual or emotional violence committed by their husband/partner in the 12 months preceding the survey

### Usage

```
DV_SPV1_W_ANY(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

---

## DV_STPS_W_BFR *DV_STPS_W_BFR*

---

### Description

DV_STPS_W_BFR

### Usage

```
DV_STPS_W_BFR(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | data.frame from surveyPrev::getDHSdata |

### Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

### Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

### Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "DV_STPS_W_BFR", year = 2018)

## End(Not run)
```

## DV_STPV_W_HLP *Sought help to stop violence*

### Description

Percentage of ever married women or never married women who have ever experienced any physical or sexual violence who sought help to stop violence

### Usage

```
DV_STPV_W_HLP(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column (1/0/NA), ready for surveyPrev::getDHSindicator().

### Source

DHS-indicator-factory sideproject/results/passing_current/Chap_DV/DV_STPV_W_HLP.R; validated on ZM_2018 (published 35, observed 35.0088, abs_error 0.0088).

## DV_VPRG_W_VPG *DV_VPRG_W_VPG*

### Description

DV_VPRG_W_VPG

### Usage

```
DV_VPRG_W_VPG(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | data.frame from surveyPrev::getDHSdata |

### Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "DV_VPRG_W_VPG", year = 2018)

## End(Not run)
```

---

# ED_EDAT_B_CPR *Population age 6 and over with completed primary education*

---

## Description

Percentage of the de facto household population age 6 and over with some primary education

## Usage

```
ED_EDAT_B_CPR(PRdata)
```

## Arguments

| | |
|---|---|
| PRdata | A DHS Household Member Recode (PR) data.frame. |

## Value

A data.frame with a ‘value‘ column (1/0/NA), ready for surveyPrev::getDHSindicator().

## Source

DHS-indicator-factory sideproject/results/passing_current/Chap_ED/ED_EDAT_B_CPR.R; validated on ZM_2018 (published 10.2, observed 10.2284, abs_error 0.0284).

## ED_EDAT_B_CSC *Population age 6 and over with completed secondary education*

### Description

Percentage of the de facto household population age 6 and over with some secondary education

### Usage

```
ED_EDAT_B_CSC(PRdata)
```

### Arguments

| | |
|---|---|
| PRdata | A DHS Household Member Recode (PR) data.frame. |

### Value

A data.frame with a ‘value‘ column (1/0/NA), ready for surveyPrev::getDHSindicator().

### Source

DHS-indicator-factory sideproject/results/passing_current/Chap_ED/ED_EDAT_B_CSC.R; validated on ZM_2018 (published 7.6, observed 7.6346, abs_error 0.0346).

## ED_EDAT_B_HGH *Population age 6 and over who attended higher education*

### Description

Percentage of the de facto household population age 6 and over who attended higher education

### Usage

```
ED_EDAT_B_HGH(PRdata)
```

### Arguments

| | |
|---|---|
| PRdata | A DHS Household Member Recode (PR) data.frame. |

### Value

A data.frame with a ‘value‘ column (1/0/NA), ready for surveyPrev::getDHSindicator().

### Source

DHS-indicator-factory sideproject/results/passing_current/Chap_ED/ED_EDAT_B_HGH.R; validated on ZM_2018 (published 4.1, observed 4.0911, abs_error 0.0089).

## ED_EDAT_B_NED *Population age 6 and over with no education*

### Description

Percentage of the de facto household population age 6 and over with no education

### Usage

```
ED_EDAT_B_NED(PRdata)
```

### Arguments

| | |
|---|---|
| PRdata | A DHS Household Member Recode (PR) data.frame. |

### Value

A data.frame with a ‘value‘ column (1/0/NA), ready for surveyPrev::getDHSindicator().

### Source

DHS-indicator-factory sideproject/results/passing_current/Chap_ED/ED_EDAT_B_NED.R; validated on ZM_2018 (published 14.9, observed 15.0009, abs_error 0.1009).

## ED_EDAT_B_PRI *Population age 6 and over who attended primary education*

### Description

Percentage of the de facto household population age 6 and over who attended primary education

### Usage

```
ED_EDAT_B_PRI(PRdata)
```

### Arguments

| | |
|---|---|
| PRdata | A DHS Household Member Recode (PR) data.frame. |

### Value

A data.frame with a ‘value‘ column (1/0/NA), ready for surveyPrev::getDHSindicator().

### Source

DHS-indicator-factory sideproject/results/passing_current/Chap_ED/ED_EDAT_B_PRI.R; validated on ZM_2018 (published 52.2, observed 52.6055, abs_error 0.4055).

## ED_EDAT_B_SEC *Population age 6 and over who attended secondary education*

### Description

Percentage of the de facto household population age 6 and over who attended secondary education

### Usage

```
ED_EDAT_B_SEC(PRdata)
```

### Arguments

| | |
|---|---|
| PRdata | A DHS Household Member Recode (PR) data.frame. |

### Value

A data.frame with a ‘value‘ column (1/0/NA), ready for surveyPrev::getDHSindicator().

### Source

DHS-indicator-factory sideproject/results/passing_current/Chap_ED/ED_EDAT_B_SEC.R; validated on ZM_2018 (published 28.1, observed 28.3024, abs_error 0.2024).

## ED_EDAT_B_SPR *Population age 6 and over with some primary education*

### Description

Percentage of the de facto household population age 6 and over with no education education

### Usage

```
ED_EDAT_B_SPR(PRdata)
```

### Arguments

| | |
|---|---|
| PRdata | A DHS Household Member Recode (PR) data.frame. |

### Value

A data.frame with a ‘value‘ column (1/0/NA), ready for surveyPrev::getDHSindicator().

### Source

DHS-indicator-factory sideproject/results/passing_current/Chap_ED/ED_EDAT_B_SPR.R; validated on ZM_2018 (published 42.1, observed 42.3772, abs_error 0.2772).

## ED_EDAT_M_CPR *Male population age 6 and over with completed primary education*

### Description

Percentage of the de facto male household population age 6 and over with some primary education

### Usage

```
ED_EDAT_M_CPR(PRdata)
```

### Arguments

| | |
|---|---|
| PRdata | A DHS Household Member Recode (PR) data.frame. |

### Value

A data.frame with a ‘value‘ column (1/0/NA), ready for surveyPrev::getDHSindicator().

### Source

DHS-indicator-factory sideproject/results/passing_current/Chap_ED/ED_EDAT_M_CPR.R; validated on ZM_2018 (published 9.7, observed 9.7787, abs_error 0.0787).

## ED_EDAT_M_CSC *Male population age 6 and over with completed secondary education*

### Description

Percentage of the de facto male household population age 6 and over with some secondary education

### Usage

```
ED_EDAT_M_CSC(PRdata)
```

### Arguments

| | |
|---|---|
| PRdata | A DHS Household Member Recode (PR) data.frame. |

### Value

A data.frame with a ‘value‘ column (1/0/NA), ready for surveyPrev::getDHSindicator().

### Source

DHS-indicator-factory sideproject/results/passing_current/Chap_ED/ED_EDAT_M_CSC.R; validated on ZM_2018 (published 9.3, observed 9.3782, abs_error 0.0782).

## ED_EDAT_M_NED *Male population age 6 and over with no education*

### Description

Percentage of the de facto male household population age 6 and over with no education

### Usage

```
ED_EDAT_M_NED(PRdata)
```

### Arguments

| | |
|---|---|
| PRdata | A DHS Household Member Recode (PR) data.frame. |

### Value

A data.frame with a 'value' column (1/0/NA), ready for surveyPrev::getDHSindicator().

### Source

DHS-indicator-factory sideproject/results/passing_current/Chap_ED/ED_EDAT_M_NED.R; validated on ZM_2018 (published 14, observed 14.1465, abs_error 0.1465).

## ED_EDAT_M_PRI *Male population age 6 and over who attended primary education*

### Description

Percentage of the de facto male household population age 6 and over who attended primary education

### Usage

```
ED_EDAT_M_PRI(PRdata)
```

### Arguments

| | |
|---|---|
| PRdata | A DHS Household Member Recode (PR) data.frame. |

### Value

A data.frame with a 'value' column (1/0/NA), ready for surveyPrev::getDHSindicator().

### Source

DHS-indicator-factory sideproject/results/passing_current/Chap_ED/ED_EDAT_M_PRI.R; validated on ZM_2018 (published 49.6, observed 50.0973, abs_error 0.4973).

## ED_EDAT_M_SEC *Male population age 6 and over who attended secondary education*

### Description

Percentage of the de facto male household population age 6 and over who attended secondary education

### Usage

```
ED_EDAT_M_SEC(PRdata)
```

### Arguments

| | |
|---|---|
| PRdata | A DHS Household Member Recode (PR) data.frame. |

### Value

A data.frame with a 'value' column (1/0/NA), ready for surveyPrev::getDHSindicator().

### Source

DHS-indicator-factory sideproject/results/passing_current/Chap_ED/ED_EDAT_M_SEC.R; validated on ZM_2018 (published 30.6, observed 30.929, abs_error 0.329).

## ED_EDAT_M_SPR *Male population age 6 and over with some primary education*

### Description

Percentage of the de facto male household population age 6 and over with no education education

### Usage

```
ED_EDAT_M_SPR(PRdata)
```

### Arguments

| | |
|---|---|
| PRdata | A DHS Household Member Recode (PR) data.frame. |

### Value

A data.frame with a 'value' column (1/0/NA), ready for surveyPrev::getDHSindicator().

### Source

DHS-indicator-factory sideproject/results/passing_current/Chap_ED/ED_EDAT_M_SPR.R; validated on ZM_2018 (published 39.9, observed 40.3186, abs_error 0.4186).

## ED_EDAT_W_CPR *Female population age 6 and over with completed primary education*

### Description

Percentage of the de facto female household population age 6 and over with some primary education

### Usage

```
ED_EDAT_W_CPR(PRdata)
```

### Arguments

| | |
|---|---|
| PRdata | A DHS Household Member Recode (PR) data.frame. |

### Value

A data.frame with a ‘value‘ column (1/0/NA), ready for surveyPrev::getDHSindicator().

### Source

DHS-indicator-factory sideproject/results/passing_current/Chap_ED/ED_EDAT_W_CPR.R; validated on ZM_2018 (published 10.6, observed 10.6286, abs_error 0.0286).

## ED_EDAT_W_CSC *Female population age 6 and over with completed secondary education*

### Description

Percentage of the de facto female household population age 6 and over with some secondary education

### Usage

```
ED_EDAT_W_CSC(PRdata)
```

### Arguments

| | |
|---|---|
| PRdata | A DHS Household Member Recode (PR) data.frame. |

### Value

A data.frame with a ‘value‘ column (1/0/NA), ready for surveyPrev::getDHSindicator().

### Source

DHS-indicator-factory sideproject/results/passing_current/Chap_ED/ED_EDAT_W_CSC.R; validated on ZM_2018 (published 6.1, observed 6.0826, abs_error 0.0174).

---

## ED_EDAT_W_NED *Female population age 6 and over with no education*

---

### Description

Percentage of the de facto female household population age 6 and over with no education

### Usage

```
ED_EDAT_W_NED(PRdata)
```

### Arguments

| | |
|---|---|
| PRdata | A DHS Household Member Recode (PR) data.frame. |

### Value

A data.frame with a 'value' column (1/0/NA), ready for surveyPrev::getDHSindicator().

### Source

DHS-indicator-factory sideproject/results/passing_current/Chap_ED/ED_EDAT_W_NED.R; validated on ZM_2018 (published 15.7, observed 15.7615, abs_error 0.0615).

---

## ED_EDAT_W_PRI *Female population age 6 and over who attended primary education*

---

### Description

Percentage of the de facto female household population age 6 and over who attended primary education

### Usage

```
ED_EDAT_W_PRI(PRdata)
```

### Arguments

| | |
|---|---|
| PRdata | A DHS Household Member Recode (PR) data.frame. |

### Value

A data.frame with a 'value' column (1/0/NA), ready for surveyPrev::getDHSindicator().

### Source

DHS-indicator-factory sideproject/results/passing_current/Chap_ED/ED_EDAT_W_PRI.R; validated on ZM_2018 (published 54.6, observed 54.8382, abs_error 0.2382).

---

## ED_EDAT_W_SEC *Female population age 6 and over who attended secondary education*

---

### Description

Percentage of the de facto female household population age 6 and over who attended secondary education

### Usage

```
ED_EDAT_W_SEC(PRdata)
```

### Arguments

| | |
|---|---|
| PRdata | A DHS Household Member Recode (PR) data.frame. |

### Value

A data.frame with a ‘value‘ column (1/0/NA), ready for surveyPrev::getDHSindicator().

### Source

DHS-indicator-factory sideproject/results/passing_current/Chap_ED/ED_EDAT_W_SEC.R; validated on ZM_2018 (published 25.8, observed 25.9645, abs_error 0.1645).

---

## ED_EDAT_W_SPR *Female population age 6 and over with some primary education*

---

### Description

Percentage of the de facto female household population age 6 and over with no education education

### Usage

```
ED_EDAT_W_SPR(PRdata)
```

### Arguments

| | |
|---|---|
| PRdata | A DHS Household Member Recode (PR) data.frame. |

### Value

A data.frame with a ‘value‘ column (1/0/NA), ready for surveyPrev::getDHSindicator().

### Source

DHS-indicator-factory sideproject/results/passing_current/Chap_ED/ED_EDAT_W_SPR.R; validated on ZM_2018 (published 44, observed 44.2095, abs_error 0.2095).

---

## ED_EDUC_W_CPR *Women with completed primary education*

---

### Description

Percentage of women with completed primary education

### Usage

```
ED_EDUC_W_CPR(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

---

## ED_EDUC_W_CSC *Women with completed secondary education*

---

### Description

Percentage of women with completed secondary education

### Usage

```
ED_EDUC_W_CSC(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

## ED_EDUC_W_HGH *Women with more than secondary education*

### Description

Percentage of women with more than secondary education

### Usage

```
ED_EDUC_W_HGH(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

## ED_EDUC_W_NED *Women with no education*

### Description

Percentage of women with no education

### Usage

```
ED_EDUC_W_NED(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

ED_EDUC_W_PRI *Women with primary education*

## Description

Percentage of women with primary education

## Usage

```
ED_EDUC_W_PRI(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

## Value

A data.frame with a ‘value‘ column.

ED_EDUC_W_SEH *ED_EDUC_W_SEH IRdata Percentage of women with secondary or higher education*

## Description

ED_EDUC_W_SEH IRdata Percentage of women with secondary or higher education

## Usage

```
ED_EDUC_W_SEH(Rdata)
```

## Arguments

| | |
|---|---|
| Rdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia",
                                  indicator = "FP_CUSA_W_MOD",
                                  year = 2018)
data <- getDHSindicator(dhsData, indicator = NULL,
                         FUN = surveyPrev::fp_cruse_mod)

## End(Not run)
```

---

# ED_EDUC_W_SPR *Women with some primary education*

---

## Description

Percentage of women with some primary education

## Usage

```
ED_EDUC_W_SPR(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

## Value

A data.frame with a ‘value‘ column.

---

# ED_EDUC_W_SSC *Women with some secondary education*

---

## Description

Percentage of women with some secondary education

## Usage

```
ED_EDUC_W_SSC(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

## Value

A data.frame with a ‘value‘ column.

## ED_LITR_M_LIT *Men who are literate*

### Description

Percentage of men who are literate

### Usage

```
ED_LITR_M_LIT(MRdata)
```

### Arguments

| | |
|---|---|
| MRdata | A DHS Men's Recode (MR) data.frame. |

### Value

A data.frame with a 'value' column (1/0/NA), ready for surveyPrev::getDHSindicator().

### Source

DHS-indicator-factory sideproject/results/passing_current/Chap_ED/ED_LITR_M_LIT.R; validated on ZM_2018 (published 81.8, observed 81.8604, abs_error 0.0604).

## ED_LITR_M_SCH *Men with secondary or higher education*

### Description

Percentage of men with secondary or higher education

### Usage

```
ED_LITR_M_SCH(MRdata)
```

### Arguments

| | |
|---|---|
| MRdata | A DHS Men's Recode (MR) data.frame. |

### Value

A data.frame with a 'value' column.

ED_LITR_W_LIT *ED_LITR_W_LIT*

## Description

ED_LITR_W_LIT

## Usage

```
ED_LITR_W_LIT(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "ED_LITR_W_LIT", year = 2018)

## End(Not run)
```

ED_LITR_W_RDW *Women who can read a whole sentence*

## Description

Percentage of women who can read a whole sentence

## Usage

```
ED_LITR_W_RDW(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

---

## ED_LITR_W_SCH *Women with secondary or higher education*

---

### Description

Percentage of women with secondary or higher education

### Usage

```
ED_LITR_W_SCH(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

---

## ED_MDIA_M_RDO *Men who listen to the radio at least once a week*

---

### Description

Percentage of men who listen to the radio at least once a week

### Usage

```
ED_MDIA_M_RDO(MRdata)
```

### Arguments

| | |
|---|---|
| MRdata | A DHS Men’s Recode (MR) data.frame. |

### Value

A data.frame with a ‘value‘ column (1/0/NA), ready for surveyPrev::getDHSindicator().

### Source

DHS-indicator-factory sideproject/results/passing_current/Chap_ED/ED_MDIA_M_RDO.R; validated on ZM_2018 (published 55.9, observed 56.2453, abs_error 0.3453).

## ED_MDIA_M_TLV *Men who watch television at least once a week*

### Description

Percentage of men who watch television at least once a week

### Usage

```
ED_MDIA_M_TLV(MRdata)
```

### Arguments

| | |
|---|---|
| MRdata | A DHS Men's Recode (MR) data.frame. |

### Value

A data.frame with a 'value' column (1/0/NA), ready for surveyPrev::getDHSindicator().

### Source

DHS-indicator-factory sideproject/results/passing_current/Chap_ED/ED_MDIA_M_TLV.R; validated on ZM_2018 (published 43.2, observed 42.5046, abs_error 0.6954).

## ED_MDIA_W_3MD *ED_MDIA_W_3MD*

### Description

ED_MDIA_W_3MD

### Usage

```
ED_MDIA_W_3MD(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | data.frame from surveyPrev::getDHSdata |

### Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

### Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "ED_MDIA_W_3MD", year = 2018)

## End(Not run)
```

---

ED_MDIA_W_N3M *ED_MDIA_W_N3M*

---

## Description

ED_MDIA_W_N3M

## Usage

```
ED_MDIA_W_N3M(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "ED_MDIA_W_N3M", year = 2018)

## End(Not run)
```

ED_MDIA_W_NWS *ED_MDIA_W_NWS*

## Description

ED_MDIA_W_NWS

## Usage

```
ED_MDIA_W_NWS(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "ED_MDIA_W_NWS", year = 2018)

## End(Not run)
```

ED_MDIA_W_RDO *ED_MDIA_W_RDO*

## Description

ED_MDIA_W_RDO

## Usage

```
ED_MDIA_W_RDO(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "ED_MDIA_W_RDO", year = 2018)

## End(Not run)
```

---

`ED_MDIA_W_TLV` *ED_MDIA_W_TLV*

---

## Description

ED_MDIA_W_TLV

## Usage

```
ED_MDIA_W_TLV(IRdata)
```

## Arguments

| | |
|---|---|
| `IRdata` | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "ED_MDIA_W_TLV", year = 2018)

## End(Not run)
```

EM_EMPM_W_EMP *EM_EMPM_W_EMP*

## Description

EM_EMPM_W_EMP

## Usage

```
EM_EMPM_W_EMP(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "EM_EMPM_W_EMP", year = 2018)

## End(Not run)
```

exceedPlot *Plot exceedance probability of model results*

## Description

This function return a map of exceedance probability for given model results.

## Usage

```
exceedPlot(
  x,
  exceed = TRUE,
  direction = 1,
  threshold = NA,
  geo = geo,
  by.geo = NULL,
  ylim = NULL,
  ...
)
```

## Arguments

| | |
|---|---|
| x | a model result using surveyPrev of class "fhModel" or "clusterModel" |
| exceed | direction of the comparison The default is exceed = TRUE, which correspond to probability of prevalence larger than the threshold. If exceed = FALSE, the plot computes probability smaller than the threshold. |
| direction | Direction of the color scheme. It can be either 1 (smaller values are darker) or -1 (higher values are darker). Default is set to 1. |
| threshold | the threshold to be used in computing the exceedance probability |
| geo | SpatialPolygonsDataFrame object for the map |
| by.geo | variable name specifying region names in the data |
| ylim | range of the values to be plotted. |
| ... | additional arguments passed to SUMMER::mapPlot(). |

## Value

This function returns a map showing probability of prevalence over/under the threshold.

## Author(s)

Zehang Li, Qianyu Dong

## Examples

```
## Not run:

geo <- getDHSgeo(country = "Zambia", year = 2018)
data(ZambiaAdm1)
data(ZambiaAdm2)
data(ZambiaPopWomen)
cluster.info <- clusterInfo(geo = geo,
                            poly.adm1 = ZambiaAdm1,
                            poly.adm2 = ZambiaAdm2)

# "RH_ANCN_W_N4P" is an indicator for having more than four ANC visits.
#  In previous versions of the package, it is labeled "ancvisit4+".
```

```
dhsData <- getDHSdata(country = "Zambia",
                                indicator = "RH_ANCN_W_N4P",
                                year = 2018)
data <- getDHSindicator(dhsData, indicator = "RH_ANCN_W_N4P")
admin.info2 <- adminInfo(poly.adm = ZambiaAdm2,
                         admin = 2,
         by.adm="NAME_2",
         by.adm.upper = "NAME_1")
cl_res_ad2_unstrat <- clusterModel(data = data,
                  cluster.info = cluster.info,
                  admin.info = admin.info2,
                  stratification = FALSE,
                  model = "bym2",
                  admin = 2,
                  aggregation = TRUE,
                  CI = 0.95)
ZambiaAdm2$admin2.name.full <- paste0(ZambiaAdm2$NAME_1,
              "_",
           ZambiaAdm2$NAME_2)
exceedPlot(cl_res_ad2_unstrat, threshold = 0.5,
     exceed = TRUE, direction = -1,
     geo = ZambiaAdm2, by.geo = "admin2.name.full")
exceedPlot(cl_res_ad2_unstrat, threshold = 0.5,
     exceed = FALSE, direction = -1,
     geo = ZambiaAdm2, by.geo = "admin2.name.full")


## End(Not run)
```

---

FE_BBAG_W_A18 *Women giving birth by age 18*

---

## Description

Percentage of women who gave birth by age 18

## Usage

```
FE_BBAG_W_A18(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

## Value

A data.frame with a ‘value‘ column.

