

# Introduction to Longitudinal Family Planning Data from PMA

April 26<sup>th</sup>, 2022

10am – 11:30am Central Time

# Webinar Outline

- Introduction to IPUMS PMA
- Sample Design of the Longitudinal Panel
- How to create a data file online
- Understanding the data format
- Basic longitudinal analysis

# Zoom Logistics

- **Webinar is being recorded & will be posted**
- Will post written **Q&A document** and **Stata code** following webinar
- **Real-time closed captions** are being generated
  - Turn on/off by clicking “CC” button in Zoom controls
- Send **questions about Zoom directly to host** (IPUMS)
- Submit **content questions using Q&A tool**

# IPUMS: WHAT WE DO

# 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**.

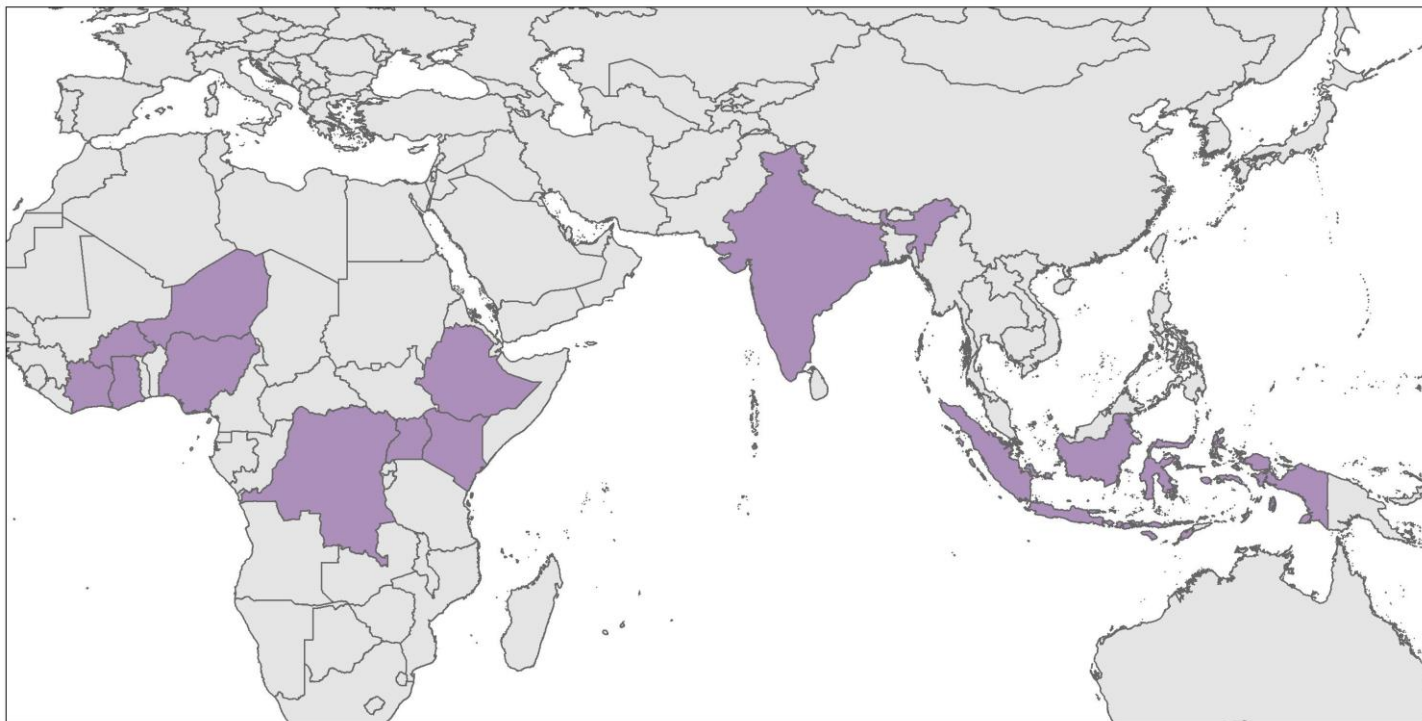


# Performance Monitoring for Action

- High frequency, recent surveys on **family planning, sexual and reproductive health** since 2013
- Currently 9 countries in **Africa and Asia** (initially 11)
- Designed to monitor progress towards FP2020 goals
- Data collected by a team at Johns Hopkins University
- Funded by the Bill & Melinda Gates Foundation

