Using Free IPUMS Data for International Health Research

IPUMS, Institute for Social Research and Data Innovation, University of Minnesota

IPUMS Workshop Schedule

1:00-1:15 Introduction
1:15-2:10 Data collection descriptions
2:10-2:15 Break
2:15-2:50 Web demonstration
2:50-3:00 Break
3:00-3:30 Geography and GIS tools and IPUMS Online Tabulator
3:30-4:00 Questions

Questions during the webinar?

TYPE QUESTIONS IN THE Q&A

First things first...

WHAT IS IPUMS?

IPUMS?

- **I**ntegrated - consistent codes, labels, and documentation
- **P**ublic **U**se - free, anonymized, downloadable
- **M**icrodata - individual-level
- **S**eries - pooled data over time and place

IPUMS

- FREE (grant-funded)
- Integrated data over time and across place
- Documentation and harmonization
- Customized dataset to download from web
- 1.4 billion persons from over 750 censuses and surveys

IPUMS USA

U.S. Census and American Community Survey microdata from 1850 to the present. Learn More

VISIT SITE

IPUMS CPS

Current Population Survey microdata including basic monthly surveys and supplements from 1962 to the present. Learn More

VISIT SITE

IPUMS INTERNATIONAL

World's largest collection of census microdata covering over 100 countries, contemporary and historical. Learn More

VISIT SITE

IPUMS GLOBAL HEALTH

Health survey data for Africa and Asia, including harmonized data collections for DHS and PMA. Learn More

VISIT SITE

IPUMS NHGIS

Tabular U.S. Census data and GIS boundary files from 1790 to the present. Learn More

VISIT SITE

IPUMS IHGIS

Tabular and GIS data from population, housing, and agricultural censuses around the world. Learn More
Find additional spatial population & environmental data in IPUMS Terra.

VISIT SITE

IPUMS TIME USE

Historical and contemporary time use data from 1930 to the present. Learn More

VISIT SITE

IPUMS HEALTH SURVEYS

Historical and contemporary U.S. health survey data from NHIS (1963-present) and MEPS (1996-present). Learn More

VISIT SITE

IPUMS HIGHER ED

Survey data on the science and engineering workforce in the U.S. from 1993 to the present. Learn More

VISIT SITE

IPUMS INTEGRATION PROCESS

Basics of Integration

- Consistent codes and variable names
- Thorough and accessible documentation at the variable level
  - Comparability of concepts and universes across time and/or place

Original

Burkina Faso 2018	Kenya 2018	India 2018
0 = Never	0 = Never	0 = Never
1 = Primary	1 = Primary	1 = Primary
2 = Secondary 1 cycle	4 = University	2 = Secondary
3 = Secondary 2 cycle	5 = College	3 = Higher
4 = Tertiary	6 = Post-primary/vocational	4 = Postgrad
	7 = Secondary A level	

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Integrated

Original

		Burkina Faso 2018	Kenya 2018	India 2018
	Never attended	0 = Never	0 = Never	0 = Never
	Primary	1 = Primary	1 = Primary	1 = Primary
	Post-primary/vocational		6 = Post-primary/vocational	
	Secondary			2 = Secondary
	Cycle 1	2 = Secondary 1 cycle		
	Cycle 2	3 = Secondary 2 cycle		
	A level		7 = Secondary A level	
	Tertiary or higher	4 = Tertiary		3 = Higher
	College		5 = College	
	University		4 = University	
	Postgrad			4 = Postgrad

Integrated		Original		
		Burkina Faso 2018	**Kenya 2018**	**India 2018**
100	Never attended	0 = Never	0 = Never	0 = Never
200	Primary	1 = Primary	1 = Primary	1 = Primary
	Post-primary/vocational		6 = Post-primary/vocational	
	Secondary			2 = Secondary
	Cycle 1	2 = Secondary 1 cycle		
	Cycle 2	3 = Secondary 2 cycle		
	A level		7 = Secondary A level	
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	College		5 = College	
	University		4 = University	
	Postgrad			4 = Postgrad

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400	Secondary			2 = Secondary
	Cycle 1	2 = Secondary 1 cycle		
	Cycle 2	3 = Secondary 2 cycle		
	A level		7 = Secondary A level	
600	Tertiary or higher	4 = Tertiary		3 = Higher
	College		5 = College	
	University		4 = University	
	Postgrad			4 = Postgrad

Integrated

Original

		Burkina Faso 2018	Kenya 2018	India 2018
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200	Primary	1 = Primary	1 = Primary	1 = Primary
300	Post-primary/vocational		6 = Post-primary/vocational	
400	Secondary			2 = Secondary
420	Cycle 1	2 = Secondary 1 cycle		
430	Cycle 2	3 = Secondary 2 cycle		
450	A level		7 = Secondary A level	
600	Tertiary or higher	4 = Tertiary		3 = Higher
610	College		5 = College	
620	University		4 = University	
650	Postgrad			4 = Postgrad

Integrated

Original

		Burkina Faso 2018	Kenya 2018	India 2018
100	Never attended	0 = Never	0 = Never	0 = Never
200	Primary	1 = Primary	1 = Primary	1 = Primary
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600	Tertiary or higher	4 = Tertiary		3 = Higher
610	College		5 = College	
620	University		4 = University	
650	Postgrad			4 = Postgrad

Microdata

Kenya 2018

```
40409062018040000000000082201871012412199999
40409062018040000000000082201872022022120001
40409062018040000000000082201873030029999999
```

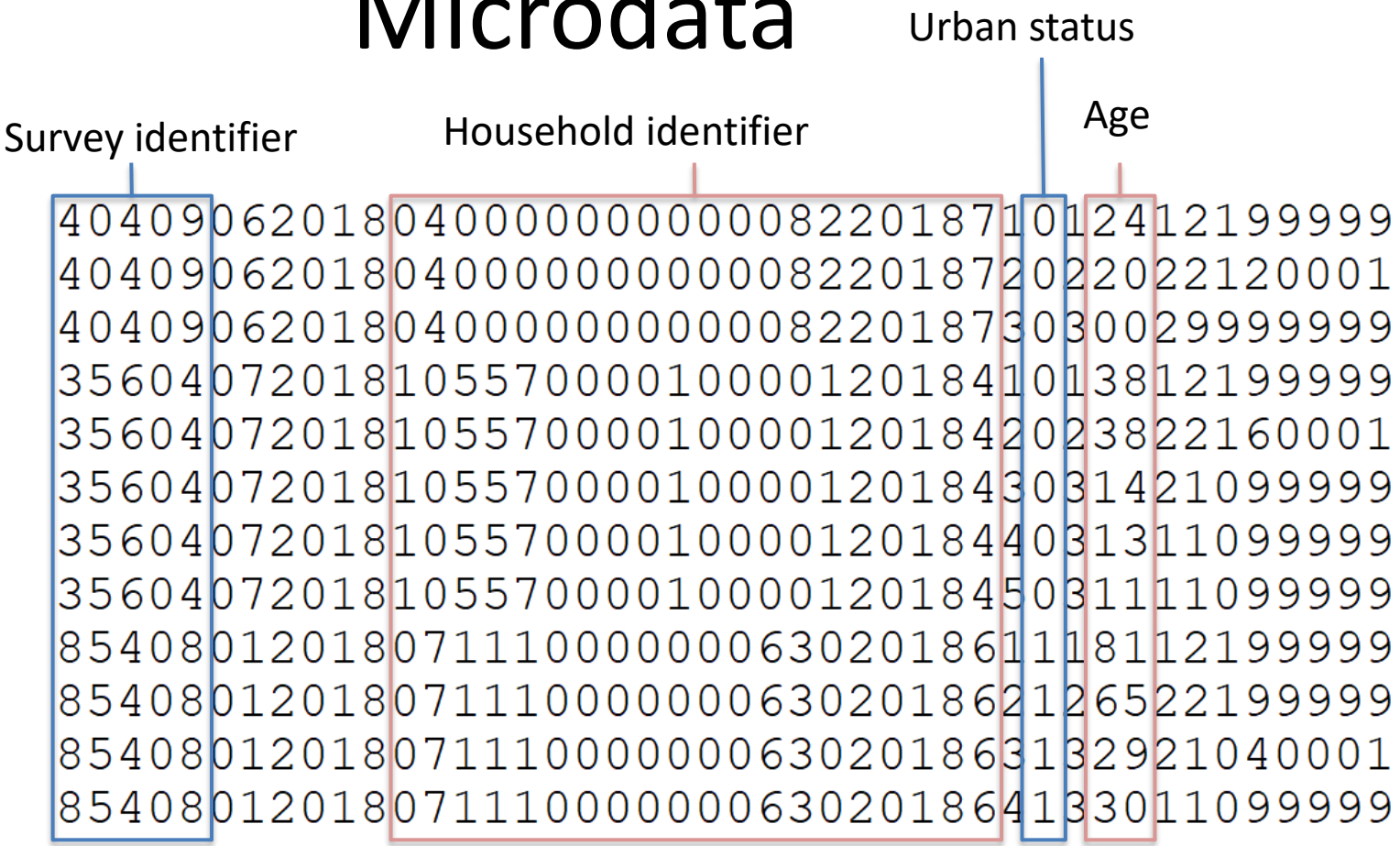
India 2018

```
35604072018105570000100001201841013812199999
35604072018105570000100001201842023822160001
35604072018105570000100001201843031421099999
35604072018105570000100001201844031311099999
35604072018105570000100001201845031111099999
```

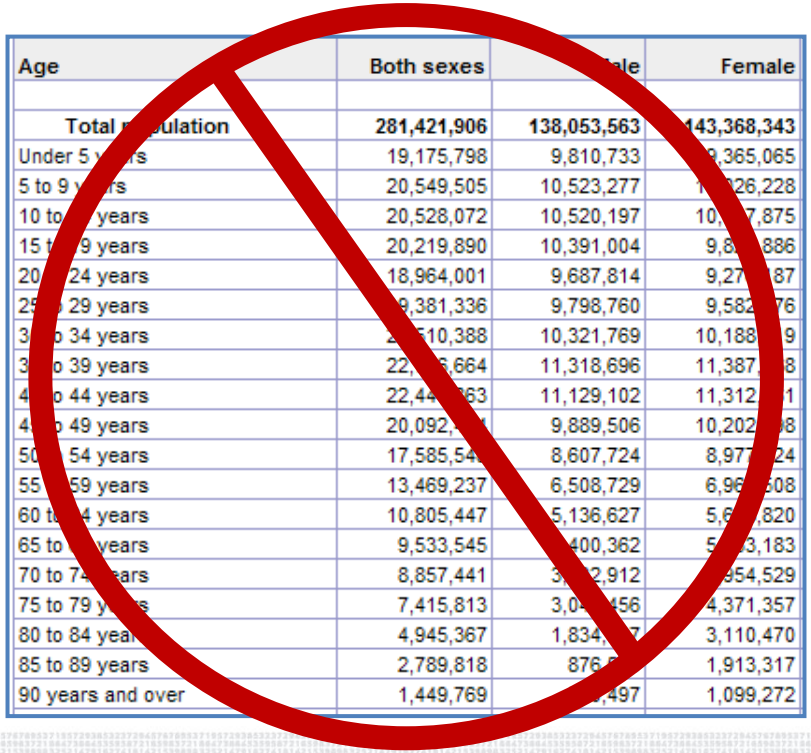
Burkina Faso 2018

```
85408012018071110000000630201861118112199999
85408012018071110000000630201862126522199999
85408012018071110000000630201863132921040001
85408012018071110000000630201864133011099999
```

Microdata


Urban status
Survey identifier
Household identifier
Age
404090620180400000000008220187101241219999 9
404090620180400000000008220187202202212000 1
404090620180400000000008220187303002999999 9
356040720181055700001000012018410138121999 99
356040720181055700001000012018420238221600 01
356040720181055700001000012018430314210999 99
356040720181055700001000012018440313110999 99
356040720181055700001000012018450311110999 99
854080120180711100000006302018611181121999 99
854080120180711100000006302018621265221999 99
854080120180711100000006302018631329210400 01
854080120180711100000006302018641330110999 99

Aggregate Data



Age	Both sexes	ale	Female
Total p ulation	281,421,906	138,053,563	143,368,343
Under 5 y rs	19,175,798	9,810,733	,365,065
5 to 9 y rs	20,549,505	10,523,277	026,228
10 to years	20,528,072	10,520,197	10, ,875
15 t 9 years	20,219,890	10,391,004	9,8 886
20 24 years	18,964,001	9,687,814	9,27 87
25 29 years	,381,336	9,798,760	9,582 76
3 34 years	10,388	10,321,769	10,188 9
3 39 years	22, ,664	11,318,696	11,387 8
4 44 years	22,44 63	11,129,102	11,312 1
4 49 years	20,092,	9,889,506	10,202 8
50 54 years	17,585,54	8,607,724	8,977 24
55 59 years	13,469,237	6,508,729	6,96 08
60 t 4 years	10,805,447	5,136,627	5,6 820
65 to years	9,533,545	400,362	5 3,183
70 to 74 ars	8,857,441	2,912	954,529
75 to 79 y rs	7,415,813	3,0 456	4,371,357
80 to 84 yea	4,945,367	1,834,	3,110,470
85 to 89 years	2,789,818	876	1,913,317
90 years and over	1,449,769	,497	1,099,272

Email our User Support with questions!

IPUMS@UMN.EDU

Thanks for listening!

ANY QUESTIONS?

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IPUMS MICS

Now Available!

Anna Bolgrien

bolgrien@umn.edu

MICS

Images: Copyright ©UNICEF

Multiple Indicator Cluster Survey

Developed by UNICEF in the 1990s

To assist countries in filling data gaps on children's and women's well-being for tracking progress toward

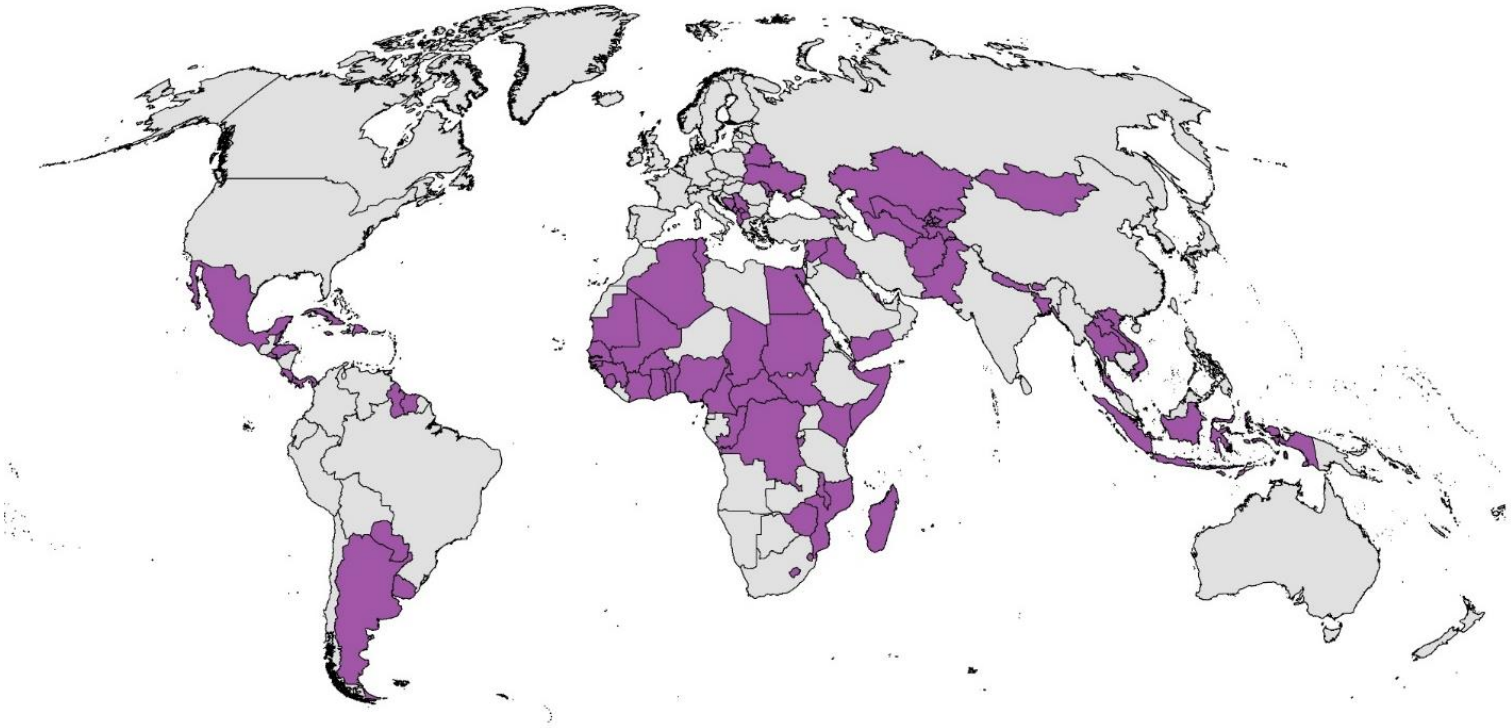
- World Summit for Children Goals
- MDGs
- SGDs

IPUMS MICS

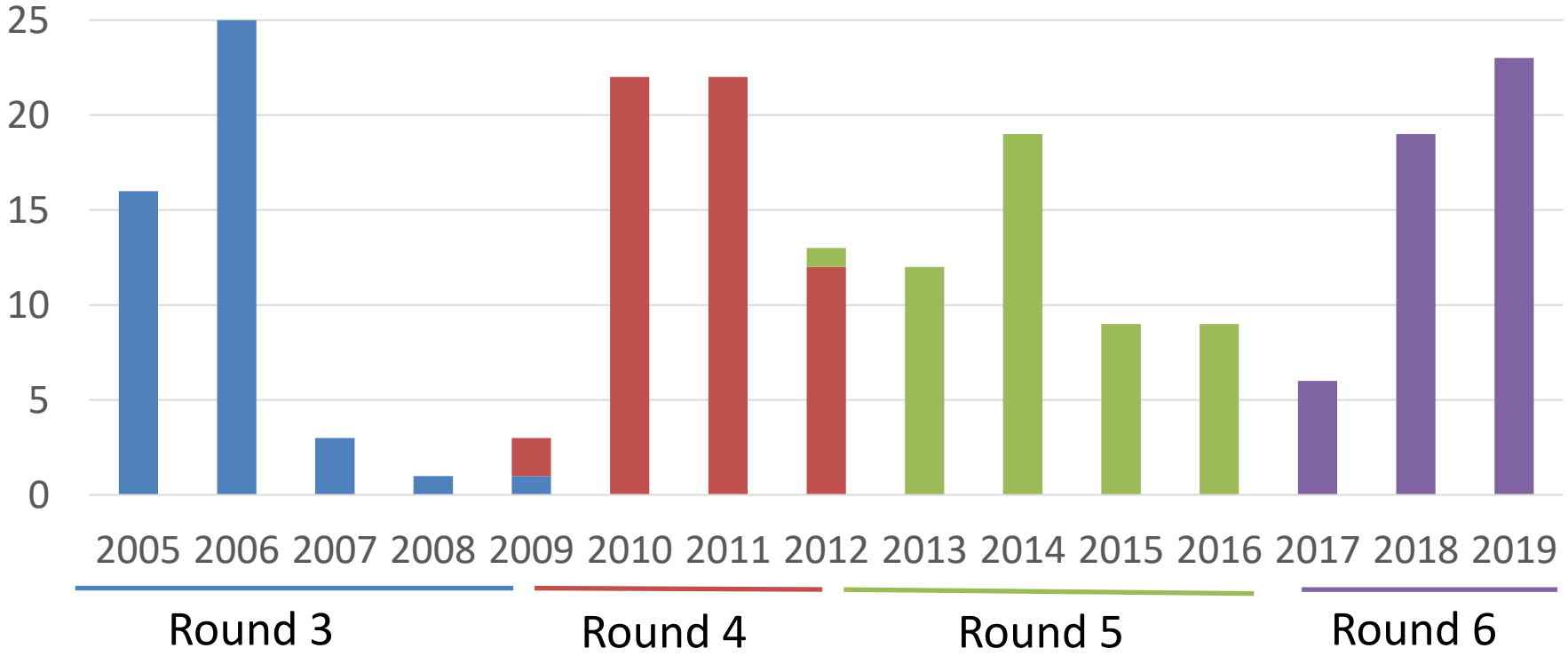
Harmonization for
88 countries 202 samples 1068 datasets