## FE_FRTR_W_A15 *Age specific fertility rate: 15-19*

### Description

Age-specific fertility rate for the three years preceding the survey for age group 15-19 expressed per 1,000 women

### Usage

```
FE_FRTR_W_A15(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

## FE_FRTR_W_TF4 *Total fertility rate 15-44*

### Description

Total fertility rate for the three years preceding the survey for age group 15-44 expressed per woman

### Usage

```
FE_FRTR_W_TF4(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

## FE_FRTR_W_TFR *Total fertility rate 15-49*

### Description

Total fertility rate for the three years preceding the survey for age group 15-49 expressed per woman

### Usage

```
FE_FRTR_W_TFR(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

## FG_KFCC_M_HFC *Ever heard of female circumcision (men)*

### Description

Percentage of men who have ever heard of female circumcision

### Usage

```
FG_KFCC_M_HFC(MRdata)
```

### Arguments

| | |
|---|---|
| MRdata | A DHS Men’s Recode (MR) data.frame. |

### Value

A data.frame with a ‘value‘ column (1/0/NA), ready for surveyPrev::getDHSindicator().

### Source

DHS-indicator-factory sideproject/results/passing_current/Chap_FG/FG_KFCC_M_HFC.R; validated on TZ_2022 (published 90.3, observed 90.3335, abs_error 0.0335).

FG_KFCC_W_HFC *FG_KFCC_W_HFC IRdata Percentage of women who have ever heard of female circumcision*

## Description

FG_KFCC_W_HFC IRdata Percentage of women who have ever heard of female circumcision

## Usage

```
FG_KFCC_W_HFC(Rdata)
```

## Arguments

| | |
|---|---|
| Rdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia",
                                  indicator = "FP_CUSA_W_MOD",
                                  year = 2018)
data <- getDHSindicator(dhsData, indicator = NULL,
                          FUN = surveyPrev::fp_cruse_mod)

## End(Not run)
```

FG_PFCC_W_WCC *FG_PFCC_W_WCC IRdata Percentage of women circumcised (women who experienced female genital cutting (FGM))*

## Description

FG_PFCC_W_WCC IRdata Percentage of women circumcised (women who experienced female genital cutting (FGM))

### Usage

```
FG_PFCC_W_WCC(Rdata)
```

### Arguments

| | |
|---|---|
| Rdata | data.frame from surveyPrev::getDHSdata |

### Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

### Author(s)

Qianyu Dong

### Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia",
                                  indicator = "FP_CUSA_W_MOD",
                                  year = 2018)
data <- getDHSindicator(dhsData, indicator = NULL,
                          FUN = surveyPrev::fp_cruse_mod)

## End(Not run)
```

---

## fhModel *Calculate smoothed direct estimates*

---

### Description

This function calculate smoothed direct estimates at given admin level.

### Usage

```
fhModel(
  data,
  cluster.info,
  admin.info = NULL,
  X = NULL,
  nested = FALSE,
  admin,
  CI = 0.95,
  model = c("bym2", "iid"),
  aggregation = FALSE,
  alt.strata = NULL,
  var.fix = FALSE,
  ...
)
```

## Arguments

| | |
|---|---|
| data | dataframe that contains the indicator of interests, output of getDHSindicator function |
| cluster.info | list contains data and wrong.points. data contains admin 1 and admin 2 information and coordinates for each cluster. wrong.points. contains cluster id for cluster without coordinates or admin 1 information. Output of getDHSindicator function |
| admin.info | list contains data and mat, data contains population and urban/rural proportion at specific admin level and mat is the adjacency matrix, output of adminInfo function |
| X | dataframe that contains areal covariates, the first column should be the same admin name as in admin.info$data. |
| nested | whether or not to fit a nested model. |
| admin | admin level for the model |
| CI | Credible interval to be used. Default to 0.95. |
| model | smoothing model used in the random effect. Options are independent ("iid") or spatial ("bym2"). |
| aggregation | whether or not report aggregation results. |
| alt.strata | the variable name in the data frame that correspond to the stratification variable. Most of the DHS surveys are stratified by admin 1 area crossed with urban/rural, which is the default stratification variable created by the function (when `alt.strata = NULL`). When a different set of strata is used. The stratification variable should be included in the data and `alt.strata` should be set to the column name. |
| var.fix | Whether to use fix variance admin 2 direct estimate as input for the model. |
| ... | Additional arguments passed on to the 'smoothSurvey' function |

## Value

This function returns the dataset that contain district name and population for given tiff files and polygons of admin level,

## Author(s)

Qianyu Dong

## Examples

```
## Not run:
geo <- getDHSgeo(country = "Zambia", year = 2018)
data(ZambiaAdm1)
data(ZambiaAdm2)
data(ZambiaPopWomen)
cluster.info <- clusterInfo(geo = geo,
                            poly.adm1 = ZambiaAdm1,
                            poly.adm2 = ZambiaAdm2)
```

```
# "RH_ANCN_W_N4P" is an indicator for having more than four ANC visits.
#  In previous versions of the package, it is labeled "ancvisit4+".
dhsData <- getDHSdata(country = "Zambia",
                                indicator = "RH_ANCN_W_N4P",
                                year = 2018)

data <- getDHSindicator(dhsData, indicator = "RH_ANCN_W_N4P")
admin.info1 <- adminInfo(poly.adm = ZambiaAdm1,
                         admin = 1,
                         by.adm = "NAME_1",
                         agg.pop =ZambiaPopWomen$admin1_pop,
                         proportion = ZambiaPopWomen$admin1_urban)
smth_res_ad1 <- fhModel(data,
                        cluster.info = cluster.info,
                        admin.info = admin.info1,
                        admin = 1,
                        model = "bym2",
                        aggregation = F)
smth_res_ad1

## End(Not run)
```

---

FI_EXFI_W_EEX *Women who have ever experienced fistula symptoms*

---

## Description

Percentage of women who have ever experienced fistula symptoms

## Usage

```
FI_EXFI_W_EEX(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

## Value

A data.frame with a ‘value‘ column.

## FI_EXFI_W_HRD *Women who have ever heard of fistula symptoms*

### Description

Percentage of women who have ever heard of fistula symptoms

### Usage

```
FI_EXFI_W_HRD(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

## FP_CUSA_W_ANY *FP_CUSA_W_ANY*

### Description

FP_CUSA_W_ANY

### Usage

```
FP_CUSA_W_ANY(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | data.frame from surveyPrev::getDHSdata |

### Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

### Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "FP_CUSA_W_ANY", year = 2018)

## End(Not run)
```

---

FP_CUSA_W_EMC *FP_CUSA_W_EMC*

---

## Description

FP_CUSA_W_EMC

## Usage

```
FP_CUSA_W_EMC(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "FP_CUSA_W_EMC", year = 2018)

## End(Not run)
```

FP_CUSA_W_FCN *FP_CUSA_W_FCN*

## Description

FP_CUSA_W_FCN

## Usage

```
FP_CUSA_W_FCN(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "FP_CUSA_W_FCN", year = 2018)

## End(Not run)
```

FP_CUSA_W_FST *FP_CUSA_W_FST*

## Description

FP_CUSA_W_FST

## Usage

```
FP_CUSA_W_FST(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "FP_CUSA_W_FST", year = 2018)

## End(Not run)
```

---

`FP_CUSA_W_IMP` *FP_CUSA_W_IMP*

---

## Description

FP_CUSA_W_IMP

## Usage

```
FP_CUSA_W_IMP(IRdata)
```

## Arguments

| | |
|---|---|
| `IRdata` | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "FP_CUSA_W_IMP", year = 2018)

## End(Not run)
```

FP_CUSA_W_INJ *FP_CUSA_W_INJ*

## Description

FP_CUSA_W_INJ

## Usage

```
FP_CUSA_W_INJ(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "FP_CUSA_W_INJ", year = 2018)

## End(Not run)
```

FP_CUSA_W_IUD *FP_CUSA_W_IUD*

## Description

FP_CUSA_W_IUD

## Usage

```
FP_CUSA_W_IUD(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "FP_CUSA_W_IUD", year = 2018)

## End(Not run)
```

---

FP_CUSA_W_MCN *FP_CUSA_W_MCN*

---

## Description

FP_CUSA_W_MCN

## Usage

```
FP_CUSA_W_MCN(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "FP_CUSA_W_MCN", year = 2018)

## End(Not run)
```

FP_CUSA_W_MOD *FP_CUSA_W_MOD IRdata Modern contraceptive prevalence rate (women currently using any modern method of contraception)*

## Description

FP_CUSA_W_MOD IRdata Modern contraceptive prevalence rate (women currently using any modern method of contraception)

## Usage

```
FP_CUSA_W_MOD(Rdata)
```

## Arguments

| | |
|---|---|
| Rdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia",
                                  indicator = "FP_CUSA_W_MOD",
                                  year = 2018)
data <- getDHSindicator(dhsData, indicator = NULL,
                         FUN = surveyPrev::FP_CUSA_W_MOD)

## End(Not run)
```

FP_CUSA_W_MST *FP_CUSA_W_MST*

## Description

FP_CUSA_W_MST

## Usage

```
FP_CUSA_W_MST(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | data.frame from surveyPrev::getDHSdata |

### Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

### Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

### Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "FP_CUSA_W_MST", year = 2018)

## End(Not run)
```

---

## FP_CUSA_W_PIL *FP_CUSA_W_PIL*

---

### Description

FP_CUSA_W_PIL

### Usage

```
FP_CUSA_W_PIL(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | data.frame from surveyPrev::getDHSdata |

### Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

### Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "FP_CUSA_W_PIL", year = 2018)

## End(Not run)
```

---

FP_CUSA_W_STD *FP_CUSA_W_STD*

---

## Description

FP_CUSA_W_STD

## Usage

```
FP_CUSA_W_STD(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "FP_CUSA_W_STD", year = 2018)

## End(Not run)
```

FP_CUSA_W_TRA *FP_CUSA_W_TRA*

## Description

FP_CUSA_W_TRA

## Usage

```
FP_CUSA_W_TRA(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "FP_CUSA_W_TRA", year = 2018)

## End(Not run)
```

FP_CUSA_W_WTH *FP_CUSA_W_WTH*

## Description

FP_CUSA_W_WTH

## Usage

```
FP_CUSA_W_WTH(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "FP_CUSA_W_WTH", year = 2018)

## End(Not run)
```

---

`FP_CUSM_W_MOD` *FP_CUSM_W_MOD IRdata Modern contraceptive prevalence rate (Married women currently using any modern method of contraception)*

---

## Description

FP_CUSM_W_MOD IRdata Modern contraceptive prevalence rate (Married women currently using any modern method of contraception)

## Usage

```
FP_CUSM_W_MOD(Rdata)
```

## Arguments

| | |
|---|---|
| `Rdata` | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia",
                                  indicator = "FP_CUSA_W_MOD",
                                  year = 2018)
data <- getDHSindicator(dhsData, indicator = NULL,
                         FUN = surveyPrev::FP_CUSM_W_MOD)

## End(Not run)
```

---

# FP_DMKF_W_UDK *Family planning use decisionmaking mainly by others/don't know/missing*

---

## Description

Among currently married women using family planning, the percentage for whom the decision was made mainly by others or the response is don't know or missing

## Usage

```
FP_DMKF_W_UDK(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

## Value

A data.frame with a 'value' column.

---

# FP_DMKF_W_UHS *Family planning use decisionmaking mainly by husband*

---

## Description

Among currently married women using family planning, the percentage for whom the decision was made mainly by the husband

## Usage

```
FP_DMKF_W_UHS(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

## Value

A data.frame with a ‘value‘ column.

---

`FP_DMKF_W_UJN` *Family planning use decisionmaking jointly by wife and husband*

---

## Description

Among currently married women using family planning, the percentage for whom the decision was made jointly by wife and husband

## Usage

```
FP_DMKF_W_UJN(IRdata)
```

## Arguments

| | |
|---|---|
| `IRdata` | A DHS Individual Recode (IR) data.frame. |

## Value

A data.frame with a ‘value‘ column.

---

`FP_DMKF_W_UWF` *Family planning use decisionmaking mainly by wife*

---

## Description

Among currently married women using family planning, the percentage for whom the decision was made mainly by the wife

## Usage

```
FP_DMKF_W_UWF(IRdata)
```

## Arguments

| | |
|---|---|
| `IRdata` | A DHS Individual Recode (IR) data.frame. |

## Value

A data.frame with a ‘value‘ column.

## FP_DMKP_W_MHS *Family planning decisionmaking mainly by husband*

### Description

Percentage of currently married women age 15-49 for whom decisionmaking about whether to use or not use or family planning is made mainly by the husband

### Usage

```
FP_DMKP_W_MHS(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

## FP_DMKP_W_MJN *Family planning decisionmaking jointly by wife and husband*

### Description

Percentage of currently married women age 15-49 for whom decisionmaking about whether to use or not use or family planning is made jointly by the wife and husband

### Usage

```
FP_DMKP_W_MJN(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

## FP_DMKP_W_MWF *Family planning decisionmaking mainly by wife*

### Description

Percentage of currently married women age 15-49 for whom decisionmaking about whether to use or not use or family planning is made mainly by the wife

### Usage

```
FP_DMKP_W_MWF(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

## FP_EFPM_M_NWS *FP_EFPM_M_NWS*

### Description

FP_EFPM_M_NWS

### Usage

```
FP_EFPM_M_NWS(MRdata)
```

### Arguments

| | |
|---|---|
| MRdata | data.frame from surveyPrev::getDHSdata |

### Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

### Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "FP_EFPM_M_NWS", year = 2018)

## End(Not run)
```

---

FP_EFPM_M_TLV *FP_EFPM_M_TLV*

---

## Description

FP_EFPM_M_TLV

## Usage

```
FP_EFPM_M_TLV(MRdata)
```

## Arguments

| | |
|---|---|
| MRdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "FP_EFPM_M_TLV", year = 2018)

## End(Not run)
```

FP_EFPM_W_NWS *FP_EFPM_W_NWS*

## Description

FP_EFPM_W_NWS

## Usage

```
FP_EFPM_W_NWS(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "FP_EFPM_W_NWS", year = 2018)

## End(Not run)
```

FP_EFPM_W_RDO *FP_EFPM_W_RDO*

## Description

FP_EFPM_W_RDO

## Usage

```
FP_EFPM_W_RDO(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "FP_EFPM_W_RDO", year = 2018)

## End(Not run)
```

---

`FP_EFPM_W_TLV` *FP_EFPM_W_TLV*

---

## Description

FP_EFPM_W_TLV

## Usage

```
FP_EFPM_W_TLV(IRdata)
```

## Arguments

| | |
|---|---|
| `IRdata` | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "FP_EFPM_W_TLV", year = 2018)

## End(Not run)
```

FP_EVUM_W_MOD *FP_EVUM_W_MOD*

## Description

FP_EVUM_W_MOD

## Usage

```
FP_EVUM_W_MOD(Rdata)
```

## Arguments

| | |
|---|---|
| Rdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "FP_EVUM_W_MOD", year = 2018)

## End(Not run)
```

FP_KMTA_M_ANY *Knowledge of any method of contraception (all men)*

## Description

Percentage of men who know any method of contraception

## Usage

```
FP_KMTA_M_ANY(MRdata)
```

## Arguments

| | |
|---|---|
| MRdata | A DHS Men's Recode (MR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

---

`FP_KMTA_M_MOD` *Knowledge of any modern method of contraception (all men)*

---

### Description

Percentage of men who know any modern method of contraception

### Usage

```
FP_KMTA_M_MOD(MRdata)
```

### Arguments

| | |
|---|---|
| `MRdata` | A DHS Men’s Recode (MR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

---

`FP_KMTA_W_ANY` *FP_KMTA_W_ANY*

---

### Description

FP_KMTA_W_ANY

### Usage

```
FP_KMTA_W_ANY(IRdata)
```

### Arguments

| | |
|---|---|
| `IRdata` | data.frame from surveyPrev::getDHSdata |

### Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

### Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "FP_KMTA_W_ANY", year = 2018)

## End(Not run)
```

---

FP_KMTA_W_EMC *FP_KMTA_W_EMC*

---

## Description

FP_KMTA_W_EMC

## Usage

```
FP_KMTA_W_EMC(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "FP_KMTA_W_EMC", year = 2018)

## End(Not run)
```

FP_KMTA_W_FCN *FP_KMTA_W_FCN*

## Description

FP_KMTA_W_FCN

## Usage

```
FP_KMTA_W_FCN(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "FP_KMTA_W_FCN", year = 2018)

## End(Not run)
```

FP_KMTA_W_FST *FP_KMTA_W_FST*

## Description

FP_KMTA_W_FST

## Usage

```
FP_KMTA_W_FST(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "FP_KMTA_W_FST", year = 2018)

## End(Not run)
```

---

`FP_KMTA_W_IMP` *FP_KMTA_W_IMP*

---

## Description

FP_KMTA_W_IMP

## Usage

```
FP_KMTA_W_IMP(IRdata)
```

## Arguments

| | |
|---|---|
| `IRdata` | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "FP_KMTA_W_IMP", year = 2018)

## End(Not run)
```

FP_KMTA_W_INJ *FP_KMTA_W_INJ*

## Description

FP_KMTA_W_INJ

## Usage

```
FP_KMTA_W_INJ(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "FP_KMTA_W_INJ", year = 2018)

## End(Not run)
```

FP_KMTA_W_IUD *FP_KMTA_W_IUD*

## Description

FP_KMTA_W_IUD

## Usage

```
FP_KMTA_W_IUD(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "FP_KMTA_W_IUD", year = 2018)

## End(Not run)
```

---

# FP_KMTA_W_MST *FP_KMTA_W_MST*

---

## Description

FP_KMTA_W_MST

## Usage

```
FP_KMTA_W_MST(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "FP_KMTA_W_MST", year = 2018)

## End(Not run)
```

FP_KMTA_W_OMD *FP_KMTA_W_OMD*

## Description

FP_KMTA_W_OMD

## Usage

```
FP_KMTA_W_OMD(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "FP_KMTA_W_OMD", year = 2018)

## End(Not run)
```

FP_KMTA_W_PIL *FP_KMTA_W_PIL*

## Description

FP_KMTA_W_PIL

## Usage

```
FP_KMTA_W_PIL(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "FP_KMTA_W_PIL", year = 2018)

## End(Not run)
```

---

`FP_KMTA_W_STD` *FP_KMTA_W_STD*

---

## Description

FP_KMTA_W_STD

## Usage

```
FP_KMTA_W_STD(IRdata)
```

## Arguments

| | |
|---|---|
| `IRdata` | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "FP_KMTA_W_STD", year = 2018)

## End(Not run)
```

FP_KMTA_W_TRA *FP_KMTA_W_TRA*

## Description

FP_KMTA_W_TRA

## Usage

```
FP_KMTA_W_TRA(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "FP_KMTA_W_TRA", year = 2018)

## End(Not run)
```

FP_KMTA_W_WTH *FP_KMTA_W_WTH*

## Description

FP_KMTA_W_WTH

## Usage

```
FP_KMTA_W_WTH(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "FP_KMTA_W_WTH", year = 2018)

## End(Not run)
```

---

# FP_KMTM_M_ANY *Knowledge of any method of contraception (married men)*

---

## Description

Percentage of currently married or in union men who know any method of contraception

## Usage

```
FP_KMTM_M_ANY(MRdata)
```

## Arguments

| | |
|---|---|
| MRdata | A DHS Men's Recode (MR) data.frame. |

## Value

A data.frame with a 'value' column.

## FP_KMTM_M_MOD *Knowledge of any modern method of contraception (married men)*

### Description

Percentage of currently married or in union men who know any modern method of contraception

### Usage

```
FP_KMTM_M_MOD(MRdata)
```

### Arguments

| | |
|---|---|
| MRdata | A DHS Men's Recode (MR) data.frame. |

### Value

A data.frame with a 'value' column.