**180+ SAMPLES · 6000+ VARIABLES · 2 MILLION RECORDS**

# PMA Countries





# Sample Design - Core

- 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

# Survey types

- Household and female surveys
- Service delivery points
- Maternal and Newborn Health panel
- Client exit interview
- Nutrition

# IPUMS PMA

- Harmonize codes and variable names
- Document variables
- Disseminate custom data files in multiple formats
- Add calculated fields
- Link longitudinal records

# DATA ANALYSIS HUB

April 15, 2021  
Matt Gunther

## FORMATTING MIGRATION RECALL DATA FOR LONGITUDINAL ANALYSIS

[MIGRATION](#)[DATA DISCOVERY](#)[DATA MANIPULATION](#)[PIVOT\\_LONGER](#)[REGEX](#)

Use `tidyr::pivot_longer` to reshape wide data into a long format.

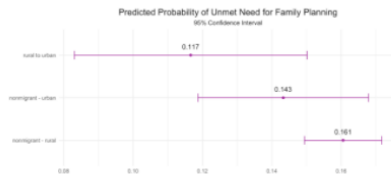


April 2, 2021  
Matt Gunther

## UNMET NEED FOR FAMILY PLANNING AFTER INTERNAL MIGRATION

[MIGRATION](#)[PMA PUBLICATIONS](#)[SVYGLM](#)[BOOTSTRAPS](#)

Summary and source code from a recent article using



### CATEGORIES

[Articles \(11\)](#)[across \(1\)](#)[bootstraps \(1\)](#)[Data Analysis \(1\)](#)[Data Discovery \(3\)](#)[Data Manipulation \(5\)](#)[dotwhisker \(1\)](#)[Importing Data \(1\)](#)[Individuals in Context \(6\)](#)[ipumsr \(1\)](#)[join \(2\)](#)[Mapping \(1\)](#)[Migration \(2\)](#)[New Data \(1\)](#)[pivot\\_longer \(2\)](#)[PMA Publications \(1\)](#)



# Overview of Panel Design

- **Open** panel of women of childbearing age over 3 years
- Contraceptive and fertility dynamics
- Overlapping contraceptive calendar
- Additional households sampled for cross-sectional subsample

# Panel membership

- All women aged 15-49 in sampled households
- Move out/move in
- Age out/age in

# Cross-section Subsample

Household attrition  $> 10\%$  in an EA



New households sampled



# Data Collection

	2019		2020												2021														
	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec			
Burkina Faso		Phase 1												Phase 2															
Cote d'Ivoire										Phase 1															Phase 2				
DRC		Phase 1												Phase 2															
Rajasthan (India)									Phase 1																Phase 2				
Kenya	Phase 1												Phase 2																
Niger														Phase 1															
Nigeria		Phase 1												Phase 2															
Uganda										Phase 1																Phase 2			



Available on IPUMS!



Not publicly available yet

# Weights

- Cross sectional
  - Female level, normalized (**FQWEIGHT**)
  - Household level, normalized (**HQWEIGHT**)
  - De-normalized population-weighted (**POPWT**)
- Longitudinal
  - Female level, normalized (**PANELWEIGHT**)

# Lost to Follow-up

- Dwelling
  - replaced or destroyed
- Household
  - whole household moved out of study area
- Household Roster
  - woman moved out of study area or died
- Female
  - refused or was unavailable

# Types of Missing Data

- **Record linked**
  - Panel member found but not interviewed
  - Phase 2 data NIU code
- **Record not linked**
  - Phase 2 data missing/blank/NA
- **New panel member**
  - Phase 1 data missing/blank/NA
- **Household members**
- **Variables not available**

# CROSS\_SECTION

ADD TO CART

CHANGE SAMPLES

Observation is in the cross-sectional sample

Group: [Technical variables](#)

CODES

DESCRIPTION

COMPARABILITY

UNIVERSE

AVAILABILITY

QUESTIONNAIRE TEXT

## Codes and Frequencies

Category availability view

Case-count view (Unavailable for longitudinal samples)

Female Respondents

Female Respondents and Household Members

Female Respondents and Female Non-respondents

All Cases (Respondents and Non-respondents to Household and Female Questionnaires)

An 'X' indicates the category is available for that sample

		LONGITUDINAL SAMPLES					
Code	Label	BURKF 20 - 21	CONDR 19a - 20a	CONDR 19b - 20b	KENYA 19 - 20	NIGERA 19a - 20a	NIGERA 19b - 20b
00	No	/	/	/	/	/	/
01	Yes	/	/	/	/	/	/

