

29138925...4972846961
2802517...3214337
31547...4308
928...4121
34...
19...
8...
9...
7...
1...
3...
94198298...417882481973...
826188...
192...
88...
583...
7281...
387428...
593872461...479254388



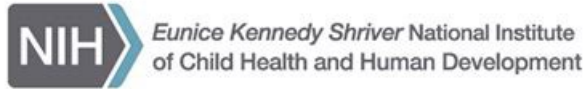
DHS Reproductive Calendar Data, Simplified

Webinar info

- Please use the Q&A function for questions
- We'll break for Q&A but enter your questions at any time



Thanks!



The
DHS  **Program**
Demographic and Health Surveys

IPUMS.ORG

Overview

- Introduction to reproductive calendar data
- How IPUMS DHS simplifies use of calendar data
- How to use the IPUMS DHS calendar data
- Additional considerations

INTRODUCTION TO REPRODUCTIVE CALENDAR DATA





Research with calendar data

Contraceptive use

Contraceptive Switching after Method-related Discontinuation: Levels and Differentials

Mohamed M Ali and John Cleland

Anemic Women are More at Risk of Injectable Contraceptive Discontinuation due to Side Effects in Ethiopia

Rose Stevens,  Blandine Malbos, Eshetu Gurmu,  J r mie Riou, 
and Alexandra Alvergne 

Contraceptive failure

Global Contraceptive Failure Rates: Who Is Most at Risk?

Sarah E.K. Bradley, Chelsea B. Polis, Akinrinola Bankole, and Trevor Croft

Birth spacing

BMJ Global Health

Intimate partner violence and pregnancy spacing: results from a meta-analysis of individual participant time-to-event data from 29 low-and-middle-income countries

Lauren Maxwell,¹ Arijit Nandi,^{1,2} Andrea Benedetti,¹ Karen Devries,³
Jennifer Wagman,⁴ Claudia García-Moreno⁵

Contents lists available at [ScienceDirect](#)



ELSEVIER

SSM - Population Health

journal homepage: <http://www.elsevier.com/locate/ssmph>

Short interpregnancy interval and low birth weight births in India:
Evidence from National Family Health Survey 2015-16

Ajit Kumar Kannaujiya^{a,*}, Kaushalendra Kumar^b, Ashish Kumar Upadhyay^a, Lotus McDougal^c,
Anita Raj^c, Abhishek Singh^b

Pregnancy termination & infecundity

Contraceptive Discontinuation and Failure and Subsequent Abortion in Romania: 1994–99

Dr. Andreea A. Creanga, Dr. Rajib Acharya, Professor Saifuddin Ahmed, Professor Amy O. Tsui

human
reproduction

ORIGINAL ARTICLE *Infertility*

**Estimating infertility prevalence
in low-to-middle-income countries:
an application of a current duration
approach to Demographic and Health
Survey data**

Chelsea B. Polis^{1,2,*}, Carie M. Cox³, Özge Tunçalp⁴,
Alexander C. McLain⁵, and Marie E. Thoma⁶

The original DHS calendar data



DHS Data

- Data collection dates back to the 1980s
- Covers over 90 countries; administered about every five years
- Samples women of childbearing age (15-49 years old)
- Covers many health topics
- Basis for other important surveys, like MICS and PMA

DHS calendar data

Month-by-month retrospective reports of pregnancies, births, contraceptive use and discontinuation and other information

Generally, cover five years (60 months)