## FP_KMTM_W_ANY *Knowledge of any method of contraception (married women)*

### Description

Percentage of currently married or in union women who know any method of contraception

### Usage

```
FP_KMTM_W_ANY(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a 'value' column.

## FP_KMTM_W_MOD *Knowledge of any modern method of contraception (married women)*

### Description

Percentage of currently married or in union women who know any modern method of contraception

### Usage

```
FP_KMTM_W_MOD(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

## FP_NADA_W_MNT *Met need for family planning (currently using), total (all women)*

### Description

Percentage of women using family planning

### Usage

```
FP_NADA_W_MNT(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

## FP_NADA_W_PDM *Demand for family planning satisfied by modern methods (all women)*

### Description

Percentage of demand for family planning satisfied by modern methods is calculated as the number of all women using modern methods of family planning divided by the number of all women with demand for family planning (either with unmet need or currently using any family planning)

### Usage

```
FP_NADA_W_PDM(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

## FP_NADA_W_PDS *Demand for family planning satisfied (all women)*

### Description

Percentage of demand for family planning satisfied is calculated as the number of all women using family planning divided by the number of all women with demand for family planning (either with unmet need or currently using any family planning)

### Usage

```
FP_NADA_W_PDS(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

## FP_NADA_W_TDT *Total demand for family planning, total (all women)*

### Description

Total demand for family planning is the sum of unmet need and those currently using

### Usage

```
FP_NADA_W_TDT(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

## FP_NADA_W_UMT *Unmet need for modern methods, total (all women)*

### Description

Percentage of women with an unmet need for modern methods

### Usage

```
FP_NADA_W_UMT(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

FP_NADA_W_UNT *FP_NADA_W_UNT IRdata Women with an unmet need for family planning for spacing and limiting*

## Description

FP_NADA_W_UNT IRdata Women with an unmet need for family planning for spacing and limiting

## Usage

```
FP_NADA_W_UNT(Rdata)
```

## Arguments

| | |
|---|---|
| Rdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia",
                                  indicator = "FP_NADA_W_UNT",
                                  year = 2018)
data <- getDHSindicator(dhsData, indicator = NULL,
                         FUN = surveyPrev::FP_NADA_W_UNT)

## End(Not run)
```

FP_NADM_W_MNT *Met need for family planning (currently using), total*

## Description

Percentage of currently married or in union women using family planning

## Usage

```
FP_NADM_W_MNT(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

---

## FP_NADM_W_PDM *FP_NADA_W_UNT IRdata Women with an unmet need for family planning for spacing and limiting*

---

### Description

FP_NADA_W_UNT IRdata Women with an unmet need for family planning for spacing and limiting

### Usage

```
FP_NADM_W_PDM(Rdata)
```

### Arguments

| | |
|---|---|
| Rdata | data.frame from surveyPrev::getDHSdata |

### Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

### Author(s)

Qianyu Dong

### Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia",
                                  indicator = "FP_NADM_W_PDM",
                                  year = 2018)
data <- getDHSindicator(dhsData, indicator = NULL,
                         FUN = surveyPrev::FP_NADM_W_PDM)

## End(Not run)
```

## FP_NADM_W_PDS *Demand for family planning satisfied*

### Description

Percentage of demand for family planning satisfied is calculated as the number of currently married women using family planning divided by the number of currently married women with demand for family planning (either with unmet need or currently using any family planning)

### Usage

```
FP_NADM_W_PDS(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

## FP_NADM_W_TDT *Total demand for family planning*

### Description

Total demand for family planning is the sum of unmet need for family planning and those currently using family planning

### Usage

```
FP_NADM_W_TDT(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

FP_NADM_W_UMT *Unmet need for modern methods*

## Description

Percentage of currently married or in union women with an unmet need for modern methods

## Usage

```
FP_NADM_W_UMT(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

## Value

A data.frame with a ‘value‘ column.

FP_NADM_W_UNT *FP_NADM_W_UNT #unmet_family IRdata Married women with an unmet need for family planning for spacing and limiting, line 17 manually added by Qianyu*

## Description

FP_NADM_W_UNT #unmet_family IRdata Married women with an unmet need for family planning for spacing and limiting, line 17 manually added by Qianyu

## Usage

```
FP_NADM_W_UNT(Rdata)
```

## Arguments

| | |
|---|---|
| Rdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "FP_NADM_W_UNT", year = 2018)

## End(Not run)
```

---

FP_NDYA_W_MNT *Met need for family planning (currently using), total (all young women)*

---

## Description

Percentage of young women age 15-24 using family planning

## Usage

```
FP_NDYA_W_MNT(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

## Value

A data.frame with a ‘value‘ column.

---

FP_NDYA_W_PDM *FP_NADA_W_UNT IRdata Women with an unmet need for family planning for spacing and limiting*

---

## Description

FP_NADA_W_UNT IRdata Women with an unmet need for family planning for spacing and limiting

## Usage

```
FP_NDYA_W_PDM(Rdata)
```

## Arguments

| | |
|---|---|
| Rdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia",
                                  indicator = "FP_NDYA_W_PDM",
                                  year = 2018)
data <- getDHSindicator(dhsData, indicator = NULL,
                          FUN = surveyPrev::FP_NDYA_W_PDM)

## End(Not run)
```

---

# FP_NDYA_W_PDS *Demand for family planning satisfied (all young women)*

---

## Description

Percentage of demand for family planning satisfied is calculated as the number of young women age 15-24 using family planning divided by the number of all young women with demand for family planning (either with unmet need or currently using any family planning)

## Usage

```
FP_NDYA_W_PDS(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

## Value

A data.frame with a ‘value‘ column.

## FP_NDYA_W_TDT *Total demand for family planning, total (all young women)*

### Description

Total demand for family planning is the sum of unmet need and those currently using

### Usage

```
FP_NDYA_W_TDT(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

## FP_NDYA_W_UMT *Unmet need for modern methods, total (all young women)*

### Description

Percentage of young women age 15-24 with an unmet need for modern methods

### Usage

```
FP_NDYA_W_UMT(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

## FP_NDYA_W_UNT *Unmet need for family planning, total (all young women)*

### Description

Percentage of young women age 15-24 with an unmet need for family planning

### Usage

```
FP_NDYA_W_UNT(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

## FP_NDYM_W_MNT *Met need for family planning (currently using), total (married young women)*

### Description

Percentage of currently married or in union young women age 15-24 using family planning

### Usage

```
FP_NDYM_W_MNT(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

## FP_NDYM_W_PDM *Demand for family planning satisfied by modern methods (married young women)*

### Description

Percentage of demand for family planning satisfied by modern methods is calculated as the number of currently married women using modern methods of family planning divided by the number of currently married women with demand for family planning (either with unmet need or currently using any family planning)

### Usage

```
FP_NDYM_W_PDM(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

## FP_NDYM_W_PDS *Demand for family planning satisfied (married young women)*

### Description

Percentage of demand for family planning satisfied is calculated as the number of currently married women using family planning divided by the number of currently married women with demand for family planning (either with unmet need or currently using any family planning)

### Usage

```
FP_NDYM_W_PDS(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

## FP_NDYM_W_TDT *Total demand for family planning (married young women)*

### Description

Total demand for family planning is the sum of unmet need for family planning and those currently using family planning

### Usage

```
FP_NDYM_W_TDT(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column (1/0/NA), ready for surveyPrev::getDHSindicator().

### Source

DHS-indicator-factory sideproject/results/passing_current/Chap_FP/FP_NDYM_W_TDT.R; validated on ZM_2018 (published 66, observed 66.0017, abs_error 0.0017).

## FP_NDYM_W_UMT *Unmet need for modern methods (married young women)*

### Description

Percentage of currently married or in union young women age 15-24 with an unmet need for modern methods

### Usage

```
FP_NDYM_W_UMT(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

## FP_NDYM_W_UNT *Unmet need for family planning (married young women)*

### Description

Percentage of currently married or in union young women age 15-24 with an unmet need for family planning

### Usage

```
FP_NDYM_W_UNT(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

## get_api_table *Function to obtain subnational estimates from DHS API*

### Description

Function to obtain subnational estimates from DHS API

### Usage

```
get_api_table(country, survey, indicator, simplify = TRUE, admin = 1)
```

### Arguments

| | |
|---|---|
| country | A character string of keys at: https://api.dhsprogram.com/rest/dhs/countries?returnFields=CountryName,I |
| survey | A character string of keys at: https://api.dhsprogram.com/rest/dhs/surveys?returnFields=SurveyId,Survey |
| indicator | A character string of keys at: https://api.dhsprogram.com/rest/dhs/indicators?returnFields=IndicatorId,La |
| simplify | if TRUE only the value and region index is returned. |
| admin | Either 0 (national) or 1 (subnational admin 1 area). |

### Value

a data frame of the DHS indicator estimates

## Examples

```
## Not run:
# country:  Zambia
# survey: 2018 DHS
# indicator: Percentage of children stunted
#             (below -2 SD of height for age
#              according to the WHO standard)
dhs_table <- get_api_table(country = "ZM",
                           survey = "ZM2018DHS",
                           indicator = "CN_NUTS_C_HA2",
                           simplify = TRUE)
dhs_table

## End(Not run)
```

---

`get_geoBoundaries` *Download geoBoundaries Shapefile as sf Object*

---

## Description

Retrieves official administrative boundary shapefiles from the [geoBoundaries](https://www.geoboundaries.org/) API for a given country ISO3 code and administrative level. Returns the data as an ‘sf‘ object for direct spatial use.

## Usage

```
get_geoBoundaries(iso3, adm = "ADM1", release = "gbOpen")
```

## Arguments

| | |
|---|---|
| `iso3` | Character. The three-letter ISO3 country code (e.g., ‘"NGA"‘, ‘"ZMB"‘). |
| `adm` | Character. Administrative level to download (e.g., ‘"ADM0"‘, ‘"ADM1"‘, ‘"ADM2"‘). Defaults to ‘"ADM1"‘. |
| `release` | Character. geoBoundaries release type. Either ‘"gbOpen"‘ (default) for open data or ‘"gbAuthoritative"‘ for official boundaries. |

## Value

An ‘sf‘ object containing the requested administrative boundaries.

## Examples

```
## Not run:
# Download Nigeria Admin 1 boundaries
nga_adm1 <- get_geoBoundaries("NGA", adm = "ADM1")

# Download Burkina Faso Admin 2 boundaries from the authoritative release
```

```
bfa_adm2 <- get_geoBoundaries("BFA", adm = "ADM2", release = "gbAuthoritative")

## End(Not run)
```

---

`getCovariate` *Extract Covariate Data from A list of Rasters*

---

## Description

This function aligns raster covariates to a population density grid, extracts values for a national grid, associates administrative information, and prepares covariates for cluster-based data.

## Usage

```
getCovariate(
  tiffs,
  tiff.population,
  UR.surface = NULL,
  cluster.info,
  poly.adm,
  by.adm,
  by.adm.upper,
  standardize = FALSE,
  na.rm = FALSE,
  fact = 1
)
```

## Arguments

| | |
|---|---|
| `tiffs` | A list of 'SpatRaster' with element names the column names for the covariates. |
| `tiff.population` | A 'SpatRaster' object representing population density used as the reference grid. |
| `UR.surface` | (Optional) A 'SpatRaster' object indicating urban-rural classification. |
| `cluster.info` | **Need STRATA here** |
| `poly.adm` | A 'sf' object |
| `by.adm` | the column name of column for Admin names for admin 1 |
| `by.adm.upper` | the column name of column for Admin names for admin 2 or other lower admin level. |
| `standardize` | whether to standardize the covariates/tiffs or not |
| `na.rm` | whether to remove rows that have no Population or admin 2 membership |
| `fact` | A numeric value indicating the aggregation factor for resampling the raster data. If 'fact = 1', no aggregation is performed. |

## Details

The function follows these steps: 1. Converts ‘poly.adm‘ to an ‘sf‘ object. 2. Aligns rasters in ‘tiffs‘ to match the ‘tiff.population‘ grid using bilinear resampling. 3. Aggregates raster resolution if ‘fact‘ is greater than 1. 4. Extracts pixel center coordinates and values for the national grid. 5. Matches pixel locations to administrative boundaries. 6. Extracts raster values at cluster locations.

## Value

A list with two elements:

| | |
|---|---|
| `natl.grid` | A data frame containing natl grid of pixels for covariates and Admin information. |
| `cluster.cov` | A data frame with extracted covariates for cluster locations. U/R info from DHS |

## Examples

```
## Not run:

kenya_cov <- getCovariate(
    tiffs = cov_raster_stack,
    tiff.population = avg.pop,
    UR.surface = UR_surface,
    cluster.info = cluster.info,
    poly.adm = poly.adm2,
    by.adm = 'NAME_2',
    by.adm.upper = 'NAME_1',
    standardize=FALSE,
.    na.rm=FALSE,
    fact = 1)


## End(Not run)
```

---

# getDHSdata *Download DHS survey data*

---

## Description

This function downloads DHS data for a particular country and survey.

## Usage

```
getDHSdata(country, indicator = NULL, Recode = NULL, year, SurveyType = "DHS")
```

### Arguments

| | |
|---|---|
| country | Country name. |
| indicator | Indicator of interests. Current list of supported indicators include: "womananemia", "ancvisit4+", "stunting", "wasting", "DPT3". |
| Recode | Types of dhs Recode |
| year | Year the survey conducted. |
| SurveyType | Type of survey ("DHS","SPE"). Default is "DHS". |

### Value

This function returns the survey dataset that contains the indicator.

### Author(s)

Qianyu Dong

### Examples

```
## Not run:
# When indicator is known, download only the relevant file
# "RH_ANCN_W_N4P" is an indicator for having more than four ANC visits.
#  In previous versions of the package, it is labeled "ancvisit4+".
dhsData <- getDHSdata(country = "Zambia",
                                  indicator = "RH_ANCN_W_N4P",
                                  year = 2018)

# When indicator is NULL or not recognized, download all files
dhsData <- getDHSdata(country = "Zambia",
                                  indicator = NULL,
                                  year = 2018)
names(dhsData)

## End(Not run)
```

---

## getDHSgeo *Download DHS geo data*

---

### Description

This function downloads cluster's coordinate data for country and survey.

### Usage

```
getDHSgeo(country, year)
```

### Arguments

| | |
|---|---|
| country | Country name. |
| year | Year the survey conducted. |

### Value

The function returns a spatial point dataset with coordinates for each cluster based on the chosen survey and year.

### Author(s)

Qianyu Dong

### Examples

```
## Not run:
geo <- getDHSgeo(country = "Zambia", year = 2018)

## End(Not run)
```

---

## getDHSindicator *Process DHS data*

---

### Description

This function processes DHS data from getDHSdata function.

### Usage

```
getDHSindicator(
  Rdata,
  indicator = NULL,
  FUN = NULL,
  nmr.year = 10,
  filter = NULL,
  yesCondition = NULL,
  noCondition = NULL
)
```

### Arguments

| | |
|---|---|
| Rdata | Result from getDHSdata function, the raw DHS survry data from get_datasets. |
| indicator | Indicator of interests. |
| FUN | a function to process the DHS data into a binary indicator if not using one of the implemented indicators. See surveyPrev::AN_ANEM_W_ANY for an example function to obtain the indicator for women classified as having any anemia. |

| | |
|---|---|
| nmr.year | This is an argument specifically for NMR calculation. It specifies births how many years do we include prior to the date of survey. Default to be 10, i.e., NMR in the last 10 years prior to survey. |
| filter | This arguments specifies how the data should be filtered for creating a customized indicator. It should be a character string or a vector of character strings specifying the expression used to filter the data. See example for details |
| yesCondition | This arguments specifies how to define a yes label, i.e., value = 1, for creating a customized indicator. It should be a character string specifying the expression used to define the outcome value equal to 1. See example for details. |
| noCondition | This arguments specifies how to define a no label, i.e., value = 0, for creating a customized indicator. It should be a character string specifying the expression used to define the outcome value equal to 0. See example for details. |

## Value

The function returns processed survey data that contains the indicator of interests.

## Author(s)

Qianyu Dong

## Examples

```
## Not run:
# "RH_ANCN_W_N4P" is an indicator for having more than four ANC visits.
#  In previous versions of the package, it is labeled "ancvisit4+".
dhsData1 <- getDHSdata(country = "Zambia",
                                indicator = "RH_ANCN_W_N4P",
                                year = 2018)
data1 <- getDHSindicator(dhsData, indicator = "RH_ANCN_W_N4P")

#-----------------------------------------------------------------#
# User-specified function to process the data
# For example see the internal function surveyPrev::AN_ANEM_W_ANY
#-----------------------------------------------------------------#
dhsData2 <- getDHSdata(country = "Zambia",
                                indicator = NULL,
                                year = 2018)
data2 <- getDHSindicator(dhsData2, indicator = NULL,
                         FUN = surveyPrev::AN_ANEM_W_ANY)
# which should be identical to the following
dhsData3 <- getDHSdata(country = "Zambia",
                                indicator = "womananemia",
                                year = 2018)
data3 <- getDHSindicator(dhsData3, indicator = "womananemia")

#-----------------------------------------------------------------#
# User-specified filtering condition
# Demonstrating NMR data preparation by specifying how to subset data
#    and specify the outcome variable and its levels
#-----------------------------------------------------------------#
```

```
Recode <- "Births Recode"
dhsData4 <- getDHSdata(country = "Zambia", indicator = NULL,
                       Recode=Recode,year = "2018")
#
# Here we filter the births to be within the last 10 years
#   this is specified by condition = "v008 - b3 < 120"
# b3 is the date of births in CMC format
# v008 is the date of interview in CMC format
# the difference is the number of months between the two dates
# b7 is the age of death for the child. We consider neonatal deaths where
#   b7 = 0.
# b7 = NA when the child is alive at the time of interview.
data4 <- getDHSindicator(Rdata = dhsData4,
                         indicator = NULL,
                         filter = "v008 - b3 < 120",
                         yesCondition = "b7 == 0",
                         noCondition = "b7 > 0 | is.na(b7)")

# This will return the same dataset as below
data5 <- getDHSindicator(Rdata = dhsData4, indicator = "nmr")

# Notice that filter can have more than one conditions specified by vector
# The following four specifications lead to the same dataset for
#  neonatal deaths in the last 5 years
data6a <- getDHSindicator(Rdata = dhsData4,
                         indicator = NULL,
                         filter = "v008 - b3 < 120 & v008 - b3 < 60",
                         yesCondition = "b7 == 0",
                         noCondition = "b7 > 0 | is.na(b7)")
data6b <- getDHSindicator(Rdata = dhsData4,
                         indicator = NULL,
                         filter = c("v008 - b3 < 120", "v008 - b3 < 60"),
                         yesCondition = "b7 == 0",
                         noCondition = "b7 > 0 | is.na(b7)")
data6c <- getDHSindicator(Rdata = dhsData4,
                         indicator = NULL,
                         filter = "v008 - b3 < 60",
                         yesCondition = "b7 == 0",
                         noCondition = "b7 > 0 | is.na(b7)")
data7 <- getDHSindicator(Rdata = dhsData4, indicator = "nmr", nmr.year = 5)

## End(Not run)
```

---

getUR *Function to threshold population raster to obtain urban/rural fractions by Admin1 and Admin2 areas*

---

## Description

This function computes the urban proportion at a given survey year. It requires two population raster files and urban population fraction by admin 1 area from the census. The census year overall population raster is used to partition the grids into urban and rural pixels, based on the urban population fractions in a given area at the census year. The thresholding process is performed by first sorting the pixels from high to low population density, and find a threshold such that the fraction of population above this threshold matches the urban population fraction from the census. This step defines the urbanicity of each pixel. In the second step, for any given year's raster for a specific (sub-)population (e.g., specific age groups), we aggregate the population in the urban pixels defined in the previous step to compute urban proportion for the (sub-)population, within both admin1 and admin2 regions.

## Usage

```
getUR(
  tiff.census,
  tiff.survey,
  prop.census,
  fact = 10,
  poly.adm1,
  poly.adm2,
  varname1,
  varname2
)
```

## Arguments

| | |
|---|---|
| tiff.census | spatial raster of population estimates at the census year when the sampling frame is based, for the whole population. |
| tiff.survey | spatial raster of population estimates at the survey year, for the target population. |
| prop.census | a data frame with two columns: 'admin1' column correspond to the admin 1 names in the 'poly.adm1' file. And 'frac' column specifying the proportion of population in each admin 1 area during the census year. See examples for detail. |
| fact | factor to aggregate pixels from tiff.survey to tiff.census. For example, if tiff.census is a population raster at 1km by 1km resolution and tiff.survey is a raster at 100m by 100m resolution, then fact should be set to 10. Currently we only support fact > 1. Default is 10. |
| poly.adm1 | spatial polygons data frame for admin 1 |
| poly.adm2 | spatial polygons data frame for admin 2 |
| varname1 | column name of district name in the admin 1 spatial polygon data frame |
| varname2 | column name of district name in the admin 2 spatial polygon data frame |

## Value

a list of two data frames for admin 1 and admin 2 urban ratios and UR surface where 1 for urban.