900+ variables

Sample availability

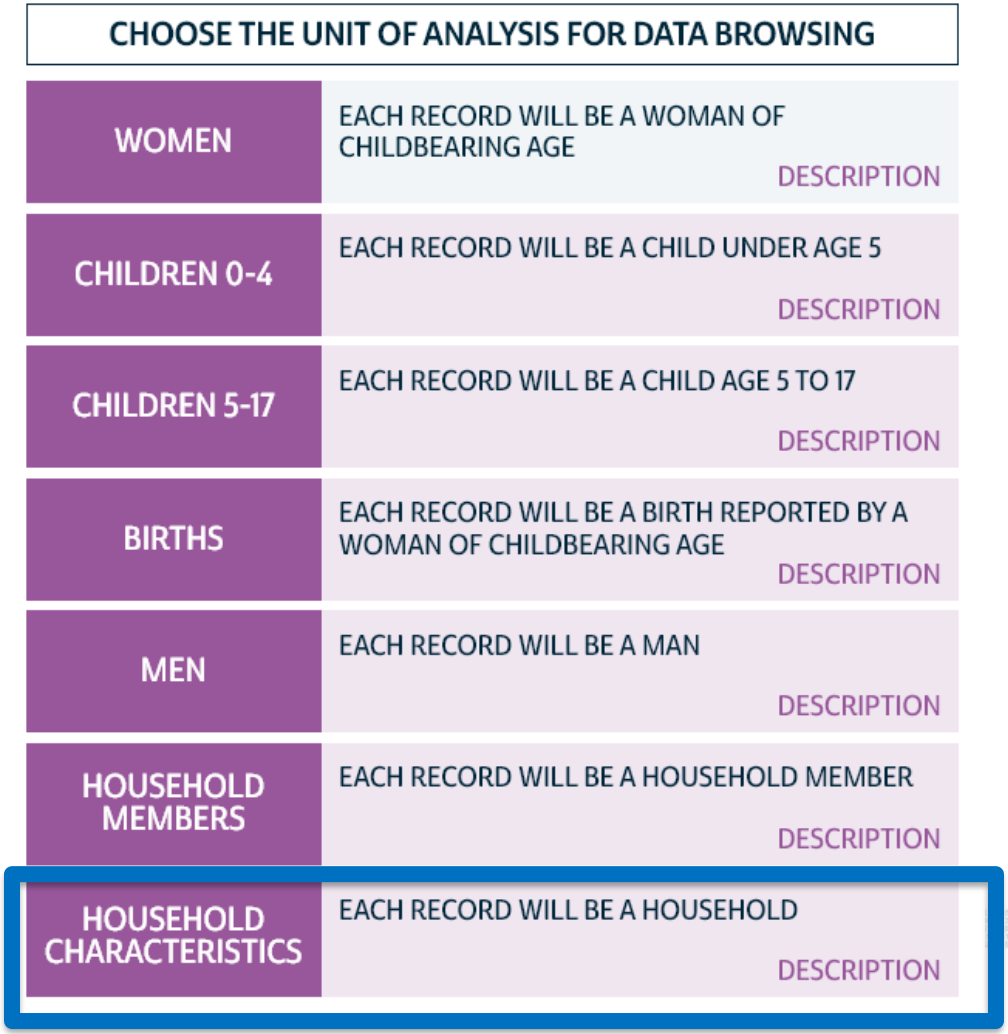


Number of Surveys



CHOOSE THE UNIT OF ANALYSIS FOR DATA BROWSING

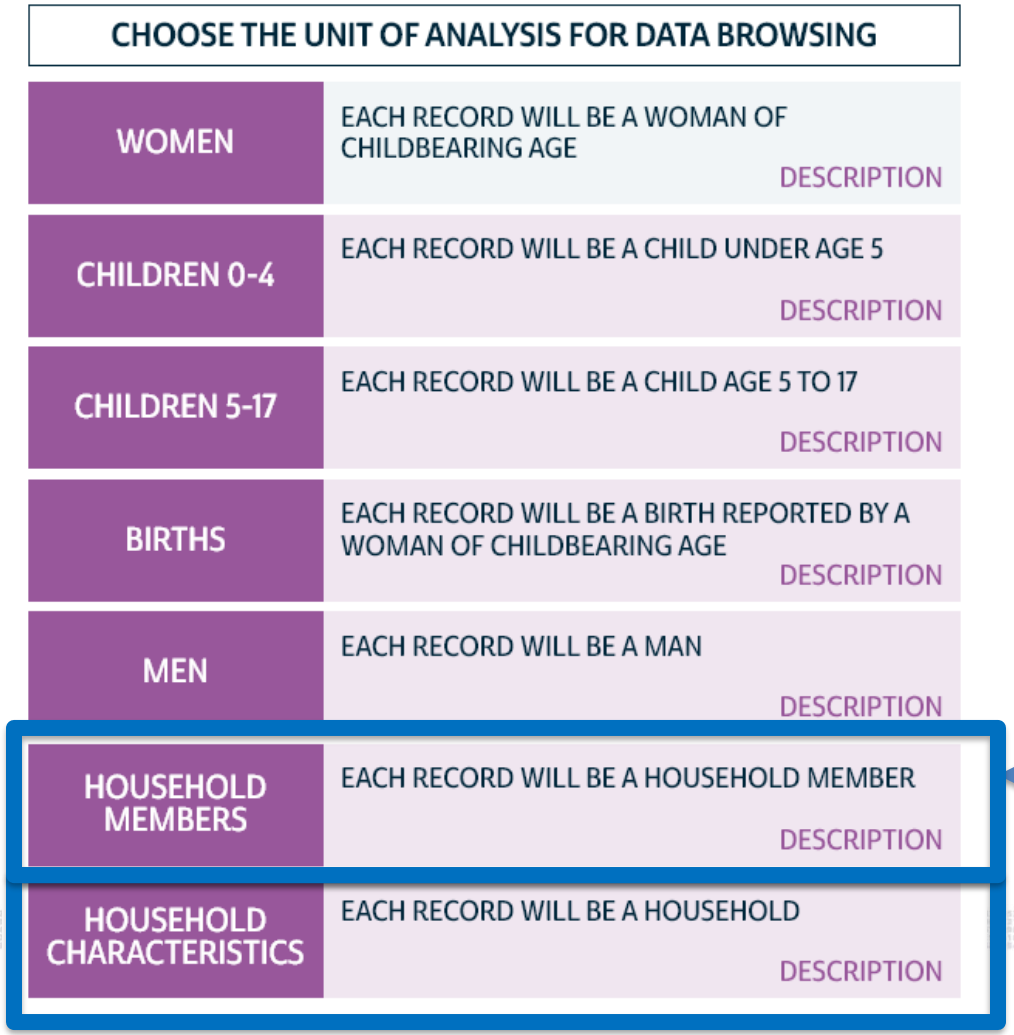
WOMEN	EACH RECORD WILL BE A WOMAN OF CHILDBEARING AGE DESCRIPTION
CHILDREN 0-4	EACH RECORD WILL BE A CHILD UNDER AGE 5 DESCRIPTION
CHILDREN 5-17	EACH RECORD WILL BE A CHILD AGE 5 TO 17 DESCRIPTION
BIRTHS	EACH RECORD WILL BE A BIRTH REPORTED BY A WOMAN OF CHILDBEARING AGE DESCRIPTION
MEN	EACH RECORD WILL BE A MAN DESCRIPTION
HOUSEHOLD MEMBERS	EACH RECORD WILL BE A HOUSEHOLD MEMBER DESCRIPTION
HOUSEHOLD CHARACTERISTICS	EACH RECORD WILL BE A HOUSEHOLD DESCRIPTION



HH Characteristics

WASH

Water Quality

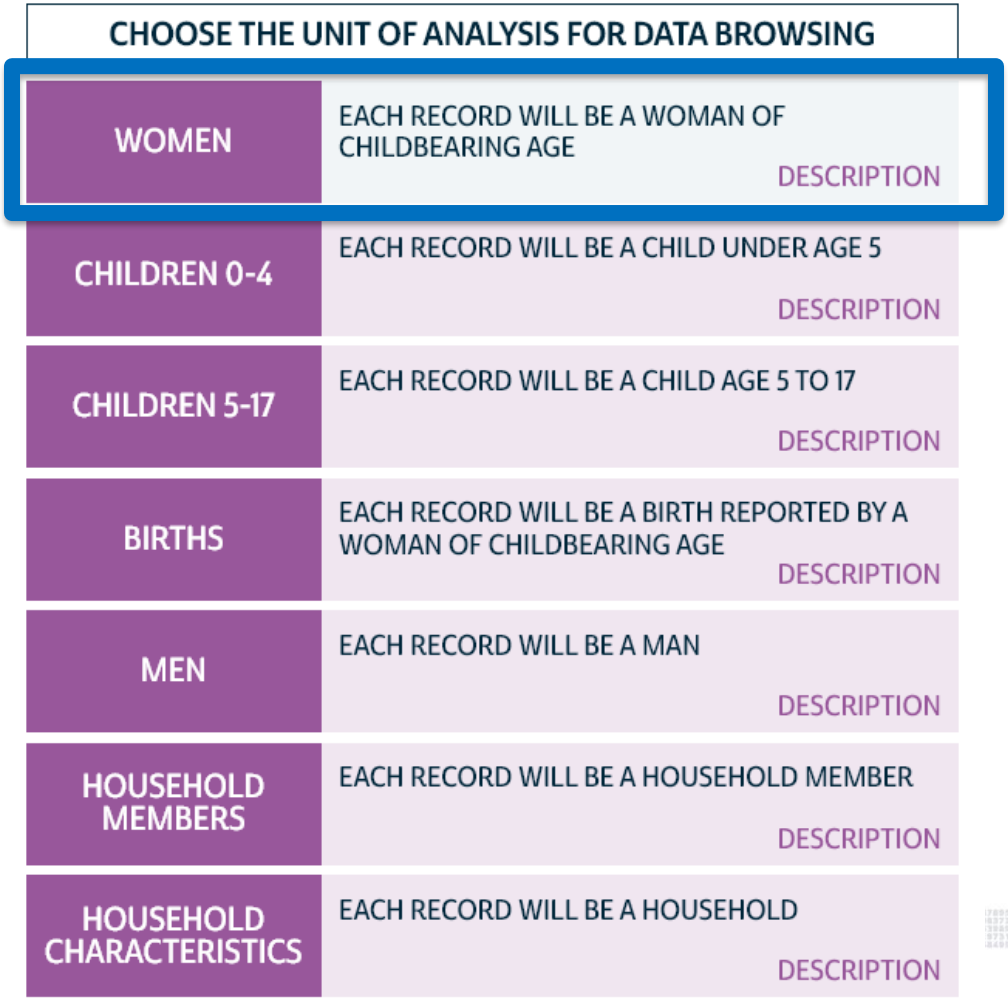


HH Characteristics

WASH

Water Quality

HH Roster



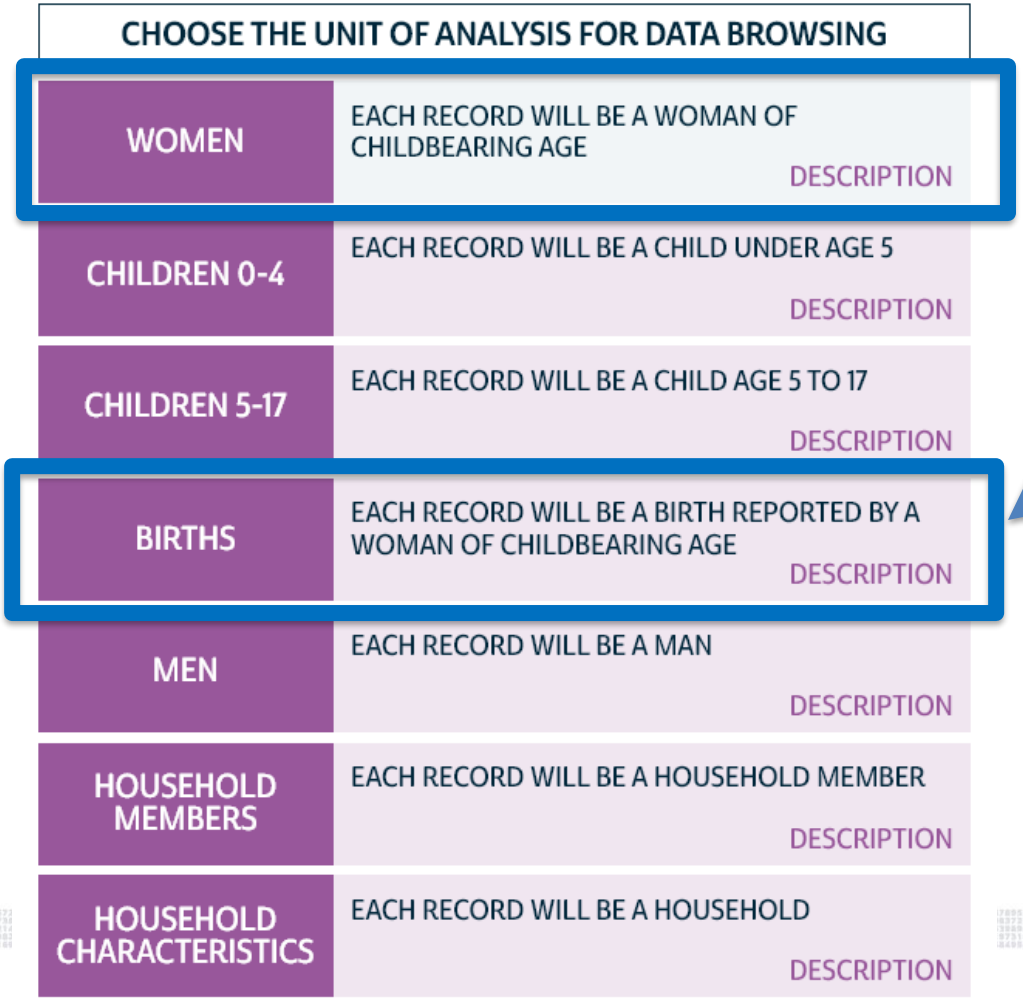
Demography

Fertility

Birth History

Contraception & Unmet Need

Maternal and Newborn Health



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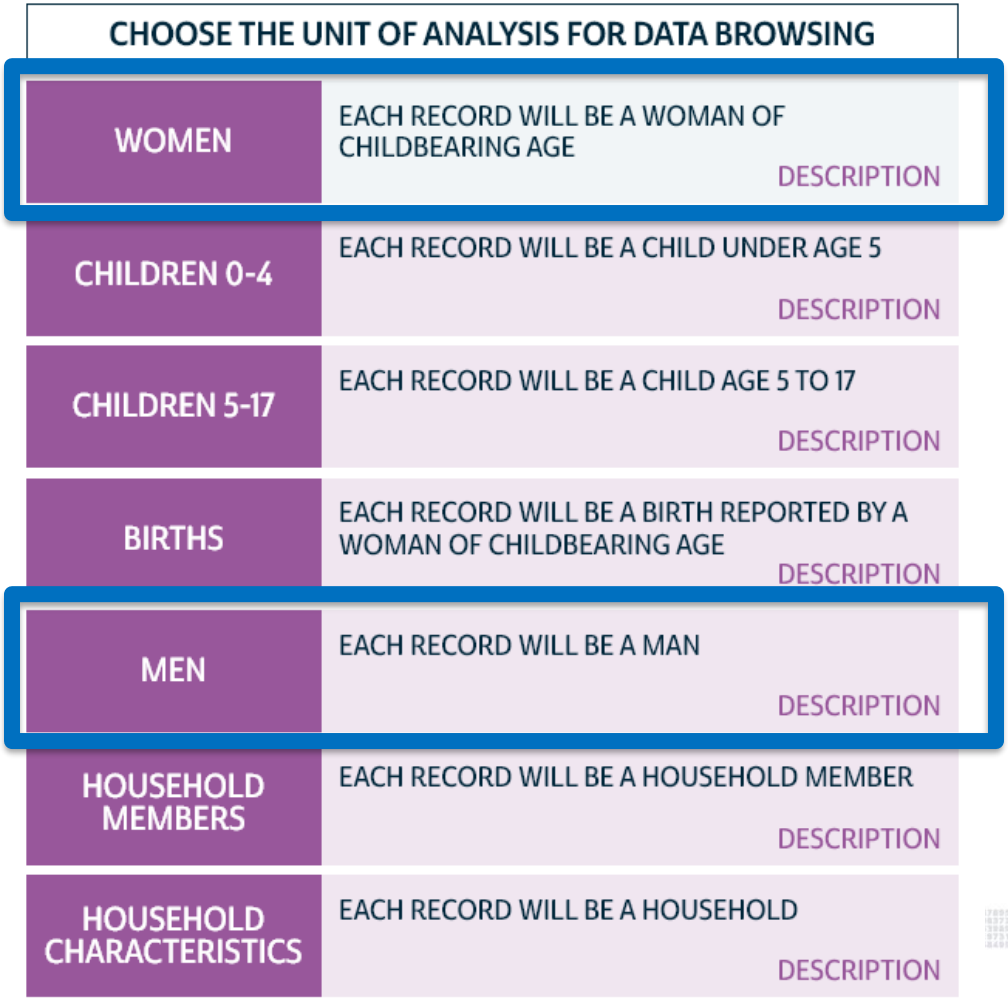