Makes longitudinal analysis possible with cross-sectional data

Categories of calendar-data variables

Pregnancies & births

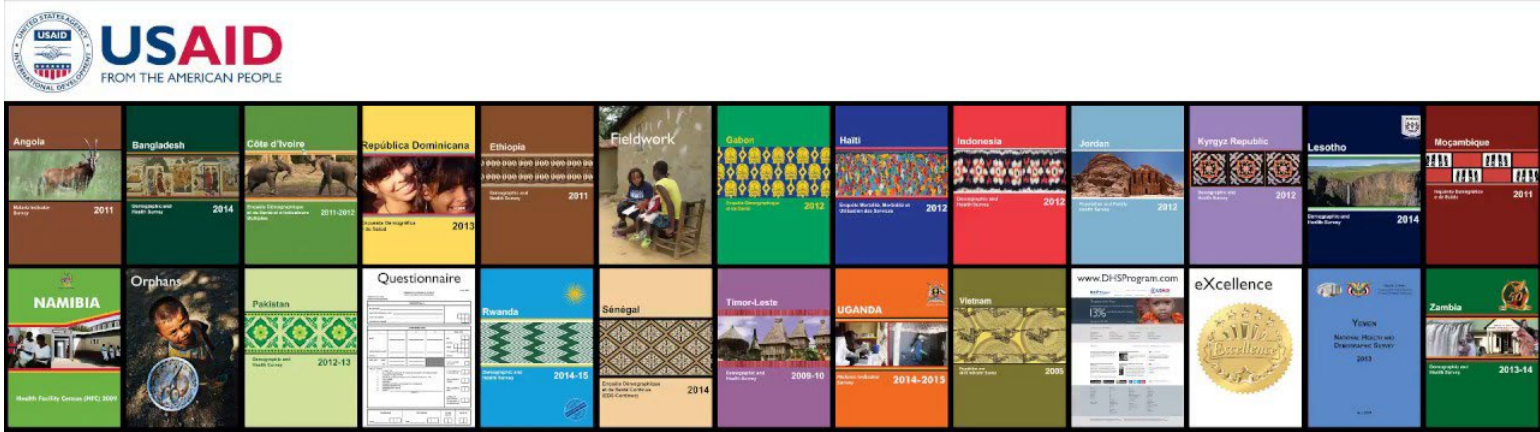
Reporting a reproductive calendar

		12	DEC	13	0		
		11	NOV	14	0		
Sara	2 0 1 4	10	OCT	15	B		
		09	SEP	16	P		
		08	AUG	17	P		
		07	JUL	18	P		
		06	JUN	19	P		
		05	MAY	20	P		
		04	APR	21	P		
		03	MAR	22	P		
		02	FEB	23	P		
		01	JAN	24	L	1	
						2 0 1 4	

		COL. 1		COL. 2			
		12	DEC	01			
		11	NOV	02			
		10	OCT	03			
		09	SEP	04	6		
2		08	AUG	05	6		2
0		07	JUL	06	6		0
1		06	JUN	07	6		1
5		05	MAY	08	6		5
		04	APR	09	6		
(1)		03	MAR	10	6		
		02	FEB	11	6		
		01	JAN	12	0		
<hr/>							
Sara	2 0 1 4	12	DEC	13	0		
		11	NOV	14	0		
		10	OCT	15	B		
		09	SEP	16	P		
		08	AUG	17	P		
		07	JUL	18	P		
		06	JUN	19	P		
		05	MAY	20	P		
		04	APR	21	P		
		03	MAR	22	P		
02	FEB	23	P				
01	JAN	24	L	1			
<hr/>							
		11	NOV	26	L		
		10	OCT	27	L		
		09	SEP	28	L		
2		08	AUG	29	0		2
0		07	JUL	30	0		0
1		06	JUN	31	0		1
3		05	MAY	32	0		3
		04	APR	33	0		
		03	MAR	34	0		
		02	FEB	35	0		
		01	JAN	36	0		
<hr/>							
		12	DEC	37	0		
		11	NOV	38	6	5	
		10	OCT	39	6		
2		09	SEP	40	6		2
0		08	AUG	41	6		0
1		07	JUL	42	6		1
2		06	JUN	43	6		2
		05	MAY	44	6		
		04	APR	45	6		
		03	MAR	46	0		
		02	FEB	47	0		
		01	JAN	48	0		
<hr/>							
		12	DEC	49	0		
		11	NOV	50	0		



Learn on your own



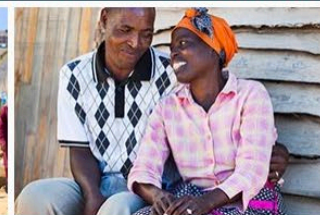
The Demographic and Health Surveys (DHS) Program

Contraceptive Calendar Tutorials

Questions?

Please use the Q&A function at the bottom of your screen for questions

294138926...4972846961
2802517...3214337
31547...4308
928...4121
34...62886455
19...6028948718289
8...57...762352327
5...485197...762352327
7...957293853237...4457578933
1...4738845...7185983721
3...4291428163...4181421338899
94198298...4173834819731
326198...4187737484
192...683196788...2
88...18...87
583...719
7291...282
387429...43182
5938724619...479254386



IPUMS DHS calendar data

A simpler alternative to the
original DHS data

What is IPUMS DHS?