## Examples

```
## Not run:
# ------------------------------------------------------------------------#
# Here we consider the example of computing urban/rural fraction for
#  Zambia 2018 DHS for the sub-population of children under 1 years old.
# This survey is based on sampling frame from the 2010 Zambia Census.
# ------------------------------------------------------------------------#
#
# From Table A1 of Zambia 2013-2014 DHS final report, we can obtain the fraction of
#   urban population by Admin 1 areas in the 2010 survey.
# Notice that in the appendix of the 2018 DHS final report,
#   only distribution of household is reported and not population size by urbanicity.
# When the table is not provided in the DHS report, you need to find it from
#   the census website directly.
# Please note that the admin1 column needs to match the admin 1 names in the
#   Admin 1 spatial polygon file exactly.
#   For example, here we change "Northwestern" to "North-Western"

urban.frac <- data.frame(
  admin1 = c('Central', 'Copperbelt', 'Eastern',
       'Luapula', 'Lusaka', 'Muchinga',
     'North-Western', 'Northern', 'Southern','Western'),
  frac = c(0.2513, 0.809, 0.1252,
     0.1963, 0.8456, 0.1714,
     0.2172, 0.1826, 0.2448, 0.1474))
# The corresponding census year population tiff can be found at:
# https://data.worldpop.org/GIS/Population/Global_2000_2020_1km_UNadj/

# The code below downloads the file from the internet directly
# You can also download the file directly and read into R
link1="https://data.worldpop.org/GIS/Population/Global_2000_2020_1km_UNadj/"
file1="2010/ZMB/zmb_ppp_2010_1km_Aggregated_UNadj.tif"
tempfile1 = tempfile()
download.file(paste0(link1, file1), destfile = tempfile1,
        method = "libcurl", mode="wb")
library(raster)
tiff1 <- raster(tempfile1)

# https://hub.worldpop.org/geodata/summary?id=16429
# Here we compute population fractions for 0-1 year old population.
# The from the same link below
link2="https://data.worldpop.org/GIS/AgeSex_structures/Global_2000_2020/"
# The two files are for female and male population respectively,
file2f="2018/ZMB/zmb_f_0_2018.tif"
file2m="2018/ZMB/zmb_f_0_2018.tif"

# Since the two files are very large, we recommend downloading them
#   mannually and then load them into R.
tiff2f <- raster("zmb_f_0_2018.tif")
tiff2m <- raster("zmb_m_0_2018.tif")
tiff2 <- tiff2f + tiff2m
```

```
frac <- getUR(tiff.census = tiff1, tiff.survey = tiff2,
     prop.census = urban.frac, fact = 10,
     poly.adm1 = ZambiaAdm1, poly.adm2 = ZambiaAdm2,
     varname1 = "NAME_1", varname2 = "NAME_2")

library(SUMMER)
mapPlot(frac$admin1.ur, geo = ZambiaAdm1,
     by.data = "admin1.name", by.geo = "NAME_1", variable = "urban")
mapPlot(frac$admin2.ur, geo = ZambiaAdm2,
     by.data = "admin2.name", by.geo = "NAME_2", variable = "urban")
# Compare with the proportion of Women 14-49 years old in the built-in data
# These two plots should be similar but not identical
#   since the population is different
mapPlot(ZambiaPopWomen$admin2_urban, geo = ZambiaAdm2,
     by.data = "admin2.name", by.geo = "NAME_2", variable = "urban")


## End(Not run)
```

---

HA_AFSY_M_A15 *HA_AFSY_M_A15*

---

## Description

HA_AFSY_M_A15

## Usage

```
HA_AFSY_M_A15(MRdata)
```

## Arguments

| | |
|---|---|
| MRdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "HA_AFSY_M_A15", year = 2018)

## End(Not run)
```

HA_AFSY_M_A18 *HA_AFSY_M_A18*

## Description

HA_AFSY_M_A18

## Usage

```
HA_AFSY_M_A18(MRdata)
```

## Arguments

| | |
|---|---|
| MRdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "HA_AFSY_M_A18", year = 2018)

## End(Not run)
```

HA_AFSY_W_A18 *HA_AFSY_W_A18*

## Description

HA_AFSY_W_A18

## Usage

```
HA_AFSY_W_A18(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "HA_AFSY_W_A18", year = 2018)

## End(Not run)
```

---

`HA_ANSS_M_CND` *HA_ANSS_M_CND*

---

## Description

HA_ANSS_M_CND

## Usage

```
HA_ANSS_M_CND(MRdata)
```

## Arguments

| | |
|---|---|
| `MRdata` | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "HA_ANSS_M_CND", year = 2018)

## End(Not run)
```

HA_ANSS_W_CND *HA_ANSS_W_CND*

## Description

HA_ANSS_W_CND

## Usage

```
HA_ANSS_W_CND(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "HA_ANSS_W_CND", year = 2018)

## End(Not run)
```

HA_ANSS_W_RSX *HA_ANSS_W_RSX*

## Description

HA_ANSS_W_RSX

## Usage

```
HA_ANSS_W_RSX(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "HA_ANSS_W_RSX", year = 2018)

## End(Not run)
```

---

HA_CATH_W_ATN *HA_CATH_W_ATN*

---

## Description

HA_CATH_W_ATN

## Usage

```
HA_CATH_W_ATN(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:

## Not run:

## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "HA_CATH_W_ATN", year = 2018)

## End(Not run)
```

---

HA_CATH_W_NRS *HA_CATH_W_NRS*

---

## Description

HA_CATH_W_NRS

## Usage

```
HA_CATH_W_NRS(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:

## Not run:

## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "HA_CATH_W_NRS", year = 2018)
```

```
## End(Not run)
```

---

HA_CKNA_W_CKA *Comprehensive correct knowledge about AIDS [Women]*

---

## Description

Percentage of women who correctly identify the two major ways of preventing the sexual transmission of HIV (using condoms and limiting sex to one faithful, uninfected partner), who reject the two most common local misconceptions about HIV transmission, and who know that a healthy-looking person can have HIV.

## Usage

```
HA_CKNA_W_CKA(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

## Value

A data.frame with a ‘value‘ column.

---

HA_HIVP_B_HIV *HA_HIVP_B_HIV hv_hiv_pos "HIV prevalence among general population"*

---

## Description

HA_HIVP_B_HIV hv_hiv_pos "HIV prevalence among general population"

## Usage

```
HA_HIVP_B_HIV(Rdata)
```

## Arguments

| | |
|---|---|
| Rdata | data.frame from surveyPrev::getDHSdata IR+AR+MR |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

### Author(s)

Qianyu Dong

### Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia",
                                  indicator = "HA_HIVP_B_HIV",
                                  year = 2018)
data <- getDHSindicator(dhsData, indicator = NULL,
                          FUN = surveyPrev::HA_HIVP_B_HIV)

## End(Not run)
```

---

## HA_HRSX_W_CND *HA_HRSX_W_CND*

---

### Description

HA_HRSX_W_CND

### Usage

```
HA_HRSX_W_CND(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | data.frame from surveyPrev::getDHSdata |

### Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

### Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

### Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "HA_HRSX_W_CND", year = 2018)

## End(Not run)
```

HA_HVST_M_HRD *HA_HVST_M_HRD*

## Description

HA_HVST_M_HRD

## Usage

```
HA_HVST_M_HRD(MRdata)
```

## Arguments

| | |
|---|---|
| MRdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "HA_HVST_M_HRD", year = 2018)

## End(Not run)
```

HA_HVST_M_USD *HA_HVST_M_USD*

## Description

HA_HVST_M_USD

## Usage

```
HA_HVST_M_USD(MRdata)
```

## Arguments

| | |
|---|---|
| MRdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "HA_HVST_M_USD", year = 2018)

## End(Not run)
```

---

`HA_HVTY_M_TRR` *HA_HVTY_M_TRR*

---

## Description

HA_HVTY_M_TRR

## Usage

```
HA_HVTY_M_TRR(MRdata)
```

## Arguments

| | |
|---|---|
| `MRdata` | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "HA_HVTY_M_TRR", year = 2018)

## End(Not run)
```

HA_HVTY_W_TRR *HA_HVTY_W_TRR*

## Description

HA_HVTY_W_TRR

## Usage

```
HA_HVTY_W_TRR(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "HA_HVTY_W_TRR", year = 2018)

## End(Not run)
```

HA_KAID_M_HRD *Men who have heard of HIV or AIDS*

## Description

Percentage of men who have heard of HIV or AIDS

## Usage

```
HA_KAID_M_HRD(MRdata)
```

## Arguments

| | |
|---|---|
| MRdata | A DHS Men's Recode (MR) data.frame. |

## Value

A data.frame with a ‘value‘ column.

---

HA_KAID_W_HRD *HA_KAID_W_HRD Percentage of women who have heard of HIV or AIDS hk_ever_heard in github IR*

---

## Description

HA_KAID_W_HRD Percentage of women who have heard of HIV or AIDS hk_ever_heard in github IR

## Usage

```
HA_KAID_W_HRD(Rdata)
```

## Arguments

| | |
|---|---|
| Rdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "HA_KAID_W_HRD", year = 2018)

## End(Not run)
```

## HA_KHVP_M_CS1 — *Knowledge of HIV prevention methods - Composite of 2 components (prompted) [Men]*

### Description

Percentage of men who, in response to a prompted question, say that people can protect themselves from contracting HIV by using condoms or having sex only with one faithful, uninfected partner.

### Usage

```
HA_KHVP_M_CS1(MRdata)
```

### Arguments

| | |
|---|---|
| MRdata | A DHS Men's Recode (MR) data.frame. |

### Value

A data.frame with a 'value' column.

## HA_KHVP_W_CS1 — *Knowledge of HIV prevention methods - Composite of 2 components (prompted) [Women]*

### Description

Percentage of women who, in response to a prompted question, say that people can protect themselves from contracting HIV by using condoms or having sex only with one faithful, uninfected partner.

### Usage

```
HA_KHVP_W_CS1(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a 'value' column (1/0/NA), ready for surveyPrev::getDHSindicator().

### Source

DHS-indicator-factory sideproject/results/passing_current/Chap_HA/HA_KHVP_W_CS1.R; validated on ZM_2018 (published 79.8, observed 79.8165, abs_error 0.0165).

HA_STIS_M_DIS *HA_STIS_M_DIS*

## Description

HA_STIS_M_DIS

## Usage

```
HA_STIS_M_DIS(MRdata)
```

## Arguments

| | |
|---|---|
| MRdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "HA_STIS_M_DIS", year = 2018)

## End(Not run)
```

HA_STIS_M_SOR *HA_STIS_M_SOR*

## Description

HA_STIS_M_SOR

## Usage

```
HA_STIS_M_SOR(MRdata)
```

## Arguments

| | |
|---|---|
| MRdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "HA_STIS_M_SOR", year = 2018)

## End(Not run)
```

---

`HA_STIS_W_STI` *HA_STIS_W_STI Percentage of women reporting a sexually transmitted infection in the 12 months preceding the survey among women who ever had sexual intercourse hk_sti in github IR*

---

## Description

HA_STIS_W_STI Percentage of women reporting a sexually transmitted infection in the 12 months preceding the survey among women who ever had sexual intercourse hk_sti in github IR

## Usage

```
HA_STIS_W_STI(Rdata)
```

## Arguments

| | |
|---|---|
| `Rdata` | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "HA_STIS_W_STI", year = 2018)

## End(Not run)
```

## HC_AGEG_P_ADL *HC_AGEG_P_ADL*

### Description

HC_AGEG_P_ADL

### Usage

```
HC_AGEG_P_ADL(PRdata)
```

### Arguments

| | |
|---|---|
| PRdata | data.frame from surveyPrev::getDHSdata |

### Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

### Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

### Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "HC_AGEG_P_ADL", year = 2018)

## End(Not run)
```

## HC_ELEC_H_ELC *HC_ELEC_H_ELC Percentage of households with electricity ph_electric in github HR*

### Description

HC_ELEC_H_ELC Percentage of households with electricity ph_electric in github HR

### Usage

```
HC_ELEC_H_ELC(Rdata)
```

### Arguments

| | |
|---|---|
| Rdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "HC_ELEC_H_ELC", year = 2018)

## End(Not run)
```

---

`HC_FLRM_H_CER` *HC_FLRM_H_CER Percentage of households with ceramic tile floors ph_floor in github HR*

---

## Description

HC_FLRM_H_CER Percentage of households with ceramic tile floors ph_floor in github HR

## Usage

```
HC_FLRM_H_CER(Rdata)
```

## Arguments

| | |
|---|---|
| `Rdata` | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "HC_FLRM_H_CER", year = 2018)

## End(Not run)
```

HC_HEFF_H_RDO *HC_HEFF_H_RDO Percentage of households possessing a radio ph_radio in github HR*

## Description

HC_HEFF_H_RDO Percentage of households possessing a radio ph_radio in github HR

## Usage

```
HC_HEFF_H_RDO(Rdata)
```

## Arguments

| | |
|---|---|
| Rdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "HC_HEFF_H_RDO", year = 2018)

## End(Not run)
```

HC_TRNS_H_CAR *Households possessing a private car*

## Description

Percentage of households possessing a private car

## Usage

```
HC_TRNS_H_CAR(HRdata)
```

## Arguments

| | |
|---|---|
| HRdata | A DHS Household Recode (HR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

---

## HC_TRNS_H_SCT *Households possessing a motorcycle*

---

### Description

Percentage of households possessing a motorcycle

### Usage

```
HC_TRNS_H_SCT(HRdata)
```

### Arguments

| | |
|---|---|
| HRdata | A DHS Household Recode (HR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

---

## HC_WIXQ_P_12Q *HC_WIXQ_P_12Q PRdata Population in the lowest and second wealth quintile*

---

### Description

HC_WIXQ_P_12Q PRdata Population in the lowest and second wealth quintile

### Usage

```
HC_WIXQ_P_12Q(Rdata)
```

### Arguments

| | |
|---|---|
| Rdata | data.frame from surveyPrev::getDHSdata |

### Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

### Author(s)

Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia",
                                  indicator = "FP_CUSA_W_MOD",
                                  year = 2018)
data <- getDHSindicator(dhsData, indicator = NULL,
                          FUN = surveyPrev::fp_cruse_mod)

## End(Not run)
```

---

HC_WIXQ_P_2ND *HC_WIXQ_P_2ND PRdata Population in the second wealth quintile*

---

## Description

HC_WIXQ_P_2ND PRdata Population in the second wealth quintile

## Usage

```
HC_WIXQ_P_2ND(Rdata)
```

## Arguments

| | |
|---|---|
| Rdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia",
                                  indicator = "FP_CUSA_W_MOD",
                                  year = 2018)
data <- getDHSindicator(dhsData, indicator = NULL,
                          FUN = surveyPrev::fp_cruse_mod)

## End(Not run)
```

## HC_WIXQ_P_LOW *HC_WIXQ_P_LOW PRdata Population in the lowest wealth quintile*

### Description

HC_WIXQ_P_LOW PRdata Population in the lowest wealth quintile

### Usage

```
HC_WIXQ_P_LOW(Rdata)
```

### Arguments

| | |
|---|---|
| Rdata | data.frame from surveyPrev::getDHSdata |

### Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

### Author(s)

Qianyu Dong

### Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia",
                                  indicator = "FP_CUSA_W_MOD",
                                  year = 2018)
data <- getDHSindicator(dhsData, indicator = NULL,
                         FUN = surveyPrev::fp_cruse_mod)

## End(Not run)
```

## indicatorList *Table of supported DHS indicators.*

### Description

A data frame listing the DHS indicators supported by the package, including their IDs, descriptions, full definitions, associated DHS chapters, and the recode files (IR, PR, KR, BR, HR, MR, AR, CR) required to compute them.

### Usage

```
data(indicatorList)
```

## Format

A data frame with 434 rows and 15 columns:

**Chap_abbrev** Chapter acronym.

**ID** DHS standard indicator ID.

**Description** Short label of the indicator.

**Full_definition** Full definition of the indicator.

**Topic** Chapter topic the indicator belongs to.

**IR, PR, KR, BR, HR, MR, AR, CR** Logical flags indicating which DHS recode files are required.

**Chapter** DHS chapter number.

**Title** DHS chapter title.

---

`intervalPlot` *Get scatter plot for any two model results*

---

## Description

This function return scatter plot at admin 1 level for any two model results

## Usage

```
intervalPlot(
  admin = 0,
  compare = FALSE,
  model = NULL,
  group = FALSE,
  sort_by = NULL,
  decreasing = FALSE
)
```

## Arguments

| | |
|---|---|
| `admin` | level of plot |
| `compare` | plot for compare multiple plot or not |
| `model` | list of model results using surveyPrev |
| `group` | plot by group or not |
| `sort_by` | the name of the model to sort the areas by. Default to be NULL |
| `decreasing` | whether the regions are sorted in decreasing order. Default to be NULL |

## Value

This function returns the dataset that contain district name and population for given tiff files and polygons of admin level.

## Author(s)

Qianyu Dong

## Examples

```
## Not run:

geo <- getDHSgeo(country = "Zambia", year = 2018)
data(ZambiaAdm1)
data(ZambiaAdm2)
data(ZambiaPopWomen)
cluster.info <- clusterInfo(geo = geo,
                            poly.adm1 = ZambiaAdm1,
                            poly.adm2 = ZambiaAdm2)

# "RH_ANCN_W_N4P" is an indicator for having more than four ANC visits.
#  In previous versions of the package, it is labeled "ancvisit4+".
dhsData <- getDHSdata(country = "Zambia",
                                indicator = "RH_ANCN_W_N4P",
                                year = 2018)
data <- getDHSindicator(dhsData, indicator = "RH_ANCN_W_N4P")
admin.info2 <- adminInfo(poly.adm = ZambiaAdm2,
                         admin = 2,
                         agg.pop =ZambiaPopWomen$admin2_pop,
                         proportion = ZambiaPopWomen$admin2_urban)
 # unstratified model
cl_res_ad2_unstrat <- clusterModel(data = data,
                   cluster.info = cluster.info,
                   admin.info = admin.info2,
                   stratification = FALSE,
                   model = "bym2",
                   admin = 2,
                   aggregation = TRUE,
                   CI = 0.95)

head(cl_res_ad2_unstrat$res.admin2)
head(cl_res_ad2_unstrat$agg.admin1)
plots <- intervalPlot(cl_res_ad2_unstrat)
plots[["Central"]]

 # unstratified model
cl_res_ad2 <- clusterModel(data = data,
                   cluster.info = cluster.info,
                   admin.info = admin.info2,
                   stratification = TRUE,
                   model = "bym2",
                   admin = 2,
                   aggregation = TRUE,
                   CI = 0.95)
head(cl_res_ad2$res.admin2)
head(cl_res_ad2$agg.admin1)
plots <- intervalPlot(cl_res_ad2)
```

```
plots[["Central"]]

library(patchwork)
wrap_plots(plots, ncol = 5)


## End(Not run)
```

---

MA_CWIV_W_CWV *MA_CWIV_W_CWV*

---

## Description

MA_CWIV_W_CWV

## Usage

```
MA_CWIV_W_CWV(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "MA_CWIV_W_CWV", year = 2018)

## End(Not run)
```

MA_MBAG_W_B15 *MA_MBAG_W_B15 Women first married by exact age 15 ms_afm_15 in github IR*

## Description

MA_MBAG_W_B15 Women first married by exact age 15 ms_afm_15 in github IR

## Usage

```
MA_MBAG_W_B15(Rdata)
```

## Arguments

| | |
|---|---|
| Rdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "MA_MBAG_W_B15", year = 2018)

## End(Not run)
```

MA_MBAG_W_B18 *##' MA_MBAG_W_B18 Percentage of women first married by exact age 18 ms_afm_18 in github IR*

## Description

##' MA_MBAG_W_B18 Percentage of women first married by exact age 18 ms_afm_18 in github IR

## Usage

```
MA_MBAG_W_B18(Rdata)
```

### Arguments

| | |
|---|---|
| Rdata | data.frame from surveyPrev::getDHSdata |

### Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

### Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

### Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "MA_MBAG_W_B18", year = 2018)

## End(Not run)
```

---

## MA_MBAY_W_B15 *MA_MBAY_W_B15 Young women age 20-24 first married by exact age 15 ms_afm_15 in github IR*

---

### Description

MA_MBAY_W_B15 Young women age 20-24 first married by exact age 15 ms_afm_15 in github IR

### Usage

```
MA_MBAY_W_B15(Rdata)
```

### Arguments

| | |
|---|---|
| Rdata | data.frame from surveyPrev::getDHSdata |

### Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

### Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "MA_MBAY_W_B15", year = 2018)

## End(Not run)
```

---

MA_MBAY_W_B18 *MA_MBAY_W_B18 Percentage of Young women age 20-24 first married by exact age 18 ms_afm_18 in github IR*

---

## Description

MA_MBAY_W_B18 Percentage of Young women age 20-24 first married by exact age 18 ms_afm_18 in github IR

## Usage

```
MA_MBAY_W_B18(Rdata)
```

## Arguments

| | |
|---|---|
| Rdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "MA_MBAY_W_B18", year = 2018)

## End(Not run)
```

MA_MSTA_W_NMA *MA_MSTA_W_NMA*

## Description

MA_MSTA_W_NMA

## Usage

```
MA_MSTA_W_NMA(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "MA_MSTA_W_NMA", year = 2018)

## End(Not run)
```

MA_MSTA_W_UNI *Current marital status [Women]: Married or living in union*

## Description

Percentage of women married or living in union

## Usage

```
MA_MSTA_W_UNI(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

---

`MA_MSTY_W_MAR` *Current marital status [Young women]: Married*

---

### Description

Percentage of young women age 15-19, 20-24, or 15-24 married

### Usage

```
MA_MSTY_W_MAR(IRdata)
```

### Arguments

| | |
|---|---|
| `IRdata` | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

---

`MA_MSTY_W_UNI` *Current marital status [Young women]: Married or living in union*

---

### Description

Percentage of young women age 15-19, 20-24, or 15-24 married or living in union

### Usage

```
MA_MSTY_W_UNI(IRdata)
```

### Arguments

| | |
|---|---|
| `IRdata` | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

## match_all_result *Indicator matching table.*

### Description

A data frame with DHS indicator information used to match across different code bases.

### Usage

```
data(match_all_result)
```

### Format

An object of class `data.frame` with 146 rows and 21 columns.

## ML_CMLT_C_RDT *Children tested for malaria with RDT*

### Description

Percentage of children age 6-59 months tested for malaria with RDT

### Usage

```
ML_CMLT_C_RDT(PRdata)
```

### Arguments

| | |
|---|---|
| PRdata | A DHS Household Member Recode (PR) data.frame. |

### Value

A data.frame with a ‘value‘ column (1/0/NA), ready for surveyPrev::getDHSindicator().

### Source

DHS-indicator-factory sideproject/results/passing_current/Chap_ML/ML_CMLT_C_RDT.R; validated on TZ_2022 (published 96.9, observed 96.6604, abs_error 0.2396).

## ML_FEVA_C_NUM — *Number of children under 5 with fever for whom advice of treatment was sought*

### Description

Number of children under age five with fever in the two weeks preceding the survey for whom advice of treatment was sought

### Usage