# Cross-section Subsample

Longitudinal file

Cross-sectional file

Household  
identifier

001501
001451
002340
002330
002080
003281
003051

CROSS\_SECTION

001501
001451
003281
003051

Age

# CREATING A CUSTOM DATA FILE





fqinstid[1]

# Long form

	fqinstid	phase	age			
16142	KX2AH65VN497BF96RRRUJPM1S	baseline	28			
16143	KX2AH65VN497BF96RRRUJPM1S	first follow up	29			
16144	KX711SEPOBKY3MMTQFGFNACW9	baseline	36			
16145	KX711SEPOBKY3MMTQFGFNACW9	first follow up	37			
16146	KX8SOU802UUY4QU18P7YILL7	baseline	18			
16147	KX8SOU802UUY4QU18P7YILL7	first follow up	19			
16148	KX06AIZBXKYAI46XW6P1S8312	baseline	37			
16149	KX06AIZBXKYAI46XW6P1S8312	first follow up	38			
16150	KXPDCZXACMZEL58QTHJW5D4K0	baseline	18			
16151	KXPDCZXACMZEL58QTHJW5D4K0	first follow up	19			
16152	KXSHBJC3BX60MWZJV7VKX86NR	baseline	46			
16153	KXSHBJC3BX60MWZJV7VKX86NR	first follow up	47			
16154	KXU7WCQ6VANDB05XFZU7GXQ1W	baseline	34			
16155	KXU7WCQ6VANDB05XFZU7GXQ1W	first follow up	35			
16156	KY26N7AKWGTMI7VYVW7RNFEM5CF	baseline	16			

## Variables

Filter variables here

<input checked="" type="checkbox"/>	Name	Label
<input checked="" type="checkbox"/>	age	age in f
<input type="checkbox"/>	casetype	case sel
<input type="checkbox"/>	sample	pma sa
<input type="checkbox"/>	country	pma co
<input type="checkbox"/>	year	year
<input type="checkbox"/>	hhid	unique
<input type="checkbox"/>	respondent	respon

[Variables](#) [Snapshots](#)

## Properties

### Variables

Name	fqinstid
Label	unique i
Type	str41
Format	%41s
Value label	
Notes	

### Data

Frame	default
Filename	pma_00
Label	
Notes	





# Wide form

	age_1	age_2	marstat_1	marstat_2
20594	24	25	never married	never married
20595	34	35	currently married	currently married
20596	46	47	divorced or separated	divorced or separated
20597	18	18	never married	never married
20598	41	42	currently married	currently married
20599	21	22	never married	currently married
20600	22	23	currently married	currently married
20601	36	37	currently married	currently married
20602	42	43	currently married	currently married
20603	29	30	currently living with partner	currently living with partner
20604	35	niu (not in universe)	currently married	niu (not in universe)
20605	39	40	never married	divorced or separated
20606	16	17	never married	never married
20607	24	25	currently married	currently married
20608	32	33	currently married	currently married

Variables

Filter va

 Name marstat\_2 casetype sample\_1 sample\_2 country year\_1 year\_2

&lt; ▣

Variables S

Properties

Value lab

Notes

Data

Frame

File name

Label

Notes

Variables

Observat

Size

Memory

Sorted b:

4796138925877024972846961  
28625147020321437  
3154702034598  
92870203121  
347020392239634  
15080203928948718289  
60410203572476566465  
5020352170203782352327  
795729385320203457678953  
8047386453020372165983721  
925214791602034181421539890  
941982980203413634619730  
836160020347157394802034  
1970203639658802032  
680203103621020387  
5630203719  
7291502032642  
38742910203431925  
593872461900001479254386

# IPUMS

## PMA

[PMA.IPUMS.ORG](http://PMA.IPUMS.ORG)



Mark your calendars!

# **Did the COVID-19 pandemic impact contraceptive use? An Introduction to Longitudinal Analysis using PMA Data**

**MAY 18<sup>TH</sup>, 2022 9:00 ET**

**@IPUMS OR @PM4ACTION**

User Support

**IPUMS@UMN.EDU**

Other Resources

**Z.UMN.EDU/PMA\_SUPPORT**

**Z.UMN.EDU/PMA\_LONG**

**IPUMS.ORG**

Webinar recording, Stata code, and Q&A  
will be posted at  
**[ipums.org/support/tutorials](https://ipums.org/support/tutorials)**

Thanks for listening!

**ANY QUESTIONS?**