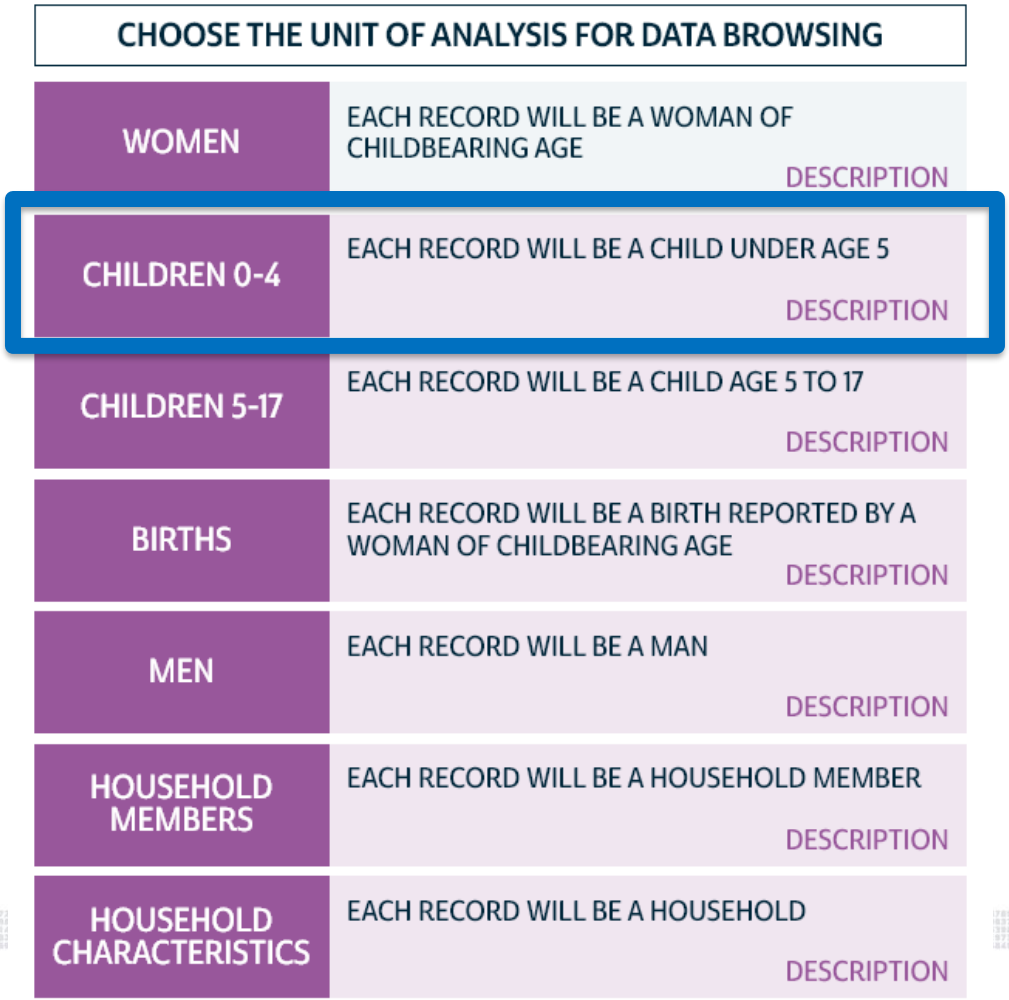
Mass Media

Sexual Behavior

HIV / AIDS

Domestic Violence

Life Satisfaction



Demography

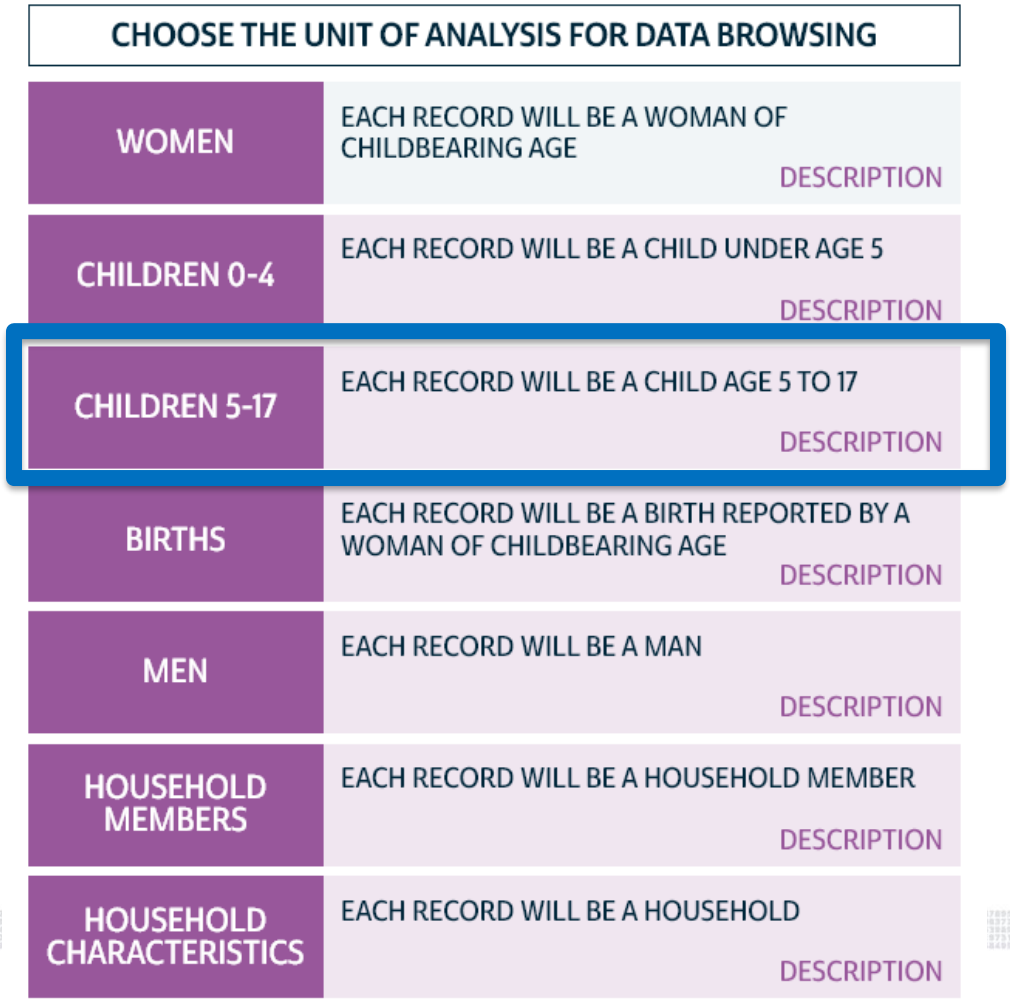
Child Functioning

ECE & Development

Anthropometry

Illness

Child discipline



Demography

Literacy and numeracy

Parental Involvement

Child Discipline

Child Labor

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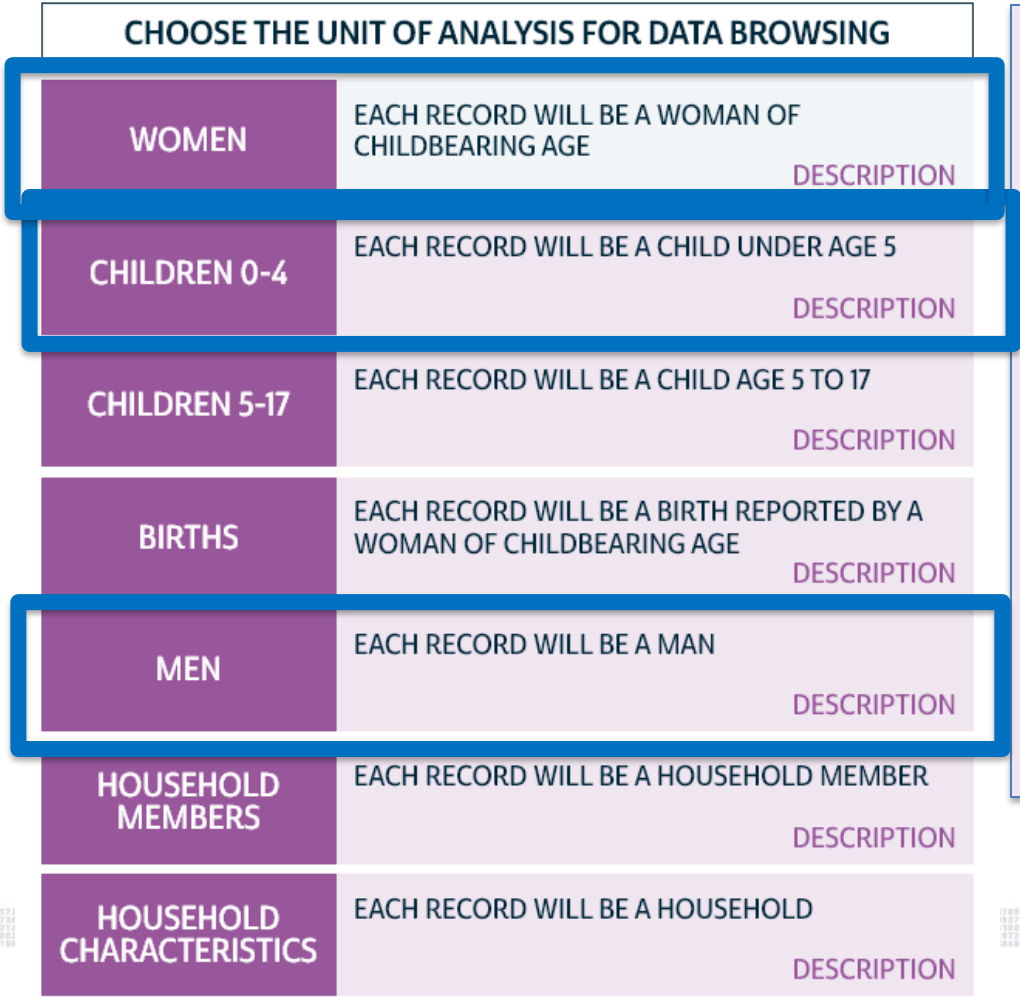
How does a father's involvement with a child's early childhood development impact a mother's life satisfaction?



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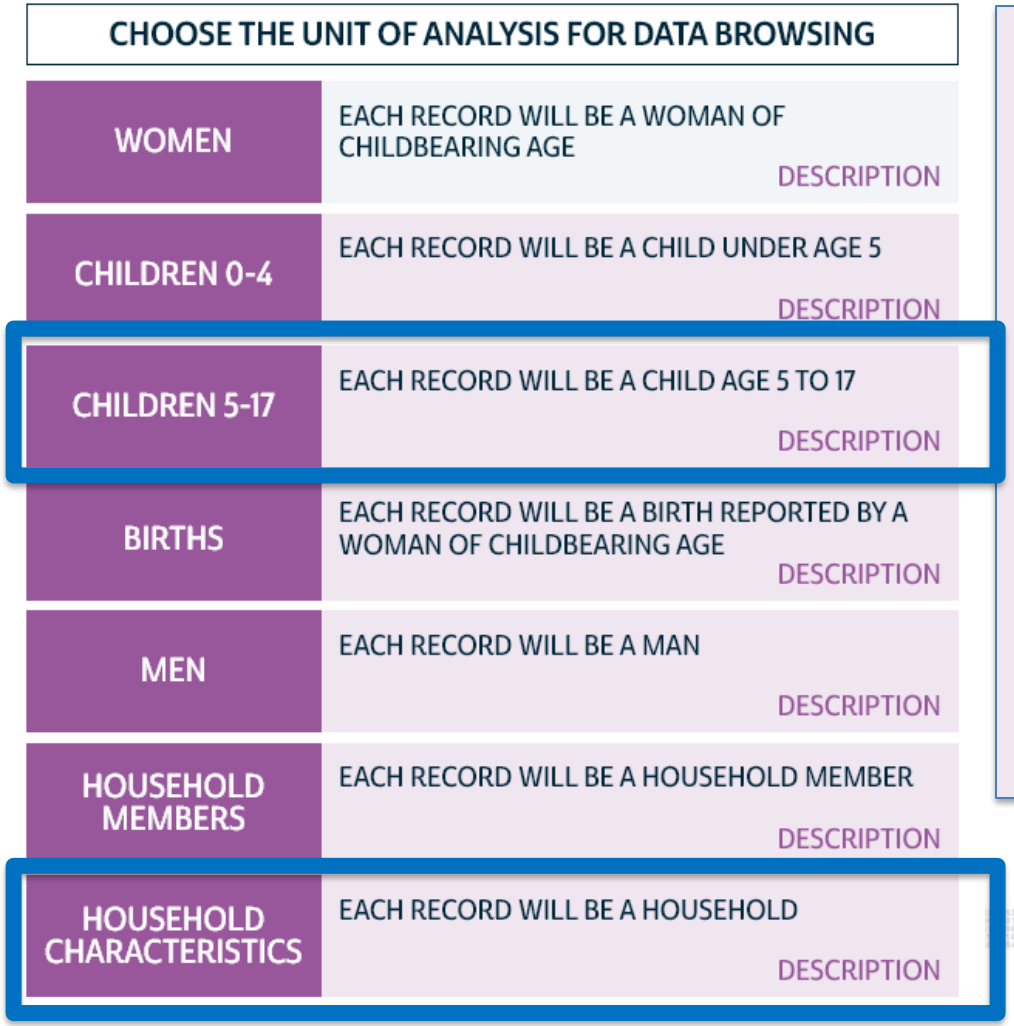
Does access to clean drinking water in the home increase decreasing time adolescents spend fetching water?



Does access to clean drinking water in the home increase decreasing time adolescents spend fetching water?

IPUMS MICS

mics.ipums.org

PERFORMANCE MONITORING FOR ACTION

IPUMS PMA Overview

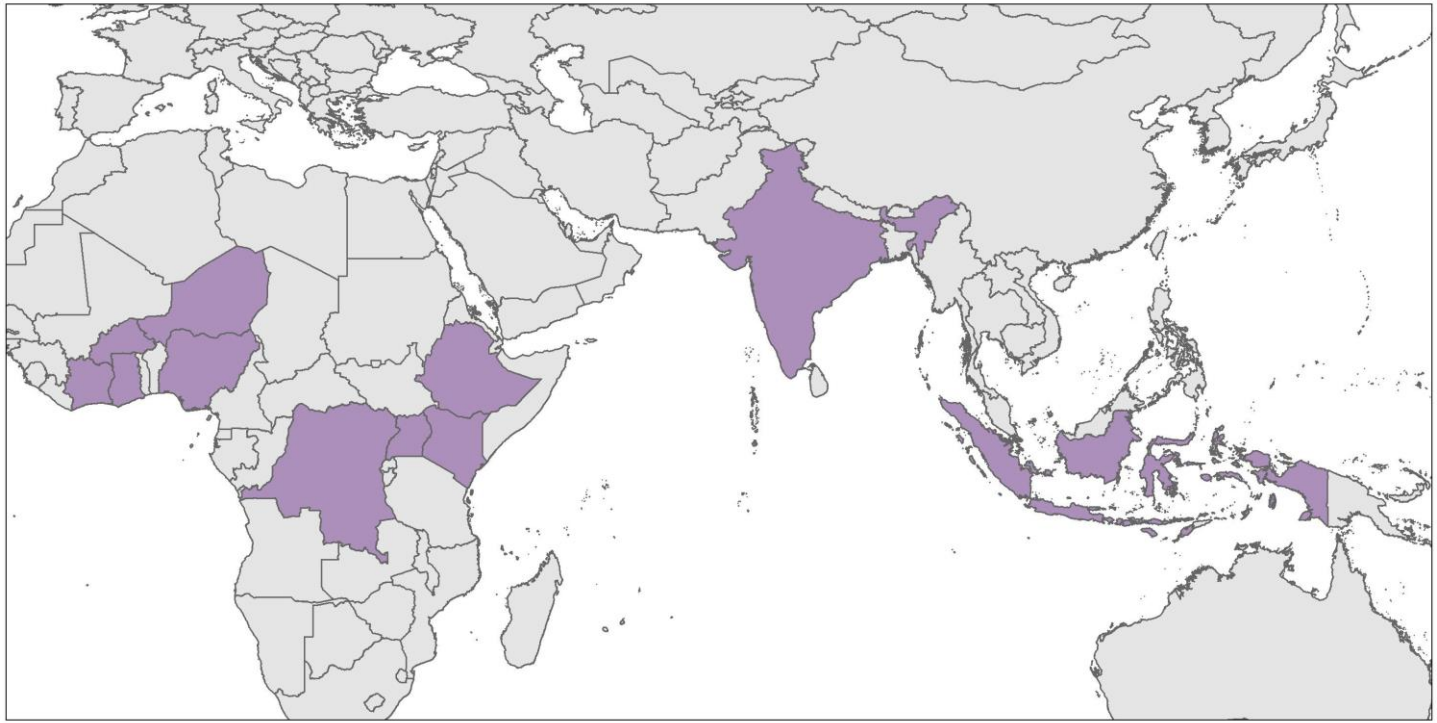
Performance Monitoring for Action (PMA)

- High frequency, recent surveys on **family planning, sexual and reproductive health** since 2013
- Data from 11 countries in **Africa and Asia**
- Originally designed to monitor progress towards FP2020 goals
- Funded by the Bill & Melinda Gates Foundation

200+ SAMPLES · 9000+ VARIABLES · 2 MILLION RECORDS

IPUMS PMA

PMA Countries



Sampling Design

- Multistage stratified cluster sampling
- Small areas were randomly selected (EA)
  - ~200 households
- Households are randomly selected (~35 per EA)
  - Household survey
  - Survey for all females 15 to 49
- Normalized survey weights

CHOOSE THE TOPIC FOR DATA BROWSING

PERSON	FAMILY PLANNING DESCRIPTION	NUTRITION DESCRIPTION
	CLIENT EXIT INTERVIEW DESCRIPTION	COVID-19 DESCRIPTION
SERVICE DELIVERY POINT	FAMILY PLANNING DESCRIPTION	NUTRITION DESCRIPTION
INFANT	MATERNAL AND NEWBORN HEALTH DESCRIPTION	

Household and Female

- Cross-sectional (2013-2018)
- Longitudinal and cross-section (2019-onward)
- Household
  - wealth, water, sanitation
- Female
  - Fertility, family planning, reproductive health

Topic modules

- Migration
- Gender-based Violence
- Economic empowerment
- Menstrual hygiene
- Health insurance
- Abortion
- Contraceptive Side Effects
- Contraceptive calendar

Service Delivery Point

- Same EAs as surveyed households
- Up to 3 public and 3 private
- Family planning service provision
- Stock-outs
- Other health services
  - Antenatal, abortion, post abortion, post natal

COVID-19

- Phone survey in summer 2020
  - Burkina Faso, DRC, Kenya, Nigeria
  - Can be linked with longitudinal panel
- Information sources and trust level
- Health care access impacts
- Social distancing measures and attitudes

IPUMS PMA

Maternal and Newborn Health

- Ethiopia cohort studies (2016- 2017 and 2019-2021)
- Antenatal care
- Pregnancy and delivery complications
- Infant health issues and treatment
- Infant vaccination

Client Exit Interviews

- Can be linked to facility data
- Short interviews of family planning clients at health facilities
- Method preference
- Quality of care
- Follow up interviews

Nutrition

- Household and female survey combined with facility survey
- Children under 5 diet and biomarkers (MUAC)
- Household food security
- Antenatal nutrition
- Breastfeeding assistance

DATA ANALYSIS HUB

March 22, 2023
Matt Gunther

ABORTION INCIDENCE WITH THIRD PARTY REPORTING

DATA ANALYSIS | ABORTION | MEASUREMENT

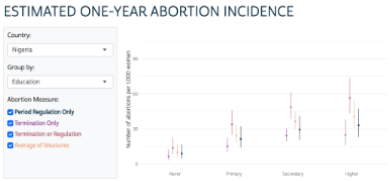
Recent PMA surveys from Côte d'Ivoire and Nigeria include questions about the abortion experiences of both respondents and other women of reproductive age with whom they share personal information.

Feb. 15, 2023
Matt Gunther
Devon Kristiansen

COMPARING MEASURES OF ABORTION INCIDENCE WITH A SHINY DASHBOARD

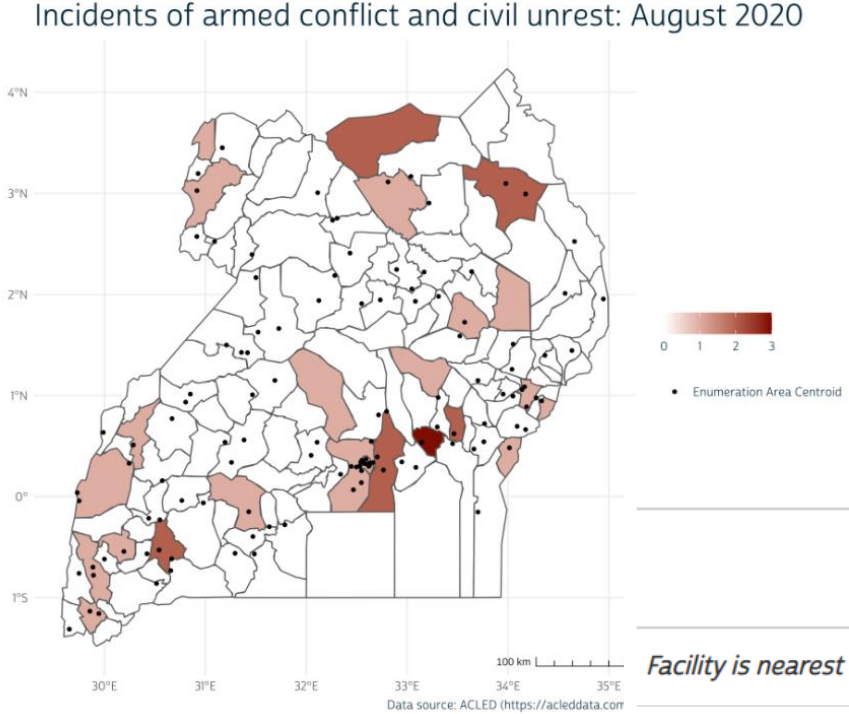
DATA ANALYSIS | ABORTION | SHINY | DPLYR

New abortion data from PMA includes women who reported doing something to remove a pregnancy, or to regulate a late period because of a suspected pregnancy.



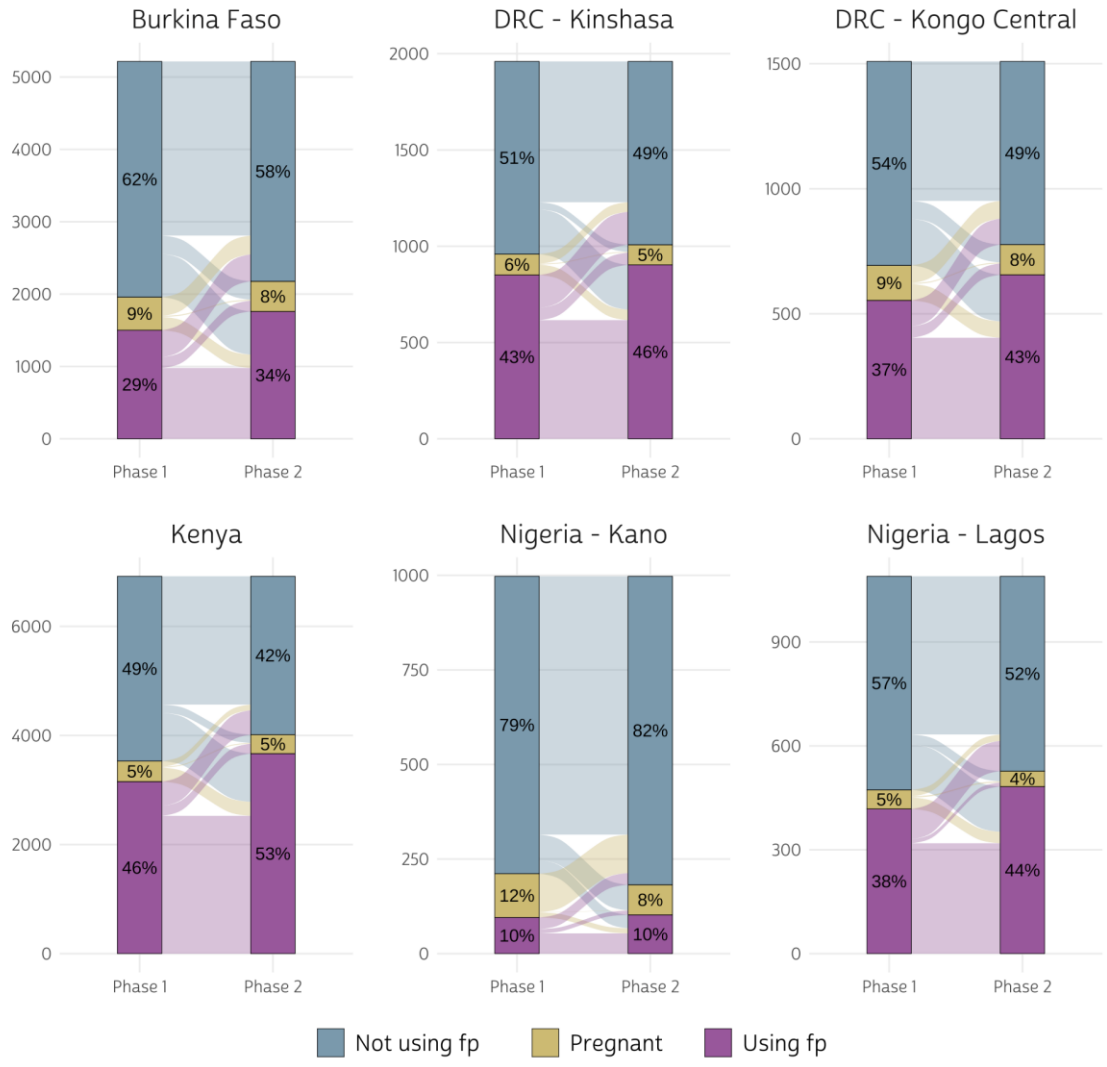
CATEGORIES

- Articles (52)
- Abortion (3)
- ACLED (1)
- across (2)
- Agriculture (1)
- Animation (1)
- Armed Conflict (1)
- Bar Charts (2)
- bootstraps (1)
- CHIRPS (1)
- Client Exit Interviews (6)
- Climate (2)
- Cluster Sampling (2)
- Codebook (1)
- Contraceptive Calendar (3)
- COVID-19 (5)
- cowplot (1)
- cur_data (1)
- Data Analysis (18)



Mode of transportation taken to facility	
Motor vehicle (car, motorcycle, bus)	868 (37%)
Bicycle / pedicab	96 (4%)
Walking	1,382 (59%)
Boat	1 (0%)
Other	2 (0%)
Total travel time to facility (minutes)	30 (20, 60)

	Low/Moderate Conflict N = 930[1]	High Conflict N = 1419[1]	p-value[2]
Facility is nearest to residence	777 (84%)	1,101 (78%)	<0.001


Burkina Faso
5000
4000
3000
2000
1000
0
62%
9%
29%
58%
8%
34%
Phase 1
Phase 2
DRC - Kinshasa
2000
1500
1000
500
0
51%
6%
43%
49%
5%
46%
Phase 1
Phase 2
DRC - Kongo Central
1500
1000
500
0
54%
9%
37%
49%
8%
43%
Phase 1
Phase 2
Kenya
6000
4000
2000
0
49%
5%
46%
42%
5%
53%
Phase 1
Phase 2
Nigeria - Kano
1000
750
500
250
0
79%
12%
10%
82%
8%
10%
Phase 1
Phase 2
Nigeria - Lagos
900
600
300
0
57%
5%
38%
52%
4%
44%
Phase 1
Phase 2
Not using fp
Pregnant
Using fp

IPUMS DHS

dhs.ipums.org

What is the DHS?