```
ML_FEVA_C_NUM(KRdata)
```

### Arguments

| | |
|---|---|
| KRdata | A DHS Children's Recode (KR) data.frame. |

### Value

A data.frame with a 'value' column (1/0/NA), ready for surveyPrev::getDHSindicator().

### Source

DHS-indicator-factory sideproject/results/passing_current/Chap_ML/ML_FEVA_C_NUM.R; validated on ZM_2018 (published 1141, observed 1141.1489, abs_error 0.1489).

## ML_FEVT_C_ADV — *Children with fever for whom advice or treatment was sought*

### Description

Among children under age five with fever in the two weeks preceding the survey, the percentage for whom advice or treatment was sought

### Usage

```
ML_FEVT_C_ADV(KRdata)
```

### Arguments

| | |
|---|---|
| KRdata | A DHS Children's Recode (KR) data.frame. |

### Value

A data.frame with a 'value' column.

ML_IRSM_H_I2I *Households with at least one insecticide-treated mosquito net (ITN) for every two persons and/or indoor residual spraying (IRS) in the past 12 months*

## Description

Households with at least one ITN for every two persons and/or IRS in the past 12 months

## Usage

```
ML_IRSM_H_I2I(HRdata)
```

## Arguments

| | |
|---|---|
| HRdata | A DHS Household Recode (HR) data.frame. |

## Value

A data.frame with a ‘value‘ column.

ML_NETC_C_ITN *ML_NETC_C_ITN PRdata Percentage of children under age five who slept under an insecticide treated net (ITN) the night before the survey*

## Description

ML_NETC_C_ITN PRdata Percentage of children under age five who slept under an insecticide treated net (ITN) the night before the survey

## Usage

```
ML_NETC_C_ITN(Rdata)
```

## Arguments

| | |
|---|---|
| Rdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia",
                                  indicator = "FP_CUSA_W_MOD",
                                  year = 2018)
data <- getDHSindicator(dhsData, indicator = NULL,
                          FUN = surveyPrev::fp_cruse_mod)

## End(Not run)
```

---

`ML_NETP_H_IT2` *ML_NETP_H_IT2 HRdata Households with access to an insecticide-treated mosquito net (ITN)*

---

## Description

ML_NETP_H_IT2 HRdata Households with access to an insecticide-treated mosquito net (ITN)

## Usage

```
ML_NETP_H_IT2(Rdata)
```

## Arguments

| | |
|---|---|
| `Rdata` | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia",
                                  indicator = "ML_NETP_H_IT2",
                                  year = 2018)
data <- getDHSindicator(dhsData, indicator = NULL,
                          FUN = surveyPrev::ML_NETP_H_IT2)

## End(Not run)
```

ML_NETU_P_ITN *ML_NETU_P_ITN PRdata Percentage of the de facto household population who slept under an insecticide treated net the night before the survey*

## Description

ML_NETU_P_ITN PRdata Percentage of the de facto household population who slept under an insecticide treated net the night before the survey

## Usage

```
ML_NETU_P_ITN(Rdata)
```

## Arguments

| | |
|---|---|
| Rdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia",
                                  indicator = "FP_CUSA_W_MOD",
                                  year = 2018)
data <- getDHSindicator(dhsData, indicator = NULL,
                          FUN = surveyPrev::fp_cruse_mod)

## End(Not run)
```

ML_PMAL_C_RDT *ML_PMAL_C_RDT PRdata Malaria prevalence according to RDT*

## Description

ML_PMAL_C_RDT PRdata Malaria prevalence according to RDT

## Usage

```
ML_PMAL_C_RDT(Rdata)
```

## Arguments

| | |
|---|---|
| Rdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia",
                                  indicator = "ML_PMAL_C_RDT",
                                  year = 2018)
data <- getDHSindicator(dhsData, indicator = NULL,
                          FUN = surveyPrev::ML_PMAL_C_RDT)

## End(Not run)
```

PR_DESL_W_WNM *PR_DESL_W_WNM*

## Description

PR_DESL_W_WNM

## Usage

```
PR_DESL_W_WNM(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | data.frame from surveyPrev::getDHSdata |

### Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

### Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

### Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "PR_DESL_W_WNM", year = 2018)

## End(Not run)
```

---

## prevMap *static prevalence map for any subnational level*

---

### Description

produce static map for any subnational level, with the option to focus on one admin-1 level

### Usage

```
prevMap(
  res.obj,
  poly.shp,
  admin1.focus = NULL,
  value.to.plot = "mean",
  map.title = NULL,
  legend.label = "Estimates",
  threshold.p = NULL,
  color.palette = NULL,
  color.reverse = T,
  value.range = NULL,
  ...
)
```

## Arguments

| | |
|---|---|
| res.obj | result object from surveyPrev |
| poly.shp | polygon file for plotting |
| admin1.focus | if needed, the admin 1 level area name to create an individual focused prevalence map on |
| value.to.plot | statistics to appear on the map |
| map.title | title for the map |
| legend.label | label for the legend, such as 'Coefficient of Variation' |
| threshold.p | cutoff for the exceedance probability map |
| color.palette | which palette to use for plotting |
| color.reverse | whether to use reverse color scale |
| value.range | what range to plot, useful if want to compare plots using the same scale |
| ... | arguments passed to mapPlot function from SUMMER package |

## Value

summer map object

## Examples

```
## Not run:
geo <- getDHSgeo(country = "Zambia", year = 2018)
cluster.info <- clusterInfo(geo = geo,
                            poly.adm1 = ZambiaAdm1,
                            poly.adm2 = ZambiaAdm2)
# "RH_ANCN_W_N4P" is an indicator for having more than four ANC visits.
#  In previous versions of the package, it is labeled "ancvisit4+".
dhsData <- getDHSdata(country = "Zambia",
                                indicator = "RH_ANCN_W_N4P",
                                year = 2018)
data <- getDHSindicator(dhsData, indicator = "RH_ANCN_W_N4P")
admin.info2 <- adminInfo(poly.adm = sf::st_as_sf(ZambiaAdm2),
                         admin = 2,
                         by.adm = "NAME_2",
                         by.adm.upper = "NAME_1")
cl_res_ad2 <- clusterModel(data=data,
                  cluster.info = cluster.info,
                  admin.info = admin.info2,
                  model = "bym2",
                  admin = 2)

prevMap.adm2.central <- prevMap(res.obj=cl_res_ad2,
                                      poly.shp=poly.adm2,
                                      admin1.focus = "Central")

## End(Not run)
```

prevMap.web *leaflet (interactive) prevalence map for any subnational level*

## Description

produce interactive map for any subnational level, with the option to focus on one admin-1 level

## Usage

```
prevMap.web(
  res.obj,
  poly.shp,
  admin1.focus = NULL,
  color.palette = NULL,
  value.to.plot = "mean",
  value.range = NULL,
  num_bins = NULL,
  legend.label = "Estimates",
  map.title = NULL,
  color.reverse = T,
  no.hatching = F,
  hatching.density = 12,
  use.basemap = NULL,
  threshold.p = NULL,
  legend.color.reverse = T
)
```

## Arguments

| | |
|---|---|
| res.obj | result object from surveyPrev |
| poly.shp | polygon file for plotting |
| admin1.focus | if needed, the admin 1 level area name to create an individual focused prevalence map on |
| color.palette | which palette to use for plotting |
| value.to.plot | statistics to appear on the map |
| value.range | what range to plot, useful if want to compare plots using the same scale |
| num_bins | number of bins on the legend (what displayed might not be exact) |
| legend.label | label for the legend, such as 'Coefficient of Variation' |
| map.title | title for the map |
| color.reverse | whether to use reverse color scale |
| no.hatching | whether to hatch region with problematic uncertainties, recommend F (depends on rgeos package, set to T if not installed) |
| hatching.density | density of the hatching lines |

use.basemap what basemap to use 'OSM', if NULL, no basemap

threshold.p cutoff for the exceedance probability map

legend.color.reverse
logical indicator of reversing the color legend

## Value

leaflet map object

## Examples

```
## Not run:
geo <- getDHSgeo(country = "Zambia", year = 2018)
cluster.info <- clusterInfo(geo = geo,
                            poly.adm1 = ZambiaAdm1,
                            poly.adm2 = ZambiaAdm2)
# "RH_ANCN_W_N4P" is an indicator for having more than four ANC visits.
#  In previous versions of the package, it is labeled "ancvisit4+".
dhsData <- getDHSdata(country = "Zambia",
                                indicator = "RH_ANCN_W_N4P",
                                year = 2018)
data <- getDHSindicator(dhsData, indicator = "RH_ANCN_W_N4P")
poly.adm2 <- sf::st_as_sf(ZambiaAdm2)
admin.info2 <- adminInfo(poly.adm = poly.adm2,
                         admin = 2,
                         by.adm = "NAME_2",
                         by.adm.upper = "NAME_1")
cl_res_ad2 <- clusterModel(data=data,
                  cluster.info = cluster.info,
                  admin.info = admin.info2,
                  model = "bym2",
                  admin = 2)
prevMap.adm2.central <- prevMap.web(res.obj=cl_res_ad2,
                                                poly.shp=poly.adm2,
                                                admin1.focus = "Central")

## End(Not run)
```

---

rankPlot *Get ranking plot of model results*

---

## Description

This function return scatter plot at admin 1 or 2 level for given model results.

## Usage

```
rankPlot(x, direction = 1)
```

## Arguments

| | |
|---|---|
| x | a model result using surveyPrev of class "fhModel" or "clusterModel" |
| direction | direction of the ranking. The default is direction = 1, which correspond to larger value having higher ranking. If direction = -1, larger value has lower ranking. |

## Value

This function returns a ranking plot.

## Author(s)

Zehang Li, Qianyu Dong

## Examples

```
## Not run:

geo <- getDHSgeo(country = "Zambia", year = 2018)
data(ZambiaAdm1)
data(ZambiaAdm2)
data(ZambiaPopWomen)
cluster.info <- clusterInfo(geo = geo,
                            poly.adm1 = ZambiaAdm1,
                            poly.adm2 = ZambiaAdm2)

# "RH_ANCN_W_N4P" is an indicator for having more than four ANC visits.
#  In previous versions of the package, it is labeled "ancvisit4+".
dhsData <- getDHSdata(country = "Zambia",
                                  indicator = "RH_ANCN_W_N4P",
                                  year = 2018)
data <- getDHSindicator(dhsData, indicator = "RH_ANCN_W_N4P")
admin.info2 <- adminInfo(poly.adm = ZambiaAdm2,
                         admin = 2,
         by.adm="NAME_2",
         by.adm.upper = "NAME_1")
cl_res_ad2_unstrat <- clusterModel(data = data,
                  cluster.info = cluster.info,
                  admin.info = admin.info2,
                  stratification = FALSE,
                  model = "bym2",
                  admin = 2,
                  aggregation = TRUE,
                  CI = 0.95)
rankPlot(cl_res_ad2_unstrat)


## End(Not run)
```

RH_ANCN_W_N01 *AH_TOBC_W_OTH*

## Description

AH_TOBC_W_OTH

## Usage

```
RH_ANCN_W_N01(Rdata)
```

## Arguments

| | |
|---|---|
| Rdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "RH_ANCN_W_N01", year = 2018)

## End(Not run)
```

RH_ANCN_W_N4F *RH_ANCN_W_N4F IRdata Antenatal visits for pregnancy: 4+ visits FIVE year*

## Description

RH_ANCN_W_N4F IRdata Antenatal visits for pregnancy: 4+ visits FIVE year

## Usage

```
RH_ANCN_W_N4F(Rdata)
```

## Arguments

| | |
|---|---|
| Rdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia",
                                  indicator = "RH_ANCN_W_N4P",
                                  year = 2018)
data <- getDHSindicator(dhsData, indicator = NULL,
                          FUN = surveyPrev::RH_ANCN_W_N4P)

## End(Not run)
```

---

`RH_ANCN_W_N4P` *RH_ANCN_W_N4P IRdata Antenatal visits for pregnancy: 4+ visits TWO year*

---

## Description

RH_ANCN_W_N4P IRdata Antenatal visits for pregnancy: 4+ visits TWO year

## Usage

```
RH_ANCN_W_N4P(Rdata)
```

## Arguments

| | |
|---|---|
| `Rdata` | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia",
                                  indicator = "RH_ANCN_W_N4P",
                                  year = 2018)
data <- getDHSindicator(dhsData, indicator = NULL,
                         FUN = surveyPrev::RH_ANCN_W_N4P)

## End(Not run)
```

---

RH_ANCN_W_NON *RH_ANCN_W_N4P IRdata Antenatal visits for pregnancy: no visits TWO year*

---

## Description

RH_ANCN_W_N4P IRdata Antenatal visits for pregnancy: no visits TWO year

## Usage

```
RH_ANCN_W_NON(Rdata)
```

## Arguments

| | |
|---|---|
| Rdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia",
                                  indicator = "RH_ANCN_W_NON",
                                  year = 2018)
data <- getDHSindicator(dhsData, indicator = NULL,
                         FUN = surveyPrev::RH_ANCN_W_NON)

## End(Not run)
```

## RH_ANCP_W_CHW *Antenatal care provider: Community health worker*

### Description

Percentage of women who had a live birth (or stillbirth) in the two (or three/five) years preceding the survey whose source of antenatal care during the pregnancy for the most recent live birth was a community health worker

### Usage

```
RH_ANCP_W_CHW(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

## RH_ANCP_W_DOC *Antenatal care provider: Doctor*

### Description

Percentage of women who had a live birth (or stillbirth) in the two (or three/five) years preceding the survey whose source of antenatal care during the pregnancy for the most recent live birth was a doctor

### Usage

```
RH_ANCP_W_DOC(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

## RH_ANCP_W_NON *No antenatal care*

### Description

Percentage of women who had a live birth (or stillbirth) in the two (or three/five) years preceding the survey who received no antenatal care during the pregnancy for the most recent live birth

### Usage

```
RH_ANCP_W_NON(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

## RH_ANCP_W_NRS *Antenatal care provider: Nurse/midwife*

### Description

Percentage of women who had a live birth (or stillbirth) in the two (or three/five) years preceding the survey whose source of antenatal care during the pregnancy for the most recent live birth was a nurse or midwife

### Usage

```
RH_ANCP_W_NRS(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

## RH_ANCP_W_OHW *Antenatal care provider: Other health worker*

### Description

Percentage of women who had a live birth (or stillbirth) in the two (or three/five) years preceding the survey whose source of antenatal care during the pregnancy for the most recent live birth was another type of health worker

### Usage

```
RH_ANCP_W_OHW(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

## RH_ANCP_W_SKP *Antenatal care from a skilled provider*

### Description

Percentage of women who had a live birth (or stillbirth) in the two (or three/five) years preceding the survey who received antenatal care during the pregnancy for the most recent live birth from a skilled provider

### Usage

```
RH_ANCP_W_SKP(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

## RH_ANCP_W_TBA *Antenatal care provider: Traditional birth attendant*

### Description

Percentage of women who had a live birth (or stillbirth) in the two (or three/five) years preceding the survey whose source of antenatal care during the pregnancy for the most recent live birth was a traditional birth attendant

### Usage

```
RH_ANCP_W_TBA(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

## RH_DELA_C_DOC *Assistance during delivery: Doctor*

### Description

Percentage of live births (or stillbirths) in the two (or three/five) years preceding the survey assisted by a doctor

### Usage

```
RH_DELA_C_DOC(KRdata)
```

### Arguments

| | |
|---|---|
| KRdata | A DHS Children’s Recode (KR) data.frame. |

### Value

A data.frame with a ‘value‘ column (1/0/NA), ready for surveyPrev::getDHSindicator().

### Source

DHS-indicator-factory sideproject/results/passing_current/Chap_RH/RH_DELA_C_DOC.R; validated on ZM_2018 (published 8.1, observed 7.7563, abs_error 0.3437).

## RH_DELA_C_NON *Assistance during delivery: No one*

### Description

Percentage of live births (or stillbirths) in the two (or three/five) years preceding the survey assisted by no one

### Usage

```
RH_DELA_C_NON(KRdata)
```

### Arguments

| | |
|---|---|
| KRdata | A DHS Children's Recode (KR) data.frame. |

### Value

A data.frame with a 'value' column.

## RH_DELA_C_NRS *Assistance during delivery: Nurse/midwife*

### Description

Percentage of live births (or stillbirths) in the two (or three/five) years preceding the survey assisted by a nurse or midwife

### Usage

```
RH_DELA_C_NRS(KRdata)
```

### Arguments

| | |
|---|---|
| KRdata | A DHS Children's Recode (KR) data.frame. |

### Value

A data.frame with a 'value' column (1/0/NA), ready for surveyPrev::getDHSindicator().

### Source

DHS-indicator-factory sideproject/results/passing_current/Chap_RH/RH_DELA_C_NRS.R; validated on ZM_2018 (published 72, observed 71.3345, abs_error 0.6655).

RH_DELA_C_OHW *Assistance during delivery: Other health worker*

## Description

Percentage of live births (or stillbirths) in the two (or three/five) years preceding the survey assisted by another type of health worker

## Usage

```
RH_DELA_C_OHW(KRdata)
```

## Arguments

| | |
|---|---|
| KRdata | A DHS Children's Recode (KR) data.frame. |

## Value

A data.frame with a 'value' column (1/0/NA), ready for surveyPrev::getDHSindicator().

## Source

DHS-indicator-factory sideproject/results/passing_current/Chap_RH/RH_DELA_C_OHW.R; validated on ZM_2018 (published 1.5, observed 0.9776, abs_error 0.5224).

RH_DELA_C_SKF *RH_DELA_C_SKF BRdata Assistance during delivery from a skilled provider*

## Description

RH_DELA_C_SKF BRdata Assistance during delivery from a skilled provider

## Usage

```
RH_DELA_C_SKF(Rdata)
```

## Arguments

| | |
|---|---|
| Rdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia",
                                  indicator = "RH_DELA_C_SKF",
                                  year = 2018)
data <- getDHSindicator(dhsData, indicator = NULL,
                         FUN = surveyPrev::RH_DELA_C_SKF)

## End(Not run)
```

---

`RH_DELA_C_SKP` *RH_DELA_C_SKP BRdata Assistance during delivery from a skilled provider*

---

## Description

RH_DELA_C_SKP BRdata Assistance during delivery from a skilled provider

## Usage

```
RH_DELA_C_SKP(Rdata)
```

## Arguments

| | |
|---|---|
| `Rdata` | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia",
                                  indicator = "RH_DELA_C_SKP",
                                  year = 2018)
data <- getDHSindicator(dhsData, indicator = NULL,
                         FUN = surveyPrev::RH_DELA_C_SKP)

## End(Not run)
```

## RH_DELA_C_TBA *Assistance during delivery: Traditional birth attendant*

### Description

Percentage of live births (or stillbirths) in the two (or three/five) years preceding the survey assisted by a traditional birth attendant

### Usage

```
RH_DELA_C_TBA(KRdata)
```

### Arguments

| | |
|---|---|
| KRdata | A DHS Children's Recode (KR) data.frame. |

### Value

A data.frame with a 'value' column.

## RH_DELP_C_DHF *RH_DELP_C_DHF*

### Description

RH_DELP_C_DHF

### Usage

```
RH_DELP_C_DHF(Rdata)
```

### Arguments

| | |
|---|---|
| Rdata | data.frame from surveyPrev::getDHSdata |

### Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

### Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "RH_DELP_C_DHF", year = 2018)

## End(Not run)
```

---

RH_DELP_C_DHT *RH_DELP_C_DHT*

---

## Description

RH_DELP_C_DHT

## Usage

```
RH_DELP_C_DHT(Rdata)
```

## Arguments

| | |
|---|---|
| Rdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "RH_DELP_C_DHT", year = 2018)

## End(Not run)
```

RH_DELP_C_HOM *RH_DELP_C_HOM*

## Description

RH_DELP_C_HOM

## Usage

```
RH_DELP_C_HOM(Rdata)
```

## Arguments

| | |
|---|---|
| Rdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "RH_DELP_C_DHT", year = 2018)

## End(Not run)
```

RH_DELP_C_HOT *RH_DELP_C_HOT*

## Description

RH_DELP_C_HOT

## Usage

```
RH_DELP_C_HOT(Rdata)
```

## Arguments

| | |
|---|---|
| Rdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "RH_DELP_C_DHT", year = 2018)

## End(Not run)
```

---

# RH_DELP_C_PNG *Place of delivery: Private sector (NGO)*

---

## Description

Percentage of live births in the two (or three/five) years preceding the survey delivered in a private sector NGO facility

## Usage

```
RH_DELP_C_PNG(KRdata)
```

## Arguments

| | |
|---|---|
| KRdata | A DHS Children's Recode (KR) data.frame. |

## Value

A data.frame with a 'value' column (1/0/NA), ready for surveyPrev::getDHSindicator().

## Source

DHS-indicator-factory sideproject/results/passing_current/Chap_RH/RH_DELP_C_PNG.R; validated on TZ_2022 (published 4.3, observed 4.3319, abs_error 0.0319).

RH_DELP_C_PNN *Place of delivery: Private sector (non-NGO)*

## Description

Percentage of live births in the two (or three/five) years preceding the survey delivered in a private sector non-NGO facility

## Usage

```
RH_DELP_C_PNN(KRdata)
```

## Arguments

| | |
|---|---|
| KRdata | A DHS Children's Recode (KR) data.frame. |

## Value

A data.frame with a 'value' column (1/0/NA), ready for surveyPrev::getDHSindicator().