IPUMS DHS is a collection of consistently coded and documented DHS data available for free over the Internet

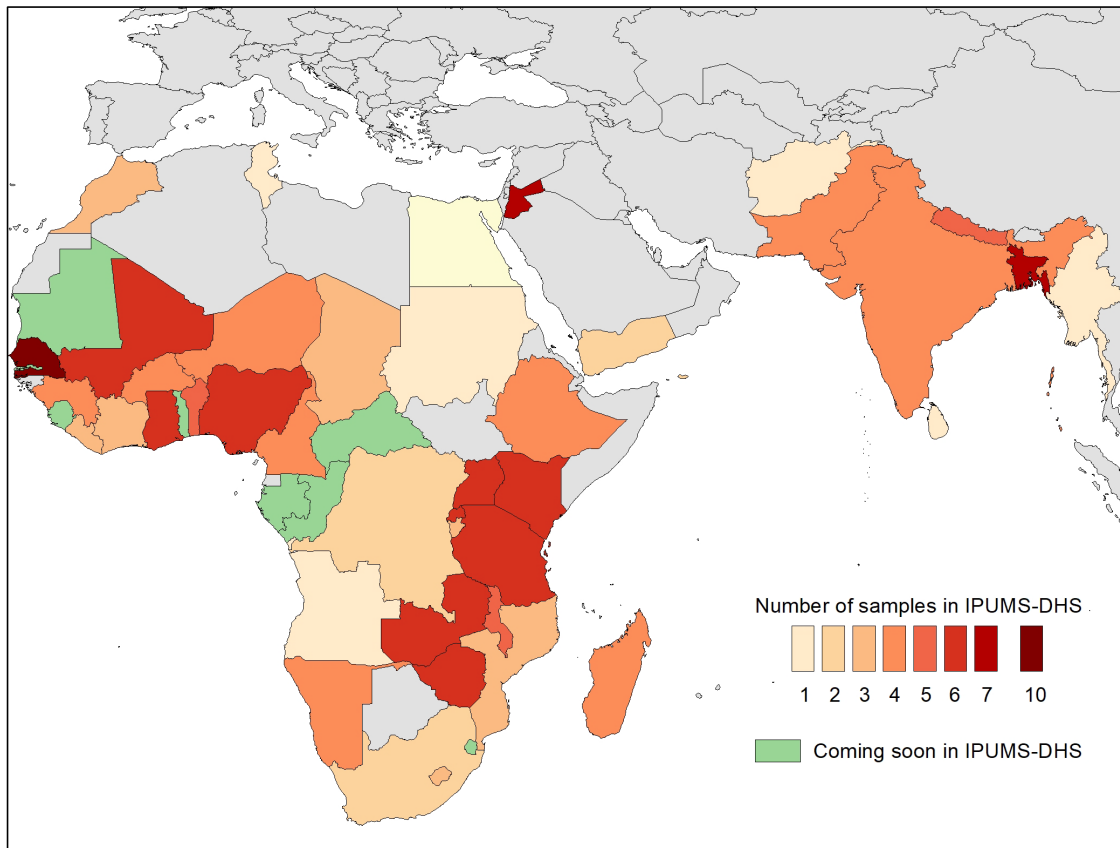
Advantages of IPUMS DHS

- Harmonized variables
- Harmonized geography
- Discovery: easily determine which samples have which variables
- Documentation, such as survey text, at user fingertips
- Cross-sample identifiers

Samples and countries

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

- 170 samples
- 41 countries
- Africa, Middle East, and South Asia



IPUMS DHS makes using the
calendar data simpler

Survey format

Sara	2	12	DEC	13	0		2										
	0	11	NOV	14	0			0									
	1	10	OCT	15	B				1								
	4	09	SEP	16	P					4							
		08	AUG	17	P												
		07	JUL	18	P												
		06	JUN	19	P												
		05	MAY	20	P												
		04	APR	21	P												
		03	MAR	22	P												
		02	FEB	23	P												
		01	JAN	24	L	1											

Original DHS data format

26.	111111000000000000000000BPPPPPPP00BPPPPPPP
27.	5555000000000000000000BPPPPPPP00
28.	000
29.	0000000000000000000000TPP000
30.	NNN00BPPPPPPP00000000NNNNNNNNNN000000000000BPPPPPPP00000000000000