- Demographic and Health Surveys (DHS)
- 1980's to the present
- "collected and disseminated accurate and representative data on population, health, HIV, and nutrition"
- Over 400 surveys in more than 90 countries
- Leading source of information on health in LMICS

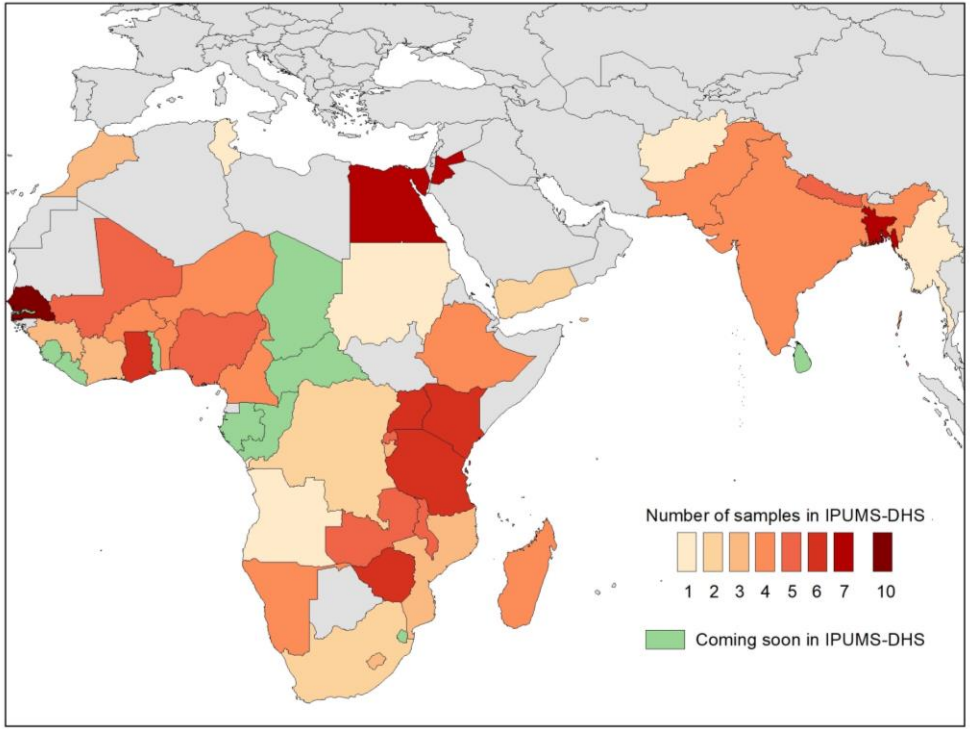
What is IPUMS DHS?

- Website to browse variables and create custom dataset
- Register with The DHS Program to download data
- Simplifies studying change or conducting comparative analysis
- Microdata drawn from DHS public use files, recoded
- Extensive variable-specific information
- Created over 20,000 integrated variables

Samples and countries

To date, standard, continuous, and interim DHS surveys for:

- 180 samples
- 45 countries
- Most sub-Saharan African countries
- North Africa, Middle East
- South Asia



Advantages of Using IPUMS DHS

- Makes it easy to identify topics and variables in each sample
- Gives consistent variable names and codes to “non-standard” variables
- Provides documentation on variable’s universe, question wording (in English), comparability issues
- Allows you to create a manageable data file with just the samples and variables you need

Contextual variables in IPUMS DHS

- Physical and Environmental
  - Ecoregion
  - Soil
  - *Normalized Difference Vegetation Index (NDVI)*
  - *Precipitation*
  - *Temperature (minimum and maximum)*
- Economic and Social
  - Livelihood index
  - *Population density*
  - *Malaria*
- Agricultural
  - Cropland
  - Pastureland
  - Crops harvested (17 major crops)
  - Crop production (17 major crops)

Contextual variables in IPUMS DHS

- Use GPS sample cluster points (displaced w/in 5-10 kilometers)
- Draw 5 or 10 km buffer zone around sample points w. ARC GIS
- Bring in non-DHS information with geographic location info
- Associate that non-DHS information with all survey members in a sample cluster

For more information about contextual variables

See Elizabeth Heger Boyle et al.

“Contextual data in IPUMS DHS: physical and social environment variables linked to the Demographic and Health Surveys,”

Population and Environment (May 2020).

Reproductive calendar data in IPUMS DHS

Women of childbearing age were asked about the timing/dates of

- Pregnancies
- Births
- Pregnancy terminations
- Use of specific contraceptive methods

in period preceding the survey interview (5 years before for DHS, choose woman-months as unit of analysis)

Allows study of topics such as

- Contraceptive failure rates
- Length of use, reason for stopping use of FP methods
- Prevalence of births delivered before 9 months of pregnancy
- Relationship between IPV and miscarriage
- Prevalence and timing of abortion

For more information, see

Elizabeth Heger Boyle, Nir Rotem, and Miriam L. King,

“How to Use Simplified Reproductive Calendar Data from the Demographic and Health Survey,” Studies in Family Planning, March 2023.

DOI: https://doi.org/10.1111/sifp.12240

IPUMS Workshop Schedule

1:00-1:15 Introduction

1:15-2:10 Data collection descriptions

2:20-2:25 Break

2:25-3:00 Web demonstration

3:00-3:05 Break

3:05-3:35 Geography and GIS tools and IPUMS Online Tabulator

3:30-4:00 Questions

IPUMS GLOBAL HEALTH

Similarities

Question wording*

Definitions of indicators

Universe

Sample design

Similarities

Question wording*

Definitions of indicators

Universe

Sample design

Differences

Different countries

Starting year

- DHS: 1980s
- MICS: 2000s
- PMA: 2013

Freq of data collection

- DHS & MICS: 5-10 years
- PMA: Annual

	IPUMS DHS	IPUMS MICS	IPUMS PMA
Household Members	x	x	x
Women	x	x	x
Children 0-4	x	x	x

	IPUMS DHS	IPUMS MICS	IPUMS PMA
Household Members	x	x	x
Women	x	x	x
Birth History	x	x	
FGMC Daughters	x	Coming soon	
Children 0-4	x	x	x
Household	Coming soon	x	
Men	x	x	
Calendar	x		x

	IPUMS DHS	IPUMS MICS	IPUMS PMA
Household Members	x	x	x
Women	x	x	x
Birth History	x	x	
FGMC Daughters	x	Coming soon	
Children 0-4	x	x	x
Household	Coming soon	x	
Men	x	x	
Calendar	x		x
Children 5-17		x	
Service Delivery			x
Infant Panel			x
Longitudinal			x

Other IPUMS differences

- Registration

  MICS –> UNICEF

  DHS –> The DHS Program

  IPUMSI and PMA

  USA and other US projects

Other IPUMS differences

- Registration

  MICS –> UNICEF

  DHS –> The DHS Program

  IPUMSI and PMA

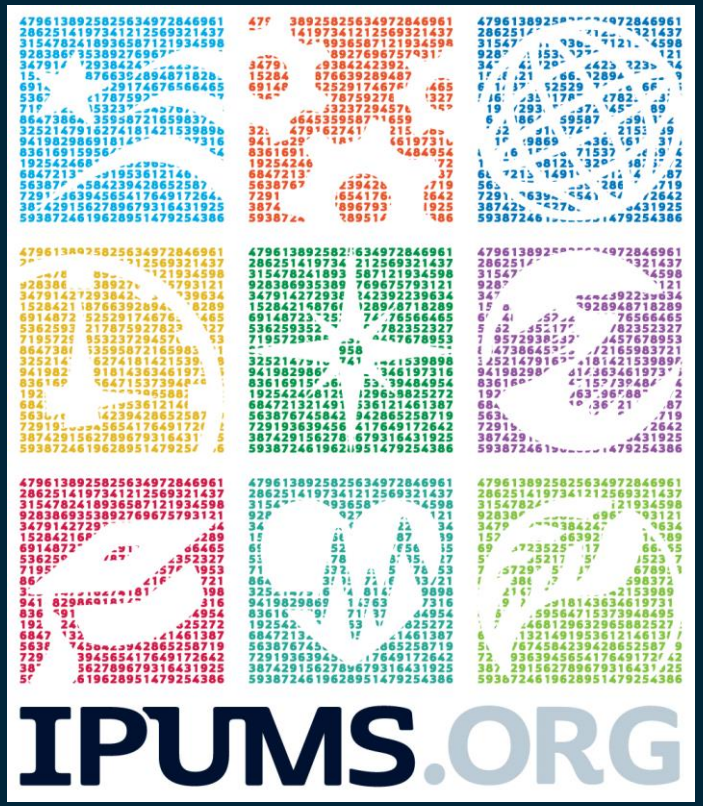
  USA and other US projects

- Creating data extracts and downloading data

  IPUMS MICS = Stata syntax + original data from UNICEF

  All other projects: choice of format and already harmonized data

  **Will demonstrate both MICS and PMA today*



IPUMS International: Census and Survey microdata

Consortium of Universities for Global Health
October 31 2023

Sula Sarkar, PhD
Senior Research Scientist
Institute for Social Research & Data Innovation
University of Minnesota

UNIVERSITY OF MINNESOTA

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SUPPLEMENTAL DATA
GEOGRAPHY & GIS
FERTILITY, MORTALITY, MIGRATION
RESEARCH DATA ENCLAVE
LINKED HISTORICAL CENSUSES

DOCUMENTATION
REVISION HISTORY
SAMPLE DESCRIPTIONS
QUESTIONNAIRES
NAPP PROJECT
WORLD CENSUS FORMS

SUPPORT
FAQ
VIDEO TUTORIALS
USER FORUM
TEACHING WITH IPUMS

RESEARCH
CITING IPUMS INTERNATIONAL
IPUMS BIBLIOGRAPHY

HARMONIZED INTERNATIONAL CENSUS DATA FOR SOCIAL SCIENCE AND HEALTH RESEARCH

IPUMS International is dedicated to collecting and distributing census microdata from around the world. The project goals are to collect and preserve data and documentation, harmonize data, and disseminate the harmonized data free of charge.

103 COUNTRIES – 547 CENSUSES AND SURVEYS – OVER 1 BILLION PERSON RECORDS

SOURCE DATA FOR IPUMS INTERNATIONAL ARE GENEROUSLY PROVIDED BY PARTICIPATING NATIONAL STATISTICAL OFFICES

CREATE AN EXTRACT

Browse Data

CREATE AN ACCOUNT

Register

What is IPUMS?

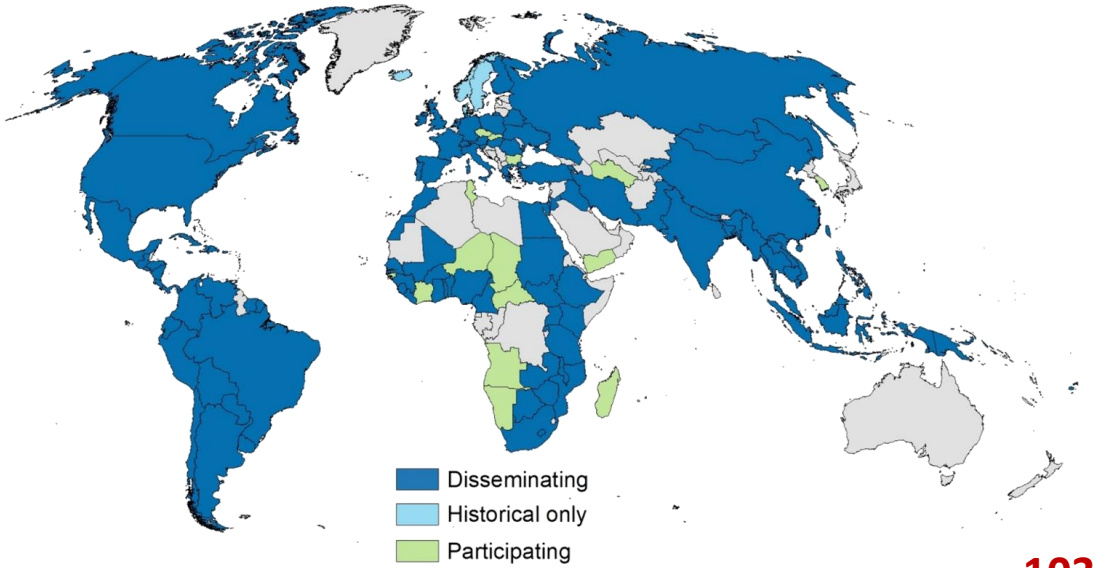
IPUMS provides census and survey data from around the world integrated across time and space. IPUMS integration and documentation makes it easy to study change, conduct comparative research, merge information across data types, and analyze individuals within family and community context. Data and services available free of charge.

Features of IPUMS International

- Census (and survey) microdata samples
- Anonymized
- Harmonized with consistent coding
- **Spatially harmonized geography and GIS files**
- Data extract system with customizable extracts
- **Online data analysis**
- **FREE** access to researchers!

IPUMS microdata availability

IPUMS International Data provided by the National Statistical Institutes, partners in the census integration and dissemination project



Coming soon!
Cambodia (2019)
Ivory Coast (1988, 1998)
Laos (1995, 2015)
Mexico (2020)
Peru (2017)
Switzerland (2011)
Vietnam (2019)
Puerto Rico (2015, 2020)
United States (2015, 2020)
England & Wales (1961, 1971)
Denmark (1880, 1885)

1,190,012,299 person records
103 countries; 547 censuses and surveys

Family interrelationships: Pointers

- Pointers are locator variables—variables that identify each person's mother, father, or spouse, if one is present in the household
- The spouse locator variable identifies the person number of a person's spouse
- The mother and father locator variables "point" to a person's mother and father
- IPUMS pointers are created simultaneously for all countries, applying the same method despite variation in data quality, availability, and household structure

Example: Family Interrelationships in a Census Household

Person Number	Relate	Age	Sex	Marital status	Children Ever-born	Spouse's Location
1	head	46	male	married	n/a	2
2	spouse	44	female	married	3	1
3	child	15	female	single	0	0
4	child	13	female	single	n/a	0
5	child	22	female	single	1	0
6	grandchild	3	male	single	n/a	0

Person Number	Relate	Age	Sex	Marital status	Children Ever-born	Mother's Location	Father's Location
1	head	46	male	married	n/a	0	0
2	spouse	44	female	married	3	0	0
3	child	15	female	single	0	2	1
4	child	13	female	single	n/a	2	1
5	child	25	female	single	1	2	1
6	grandchild	3	male	single	n/a	6	0

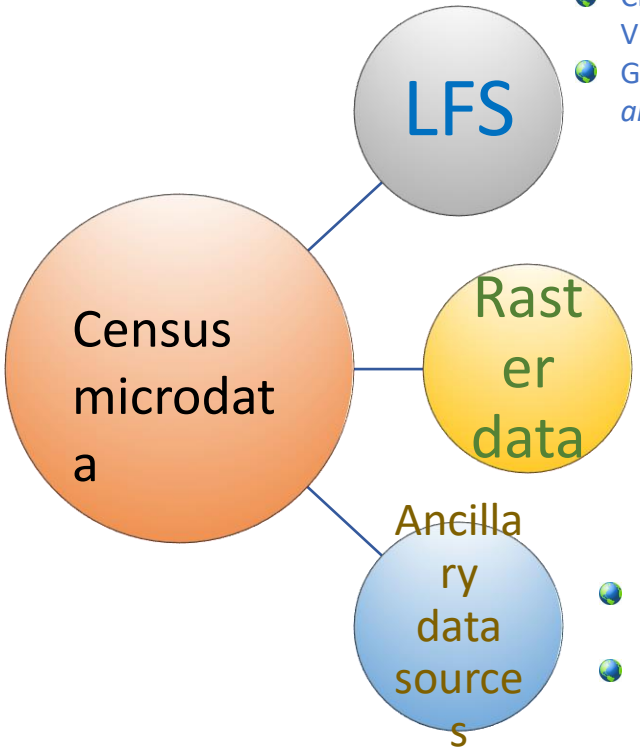
Commonly requested variables

Top 10	11 to 20	21 to 30
Employment status	Industry	Spouse's location in HH
Education Attainment	Urban-rural status	Country of birth
Marital Status	Ownership of dwelling	Father's location in HH
Age	Years of schooling	Family size
Sex	Children ever born	Children surviving
Relationship to head	Religion	Number own children <5 in HH
Class of worker	Household size	Group quarters status
School attendance	Nativity status	Age of eldest child
Occupation	Number own children in HH	Age of youngest child
Literacy	Mother's location in HH	Total Income

1,900+ Harmonized variables

98,000+ Source variables

Census data + OTHER data

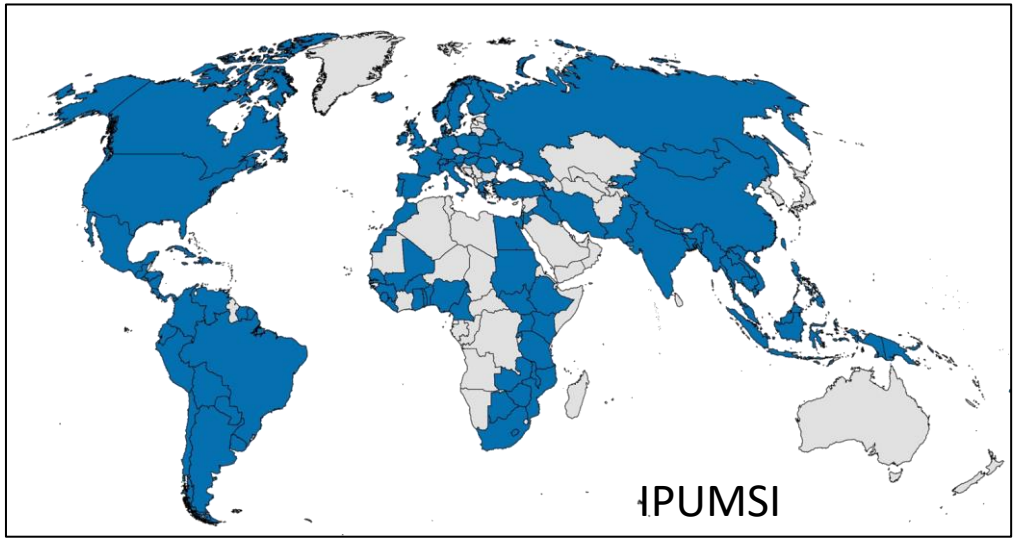


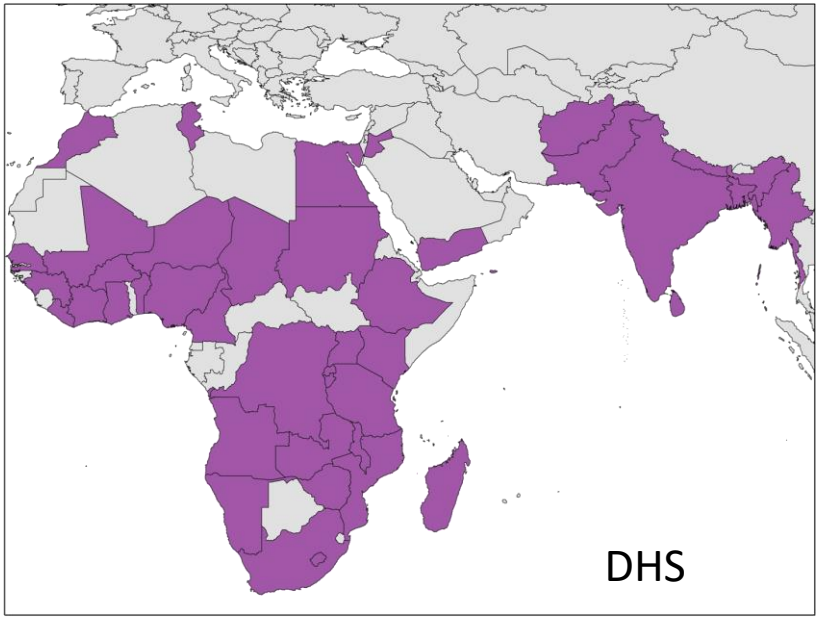
- Changes in food insecurity risk caused by income shocks: **Census microdata** + LFS+ Vietnam Household Living Standard Survey (VHLSS) – *Khoa Vu et al. World Development*
- Gender segregation and occupation using **Census** data + Labor market data – *Bidisha et al. South Asia Economic Journal*

- Climate exposures during early life and lifetime migration. Lifetime migration (from **census**) + climate data (from CRU) – *Thiede et al. Population and Development*
- Estimating total international migrants leaving Mexico disaggregated by municipality of departure. Population data from **census** + Landsat 5 Thematic Mapper (TM) Level-1 data product – *Dan Rufola et al. Transactions in GIS*