## Source

DHS-indicator-factory sideproject/results/passing_current/Chap_RH/RH_DELP_C_PNN.R; validated on TZ_2022 (published 2.4, observed 2.4232, abs_error 0.0232).

RH_DELP_C_PRT *RH_DELP_C_PRT*

## Description

RH_DELP_C_PRT

## Usage

```
RH_DELP_C_PRT(Rdata)
```

## Arguments

| | |
|---|---|
| Rdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

### Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

### Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "RH_DELP_C_PRT", year = 2018)

## End(Not run)
```

---

RH_DELP_C_PRV *RH_DELP_C_PRV*

---

### Description

RH_DELP_C_PRV

### Usage

```
RH_DELP_C_PRV(Rdata)
```

### Arguments

| | |
|---|---|
| Rdata | data.frame from surveyPrev::getDHSdata |

### Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

### Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

### Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "RH_DELP_C_PRV", year = 2018)

## End(Not run)
```

RH_DELP_C_PUB *RH_DELP_C_PUB*

## Description

RH_DELP_C_PUB

## Usage

```
RH_DELP_C_PUB(Rdata)
```

## Arguments

| | |
|---|---|
| Rdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "RH_DELP_C_PUB", year = 2018)

## End(Not run)
```

RH_DELP_C_PUT *RH_DELP_C_PUT*

## Description

RH_DELP_C_PUT

## Usage

```
RH_DELP_C_PUT(Rdata)
```

## Arguments

| | |
|---|---|
| Rdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "RH_DELP_C_PUT", year = 2018)

## End(Not run)
```

---

# RH_DFHC_W_LTH *Travel time to nearest health facility: less than 30 minutes*

---

## Description

Percentage of women age 15-49 for whom the travel time to the nearest health facility is less than 30 minutes

## Usage

```
RH_DFHC_W_LTH(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

## Value

A data.frame with a ‘value‘ column (1/0/NA), ready for surveyPrev::getDHSindicator().

## Source

DHS-indicator-factory sideproject/results/passing_current/Chap_RH/RH_DFHC_W_LTH.R; validated on TZ_2022 (published 47.4, observed 47.3739, abs_error 0.0261).

## RH_DFHC_W_MOT *Means of transport to nearest health facility: motorized*

### Description

Percentage of women age 15-49 who use motorized transport to the nearest health facility

### Usage

```
RH_DFHC_W_MOT(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column (1/0/NA), ready for surveyPrev::getDHSindicator().

### Source

DHS-indicator-factory sideproject/results/passing_current/Chap_RH/RH_DFHC_W_MOT.R; validated on TZ_2022 (published 15.3, observed 15.2602, abs_error 0.0398).

## RH_DFHC_W_MTT *Travel time to nearest health facility: 2 hours or more*

### Description

Percentage of women age 15-49 for whom the travel time to the nearest health facility is 2 hours or more

### Usage

```
RH_DFHC_W_MTT(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column (1/0/NA), ready for surveyPrev::getDHSindicator().

### Source

DHS-indicator-factory sideproject/results/passing_current/Chap_RH/RH_DFHC_W_MTT.R; validated on TZ_2022 (published 9, observed 8.9917, abs_error 0.0083).

## RH_DFHC_W_NMO *Means of transport to nearest health facility: not motorized*

### Description

Percentage of women age 15-49 who use non-motorized transport to the nearest health facility

### Usage

```
RH_DFHC_W_NMO(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column (1/0/NA), ready for surveyPrev::getDHSindicator().

### Source

DHS-indicator-factory sideproject/results/passing_current/Chap_RH/RH_DFHC_W_NMO.R; validated on TZ_2022 (published 84.7, observed 84.7333, abs_error 0.0333).

## RH_DFHC_W_OTH *Means of transport to nearest health facility: other*

### Description

Percentage of women age 15-49 who use other transport to the nearest health facility

### Usage

```
RH_DFHC_W_OTH(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column (1/0/NA), ready for surveyPrev::getDHSindicator().

### Source

DHS-indicator-factory sideproject/results/passing_current/Chap_RH/RH_DFHC_W_OTH.R; validated on TZ_2022 (published 0, observed 1e-04, abs_error 1e-04).

## RH_DFHC_W_SXO *Travel time to nearest health facility: 60-119 minutes*

### Description

Percentage of women age 15-49 for whom the travel time to the nearest health facility is 1 hour or more but less than 2 hours

### Usage

```
RH_DFHC_W_SXO(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column (1/0/NA), ready for surveyPrev::getDHSindicator().

### Source

DHS-indicator-factory sideproject/results/passing_current/Chap_RH/RH_DFHC_W_SXO.R; validated on TZ_2022 (published 15.6, observed 15.5584, abs_error 0.0416).

## RH_DFHC_W_THF *Travel time to nearest health facility: 30-59 minutes*

### Description

Percentage of women age 15-49 for whom the travel time to the nearest health facility is 30 minutes or more but less than one hour

### Usage

```
RH_DFHC_W_THF(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column (1/0/NA), ready for surveyPrev::getDHSindicator().

### Source

DHS-indicator-factory sideproject/results/passing_current/Chap_RH/RH_DFHC_W_THF.R; validated on TZ_2022 (published 28.1, observed 28.0761, abs_error 0.0239).

---

## RH_ICSP_W_B69 *Iron supplementation: 60-89 days*

---

### Description

Percentage of women who had a live birth (or stillbirth) in the two (or three/five) years preceding the survey who took iron containing supplements for 60-89 days during the pregnancy of the most recent live birth (or stillbirth)

### Usage

```
RH_ICSP_W_B69(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

---

## RH_ICSP_W_B99 *Iron supplementation: 90-179 days*

---

### Description

Percentage of women who had a live birth (or stillbirth) in the two (or three/five) years preceding the survey who took iron containing supplements for 90-179 days during the pregnancy of the most recent live birth (or stillbirth)

### Usage

```
RH_ICSP_W_B99(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column (1/0/NA), ready for surveyPrev::getDHSindicator().

## Source

DHS-indicator-factory sideproject/results/passing_current/Chap_RH/RH_ICSP_W_B99.R; validated on ZM_2018 (published 56.8, observed 56.6268, abs_error 0.1732).

---

`RH_ICSP_W_IDK` *Iron supplementation: don't know/missing*

---

## Description

Percentage of women who had a live birth (or stillbirth) in the two (or three/five) years preceding the survey who did not know if they took iron containing supplements or did not know the number of days they took iron supplementation during the pregnancy of the most recent live birth (or stillbirth) or where the information was missing

## Usage

```
RH_ICSP_W_IDK(IRdata)
```

## Arguments

| | |
|---|---|
| `IRdata` | A DHS Individual Recode (IR) data.frame. |

## Value

A data.frame with a 'value' column.

---

`RH_ICSP_W_L60` *Iron supplementation: less than 60 days*

---

## Description

Percentage of women who had a live birth (or stillbirth) in the two (or three/five) years preceding the survey who took iron containing supplements for less than 60 days during the pregnancy of the most recent live birth (or stillbirth)

## Usage

```
RH_ICSP_W_L60(IRdata)
```

## Arguments

| | |
|---|---|
| `IRdata` | A DHS Individual Recode (IR) data.frame. |

## Value

A data.frame with a 'value' column.

## RH_ICSP_W_M18 *Iron supplementation: 180+ days*

### Description

Percentage of women who had a live birth (or stillbirth) in the two (or three/five) years preceding the survey who took iron containing supplements for 180 days or more during the pregnancy of the most recent live birth (or stillbirth)

### Usage

```
RH_ICSP_W_M18(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column (1/0/NA), ready for surveyPrev::getDHSindicator().

### Source

DHS-indicator-factory sideproject/results/passing_current/Chap_RH/RH_ICSP_W_M18.R; validated on ZM_2018 (published 15.5, observed 15.5222, abs_error 0.0222).

## RH_ICSP_W_TNI *Iron supplementation: none*

### Description

Percentage of women who had a live birth (or stillbirth) in the two (or three/five) years preceding the survey who took no iron containing supplements during the pregnancy of the most recent live birth (or stillbirth)

### Usage

```
RH_ICSP_W_TNI(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

## RH_ICSP_W_TOT *Iron supplementation: total*

### Description

Percentage of women: total

### Usage

```
RH_ICSP_W_TOT(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

## RH_PAHC_W_DIS *RH_PAHC_W_DIS IRdata Problems in accessing health care: Distance to health facility*

### Description

RH_PAHC_W_DIS IRdata Problems in accessing health care: Distance to health facility

### Usage

```
RH_PAHC_W_DIS(Rdata)
```

### Arguments

| | |
|---|---|
| Rdata | data.frame from surveyPrev::getDHSdata |

### Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

### Author(s)

Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia",
                                  indicator = "FP_CUSA_W_MOD",
                                  year = 2018)
data <- getDHSindicator(dhsData, indicator = NULL,
                         FUN = surveyPrev::fp_cruse_mod)

## End(Not run)
```

---

# RH_PAHC_W_FEM *Problems in accessing health care: Concern there may not be a female provider*

---

## Description

Percentage of women who reported they have big problems in concern there may not be a female provider for treatment for themselves when they are sick

## Usage

```
RH_PAHC_W_FEM(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

## Value

A data.frame with a ‘value‘ column.

---

# RH_PAHC_W_MON *RH_PAHC_W_MON IRdata Problems in accessing health care: Getting money for treatment*

---

## Description

RH_PAHC_W_MON IRdata Problems in accessing health care: Getting money for treatment

## Usage

```
RH_PAHC_W_MON(Rdata)
```

## Arguments

| | |
|---|---|
| Rdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia",
                                  indicator = "FP_CUSA_W_MOD",
                                  year = 2018)
data <- getDHSindicator(dhsData, indicator = NULL,
                         FUN = surveyPrev::fp_cruse_mod)

## End(Not run)
```

---

# RH_PAHC_W_PR1 *Problems in accessing health care: Any of the specified problems*

---

## Description

Percentage of women who reported they have big problems in any of the specified problems for treatment for themselves when they are sick

## Usage

```
RH_PAHC_W_PR1(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

## Value

A data.frame with a ‘value‘ column.

RH_PAHC_W_PRM *RH_PAHC_W_PRM IRdata Problems in accessing health care: Getting permission to go for treatment*

## Description

RH_PAHC_W_PRM IRdata Problems in accessing health care: Getting permission to go for treatment

## Usage

```
RH_PAHC_W_PRM(Rdata)
```

## Arguments

| | |
|---|---|
| Rdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia",
                                  indicator = "FP_CUSA_W_MOD",
                                  year = 2018)
data <- getDHSindicator(dhsData, indicator = NULL,
                          FUN = surveyPrev::fp_cruse_mod)

## End(Not run)
```

RH_PAHC_W_TRN *Problems in accessing health care: Having to take transport*

## Description

Percentage of women who reported they have big problems in having to take transport for treatment for themselves when they are sick

### Usage

```
RH_PAHC_W_TRN(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

---

## RH_PCCP_C_CHW — *Provider of newborns' first postnatal checkup: Community health worker*

---

### Description

Percentage of last births in the two years preceding the survey who received their first postnatal checkup in the first two days after birth from a community health worker

### Usage

```
RH_PCCP_C_CHW(KRdata)
```

### Arguments

| | |
|---|---|
| KRdata | A DHS Children's Recode (KR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

---

## RH_PCCP_C_DOC — *Provider of newborns' first postnatal checkup: Doctor/nurse/midwife*

---

### Description

Percentage of last births in the two years preceding the survey who received their first postnatal checkup in the first two days after birth from a doctor, nurse or midwife

### Usage

```
RH_PCCP_C_DOC(KRdata)
```

### Arguments

| | |
|---|---|
| KRdata | A DHS Children's Recode (KR) data.frame. |

## Value

A data.frame with a ‘value‘ column.

---

`RH_PCCP_C_NON` *No postnatal checkup for newborn within first two days of birth*

---

## Description

Percentage of last births in the two years preceding the survey who received no postnatal checkup in the first two days after birth

## Usage

```
RH_PCCP_C_NON(IRdata)
```

## Arguments

| | |
|---|---|
| `IRdata` | A DHS Individual Recode (IR) data.frame. |

## Value

A data.frame with a ‘value‘ column.

---

`RH_PCCP_C_OHW` *Provider of newborns' first postnatal checkup: Other health worker*

---

## Description

Percentage of last births in the two years preceding the survey who received their first postnatal checkup in the first two days after birth from another type of health worker

## Usage

```
RH_PCCP_C_OHW(KRdata)
```

## Arguments

| | |
|---|---|
| `KRdata` | A DHS Children's Recode (KR) data.frame. |

## Value

A data.frame with a ‘value‘ column.

## RH_PCCP_C_TBA *Provider of newborns' first postnatal checkup: Traditional birth attendant*

### Description

Percentage of last births in the two years preceding the survey who received their first postnatal checkup in the first two days after birth from a traditional birth attendant

### Usage

```
RH_PCCP_C_TBA(KRdata)
```

### Arguments

| | |
|---|---|
| KRdata | A DHS Children's Recode (KR) data.frame. |

### Value

A data.frame with a 'value' column.

## RH_PCCT_C_D12 *Newborn's first postnatal checkup: 1-2 days*

### Description

Percentage of last births in the two years preceding the survey who had their first postnatal checkup 1-2 days after birth

### Usage

```
RH_PCCT_C_D12(KRdata)
```

### Arguments

| | |
|---|---|
| KRdata | A DHS Children's Recode (KR) data.frame. |

### Value

A data.frame with a 'value' column.

## RH_PCCT_C_D36 *Newborn's first postnatal checkup: 3-6 days*

### Description

Percentage of last births in the two years preceding the survey who had their first postnatal checkup 3-6 days after birth

### Usage

```
RH_PCCT_C_D36(KRdata)
```

### Arguments

| | |
|---|---|
| KRdata | A DHS Children's Recode (KR) data.frame. |

### Value

A data.frame with a 'value' column.

## RH_PCCT_C_DKM *Newborn's first postnatal checkup: don't know or missing*

### Description

Percentage of last births in the two years preceding the survey with missing information on their first postnatal checkup after birth

### Usage

```
RH_PCCT_C_DKM(KRdata)
```

### Arguments

| | |
|---|---|
| KRdata | A DHS Children's Recode (KR) data.frame. |

### Value

A data.frame with a 'value' column.

RH_PCCT_C_DY2 *RH_PCCT_C_DY2 Newborn's first postnatal checkup: 1-2 days RH_PCCT_C_DY2 in github IR*

## Description

RH_PCCT_C_DY2 Newborn's first postnatal checkup: 1-2 days RH_PCCT_C_DY2 in github IR

## Usage

```
RH_PCCT_C_DY2(Rdata)
```

## Arguments

| | |
|---|---|
| Rdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "RH_PCCT_C_DY2", year = 2018)

## End(Not run)
```

RH_PCCT_C_H13 *Newborn's first postnatal checkup: 1-3 hours*

## Description

Percentage of last births in the two years preceding the survey who had their first postnatal checkup 1-3 hours after birth

## Usage

```
RH_PCCT_C_H13(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column (1/0/NA), ready for surveyPrev::getDHSindicator().

### Source

DHS-indicator-factory sideproject/results/passing_current/Chap_RH/RH_PCCT_C_H13.R; validated on ZM_2018 (published 37.6, observed 37.7925, abs_error 0.1925).

---

## RH_PCCT_C_H4P *Newborn's first postnatal checkup: 4-23 hours*

---

### Description

Percentage of last births in the two years preceding the survey who had their first postnatal checkup 4-23 hours after birth

### Usage

```
RH_PCCT_C_H4P(KRdata)
```

### Arguments

| | |
|---|---|
| KRdata | A DHS Children's Recode (KR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

---

## RH_PCCT_C_L1H *Newborn's first postnatal checkup: Less than 1 hour*

---

### Description

Percentage of last births in the two years preceding the survey who had their first postnatal checkup less than 1 hour after birth

### Usage

```
RH_PCCT_C_L1H(KRdata)
```

### Arguments

| | |
|---|---|
| KRdata | A DHS Children's Recode (KR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

---

`RH_PCCT_C_NON` *No postnatal checkup for newborn*

---

### Description

Percentage of last births in the two years preceding the survey with no postnatal checkup in the first 7 days after birth

### Usage

```
RH_PCCT_C_NON(IRdata)
```

### Arguments

| | |
|---|---|
| `IRdata` | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column (1/0/NA), ready for surveyPrev::getDHSindicator().

### Source

DHS-indicator-factory sideproject/results/passing_current/Chap_RH/RH_PCCT_C_NON.R; validated on ZM_2018 (published 20.9, observed 20.8851, abs_error 0.0149).

---

`RH_PCCT_C_TOT` *Newborn's first postnatal checkup: Total*

---

### Description

Percentage of last births in the two years preceding the survey: Total

### Usage

```
RH_PCCT_C_TOT(KRdata)
```

### Arguments

| | |
|---|---|
| `KRdata` | A DHS Children's Recode (KR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

## RH_PCMP_W_CHW — *Provider of mothers' first postnatal checkup: Community health worker*

### Description

Percentage of women giving birth in the two years preceding the survey who received their first postnatal checkup in the first two days after birth from a community health worker

### Usage

```
RH_PCMP_W_CHW(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a 'value' column.

## RH_PCMP_W_DOC — *Provider of mothers' first postnatal checkup: Doctor/nurse/midwife*

### Description

Percentage of women giving birth in the two years preceding the survey who received their first postnatal checkup in the first two days after birth from a doctor, nurse or midwife

### Usage

```
RH_PCMP_W_DOC(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a 'value' column.

## RH_PCMP_W_NON *No postnatal checkup for mother within first two days of birth*

### Description

Percentage of women giving birth in the two years preceding the survey who received no postnatal checkup in the first two days after birth

### Usage

```
RH_PCMP_W_NON(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

## RH_PCMP_W_NRS *Provider of mothers' first postnatal checkup: Auxiliary nurse/midwife*

### Description

Percentage of women giving birth in the two years preceding the survey who received their first postnatal checkup in the first two days after birth from an auxiliary nurse

### Usage

```
RH_PCMP_W_NRS(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column (1/0/NA), ready for surveyPrev::getDHSindicator().

### Source

DHS-indicator-factory sideproject/results/passing_current/Chap_RH/RH_PCMP_W_NRS.R; validated on TZ_2022 (published 0.8, observed 0.008, abs_error 0.792).

RH_PCMP_W_OHW *Provider of mothers' first postnatal checkup: Other health worker*

## Description

Percentage of women giving birth in the two years preceding the survey who received their first postnatal checkup in the first two days after birth from another type of health worker

## Usage

```
RH_PCMP_W_OHW(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

## Value

A data.frame with a 'value' column.

RH_PCMP_W_TBA *Provider of mothers' first postnatal checkup: Traditional birth attendant*

## Description

Percentage of women giving birth in the two years preceding the survey who received their first postnatal checkup in the first two days after birth from a traditional birth attendant

## Usage

```
RH_PCMP_W_TBA(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

## Value

A data.frame with a 'value' column.

## RH_PCMT_W_23H *Mother's first postnatal checkup: 4-23 hours*

### Description

Percentage of women giving birth in the two years preceding the survey who had their first postnatal checkup 4-23 hours after birth

### Usage

```
RH_PCMT_W_23H(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a 'value' column (1/0/NA), ready for surveyPrev::getDHSindicator().

### Source

DHS-indicator-factory sideproject/results/passing_current/Chap_RH/RH_PCMT_W_23H.R; validated on ZM_2018 (published 12.8, observed 12.7458, abs_error 0.0542).

## RH_PCMT_W_D12 *Mother's first postnatal checkup: 1-2 days*

### Description

Percentage of women giving birth in the two years preceding the survey who had their first postnatal checkup 1-2 days after birth

### Usage

```
RH_PCMT_W_D12(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a 'value' column.

## RH_PCMT_W_D7P *Mother's first postnatal checkup: 7-41 days*

### Description

Percentage of women giving birth in the two years preceding the survey who had their first postnatal checkup 7-41 days after birth

### Usage

```
RH_PCMT_W_D7P(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a 'value' column.

## RH_PCMT_W_DKM *Mother's first postnatal checkup: don't know or missing*

### Description

Percentage of women giving birth in the two years preceding the survey with missing information on their first postnatal checkup after birth

### Usage

```
RH_PCMT_W_DKM(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a 'value' column.

RH_PCMT_W_DY2 *RH_PCMT_W_DY2 Mother's first postnatal checkup: 1-2 days IR*

## Description

RH_PCMT_W_DY2 Mother's first postnatal checkup: 1-2 days IR

## Usage

```
RH_PCMT_W_DY2(Rdata)
```

## Arguments

| | |
|---|---|
| Rdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "RH_PCMT_W_DY2", year = 2018)

## End(Not run)
```

RH_PCMT_W_L4H *Mother's first postnatal checkup: Less than 4 hours*

## Description

Percentage of women giving birth in the two years preceding the survey who had their first postnatal checkup less than 4 hours after birth

## Usage

```
RH_PCMT_W_L4H(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

## Value

A data.frame with a ‘value‘ column (1/0/NA), ready for surveyPrev::getDHSindicator().

## Source

DHS-indicator-factory sideproject/results/passing_current/Chap_RH/RH_PCMT_W_L4H.R; validated on ZM_2018 (published 55.3, observed 55.0455, abs_error 0.2545).