Some complicated steps are
unnecessary with IPUMS DHS

DHS Step 2: Change data format

Wide format

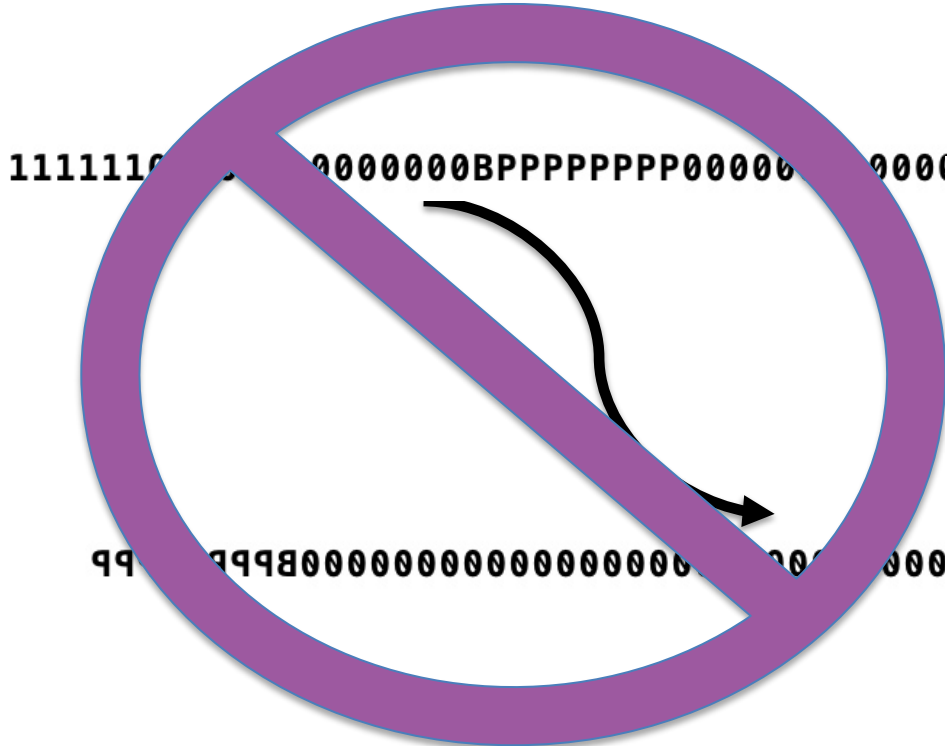
Mo20	Mo21	Mo22	Mo23	Mo24	Mo25	Mo26	Mo27
0	B	P	P	P	P	P	P

Long format

Unnecessary
with IPUMS

r	25
P	26
P	27
P	28
P	29

DHS Step 3: Put data in time order



Unnecessary
with IPUMS

IPUMS DHS includes some useful
features

New variables

- Count variables: how many times an event happened in the five years
- Censoring variables: incomplete events
- Categorical variables, e.g., all possible things that happen in a month as a single variable

Additional benefits

- Consistent numeric codes for every variable
- Zeros
- Household variables are available without merging files
- Easy data discovery
- Documentation

Questions?

Please use the Q&A function at the bottom of your screen for questions

How to access IPUMS DHS calendar data

dhs.ipums.org



DEMOGRAPHIC AND HEALTH SURVEYS

HOME | SELECT DATA | MY DATA | SUPPORT



IPUMS DHS

ABOUT

THE DHS PROGRAM: HOME

REGISTER

DONATE TO IPUMS

DATA

BROWSE AND SELECT DATA

ANALYZE DATA ONLINE

DOWNLOAD OR REVISE MY DATA

SUPPLEMENTAL DATA

GEOGRAPHY & GIS

CONTEXTUAL VARIABLES

DOCUMENTATION

USER NOTES

SAMPLE DESCRIPTIONS

SAMPLE UNIVERSES

QUESTIONNAIRES

REVISION HISTORY

SUPPORT

FAQ

VIDEO TUTORIALS

HEALTH-RELATED MICRODATA FOR LOW- AND MIDDLE-INCOME COUNTRIES

IPUMS-DHS facilitates analysis of Demographic and Health Surveys, administered in low- and middle-income countries since the 1980s. IPUMS-DHS contains thousands of consistently coded variables on the health and well-being of women, children, births, men, and on all members of randomly selected households, for 32 African countries and 9 Asian countries. Users can determine variable availability at a glance and create data files with just the variables and samples they need.