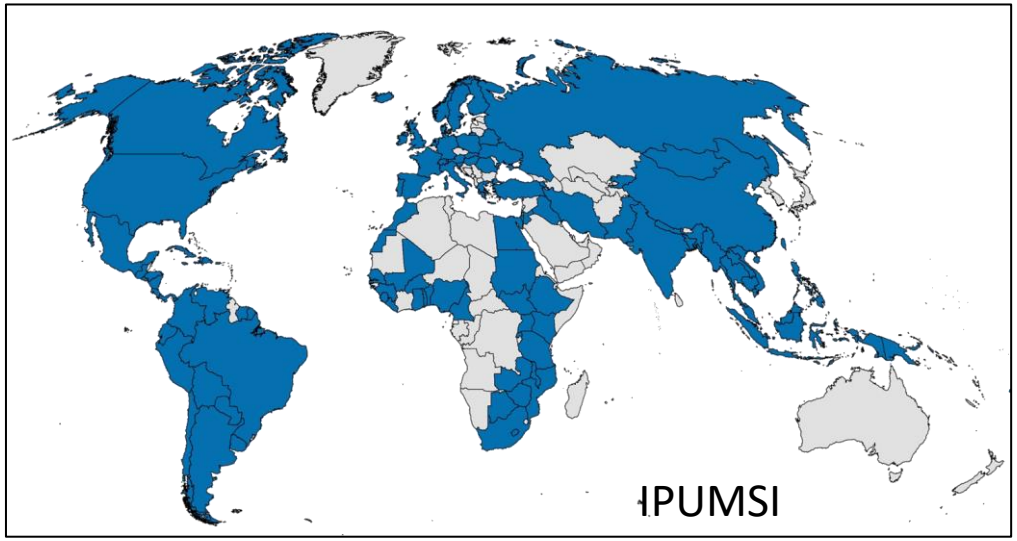
- Labor force participation rate of women versus men: Employment data from **census** + Data on 2G and 3G coverage – *Chiplunkar and Goldberg, NBER Working Paper*
- Coal mining effect on children's educational attainment: using **census** data + mining dataset from district level panel dataset – *Eddy Zou, working paper*

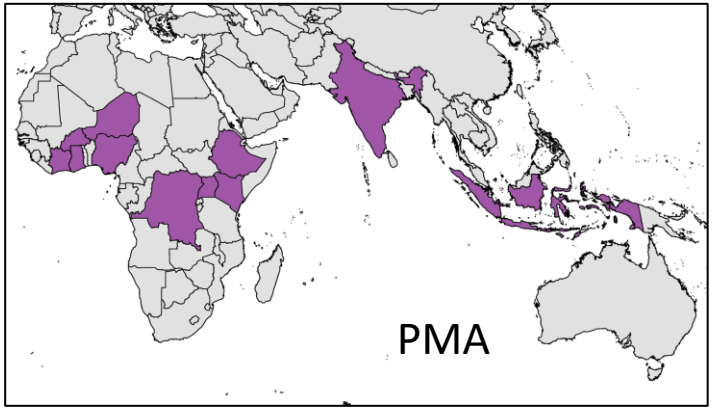
IPUMSI and other global health projects

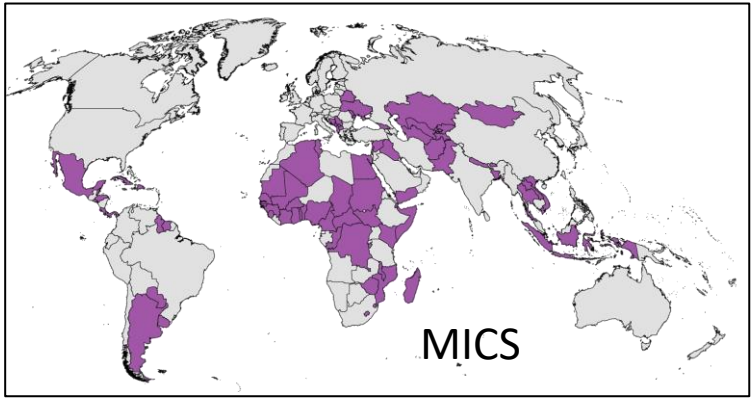




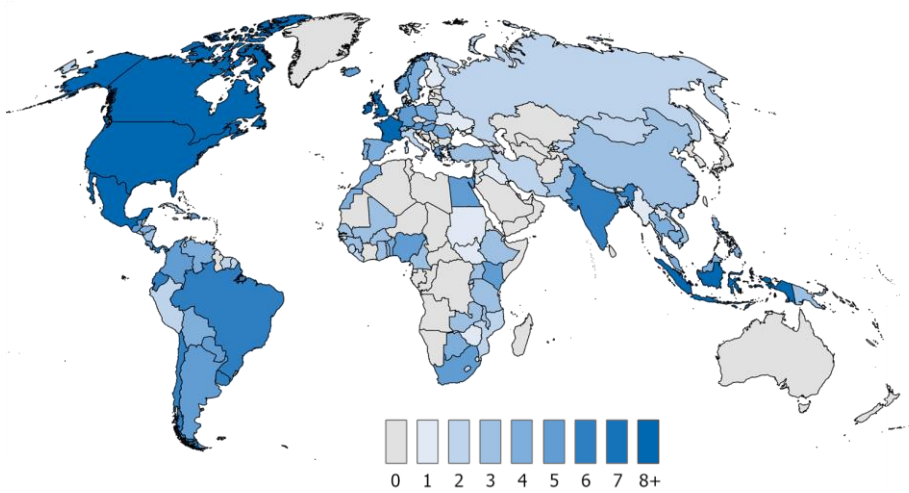
IPUMSI and other global health projects





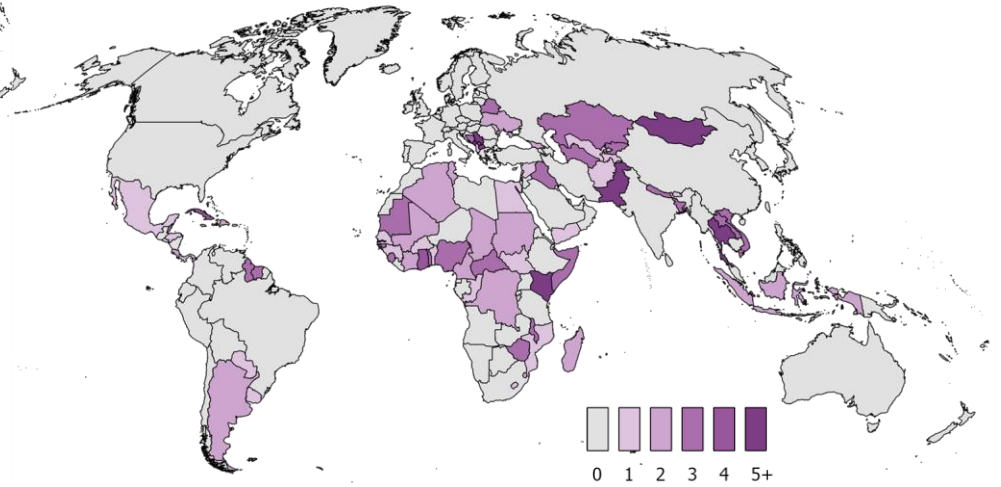


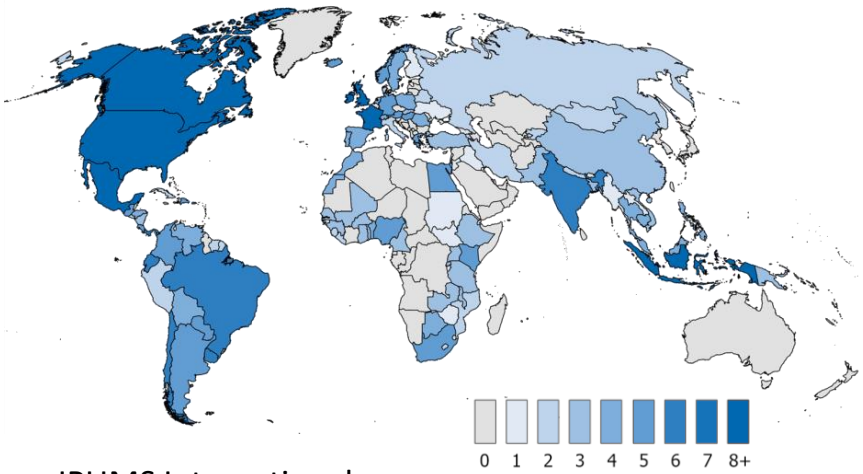
IPUMSI and other global health projects - temporal



IPUMS International

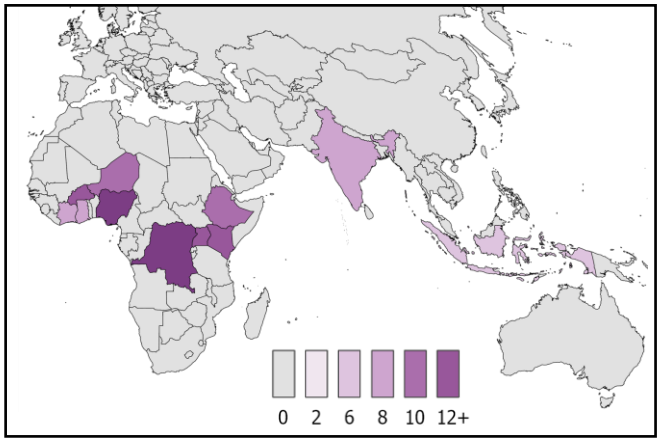
IPUMS - Multiple Indicator Cluster Surveys (MICS)



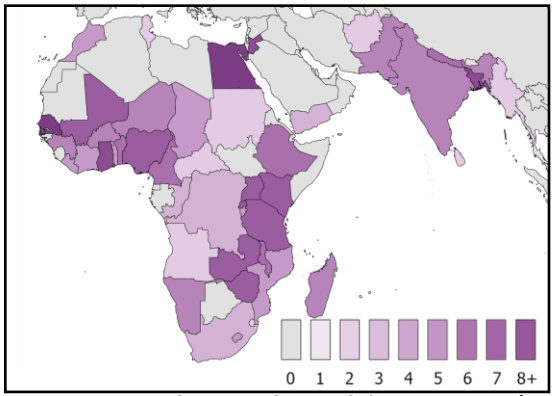


IPUMS International

1,190,012,299 person records

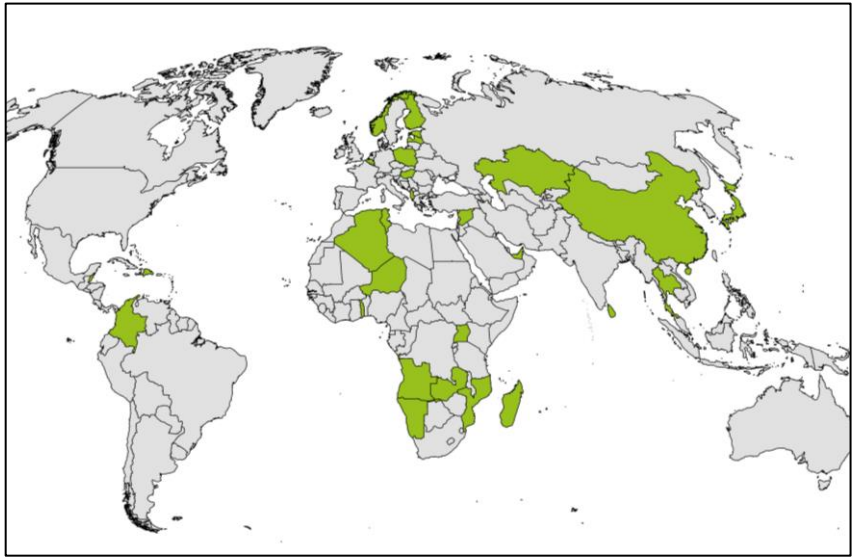


IPUMS - Performance Monitoring and Action (PMA)

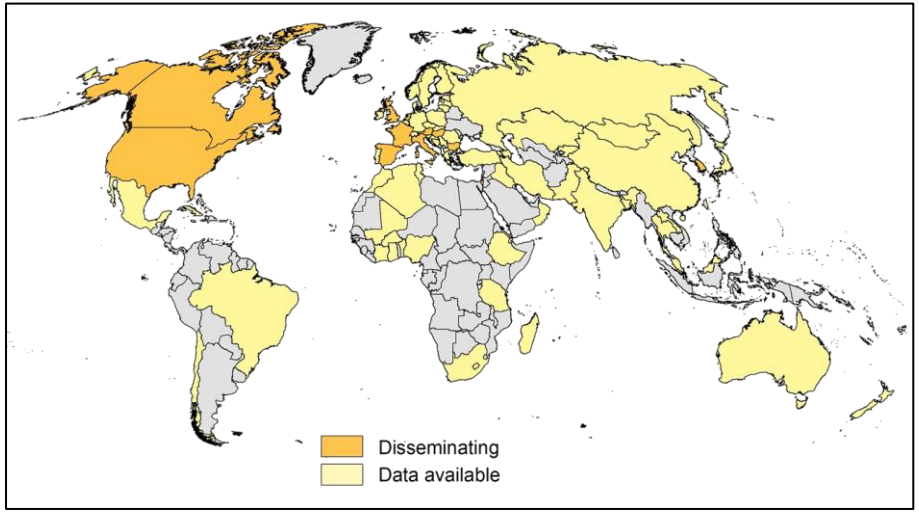


IPUMS - Demographic and Health Surveys (DHS)

Other IPUMS projects - international

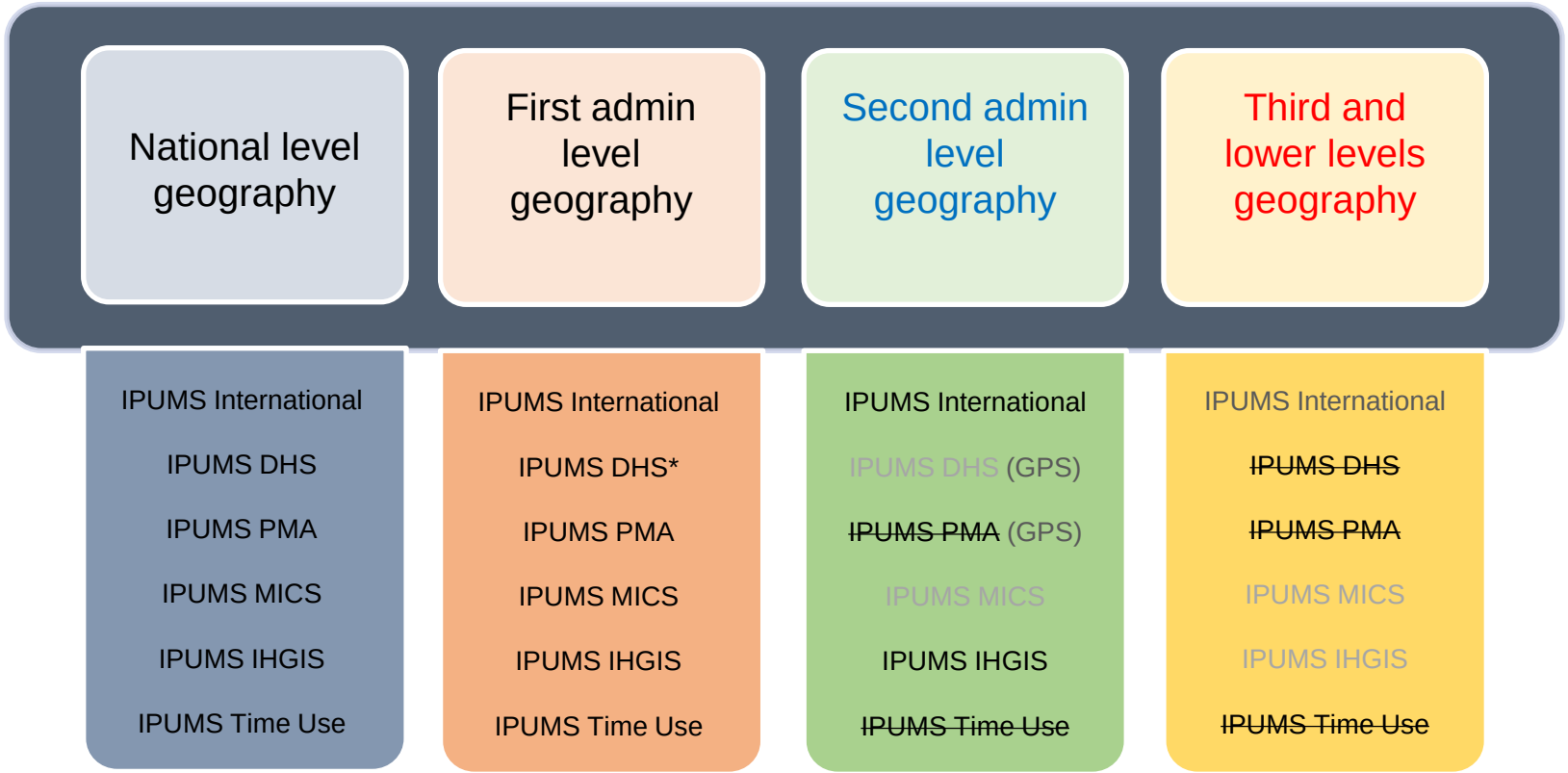


IPUMS IHGIS

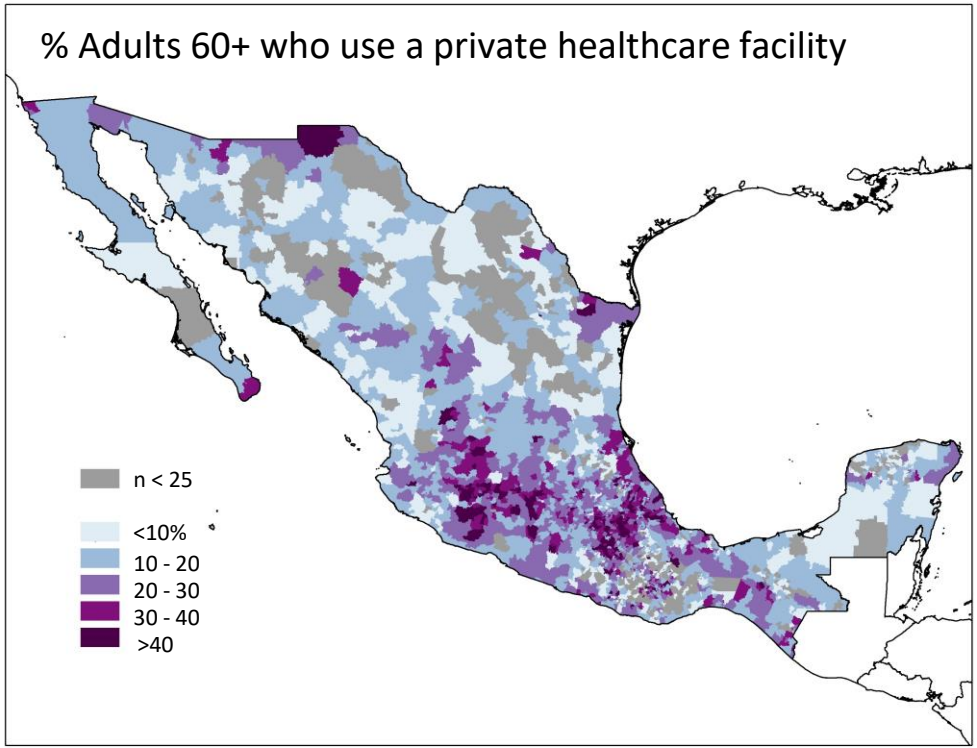


IPUMS TIME USE

Crosswalks and data interoperability



Using census data and identifying broad trends



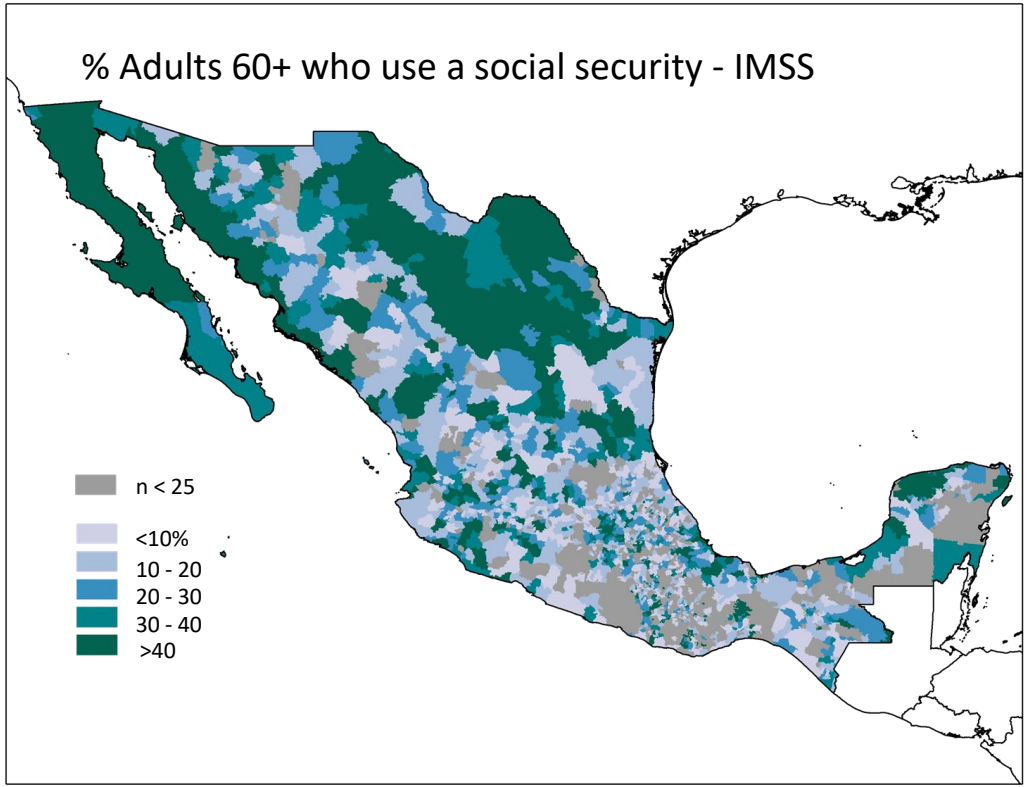
7. Use of health services
Where is [the respondent] treated when s/he has health problems?

Circle only one code.