---

RH_PCMT_W_NON *RH_PCMT_W_NON No Mother's postnatal checkup in 42 days IR*

---

## Description

RH_PCMT_W_NON No Mother's postnatal checkup in 42 days IR

## Usage

```
RH_PCMT_W_NON(Rdata)
```

## Arguments

| | |
|---|---|
| Rdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "RH_PCMT_W_NON", year = 2018)

## End(Not run)
```

## RH_PCMT_W_TOT *Mother's first postnatal checkup: Total*

### Description

Percentage of women giving birth in the two years preceding the survey: Total

### Usage

```
RH_PCMT_W_TOT(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a 'value' column.

## ridgeprevPlot *ridge plot for prevalence*

### Description

static ridge plot for posterior densities

### Usage

```
ridgeprevPlot(
  res.obj,
  admin1.focus = NA,
  plot.extreme.num = 8,
  legend.label = "Value",
  color.reverse = T,
  plot.format = c("Long", "Wide")[1],
  top.bottom.label = c("Top", "Bottom")
)
```

### Arguments

| | |
|---|---|
| res.obj | result object from surveyPrev |
| admin1.focus | whether to plot densities for regions within a single upper admin |
| plot.extreme.num | number of regions to plot for the top n and bottom n regions |
| legend.label | label on the legend |

| | |
|---|---|
| color.reverse | whether to reverse color scheme |
| plot.format | c('Long','Wide') for extreme regions, side-by-side or long plot |
| top.bottom.label | c('Top','Bottom') how to name the extremes, top 10 bottom 10? need to change when close to 0 is bad for the indicator |

## Value

ggplot2 object

## Examples

```
## Not run:
geo <- getDHSgeo(country = "Zambia", year = 2018)
cluster.info <- clusterInfo(geo = geo,
                            poly.adm1 = ZambiaAdm1,
                            poly.adm2 = ZambiaAdm2)
# "RH_ANCN_W_N4P" is an indicator for having more than four ANC visits.
#  In previous versions of the package, it is labeled "ancvisit4+".
dhsData <- getDHSdata(country = "Zambia",
                                indicator = "RH_ANCN_W_N4P",
                                year = 2018)
data <- getDHSindicator(dhsData, indicator = "RH_ANCN_W_N4P")
poly.adm1 <- sf::st_as_sf(ZambiaAdm1)
admin.info1 <- adminInfo(poly.adm = poly.adm1,
                         admin = 1,
                         by.adm = "NAME_1")
cl_res_ad1 <- clusterModel(data=data,
                  cluster.info = cluster.info,
                  admin.info = admin.info1,
                  stratification = FALSE,
                  model = "bym2",
                  admin = 1,
                  aggregation = TRUE,
                  CI = 0.95)

ridgeprevPlot(cl_res_ad1, plot.extreme.num=5)


## End(Not run)
```

---

scatterPlot *Get scatter plot for any two model results*

---

## Description

This function return scatter plot at admin 1 level for any two model results

## Usage

```
scatterPlot(
  res1,
  value1,
  res2,
  value2,
  label1,
  label2,
  by.res1,
  by.res2,
  title
)
```

## Arguments

| | |
|---|---|
| res1 | model result 1 using surveyPrev |
| value1 | value1 |
| res2 | model result 2 using surveyPrev |
| value2 | value2 |
| label1 | label for x axis |
| label2 | label for y axis |
| by.res1 | by.res1 |
| by.res2 | by.res2 |
| title | title |

## Value

This function returns the dataset that contain district name and population for given tiff files and polygons of admin level

## Author(s)

Qianyu Dong

## Examples

```
## Not run:
geo <- getDHSgeo(country = "Zambia", year = 2018)
data(ZambiaAdm1)
data(ZambiaAdm2)
data(ZambiaPopWomen)
cluster.info <- clusterInfo(geo = geo,
                            poly.adm1 = ZambiaAdm1,
                            poly.adm2 = ZambiaAdm2)

# "RH_ANCN_W_N4P" is an indicator for having more than four ANC visits.
#  In previous versions of the package, it is labeled "ancvisit4+".
```

```
dhsData <- getDHSdata(country = "Zambia",
                                indicator = "RH_ANCN_W_N4P",
                                year = 2018)
data <- getDHSindicator(dhsData, indicator = "RH_ANCN_W_N4P")
admin.info1 <- adminInfo(poly.adm = ZambiaAdm1,
                         admin = 1,
                         agg.pop =ZambiaPopWomen$admin1_pop,
                         proportion = ZambiaPopWomen$admin1_urban)
smth_res_ad1 <- fhModel(data,
                        cluster.info = cluster.info,
                        admin.info = admin.info1,
                        admin = 1,
                        model = "bym2",
                        aggregation = F)

admin.info2 <- adminInfo(poly.adm = ZambiaAdm2,
                         admin = 2,
                         agg.pop =ZambiaPopWomen$admin2_pop,
                         proportion = ZambiaPopWomen$admin2_urban)
cl_res_ad2 <- clusterModel(data = data,
                   cluster.info = cluster.info,
                   admin.info = admin.info2,
                   stratification = FALSE,
                   model = "bym2",
                   admin = 2,
                   aggregation = TRUE,
                   CI = 0.95)

scatterPlot(
     res1 = smth_res_ad1,
     res2 = cl_res_ad2$agg.admin1,
     value1 = "value",
     value2 = "value",
     by.res1 = "admin1.name",
     by.res2 = "admin1.name",
     title = "Aggregated cluster model v.s. Fay-Herriot",
     label1 = "Fay-Herriot",
     label2 = "Aggregated cluster model")


## End(Not run)
```

---

scatterPlot.web *web-based scatter plot*

---

## Description

interactive scatter plot comparing estimates from two methods for the same admin level

## Usage

```
scatterPlot.web(
  res.obj.x,
  res.obj.y,
  value.to.plot = "mean",
  label.x = "Method 1 Estimates",
  label.y = "Method 2 Estimates",
  plot.title = NULL,
  interactive = T
)
```

## Arguments

| | |
|---|---|
| res.obj.x | result object from surveyPrev |
| res.obj.y | result object from surveyPrev |
| value.to.plot | which statistics to plot 'mean' |
| label.x | label on x-axis |
| label.y | label on y-axis |
| plot.title | title for the plot |
| interactive | whether to render interactive or static plot |

## Value

plotly or ggplot2 object

## Examples

```
## Not run:
geo <- getDHSgeo(country = "Zambia", year = 2018)
cluster.info <- clusterInfo(geo = geo,
                            poly.adm1 = ZambiaAdm1,
                            poly.adm2 = ZambiaAdm2)
# "RH_ANCN_W_N4P" is an indicator for having more than four ANC visits.
#  In previous versions of the package, it is labeled "ancvisit4+".
dhsData <- getDHSdata(country = "Zambia",
                                indicator = "RH_ANCN_W_N4P",
                                year = 2018)
data <- getDHSindicator(dhsData, indicator = "RH_ANCN_W_N4P")
poly.adm2 <- sf::st_as_sf(ZambiaAdm2)
admin.info2 <- adminInfo(poly.adm = poly.adm2,
                         admin = 2,
                         by.adm = "NAME_2",
                         by.adm.upper = "NAME_1")
res_adm2_cl <- clusterModel(data=data,
                  cluster.info = cluster.info,
                  admin.info = admin.info2,
                  model = "bym2",
                  admin = 2)
res_adm2_fh <- fhModel(data=data,
```

```
                    cluster.info = cluster.info,
                    admin.info = admin.info2,
                    model = "bym2",
                    admin = 2)

scatterPlot.web(res_adm2_cl, res_adm2_fh)

## End(Not run)
```

---

WE_AWBT_M_AGR *Wife beating justified for at least one specific reason [Men]*

---

## Description

Percentage of men who agree that a husband is justified in hitting or beating his wife for at least one specific reason

## Usage

```
WE_AWBT_M_AGR(MRdata)
```

## Arguments

| | |
|---|---|
| MRdata | A DHS Men's Recode (MR) data.frame. |

## Value

A data.frame with a 'value' column (1/0/NA), ready for surveyPrev::getDHSindicator().

## Source

DHS-indicator-factory sideproject/results/passing_current/Chap_WE/WE_AWBT_M_AGR.R; validated on ZM_2018 (published 24.8, observed 24.1433, abs_error 0.6567).

---

WE_AWBT_M_ARG *WE_AWBT_M_ARG*

---

## Description

WE_AWBT_M_ARG

## Usage

```
WE_AWBT_M_ARG(MRdata)
```

### Arguments

| | |
|---|---|
| MRdata | data.frame from surveyPrev::getDHSdata |

### Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

### Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

### Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "WE_AWBT_M_ARG", year = 2018)

## End(Not run)
```

---

## WE_AWBT_M_BFD *WE_AWBT_M_BFD*

---

### Description

WE_AWBT_M_BFD

### Usage

```
WE_AWBT_M_BFD(MRdata)
```

### Arguments

| | |
|---|---|
| MRdata | data.frame from surveyPrev::getDHSdata |

### Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

### Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "WE_AWBT_M_BFD", year = 2018)

## End(Not run)
```

---

WE_AWBT_M_OUT *WE_AWBT_M_OUT*

---

## Description

WE_AWBT_M_OUT

## Usage

```
WE_AWBT_M_OUT(MRdata)
```

## Arguments

| | |
|---|---|
| MRdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "WE_AWBT_M_OUT", year = 2018)

## End(Not run)
```

WE_AWBT_M_REF *WE_AWBT_M_REF*

## Description

WE_AWBT_M_REF

## Usage

```
WE_AWBT_M_REF(MRdata)
```

## Arguments

| | |
|---|---|
| MRdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "WE_AWBT_M_REF", year = 2018)

## End(Not run)
```

WE_AWBT_W_AGR *Wife beating justified for at least one specific reason [Women]*

## Description

Percentage of women who agree that a husband is justified in hitting or beating his wife for at least one specific reason

## Usage

```
WE_AWBT_W_AGR(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

## Value

A data.frame with a ‘value‘ column.

---

WE_AWBT_W_ARG *WE_AWBT_W_ARG*

---

## Description

WE_AWBT_W_ARG

## Usage

```
WE_AWBT_W_ARG(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "WE_AWBT_W_ARG", year = 2018)

## End(Not run)
```

WE_AWBT_W_BFD *WE_AWBT_W_BFD*

## Description

WE_AWBT_W_BFD

## Usage

```
WE_AWBT_W_BFD(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "WE_AWBT_W_BFD", year = 2018)

## End(Not run)
```

WE_AWBT_W_NEG *WE_AWBT_W_NEG*

## Description

WE_AWBT_W_NEG

## Usage

```
WE_AWBT_W_NEG(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "WE_AWBT_W_NEG", year = 2018)

## End(Not run)
```

---

# WE_AWBT_W_OUT *WE_AWBT_W_OUT*

---

## Description

WE_AWBT_W_OUT

## Usage

```
WE_AWBT_W_OUT(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "WE_AWBT_W_OUT", year = 2018)

## End(Not run)
```

WE_AWBT_W_REF *WE_AWBT_W_REF*

## Description

WE_AWBT_W_REF

## Usage

```
WE_AWBT_W_REF(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "WE_AWBT_W_REF", year = 2018)

## End(Not run)
```

WE_DMAK_M_OHC *Final say in own health care [Men]*

## Description

Percentage of men who say that they alone or jointly have the final say in own health care

## Usage

```
WE_DMAK_M_OHC(MRdata)
```

## Arguments

| | |
|---|---|
| MRdata | A DHS Men's Recode (MR) data.frame. |

## Value

A data.frame with a ‘value‘ column (1/0/NA), ready for surveyPrev::getDHSindicator().

## Source

DHS-indicator-factory sideproject/results/passing_current/Chap_WE/WE_DMAK_M_OHC.R; validated on ZM_2018 (published 81.8, observed 82.1436, abs_error 0.3436).

---

# WE_DMAK_W_OHC *Final say in own health care [Women]*

---

## Description

Percentage of women who say that they alone or jointly have the final say in own health care

## Usage

```
WE_DMAK_W_OHC(IRdata)
```

## Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

## Value

A data.frame with a ‘value‘ column.

---

# WE_DMKH_M_HUS *Decision maker about Own health care: Mainly husband [Men]*

---

## Description

Percentage of men for whom the decision maker for their own health care is mainly the husband

## Usage

```
WE_DMKH_M_HUS(MRdata)
```

## Arguments

| | |
|---|---|
| MRdata | A DHS Men’s Recode (MR) data.frame. |

## Value

A data.frame with a ‘value‘ column.

## WE_DMKH_M_JNT *Decision maker about Own health care: Wife and husband jointly [Men]*

### Description

Percentage of men for whom the decision maker for their own health care is mainly the respondent and her husband

### Usage

```
WE_DMKH_M_JNT(MRdata)
```

### Arguments

| | |
|---|---|
| MRdata | A DHS Men's Recode (MR) data.frame. |

### Value

A data.frame with a 'value' column.

## WE_DMKH_M_WIF *Decision maker about Own health care: Mainly wife [Men]*

### Description

Percentage of men for whom the decision maker for their own health care is mainly the respondent

### Usage

```
WE_DMKH_M_WIF(MRdata)
```

### Arguments

| | |
|---|---|
| MRdata | A DHS Men's Recode (MR) data.frame. |

### Value

A data.frame with a 'value' column.

## WE_DMKH_W_HUS *Decision maker about Own health care: Mainly husband [Women]*

### Description

Percentage of women for whom the decision maker for their own health care is mainly the husband

### Usage

```
WE_DMKH_W_HUS(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

## WE_DMKH_W_JNT *Decision maker about Own health care: Wife and husband jointly [Women]*

### Description

Percentage of women for whom the decision maker for their own health care is mainly the respondent and her husband

### Usage

```
WE_DMKH_W_JNT(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

## WE_DMKH_W_WIF *Decision maker about Own health care: Mainly wife [Women]*

### Description

Percentage of women for whom the decision maker for their own health care is mainly the respondent

### Usage

```
WE_DMKH_W_WIF(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

## WE_DMKP_M_HUS *Decision maker about Major household purchases: Mainly husband [Men]*

### Description

Percentage of men for whom the decision maker for major household purchases is mainly the husband

### Usage

```
WE_DMKP_M_HUS(MRdata)
```

### Arguments

| | |
|---|---|
| MRdata | A DHS Men’s Recode (MR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

## WE_DMKP_M_JNT — *Decision maker about Major household purchases: Wife and husband jointly [Men]*

### Description

Percentage of men for whom the decision maker for major household purchases is mainly the respondent and her husband

### Usage

```
WE_DMKP_M_JNT(MRdata)
```

### Arguments

| | |
|---|---|
| MRdata | A DHS Men's Recode (MR) data.frame. |

### Value

A data.frame with a 'value' column.

## WE_DMKP_M_WIF — *Decision maker about Major household purchases: Mainly wife [Men]*

### Description

Percentage of men for whom the decision maker for major household purchases is mainly the respondent

### Usage

```
WE_DMKP_M_WIF(MRdata)
```

### Arguments

| | |
|---|---|
| MRdata | A DHS Men's Recode (MR) data.frame. |

### Value

A data.frame with a 'value' column.

## WE_DMKP_W_HUS — *Decision maker about Major household purchases: Mainly husband [Women]*

### Description

Percentage of women for whom the decision maker for major household purchases is mainly the husband

### Usage

```
WE_DMKP_W_HUS(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

## WE_DMKP_W_JNT — *Decision maker about Major household purchases: Wife and husband jointly [Women]*

### Description

Percentage of women for whom the decision maker for major household purchases is mainly the respondent and her husband

### Usage

```
WE_DMKP_W_JNT(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

## WE_DMKP_W_WIF — *Decision maker about Major household purchases: Mainly wife [Women]*

### Description

Percentage of women for whom the decision maker for major household purchases is mainly the respondent

### Usage

```
WE_DMKP_W_WIF(IRdata)
```

### Arguments

| | |
|---|---|
| IRdata | A DHS Individual Recode (IR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

## WS_HNDW_H_BAS — *Households with a basic handwashing facility, with soap and water available*

### Description

Percentage of households with a basic handwashing facility, defined as a handwashing facility with soap and water available

### Usage

```
WS_HNDW_H_BAS(HRdata)
```

### Arguments

| | |
|---|---|
| HRdata | A DHS Household Recode (HR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

## WS_HNDW_H_OBS *Households with a place for handwashing was observed*

### Description

Percentage of households where a place for washing hands was observed

### Usage

```
WS_HNDW_H_OBS(HRdata)
```

### Arguments

| | |
|---|---|
| HRdata | A DHS Household Recode (HR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

## WS_SRCE_H_BAS *Households with basic water service*

### Description

Percentage of households with basic water service, defined as an improved water source with either water on the premises or round-trip collection time is 30 minutes or less.

### Usage

```
WS_SRCE_H_BAS(HRdata)
```

### Arguments

| | |
|---|---|
| HRdata | A DHS Household Recode (HR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

## WS_SRCE_H_IMP *Households using an improved water source*

### Description

Percentage of households whose main source of drinking water is an improved source

### Usage

```
WS_SRCE_H_IMP(HRdata)
```

### Arguments

| | |
|---|---|
| HRdata | A DHS Household Recode (HR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

## WS_SRCE_H_LTD *Households with limited water service*

### Description

Percentage of households with limited water service, defined as an improved water source with round-trip collection time greater than 30 minutes.

### Usage

```
WS_SRCE_H_LTD(HRdata)
```

### Arguments

| | |
|---|---|
| HRdata | A DHS Household Recode (HR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

WS_SRCE_H_USG *WS_SRCE_H_USG Percentage of households whose main source of drinking water is an unprotected spring ph_wtr_source in github "unprotected spring" = 42, HR*

## Description

WS_SRCE_H_USG Percentage of households whose main source of drinking water is an unprotected spring ph_wtr_source in github "unprotected spring" = 42, HR

## Usage

```
WS_SRCE_H_USG(Rdata)
```

## Arguments

| | |
|---|---|
| Rdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "WS_SRCE_H_USG", year = 2018)

## End(Not run)
```

WS_SRCE_P_BAS *WS_SRCE_P_BAS PRdata Population using a basic water source*

## Description

WS_SRCE_P_BAS PRdata Population using a basic water source

## Usage

```
WS_SRCE_P_BAS(Rdata)
```

### Arguments

| | |
|---|---|
| Rdata | data.frame from surveyPrev::getDHSdata |

### Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

### Author(s)

Qianyu Dong

### Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia",
                                  indicator = "WS_SRCE_P_BAS",
                                  year = 2018)
data <- getDHSindicator(dhsData, indicator = NULL,
                          FUN = surveyPrev::WS_SRCE_P_BAS)

## End(Not run)
```

---

## WS_TLET_H_BAS *Households with basic sanitation service*

---

### Description

Percentage of households with basic sanitation service, defined as improved sanitation facilities that are not shared with other households

### Usage

```
WS_TLET_H_BAS(HRdata)
```

### Arguments

| | |
|---|---|
| HRdata | A DHS Household Recode (HR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

WS_TLET_H_IMP *WS_TLET_H_IMP PRdata Percentage of households using an improved sanitation facility*

## Description

WS_TLET_H_IMP PRdata Percentage of households using an improved sanitation facility

## Usage

```
WS_TLET_H_IMP(Rdata)
```

## Arguments

| | |
|---|---|
| Rdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia",
                                  indicator = "WS_TLET_H_IMP",
                                  year = 2018)
data <- getDHSindicator(dhsData, indicator = NULL,
                         FUN = surveyPrev::WS_TLET_H_IMP)

## End(Not run)
```

WS_TLET_P_BAS *WS_TLET_P_BAS PRdata Population with access to a basic sanitation service*

## Description

WS_TLET_P_BAS PRdata Population with access to a basic sanitation service

## Usage

```
WS_TLET_P_BAS(Rdata)
```

### Arguments

| | |
|---|---|
| Rdata | data.frame from surveyPrev::getDHSdata |

### Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

### Author(s)

Qianyu Dong

### Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia",
                                  indicator = "WS_TLET_P_BAS",
                                  year = 2018)
data <- getDHSindicator(dhsData, indicator = NULL,
                          FUN = surveyPrev::WS_TLET_P_BAS)

## End(Not run)
```

---

## WS_TLET_P_IMP *Population with an improved sanitation facility*

---

### Description

Percentage of the de jure population living in households with an improved sanitation facility

### Usage

```
WS_TLET_P_IMP(PRdata)
```

### Arguments

| | |
|---|---|
| PRdata | A DHS Household Member (PR) Recode data.frame. |

### Value

A data.frame with a ‘value‘ column.

## WS_WTRT_H_BLC *Households treating water by adding bleach/chlorine*

### Description

Percentage of households treating water by adding bleach or chlorine

### Usage

```
WS_WTRT_H_BLC(HRdata)
```

### Arguments

| | |
|---|---|
| HRdata | A DHS Household Recode (HR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

## WS_WTRT_H_BOL *Households treating water by boiling*

### Description

Percentage of households treating water by boiling

### Usage

```
WS_WTRT_H_BOL(HRdata)
```

### Arguments

| | |
|---|---|
| HRdata | A DHS Household Recode (HR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

## WS_WTRT_H_STN *Households treating water by straining through a cloth*

### Description

Percentage of households treating water by straining through a cloth

### Usage

```
WS_WTRT_H_STN(HRdata)
```

### Arguments

| | |
|---|---|
| HRdata | A DHS Household Recode (HR) data.frame. |

### Value

A data.frame with a ‘value‘ column.