[] 1 Mexican Social Security Institute (IMSS)
[] 2 Institute for Social Security and Services for Federal Government Employees (ISSSTE)
[] 3 Institute for Social Security and Services for State Government Employees (ISSSTE estatal)
[] 4 Pemex, Secretary of Defense or Secretary of the Navy systems (Pemex, Defensa, Marina)
[] 5 Secretary of Health (SSA) (Popular Insurance) Health Center or Hospital
[] 6 Social Security Opportunities program (IMSS Oportunidades)
[] 7 Private office, clinic or hospital
[] 8 Someplace else
[] 9 S/he is not treated

Mexico, 2010

Using census data and identifying broad trends



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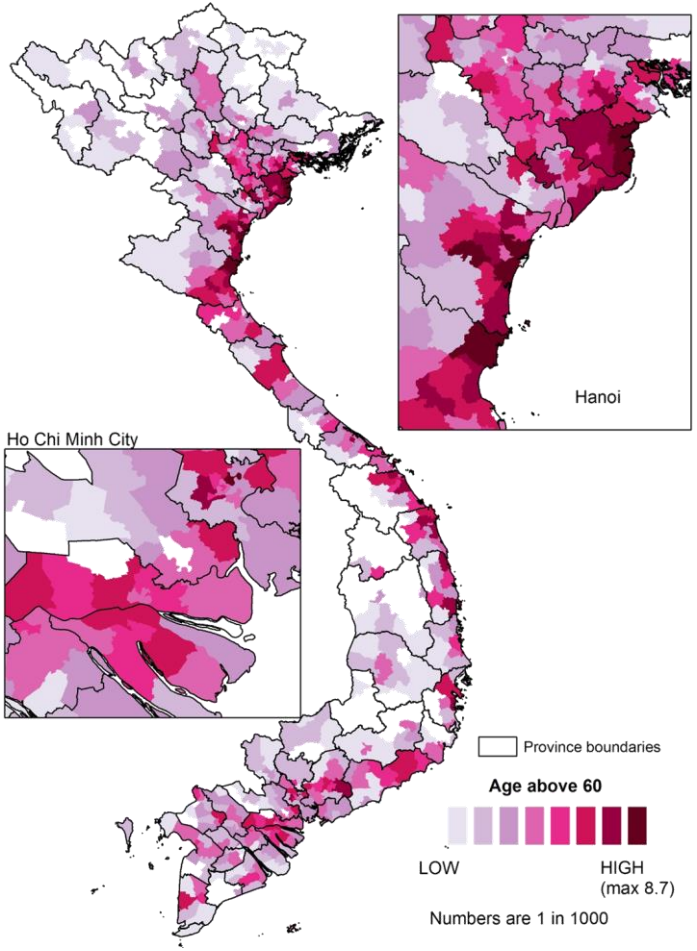
[] 7 Private office, clinic or hospital
[] 8 Someplace else
[] 9 S/he is not treated

Mexico, 2010

Ageing research

- ✓ Disaggregation by small population groups
- ✓ Severe cognitive difficulty
- ✓ Age (60+)
- ✓ Districts (2nd administrative unit)

Adults 60+ who reported severe cognitive disability
Vietnam 2009



Census data and SDGs

Census is an important baseline or reference in use of other survey data, or calibrating non-traditional “big data” sources

Census Microdata

30+ indicators for 10 of the 17 Goals

Multidimentional crosstabulation and investigation

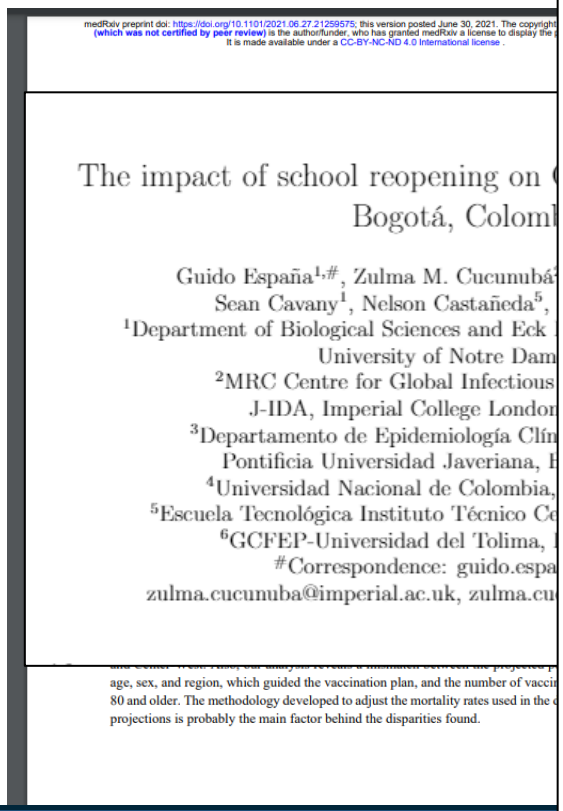
Household

- Household composition
- Dwelling ownership
- Household amenities
- Access to utilities
- Group quarters
- Subnational geography

Person

- Fertility
- Mortality
- Migration
- Education
- Labor-force participation
- Occupational structure
- Ethnicity

Covid-19 research



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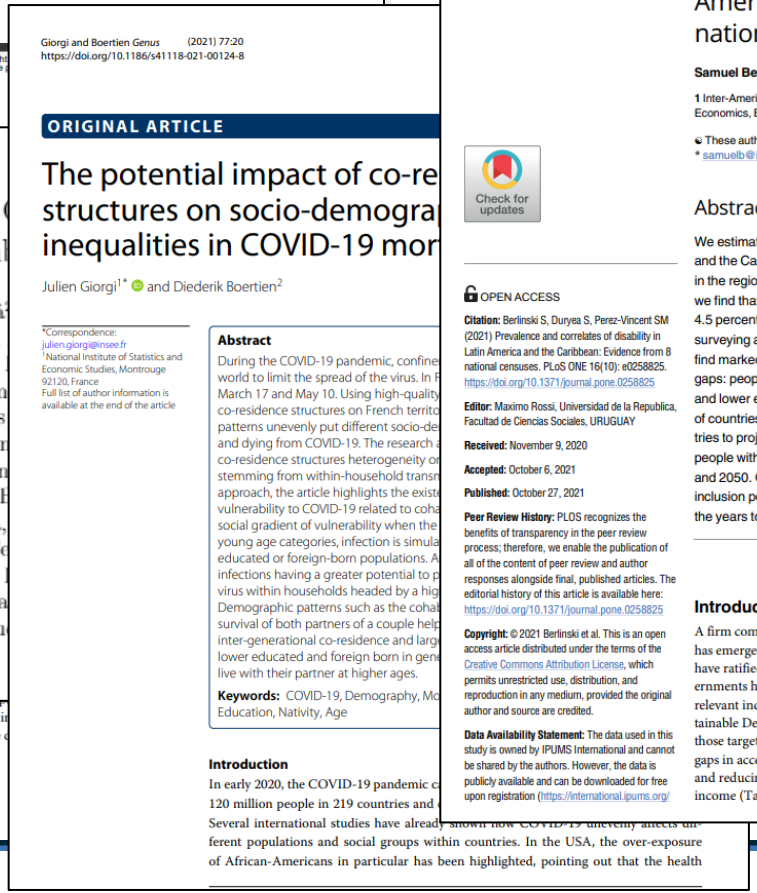
The impact of school reopening on
Bogotá, Colom

Guido España[1,#], Zulma M. Cucunubá
Sean Cavany[1], Nelson Castañeda[5],
[1]Department of Biological Sciences and Eck
University of Notre Dam
[2]MRC Centre for Global Infectious
J-IDA, Imperial College Londor
[3]Departamento de Epidemiología Clín
Pontificia Universidad Javeriana,
[4]Universidad Nacional de Colombia,
[5]Escuela Tecnológica Instituto Técnico Ce
[6]GCFEP-Universidad del Tolima,
#Correspondence: guido.espa
zulma.cucunuba@imperial.ac.uk, zulma.cu

age, sex, and region, which guided the vaccination plan, and the number of vacci
80 and older. The methodology developed to adjust the mortality rates used in the
projections is probably the main factor behind the disparities found.



Giorgi and Boertien *Genus* (2021) 77:20
https://doi.org/10.1186/s41118-021-00124-8

ORIGINAL ARTICLE

The potential impact of co-re
structures on socio-demogra
inequalities in COVID-19 mor

Julien Giorgi[1]* and Diederik Boertien[2]

*Correspondence:
julien.giorgi@insee.fr
[1] National Institute of Statistics and Economic Studies, Montrouge 92120, France
Full list of author information is available at the end of the article

Abstract

During the COVID-19 pandemic, confine
world to limit the spread of the virus. In F
March 17 and May 10. Using high-quality
co-residence structures on French territo
patterns unevenly put different socio-de
and dying from COVID-19. The research a
co-residence structures heterogeneity or
stemming from within-household transm
approach, the article highlights the existe
vulnerability to COVID-19 related to coha
social gradient of vulnerability when the
young age categories, infection is simula
educated or foreign-born populations. A
infections having a greater potential to p
virus within households headed by a hig
Demographic patterns such as the cohat
survival of both partners of a couple help
inter-generational co-residence and larg
lower educated and foreign born in gen
live with their partner at higher ages.

Keywords: COVID-19, Demography, Mo
Education, Nativity, Age

Introduction

In early 2020, the COVID-19 pandemic c
120 million people in 219 countries and
Several international studies have alread
ferent populations and social groups within countries. In the USA, the over-exposure of African-Americans in particular has been highlighted, pointing out that the health

Transport Policy 106 (2021) 185–195

RESEARCH ARTICLE

Prevalence and correlates of disability in Latin America and the Caribbean: Evidence from 8 national censuses

Samuel Berlinski[1,2☯]*, Suzanne Duryea[1☯], Santiago M. Perez-Vincent[1☯]

1 Inter-American Development Bank, Washington, D.C., United States of America, **2** IZA Institute of Labor Economics, Bonn, Germany

☯ These authors contributed equally to this work.
* samuelb@iadb.org

Check for updates

OPEN ACCESS

Citation: Berlinski S, Duryea S, Perez-Vincent SM (2021) Prevalence and correlates of disability in Latin America and the Caribbean: Evidence from 8 national censuses. PLoS ONE 16(10): e0258825. https://doi.org/10.1371/journal.pone.0258825

Editor: Maximo Rossi, Universidad de la Republica, Facultad de Ciencias Sociales, URUGUAY

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Peer Review History: PLOS recognizes the benefits of transparency in the peer review process; therefore, we enable the publication of all of the content of peer review and author responses alongside final, published articles. The editorial history of this article is available here: https://doi.org/10.1371/journal.pone.0258825

Data Availability Statement: The data used in this study is owned by IPUMS International and cannot be shared by the authors. However, the data is publicly available and can be downloaded for free upon registration (https://international.ipums.org/

Abstract

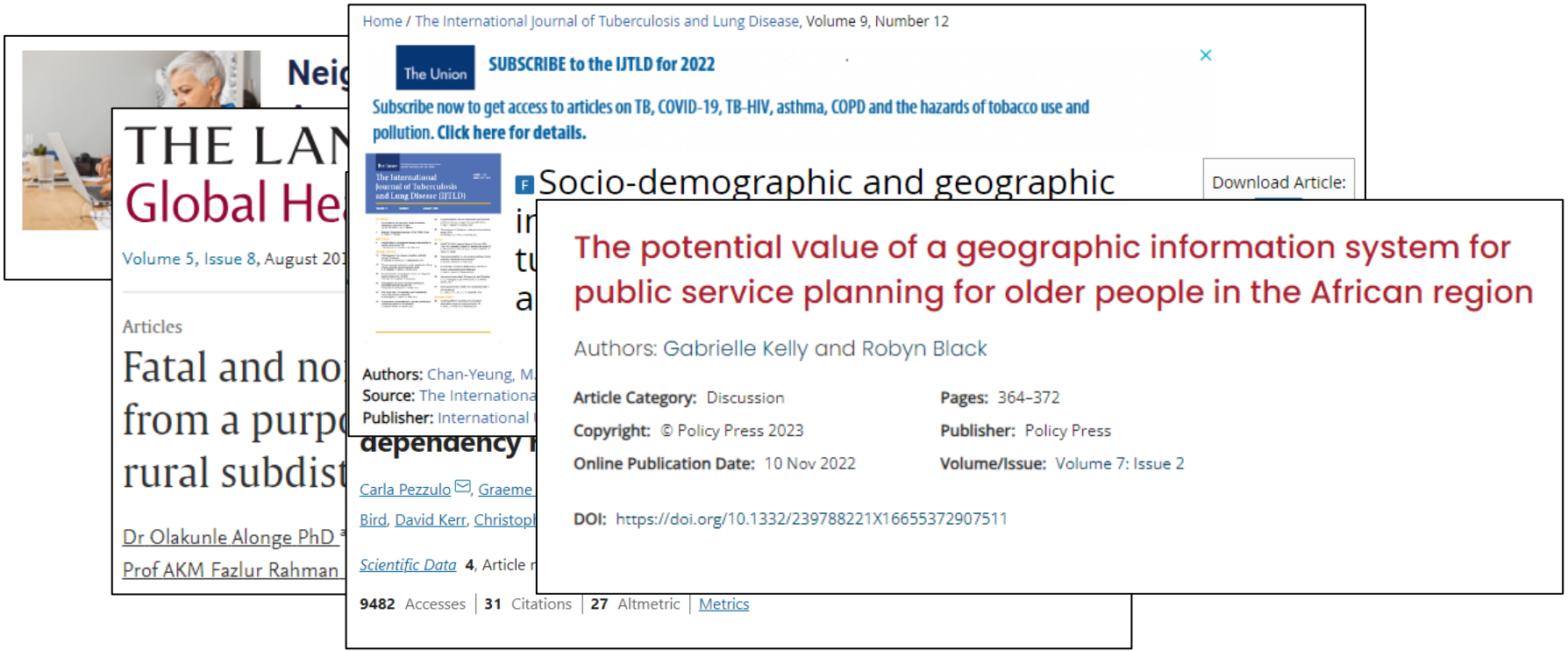
We estimate disability prevalence rates and gaps in social conditions in eight Latin America and the Caribbean (LAC) countries and project current and future disability prevalence rates in the region. Using data from representative samples of the population in eight countries, we find that reported disability prevalence varies widely across countries, ranging between 4.5 percent in Trinidad and Tobago (2011) to 24.9 percent in Brazil (2010). Differences in surveying approaches and demographic structures likely explain a part of this variation. We find marked sociodemographic gradients for disability. We also report significant disability gaps: people living with disabilities have lower educational attendance and completion rates and lower employment rates. We use age and sex-specific disability rates from our sample of countries and information on the current and future demographic structures in LAC countries to project disability prevalence for the whole region. We project that the total number of people with disabilities in this region will increase by approximately 60 million between 2020 and 2050. Our projections suggest that countries need to systematically plan and implement inclusion policies to adequately address the growing population of people with disabilities in the years to come.

Introduction

A firm commitment to promote the social and economic inclusion of people with disabilities has emerged within Latin America and the Caribbean. As of 2020, all countries in the region have ratified the UN Convention on the Rights of Persons with Disabilities (CRPD). As governments have begun to implement the convention, there is an increasing need for policy-relevant indicators that involve the measurement of disability. The monitoring of the 2030 Sustainable Development Goals also requires high-quality disability data to assess progress toward those targets that explicitly disaggregate by disability status. These targets include eliminating gaps in access to education (Target 4.5), expanding employment opportunities (Target 8.5), and reducing the proportion of people with disabilities living below 50 percent of median income (Target 10.2). The COVID-19 crisis and its disproportionate impact on vulnerable

IPUMS INTERNATIONAL

Census + other data



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international.ipums.org
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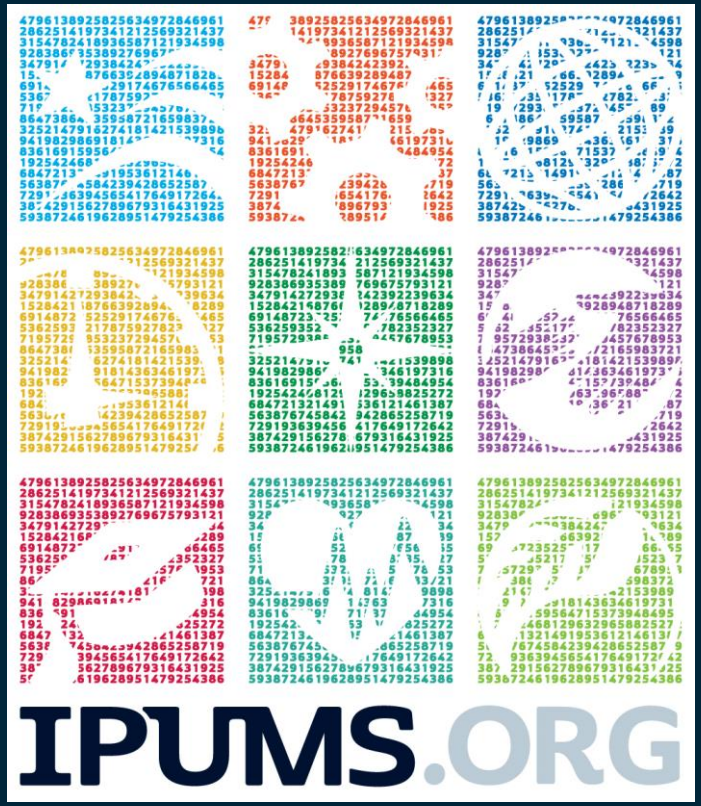

Geography and GIS tools

Consortium of Universities for Global Health
October 31 2023

Sula Sarkar, PhD
Senior Research Scientist
Institute for Social Research & Data Innovation
University of Minnesota

IPUMS workshop schedule

1:00-1:15 Introduction

1:15-2:10 Data collection descriptions

2:10-2:15 Break

2:15-2:50 Web demonstration

2:50-3:00 Break

3:00-3:30 Geography and GIS tools and IPUMS Online Tabulator

3:30-4:00 Questions

IPUMS Value Added

- Integration and harmonization
- Comprehensive online documentation
- Create and download custom extracts
- Data enhancements (family interrelationship variables)
- **Spatial harmonization and GIS files**
- **Online data analysis tools**
- User support (IPUMS@UMN.EDU)

IPUMS.ORG

IPUMS

What is spatial harmonization?

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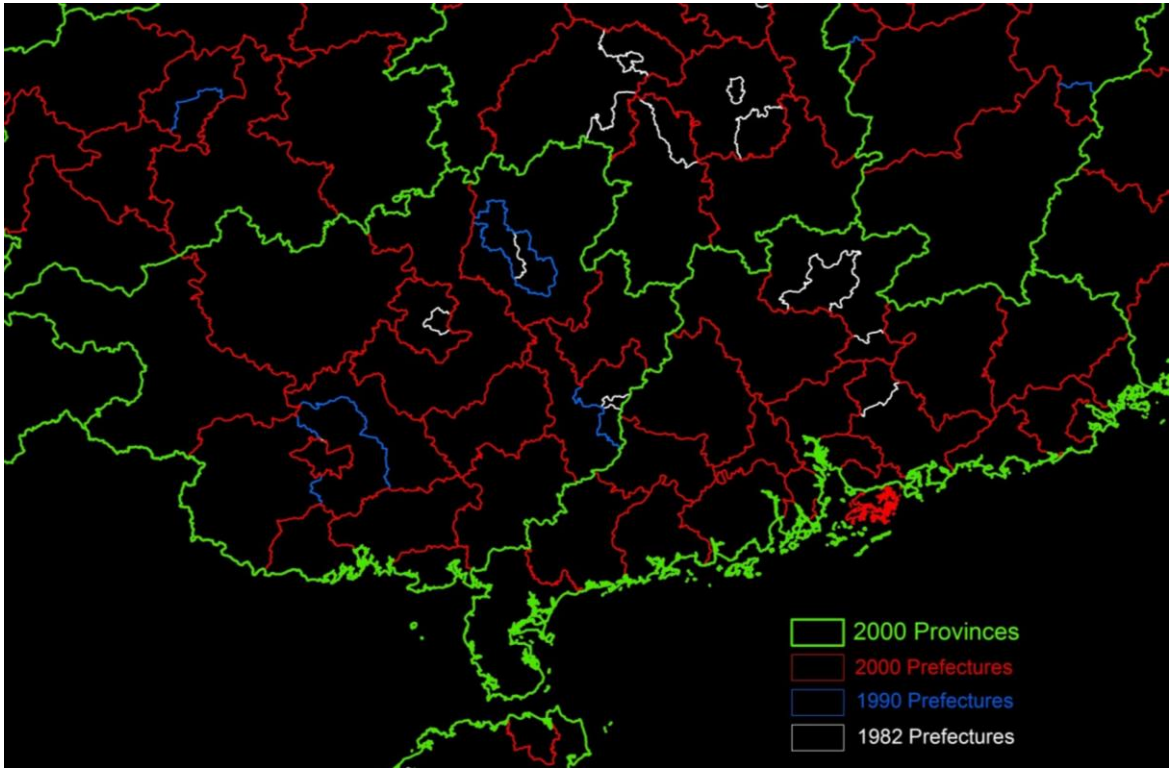
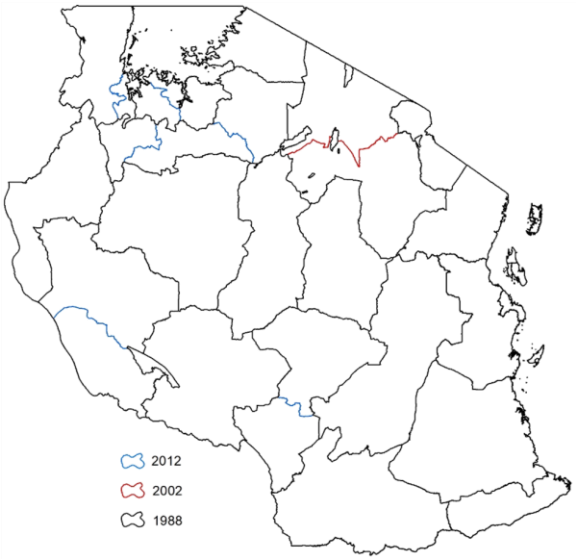
GIS files

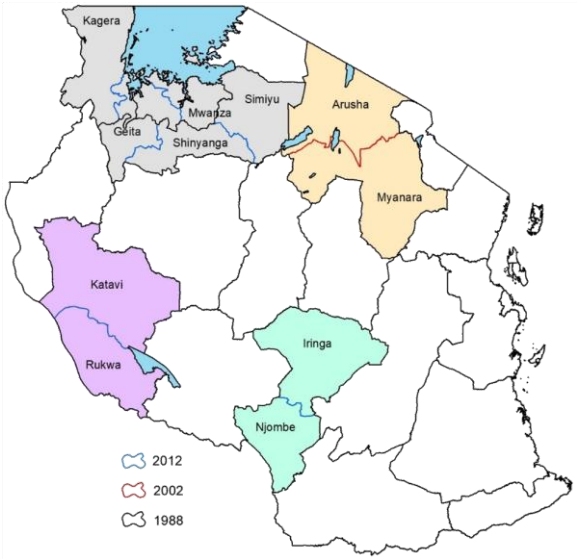


Prefectures and cities, China

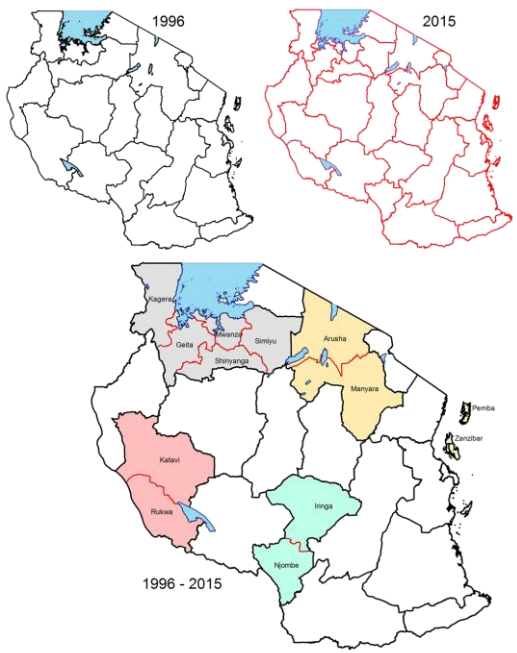
IPUMS

Changing boundaries





Tanzania, 1988 – 2012 – IPUMS International



Tanzania, 1996 – 2015 – IPUMS DHS

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Spatial harmonization – codes and labels

Selected regions from Tanzania

code	label	tz1988a	tz2002a	tz2012a
rectype	REGNTZ			
columns	Region, Tanzania			
1	Dodoma	1 = Dodoma {20588}	1 = Dodoma {42288}	1 = Dodoma {51898}
2	**Arusha**	**2 = Arusha {27577}**	**2 = Arusha {30062}**	**2 = Arusha {45407}**
3	Kilimanjaro	3 = Kilimanjaro {21429}	3 = Kilimanjaro {36767}	3 = Kilimanjaro {39983}
4	Tanga	4 = Tanga {28908}	4 = Tanga {48897}	4 = Tanga {51466}
5	Morogoro	5 = Morogoro {25152}	5 = Morogoro {40028}	5 = Morogoro {47454}
6	Pwani	6 = Pwani {23619}	6 = Pwani {41590}	6 = Pwani {33720}
7	Dar es Salaam	7 = Dar es Salaam {15864}	7 = Dar es salaam {22764}	7 = Dar es Salaam {35867}
11	Iringa	11 = Iringa {21506}	11 = Iringa {43100}	11 = Iringa {30196}
12	Mbeya	12 = Mbeya {37441}	12 = Mbeya {62171}	12 = Mbeya {57774}
13	Singida	13 = Singida {17568}	13 = Singida {31599}	13 = Singida {37244}
14	Tabora	14 = Tabora {20045}	14 = Tabora {38961}	14 = Tabora {33405}
15	Rukwa	15 = Rukwa {16338}	15 = Rukwa {28597}	15 = Rukwa {20810}
19	**Mwanza**	**19 = Mwanza {32013}**	**19 = Mwanza {55508}**	**19 = Mwanza {57997}**
20	Mara	20 = Mara {16783}	20 = Mara {28227}	20 = Mara {41209}
21	**Manyara**		**21 = Manyara {32714}**	**21 = Manyara {37581}**
22	Njombe			22 = Njombe {23608}
23	Katavi			23 = Katavi {11443}
24	Simiyu			24 = Simiyu {31952}
25	Geita			25 = Geita {26711}
51	Zanzibar North	51 = Zanzibar Kaskazini {3728}	51 = Zanzibar north {4048}	51 = Zanzibar North {3771}
52	Zanzibar South	52 = Zanzibar Kati na Kusini {3419}	52 = Zanzibar south {4761}	52 = Zanzibar South {4199}
53	Zanzibar West	53 = Zanzibar Mjini na Magh {4701}	53 = Zanzibar town/west {8663}	53 = Zanzibar town/west {10049}
54	Pemba North	54 = Pemba Kaskazini {5574}	54 = Pemba north {7292}	54 = Pemba North {6594}

Spatial harmonization – codes and labels

code	label	tz1988a	tz2002a	tz2012a
834001	Dodoma	1 = Dodoma {20588}	1 = Dodoma {42288}	1 = Dodoma {51898}
834002	Arusha, Manyara	2 = Arusha {27577}	2 = Arusha {30062}	2 = Arusha {45407}
834002	Arusha, Manyara		21 = Manyara {32714}	21 = Manyara {37581}
834003	Kilimanjaro	3 = Kilimanjaro {21429}	3 = Kilimanjaro {36767}	3 = Kilimanjaro {39983}
834004	Tanga	4 = Tanga {28908}	4 = Tanga {48897}	4 = Tanga {51466}
834005	Morogoro	5 = Morogoro {25152}	5 = Morogoro {40028}	5 = Morogoro {47454}
834006	Pwani	6 = Pwani {23619}	6 = Pwani {41590}	6 = Pwani {33720}
834007	Dar es Salaam	7 = Dar es Salaam {15864}	7 = Dar es salaam {22764}	7 = Dar es Salaam {35867}
834008	Lindi	8 = Lindi {22008}	8 = Lindi {38002}	8 = Lindi {32270}
834009	Mtwara	9 = Mtwara {20910}	9 = Mtwara {35659}	9 = Mtwara {38239}
834010	Ruvumba	10 = Ruvumba {16545}	10 = Ruvuma {36561}	10 = Ruvuma {32655}
834011	Iringa, Njombe	11 = Iringa {21506}	11 = Iringa {43100}	11 = Iringa {30196}
834011	Iringa, Njombe			22 = Njombe {23608}
834012	Mbeya	12 = Mbeya {37441}	12 = Mbeya {62171}	12 = Mbeya {57774}
834013	Singida	13 = Singida {17568}	13 = Singida {31599}	13 = Singida {37244}
834014	Tabora	14 = Tabora {20045}	14 = Tabora {38961}	14 = Tabora {33405}
834015	Katavi, Rukwa			23 = Katavi {11443}
834015	Katavi, Rukwa	15 = Rukwa {16338}	15 = Rukwa {28597}	15 = Rukwa {20810}
834016	Kigoma	16 = Kigoma {13921}	16 = Kigoma {26369}	16 = Kigoma {33289}
834019	Geita, Kagera, Mwanza, Shinyanga, Simiyu			25 = Geita {26711}
834019	Geita, Kagera, Mwanza, Shinyanga, Simiyu	18 = Kagera {23281}	18 = Kagera {42579}	18 = Kagera {36875}
834019	Geita, Kagera, Mwanza, Shinyanga, Simiyu	19 = Mwanza {32013}	19 = Mwanza {55508}	19 = Mwanza {57997}
834019	Geita, Kagera, Mwanza, Shinyanga, Simiyu	17 = Shinyanga {28919}	17 = Shinyanga {47309}	17 = Shinyanga {31089}
834019	Geita, Kagera, Mwanza, Shinyanga, Simiyu			24 = Simiyu {31952}
834020	Mara	20 = Mara {16783}	20 = Mara {28227}	20 = Mara {41209}
834051	Zanzibar North	51 = Zanzibar Kaskazini {3728}	51 = Zanzibar north {4048}	51 = Zanzibar North {3771}
834052	Zanzibar South	52 = Zanzibar Kati na Kusini {3419}	52 = Zanzibar south {4761}	52 = Zanzibar South {4199}
834053	Zanzibar Town/West	53 = Zanzibar Mjini na Magh {4701}	53 = Zanzibar town/west {8663}	53 = Zanzibar town or west {10049}
834054	Pemba North	54 = Pemba Kaskazini {5574}	54 = Pemba north {7292}	54 = Pemba North {6594}
834055	Pemba South	55 = Pemba Kusini {4779}	55 = Pemba south {7252}	55 = Pemba South {6021}

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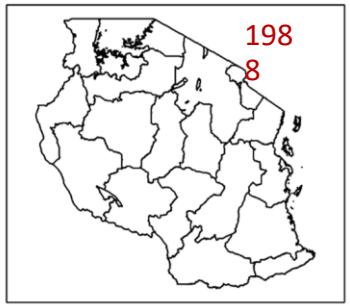
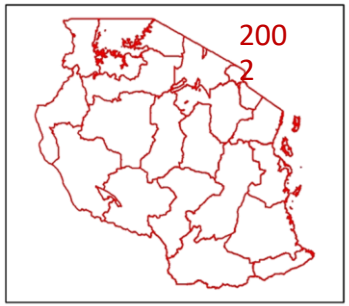
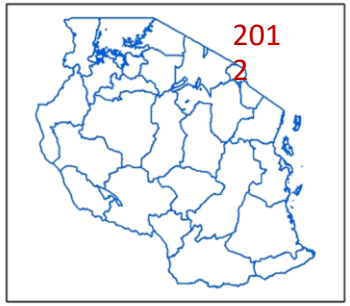
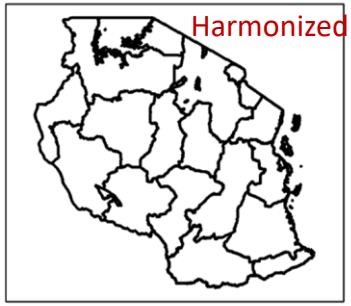
Harmonized versus sample-specific, Tanzania









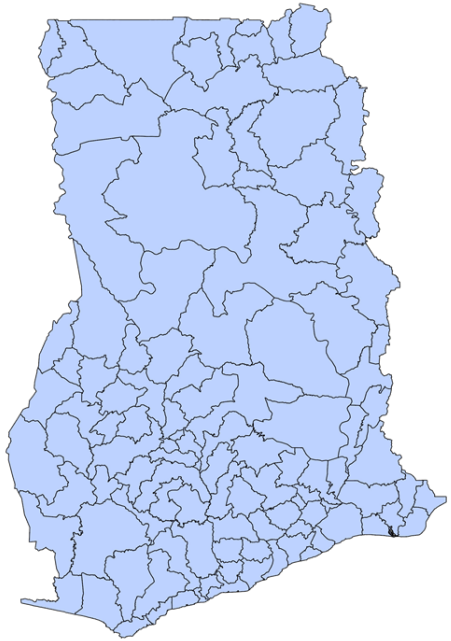
Tanzania

IPUMSI	# of units
1988	25
2002	26
2012	30
Harmonized	23

IPUMS DHS	# of units
1996/1999	22
2004/2010	26
2015	30
Harmonized	19

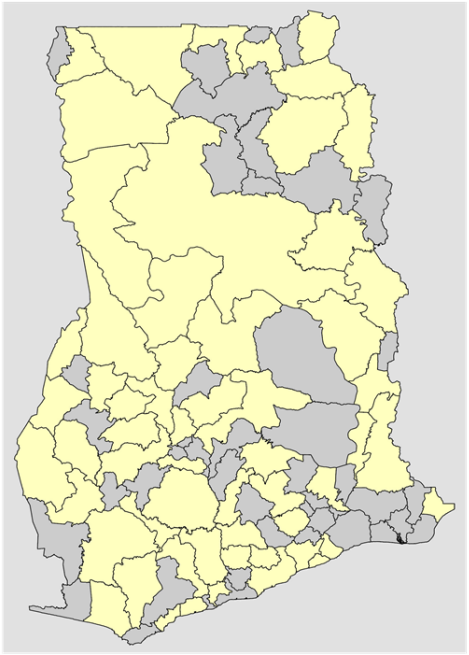
Harmonized versus sample-specific, Ghana

2000 year-specific geography



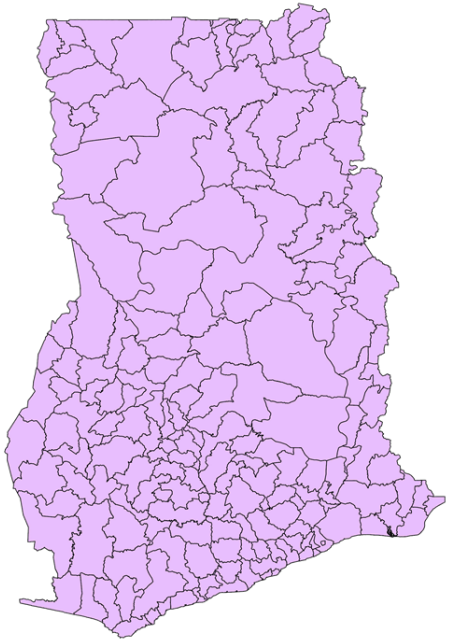
110 Units

Harmonized geography



102 Units

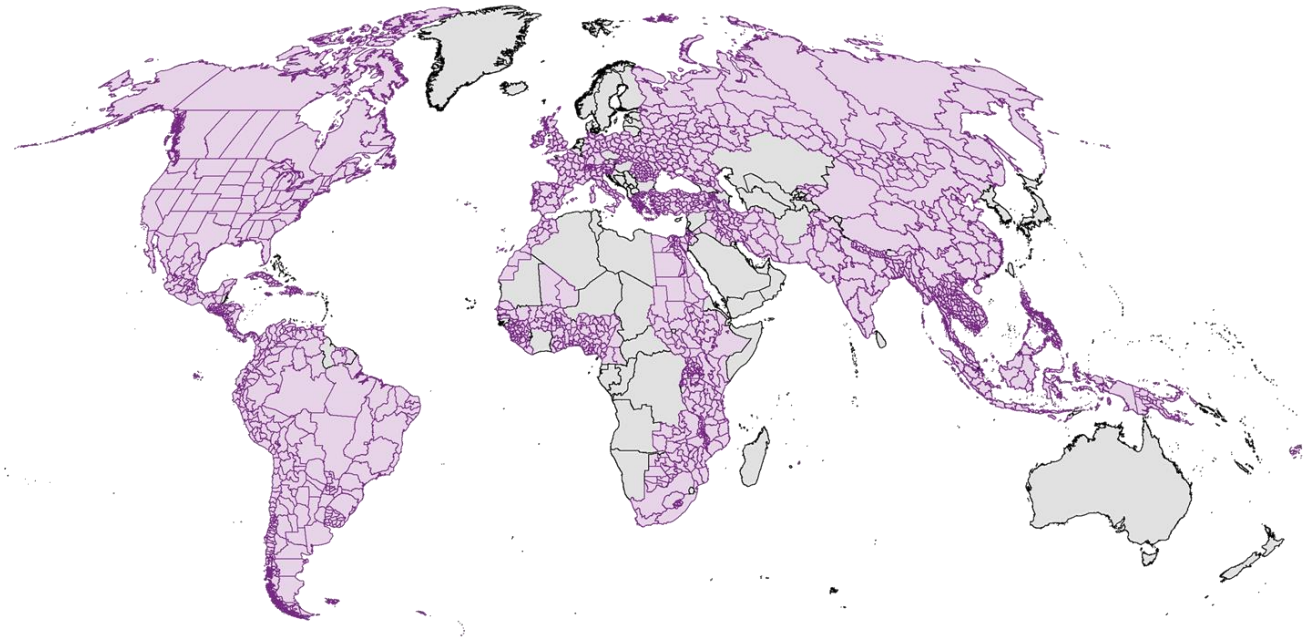
2010 year-specific geography



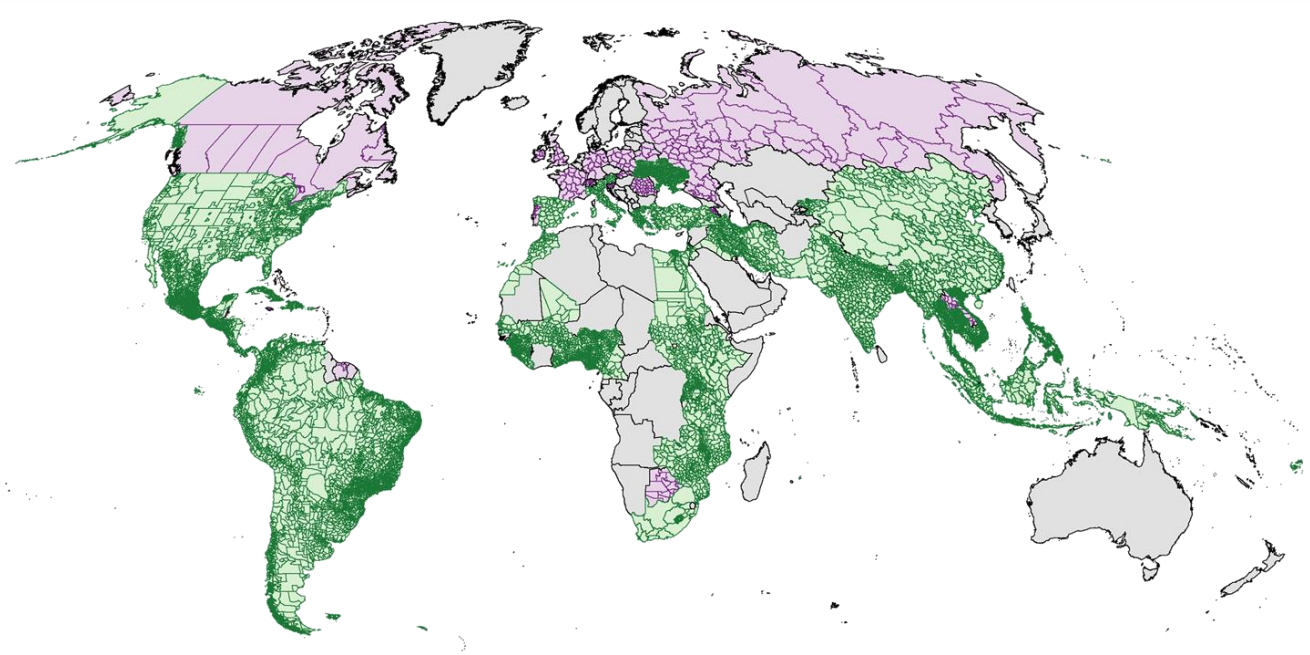
170 Units

IPUMS

GIS Files availability – Level 1



GIS Files availability – Level 2



Census + survey data

IPUMS DHS (V101) Bangladesh 1994 (DHS)	
1	Barisal
2	Chittagong
3	Dhaka
4	Khulna
5	Rajshahi

IPUMS International Bangladesh 2011 (census)	
10	Barisal
20	Chittagong
30	Dhaka
40	Khulna
50	Rajshahi
55	Rangpur
60	Sylhet

Crosswalk codes	
1	Barisal
2	Chittagong, Sylhet
3	Dhaka, Mymenshing
4	Khulna
5	Rajshahi, Rangpur

IPUMS MICS (hh7) Bangladesh 2019 (MICS)	
10	Barisal
20	Chittagong
30	Dhaka
40	Khulna
45	Mymenshing
50	Rajshahi
55	Rangpur
60	Sylhet

Sylhet created in 1998 from Chittagong
Rangpur created in 2010 from Rajshahi

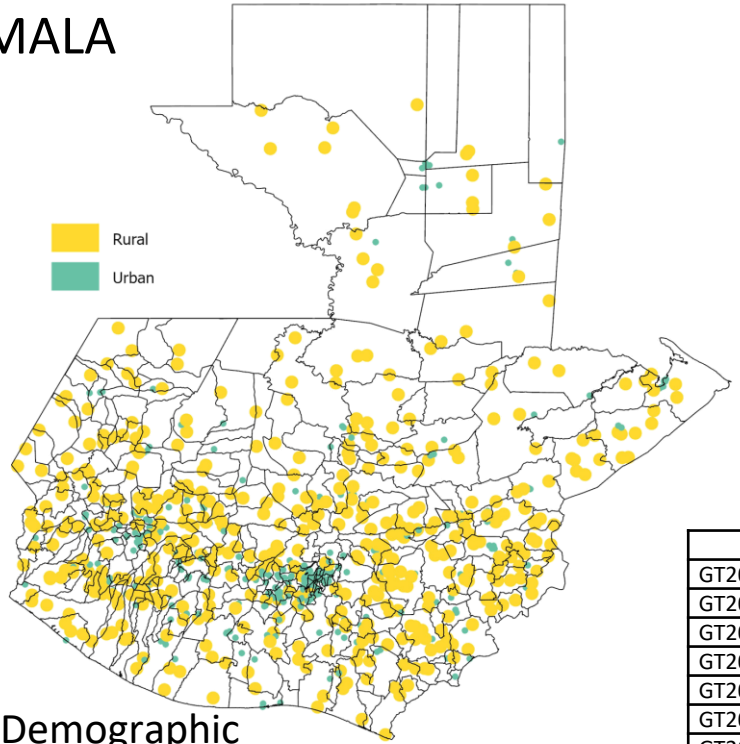
Mymenshing created in 2015 from Dhaka

Census + survey data

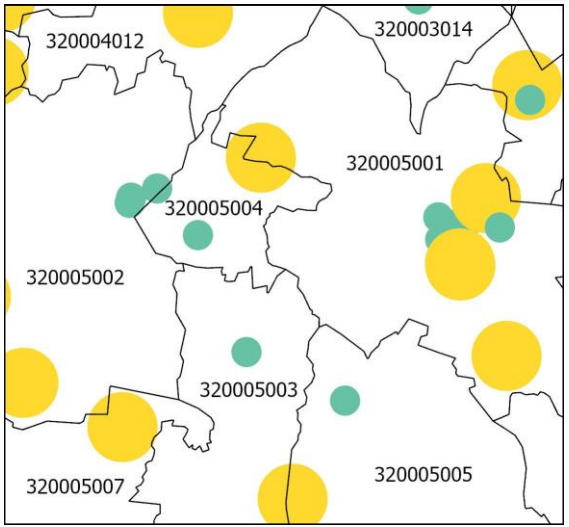
GUATEMALA

Variables describing malaria and malaria prevention from DHS attached as contextual variables to census data based on location of respondent

e.g., Knowledge of Malaria and prevention measures and it effects on older adults