## WS_WTRT_P_BLC *WS_WTRT_P_BLC*

### Description

WS_WTRT_P_BLC

### Usage

```
WS_WTRT_P_BLC(WASHdata)
```

### Arguments

| | |
|---|---|
| WASHdata | data.frame from surveyPrev::getDHSdata |

### Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

### Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "WS_WTRT_P_BLC", year = 2018)

## End(Not run)
```

---

WS_WTRT_P_BOL *WS_WTRT_P_BOL*

---

## Description

WS_WTRT_P_BOL

## Usage

```
WS_WTRT_P_BOL(WASHdata)
```

## Arguments

| | |
|---|---|
| WASHdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "WS_WTRT_P_BOL", year = 2018)

## End(Not run)
```

WS_WTRT_P_SOL *WS_WTRT_P_SOL*

## Description

WS_WTRT_P_SOL

## Usage

```
WS_WTRT_P_SOL(WASHdata)
```

## Arguments

| | |
|---|---|
| WASHdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "WS_WTRT_P_SOL", year = 2018)

## End(Not run)
```

WS_WTRT_P_STN *WS_WTRT_P_STN*

## Description

WS_WTRT_P_STN

## Usage

```
WS_WTRT_P_STN(WASHdata)
```

## Arguments

| | |
|---|---|
| WASHdata | data.frame from surveyPrev::getDHSdata |

## Value

A partially processed data.frame that will be used in surveyPrev::getDHSindicator. The whole function can be used as a parameter in surveyPrev::getDHSindicator

## Author(s)

Miaolei Bao, Yunhan Wu, Qianyu Dong

## Examples

```
## Not run:
dhsData <- getDHSdata(country = "Zambia", indicator = "WS_WTRT_P_STN", year = 2018)

## End(Not run)
```

---

# ZambiaAdm1 *Admin 1 Polygon Map for Zambia.*

---

## Description

A SpatialPolygonsDataFrame corresponding to Zambia's admin-1 regions. The dataset is downloaded from GADM (https://gadm.org/data.html) version 4.1.

## Usage

```
data(ZambiaAdm1)
```

## Format

An object of class `SpatialPolygonsDataFrame` with 10 rows and 4 columns.

---

# ZambiaAdm2 *Admin 2 Polygon Map for Zambia.*

---

## Description

A SpatialPolygonsDataFrame corresponding to Zambia's admin-2 regions. The dataset is downloaded from GADM (https://gadm.org/data.html) version 4.1.

## Usage

```
data(ZambiaAdm2)
```

## Format

An object of class `SpatialPolygonsDataFrame` with 115 rows and 6 columns.

ZambiaPopWomen *Population estimates for Women of age 15 to 49 in Zambia in 2018.*

## Description

A list of three objects

- raster A 100m by 100m raster file for the population estimates for women of age 15 to 49 in Zambia in 2018
- admin1_urban A data frame specifying the proportion of urban population (as defined by those living in regions designated as urban in the previous census) for Women of age 15 to 49 in Zambia in 2018, in each admin1 region.
- admin2_urban A data frame specifying the proportion of urban population (as defined by those living in regions designated as urban in the previous census) for Women of age 15 to 49 in Zambia in 2018, in each admin2 region. The corresponding admin1 region name is also included.

The dataset is downloaded from WorldPop (https://hub.worldpop.org/geodata/summary?id=16429) and post processed.

## Usage

```
data(ZambiaPopWomen)
```

## Format

An object of class `list` of length 4.

# Index


∗ **datasets**
indicatorList, 221
match_all_result, 230
ZambiaAdm1, 313
ZambiaAdm2, 313
ZambiaPopWomen, 314

addNewIndicator, 12
addUpper, 13
adminInfo, 15
aggPopulation, 16
aggSurveyWeight, 18
AH_BTHP_M_ALW, 19
AH_BTHP_M_EMG, 20
AH_BTHP_M_IMG, 20
AH_BTHP_W_ALW, 21
AH_BTHP_W_EMG, 21
AH_BTHP_W_IMG, 22
AH_HINS_M_ANY, 22
AH_HINS_W_ANY, 23
AH_MIGR_M_DIS, 23
AH_MIGR_M_EDU, 24
AH_MIGR_M_EMP, 24
AH_MIGR_M_FAM, 25
AH_MIGR_M_MAR, 25
AH_MIGR_W_EDU, 26
AH_MIGR_W_EMP, 26
AH_MIGR_W_FAM, 27
AH_MIGR_W_MAR, 27
AH_MIGT_M_RTR, 28
AH_MIGT_M_RTU, 28
AH_MIGT_M_UTR, 29
AH_MIGT_M_UTU, 29
AH_MIGT_W_RTR, 30
AH_MIGT_W_RTU, 30
AH_MIGT_W_UTR, 31
AH_MIGT_W_UTU, 31
AH_TOBC_W_OTH, 32
AH_TOBU_M_ASM, 32
AH_TOBU_M_SNN, 33
AH_TOBU_W_SNM, 34
AH_TOBU_W_SNN, 34
AN_ANEM_W_ANY, 35
AN_NUTS_W_OVW, 36
AN_NUTS_W_THN, 37

CH_ARIS_C_ADV, 37
CH_DIAT_C_ABI, 38
CH_DIAT_C_ADV, 39
CH_DIAT_C_AMO, 40
CH_DIAT_C_NOT, 40
CH_DIAT_C_ORS, 41
CH_DIAT_C_ORT, 42
CH_DIAT_C_OSI, 42
CH_DIAT_C_RHF, 43
CH_DIFP_C_FAL, 44
CH_DISA_C_NUM, 44
CH_FEVR_C_FEV, 45
CH_FEVT_C_ADV, 46
CH_SZWT_C_L25, 46
CH_VAC1_C_VCD, 47
CH_VACC_C_APP, 48
CH_VACC_C_BAS, 48
CH_VACC_C_BCG, 49
CH_VACC_C_DP1, 50
CH_VACC_C_DP3, 50
CH_VACC_C_MSL, 51
CH_VACC_C_NON, 52
CH_VACC_C_PN3, 53
CH_VACC_C_RT1, 53
CH_VACS_C_APP, 54
CH_VACS_C_BAS, 55
CH_VACS_C_BCG, 55
CH_VACS_C_DP1, 56
CH_VACS_C_DP2, 56
CH_VACS_C_DP3, 57
CH_VACS_C_HP1, 57
CH_VACS_C_HP2, 58
CH_VACS_C_HP3, 58
CH_VACS_C_IP1, 59

CH_VACS_C_MS2, 59
CH_VACS_C_MSL, 60
CH_VACS_C_NON, 60
CH_VACS_C_OP0, 61
CH_VACS_C_OP1, 61
CH_VACS_C_OP2, 62
CH_VACS_C_OP3, 62
CH_VACS_C_PN1, 63
CH_VACS_C_PN2, 63
CH_VACS_C_PN3, 64
CH_VACS_C_PT1, 64
CH_VACS_C_PT2, 65
CH_VACS_C_PT3, 65
CH_VACS_C_RT1, 66
CH_VACS_C_RT2, 66
clusterInfo, 67
clusterModel, 68
clusterModel_u5mr, 70
CM_ECMR_C_IMF, 72
CM_ECMR_C_IMR, 72
CM_ECMR_C_NNF, 73
CM_ECMR_C_NNR, 74
CM_ECMR_C_U5F, 75
CM_ECMR_C_U5M, 75
CN_ANMC_C_ANY, 76
CN_BRFI_C_EVR, 77
CN_BRFS_C_EXB, 78
CN_IYCF_C_4FA, 78
CN_IYCF_C_BTB, 79
CN_IYCF_C_MNA, 80
CN_IYCF_C_MNB, 80
CN_MIAC_C_IRF, 81
CN_NUTS_C_HA2, 81
CN_NUTS_C_HA3, 82
CN_NUTS_C_WA2, 83
CN_NUTS_C_WA3, 83
CN_NUTS_C_WAP, 84
CN_NUTS_C_WH2, 85
CN_NUTS_C_WH3, 85
CN_NUTS_C_WHP, 86
CO_INUS_M_EVU, 87
CO_INUS_M_U12, 87
CO_INUS_M_WEK, 88
CO_INUS_W_EVU, 88
CO_INUS_W_U12, 89
CO_INUS_W_WEK, 90
CO_MOBB_M_BNK, 90
CO_MOBB_M_MBF, 91
CO_MOBB_M_MOB, 91
CO_MOBB_M_SPT, 92
CO_MOBB_W_BNK, 92
CO_MOBB_W_DFT, 93
CO_MOBB_W_DWM, 93
CO_MOBB_W_MBF, 94
CO_MOBB_W_MOB, 95
CO_MOBB_W_OSP, 95
CO_MOBB_W_SPT, 96
CP_BREG_C_CRT, 96
CP_BREG_C_NCT, 97
CP_BREG_C_REG, 98

datainfo, 98
directEST, 100
directEST_u5mr, 102
directEST_varfix, 102
DV_AFSV_W_A10, 104
DV_AFSV_W_A12, 105
DV_EXPV_W_12M, 106
DV_EXSV_W_12M, 107
DV_EXSV_W_EVR, 107
DV_FMVL_W_PAS, 108
DV_FMVL_W_POS, 109
DV_FSVL_W_PHS, 109
DV_PCPV_W_CBF, 110
DV_PCPV_W_CHD, 110
DV_PCPV_W_CHP, 111
DV_PCPV_W_EMP, 112
DV_PCPV_W_FHP, 112
DV_PCPV_W_FLW, 113
DV_PCPV_W_OLW, 114
DV_PCSV_W_EMP, 114
DV_PCSV_W_RLG, 115
DV_SPV1_W_ANY, 115
DV_STPS_W_BFR, 116
DV_STPV_W_HLP, 117
DV_VPRG_W_VPG, 117

ED_EDAT_B_CPR, 118
ED_EDAT_B_CSC, 119
ED_EDAT_B_HGH, 119
ED_EDAT_B_NED, 120
ED_EDAT_B_PRI, 120
ED_EDAT_B_SEC, 121
ED_EDAT_B_SPR, 121
ED_EDAT_M_CPR, 122
ED_EDAT_M_CSC, 122
ED_EDAT_M_NED, 123

ED_EDAT_M_PRI, 123
ED_EDAT_M_SEC, 124
ED_EDAT_M_SPR, 124
ED_EDAT_W_CPR, 125
ED_EDAT_W_CSC, 125
ED_EDAT_W_NED, 126
ED_EDAT_W_PRI, 126
ED_EDAT_W_SEC, 127
ED_EDAT_W_SPR, 127
ED_EDUC_W_CPR, 128
ED_EDUC_W_CSC, 128
ED_EDUC_W_HGH, 129
ED_EDUC_W_NED, 129
ED_EDUC_W_PRI, 130
ED_EDUC_W_SEH, 130
ED_EDUC_W_SPR, 131
ED_EDUC_W_SSC, 131
ED_LITR_M_LIT, 132
ED_LITR_M_SCH, 132
ED_LITR_W_LIT, 133
ED_LITR_W_RDW, 133
ED_LITR_W_SCH, 134
ED_MDIA_M_RDO, 134
ED_MDIA_M_TLV, 135
ED_MDIA_W_3MD, 135
ED_MDIA_W_N3M, 136
ED_MDIA_W_NWS, 137
ED_MDIA_W_RDO, 137
ED_MDIA_W_TLV, 138
EM_EMPM_W_EMP, 139
exceedPlot, 139

FE_BBAG_W_A18, 141
FE_FRTR_W_A15, 142
FE_FRTR_W_TF4, 142
FE_FRTR_W_TFR, 143
FG_KFCC_M_HFC, 143
FG_KFCC_W_HFC, 144
FG_PFCC_W_WCC, 144
fhModel, 145
FI_EXFI_W_EEX, 147
FI_EXFI_W_HRD, 148
FP_CUSA_W_ANY, 148
FP_CUSA_W_EMC, 149
FP_CUSA_W_FCN, 150
FP_CUSA_W_FST, 150
FP_CUSA_W_IMP, 151
FP_CUSA_W_INJ, 152
FP_CUSA_W_IUD, 152
FP_CUSA_W_MCN, 153
FP_CUSA_W_MOD, 154
FP_CUSA_W_MST, 154
FP_CUSA_W_PIL, 155
FP_CUSA_W_STD, 156
FP_CUSA_W_TRA, 157
FP_CUSA_W_WTH, 157
FP_CUSM_W_MOD, 158
FP_DMKF_W_UDK, 159
FP_DMKF_W_UHS, 159
FP_DMKF_W_UJN, 160
FP_DMKF_W_UWF, 160
FP_DMKP_W_MHS, 161
FP_DMKP_W_MJN, 161
FP_DMKP_W_MWF, 162
FP_EFPM_M_NWS, 162
FP_EFPM_M_TLV, 163
FP_EFPM_W_NWS, 164
FP_EFPM_W_RDO, 164
FP_EFPM_W_TLV, 165
FP_EVUM_W_MOD, 166
FP_KMTA_M_ANY, 166
FP_KMTA_M_MOD, 167
FP_KMTA_W_ANY, 167
FP_KMTA_W_EMC, 168
FP_KMTA_W_FCN, 169
FP_KMTA_W_FST, 169
FP_KMTA_W_IMP, 170
FP_KMTA_W_INJ, 171
FP_KMTA_W_IUD, 171
FP_KMTA_W_MST, 172
FP_KMTA_W_OMD, 173
FP_KMTA_W_PIL, 173
FP_KMTA_W_STD, 174
FP_KMTA_W_TRA, 175
FP_KMTA_W_WTH, 175
FP_KMTM_M_ANY, 176
FP_KMTM_M_MOD, 177
FP_KMTM_W_ANY, 177
FP_KMTM_W_MOD, 178
FP_NADA_W_MNT, 178
FP_NADA_W_PDM, 179
FP_NADA_W_PDS, 179
FP_NADA_W_TDT, 180
FP_NADA_W_UMT, 180
FP_NADA_W_UNT, 181
FP_NADM_W_MNT, 181
FP_NADM_W_PDM, 182

FP_NADM_W_PDS, 183
FP_NADM_W_TDT, 183
FP_NADM_W_UMT, 184
FP_NADM_W_UNT, 184
FP_NDYA_W_MNT, 185
FP_NDYA_W_PDM, 185
FP_NDYA_W_PDS, 186
FP_NDYA_W_TDT, 187
FP_NDYA_W_UMT, 187
FP_NDYA_W_UNT, 188
FP_NDYM_W_MNT, 188
FP_NDYM_W_PDM, 189
FP_NDYM_W_PDS, 189
FP_NDYM_W_TDT, 190
FP_NDYM_W_UMT, 190
FP_NDYM_W_UNT, 191

get_api_table, 191
get_geoBoundaries, 192
getCovariate, 193
getDHSdata, 194
getDHSgeo, 195
getDHSindicator, 196
getUR, 198

HA_AFSY_M_A15, 201
HA_AFSY_M_A18, 202
HA_AFSY_W_A18, 202
HA_ANSS_M_CND, 203
HA_ANSS_W_CND, 204
HA_ANSS_W_RSX, 204
HA_CATH_W_ATN, 205
HA_CATH_W_NRS, 206
HA_CKNA_W_CKA, 207
HA_HIVP_B_HIV, 207
HA_HRSX_W_CND, 208
HA_HVST_M_HRD, 209
HA_HVST_M_USD, 209
HA_HVTY_M_TRR, 210
HA_HVTY_W_TRR, 211
HA_KAID_M_HRD, 211
HA_KAID_W_HRD, 212
HA_KHVP_M_CS1, 213
HA_KHVP_W_CS1, 213
HA_STIS_M_DIS, 214
HA_STIS_M_SOR, 214
HA_STIS_W_STI, 215
HC_AGEG_P_ADL, 216
HC_ELEC_H_ELC, 216
HC_FLRM_H_CER, 217
HC_HEFF_H_RDO, 218
HC_TRNS_H_CAR, 218
HC_TRNS_H_SCT, 219
HC_WIXQ_P_12Q, 219
HC_WIXQ_P_2ND, 220
HC_WIXQ_P_LOW, 221

indicatorList, 221
intervalPlot, 222

MA_CWIV_W_CWV, 224
MA_MBAG_W_B15, 225
MA_MBAG_W_B18, 225
MA_MBAY_W_B15, 226
MA_MBAY_W_B18, 227
MA_MSTA_W_NMA, 228
MA_MSTA_W_UNI, 228
MA_MSTY_W_MAR, 229
MA_MSTY_W_UNI, 229
match_all_result, 230
ML_CMLT_C_RDT, 230
ML_FEVA_C_NUM, 231
ML_FEVT_C_ADV, 231
ML_IRSM_H_I2I, 232
ML_NETC_C_ITN, 232
ML_NETP_H_IT2, 233
ML_NETU_P_ITN, 234
ML_PMAL_C_RDT, 235

PR_DESL_W_WNM, 235
prevMap, 236
prevMap.web, 238

rankPlot, 239
RH_ANCN_W_N01, 241
RH_ANCN_W_N4F, 241
RH_ANCN_W_N4P, 242
RH_ANCN_W_NON, 243
RH_ANCP_W_CHW, 244
RH_ANCP_W_DOC, 244
RH_ANCP_W_NON, 245
RH_ANCP_W_NRS, 245
RH_ANCP_W_OHW, 246
RH_ANCP_W_SKP, 246
RH_ANCP_W_TBA, 247
RH_DELA_C_DOC, 247
RH_DELA_C_NON, 248
RH_DELA_C_NRS, 248

RH_DELA_C_OHW, 249
RH_DELA_C_SKF, 249
RH_DELA_C_SKP, 250
RH_DELA_C_TBA, 251
RH_DELP_C_DHF, 251
RH_DELP_C_DHT, 252
RH_DELP_C_HOM, 253
RH_DELP_C_HOT, 253
RH_DELP_C_PNG, 254
RH_DELP_C_PNN, 255
RH_DELP_C_PRT, 255
RH_DELP_C_PRV, 256
RH_DELP_C_PUB, 257
RH_DELP_C_PUT, 257
RH_DFHC_W_LTH, 258
RH_DFHC_W_MOT, 259
RH_DFHC_W_MTT, 259
RH_DFHC_W_NMO, 260
RH_DFHC_W_OTH, 260
RH_DFHC_W_SXO, 261
RH_DFHC_W_THF, 261
RH_ICSP_W_B69, 262
RH_ICSP_W_B99, 262
RH_ICSP_W_IDK, 263
RH_ICSP_W_L60, 263
RH_ICSP_W_M18, 264
RH_ICSP_W_TNI, 264
RH_ICSP_W_TOT, 265
RH_PAHC_W_DIS, 265
RH_PAHC_W_FEM, 266
RH_PAHC_W_MON, 266
RH_PAHC_W_PR1, 267
RH_PAHC_W_PRM, 268
RH_PAHC_W_TRN, 268
RH_PCCP_C_CHW, 269
RH_PCCP_C_DOC, 269
RH_PCCP_C_NON, 270
RH_PCCP_C_OHW, 270
RH_PCCP_C_TBA, 271
RH_PCCT_C_D12, 271
RH_PCCT_C_D36, 272
RH_PCCT_C_DKM, 272
RH_PCCT_C_DY2, 273
RH_PCCT_C_H13, 273
RH_PCCT_C_H4P, 274
RH_PCCT_C_L1H, 274
RH_PCCT_C_NON, 275
RH_PCCT_C_TOT, 275
RH_PCMP_W_CHW, 276
RH_PCMP_W_DOC, 276
RH_PCMP_W_NON, 277
RH_PCMP_W_NRS, 277
RH_PCMP_W_OHW, 278
RH_PCMP_W_TBA, 278
RH_PCMT_W_23H, 279
RH_PCMT_W_D12, 279
RH_PCMT_W_D7P, 280
RH_PCMT_W_DKM, 280
RH_PCMT_W_DY2, 281
RH_PCMT_W_L4H, 281
RH_PCMT_W_NON, 282
RH_PCMT_W_TOT, 283
ridgeprevPlot, 283

scatterPlot, 284
scatterPlot.web, 286

WE_AWBT_M_AGR, 288
WE_AWBT_M_ARG, 288
WE_AWBT_M_BFD, 289
WE_AWBT_M_OUT, 290
WE_AWBT_M_REF, 291
WE_AWBT_W_AGR, 291
WE_AWBT_W_ARG, 292
WE_AWBT_W_BFD, 293
WE_AWBT_W_NEG, 293
WE_AWBT_W_OUT, 294
WE_AWBT_W_REF, 295
WE_DMAK_M_OHC, 295
WE_DMAK_W_OHC, 296
WE_DMKH_M_HUS, 296
WE_DMKH_M_JNT, 297
WE_DMKH_M_WIF, 297
WE_DMKH_W_HUS, 298
WE_DMKH_W_JNT, 298
WE_DMKH_W_WIF, 299
WE_DMKP_M_HUS, 299
WE_DMKP_M_JNT, 300
WE_DMKP_M_WIF, 300
WE_DMKP_W_HUS, 301
WE_DMKP_W_JNT, 301
WE_DMKP_W_WIF, 302
WS_HNDW_H_BAS, 302
WS_HNDW_H_OBS, 303
WS_SRCE_H_BAS, 303
WS_SRCE_H_IMP, 304
WS_SRCE_H_LTD, 304

WS_SRCE_H_USG, 305
WS_SRCE_P_BAS, 305
WS_TLET_H_BAS, 306
WS_TLET_H_IMP, 307
WS_TLET_P_BAS, 307
WS_TLET_P_IMP, 308
WS_WTRT_H_BLC, 309
WS_WTRT_H_BOL, 309
WS_WTRT_H_STN, 310
WS_WTRT_P_BLC, 310
WS_WTRT_P_BOL, 311
WS_WTRT_P_SOL, 312
WS_WTRT_P_STN, 312

ZambiaAdm1, 313
ZambiaAdm2, 313
ZambiaPopWomen, 314