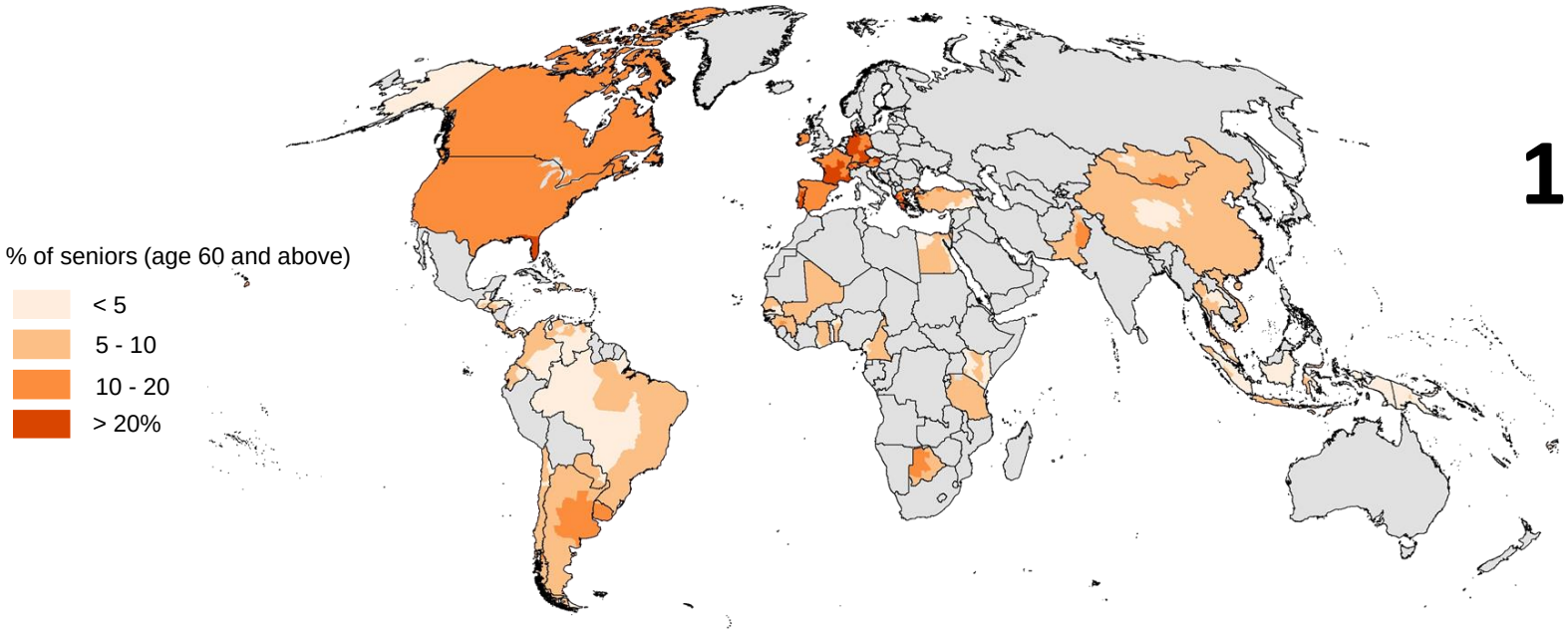


Malaria data from Demographic and Health Survey (DHS)



DHSID	IPUMS Int. geog. lev2	Placement probability
GT201400000313	320005003	100
GT201400000314	320005003	42.10625
GT201400000315	320005004	100
GT201400000319	320005004	21.5649
GT201400000322	320005004	7.1295
GT201400000323	320005005	100
GT201400000324	320005005	61.87198
GT201400000325	320005006	100

Ageing world?

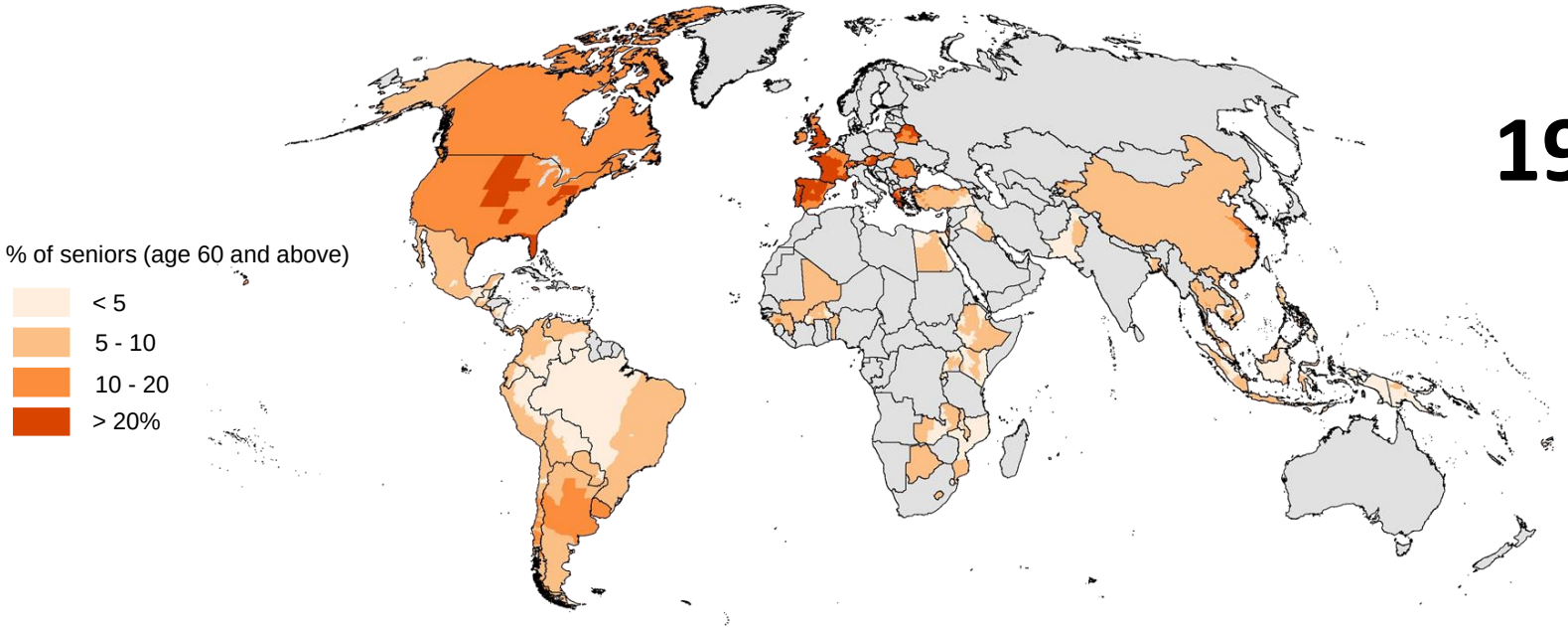


1980

**Does not include surveys*

IPUMS

Ageing world?

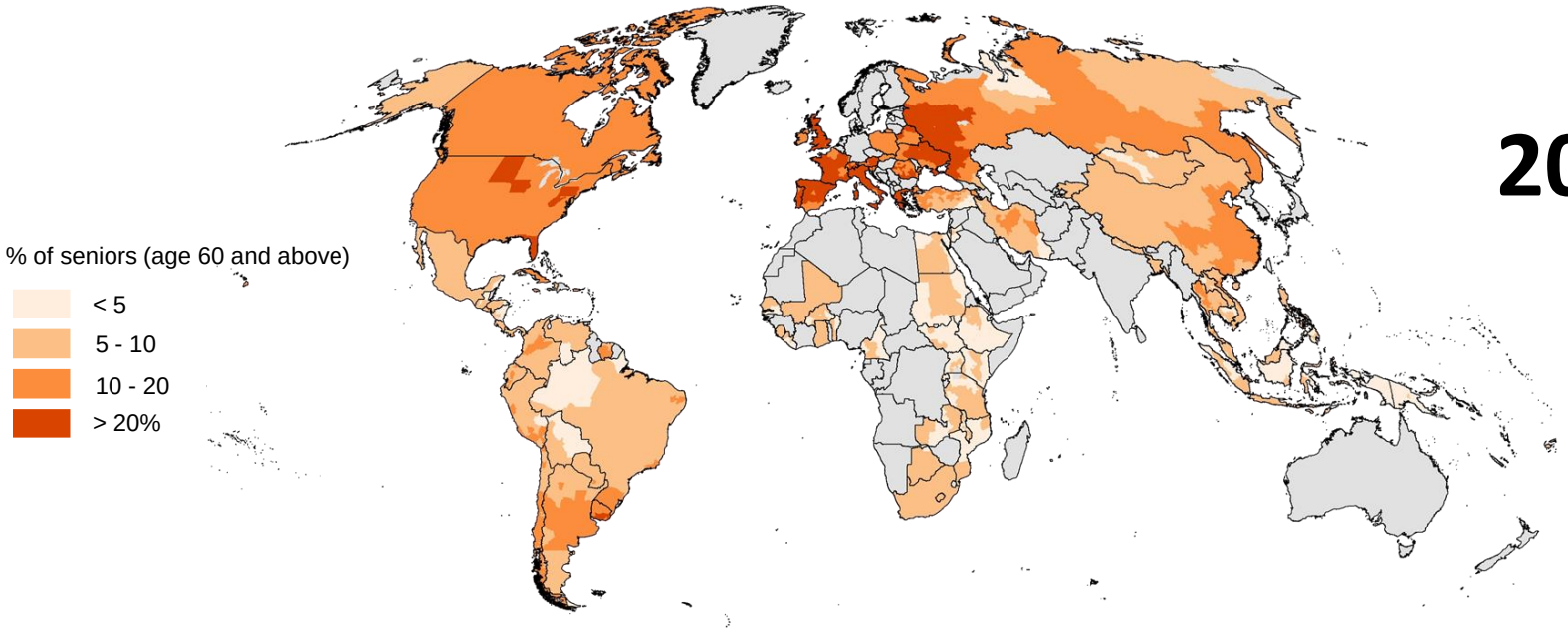


1990

**Does not include surveys*

IPUMS

Ageing world?

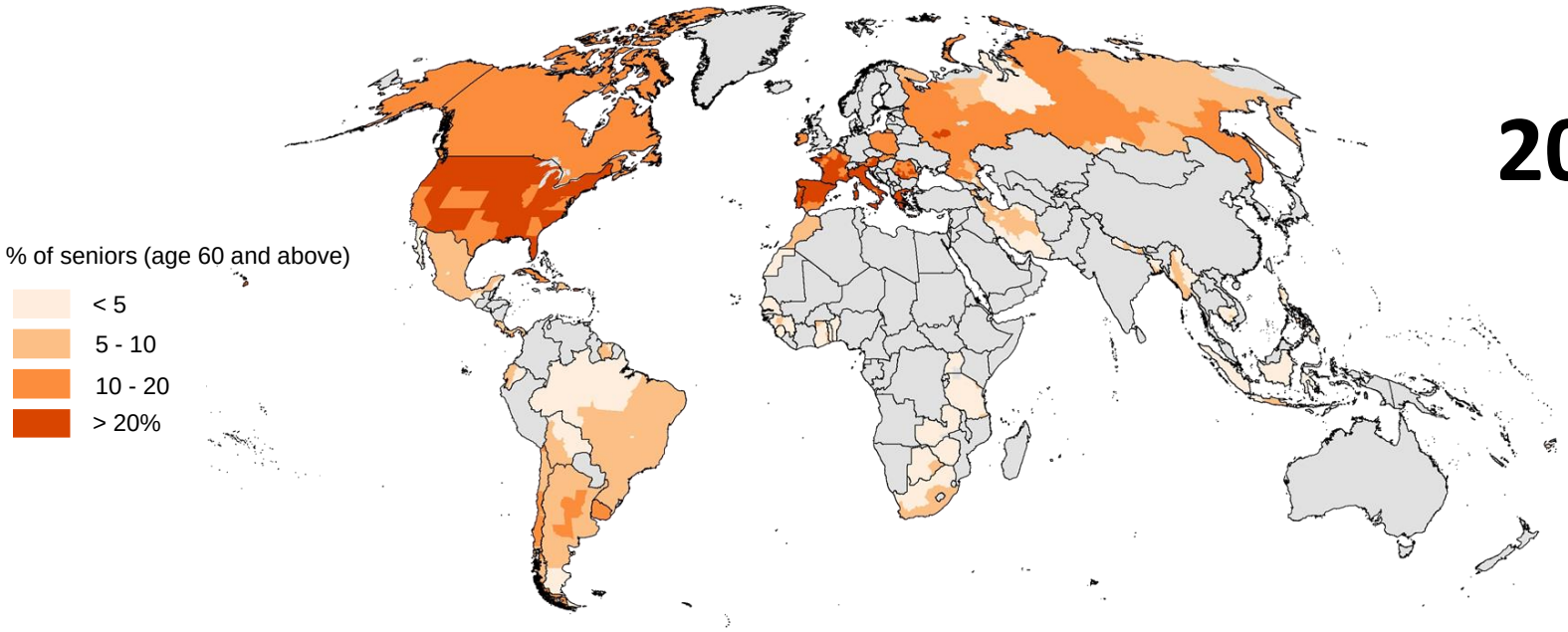


2000

**Does not include surveys*

IPUMS

Ageing world?



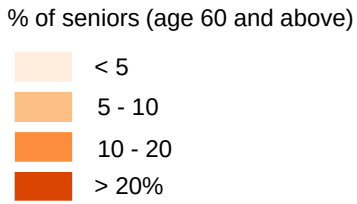
2010

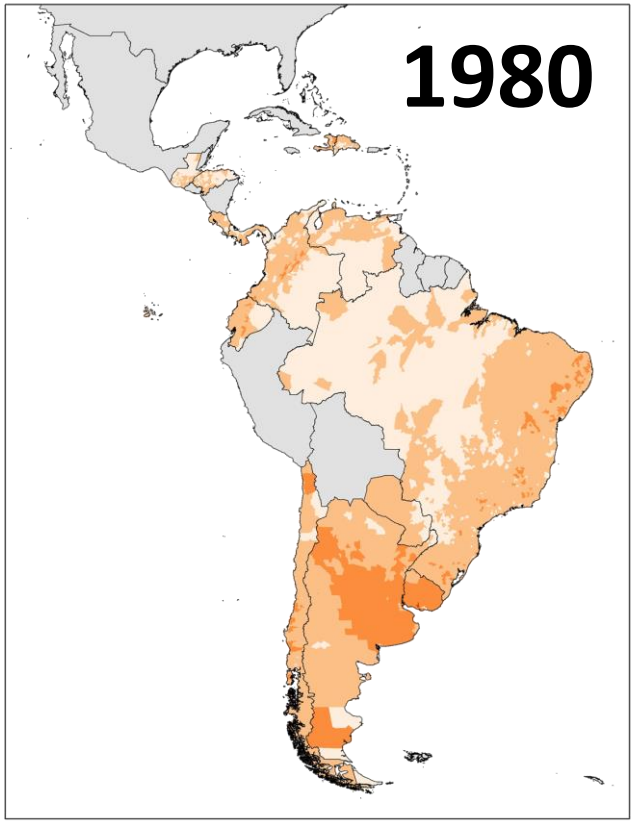
**Does not include surveys*

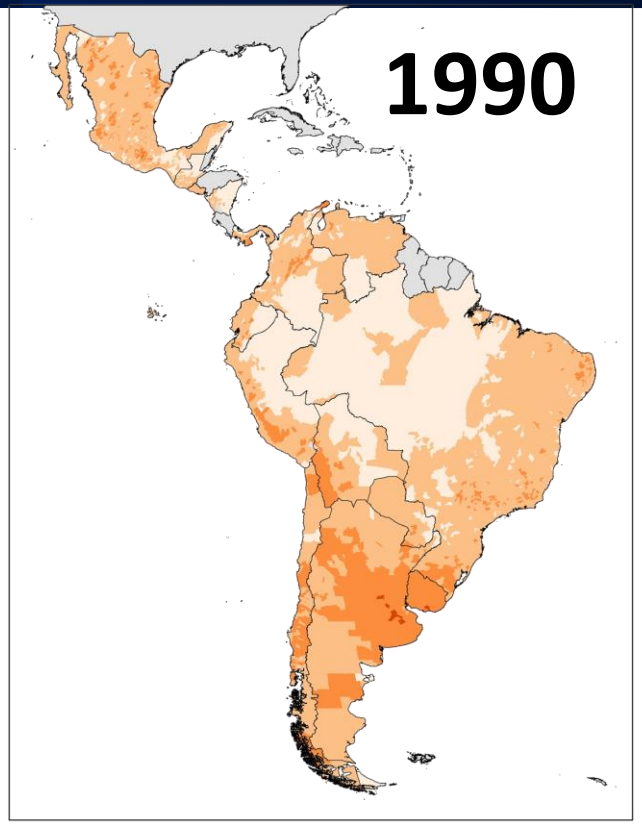
IPUMS

Ageing in Latin America

Disaggregation at lower levels of geography

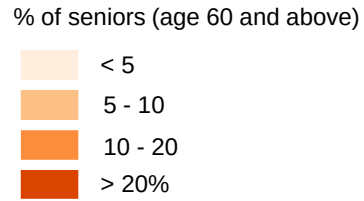


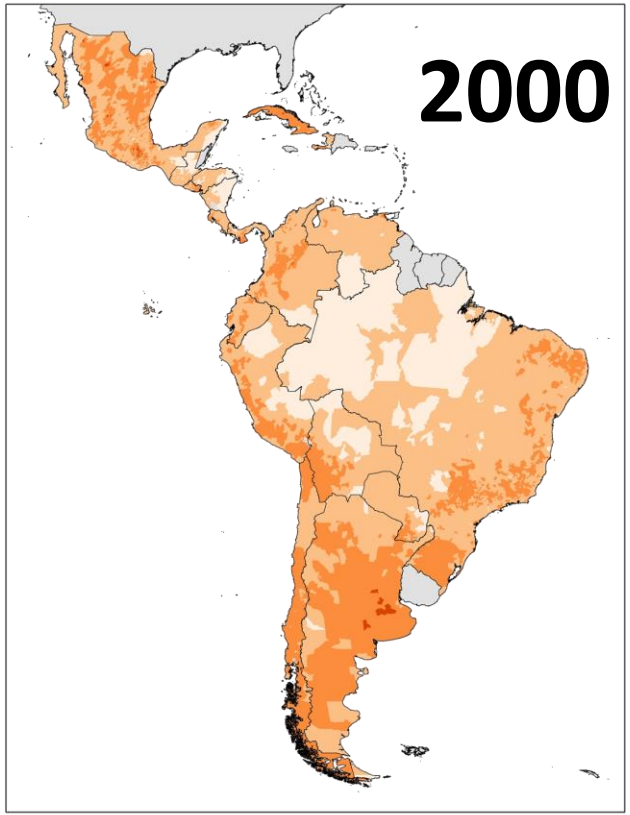


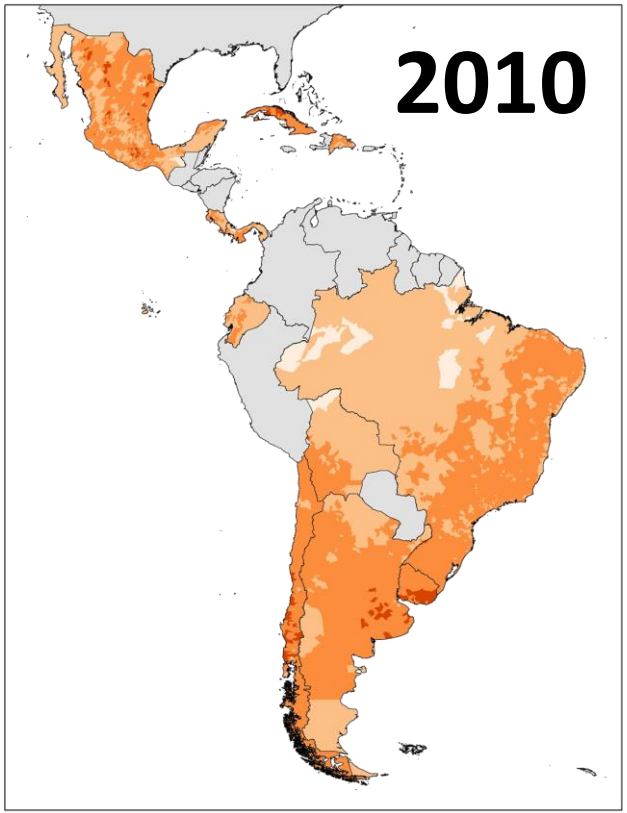


Ageing in Latin America

Disaggregation at lower levels of geography







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