41 COUNTRIES – 170 SAMPLES – OVER 15,000 VARIABLES – 27 MILLION PERSON RECORDS

USE IT FOR GOOD – NEVER FOR EVIL

— CREATE AN EXTRACT —

Get Data

— ONLINE TOOL FOR ANALYSIS —

Analyze Data Online

— CREATE AN ACCOUNT —

Register

CHOOSE THE UNIT OF ANALYSIS FOR DATA BROWSING

WOMEN

EACH RECORD WILL BE A WOMAN OF CHILDBEARING AGE

DESCRIPTION

CHILDREN

EACH RECORD WILL BE A CHILD UNDER AGE 5

DESCRIPTION

BIRTHS

EACH RECORD WILL BE A BIRTH REPORTED BY A WOMAN OF CHILDBEARING AGE

DESCRIPTION

HOUSEHOLD MEMBERS

EACH RECORD WILL BE A HOUSEHOLD MEMBER

DESCRIPTION

MEN

EACH RECORD WILL BE A MAN

DESCRIPTION

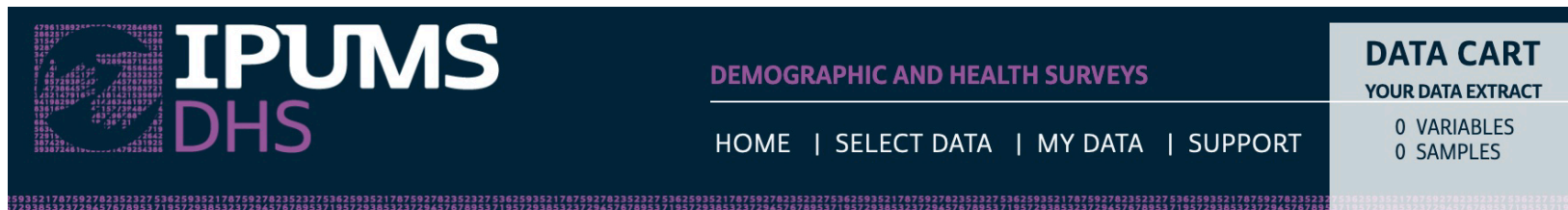
WOMAN MONTHS

EACH RECORD WILL BE A WOMAN-MONTH FROM RETROSPECTIVE CALENDAR DATA.

DESCRIPTION

Log in using DHS program credentials

Select samples & variables



The header of the IPUMS DHS website features the logo on the left, navigation links in the center, and a data cart on the right. The logo includes a globe graphic and the text 'IPUMS DHS'. The navigation links are 'HOME | SELECT DATA | MY DATA | SUPPORT'. The data cart shows '0 VARIABLES' and '0 SAMPLES'.

CURRENTLY BROWSING: "WOMAN MONTHS" [CHANGE](#)

SELECT
SAMPLES

SELECT VARIABLES

TOPICS

A-Z

SEARCH



IDHS VARIABLE NAMES

ORIGINAL DHS VARIABLE NAMES

DISPLAY
OPTIONS

HELP 
[COUNTRY](#)

Select **samples** and **variables** to build a data extract.

CURRENTLY BROWSING: "WOMAN MONTHS" [CHANGE](#)

CHANGE SAMPLES

SELECT VARIABLES

IDHS VARIABLE N
 ORIGINAL DHS V

TOPICS ▾

A-Z ▾

SEARCH 🔍

AN "X" INDICATES THE VARIABLE IS AVAILABLE IN THAT DATASET. SAMPLES IN GREEN TEXT ARE T

+ FAMILY PLANNING VARIABLES [\[TOP\]](#)

Add to cart	Variable	Variable Label	benin mali nigera 2017 2018 2018		
+	<u>CALEVENTWFP</u>	Any pregnancy, birth, termination, or contraceptive use for woman month (no/yes)	X	X	X
+	<u>CALCONTR</u>	Contraception used during woman-month	X	X	X
+	<u>CALCONTR_TOTAL</u>	Number of months women used contraception during calendar period	X	X	X
+	<u>CALCONTR_START</u>	Initiated using contraceptive method during woman-month	X	X	X
+	<u>CALCONTR_CHANGE</u>	Initiated using a different contraceptive method during woman-month	X	X	X
+	<u>CALCONTR_STOP</u>	Final month of period of continuous use of a contraceptive method	X	X	X
+	<u>CALCONTR_STOP_TOTAL</u>	Times stopped period of continuous use of a contraceptive method	X	X	X
+	<u>CALREASON</u>	Reason for discontinuation of contraceptive	X	X	X

CODES

DESCRIPTION

COMPARABILITY

UNIVERSE

AVAILABILITY

SURVEY TEXT

Description

CALCONTR is a dichotomous variable (0 for no, 1 for yes) indicating whether the woman used a contraceptive method during that month of the calendar period.

The related variable [CALCONTR_TOTAL](#) reports the total number of months women used contraception during the entire calendar period.

For information on the *type* of contraception used during a month, see [CALREPROD_ALLEVENTS](#).

Comparability – Index

GENERAL

Comparability

Apart from universe differences, CALCONTR is largely comparable across samples.

Some samples with a large number of cases coded "not in universe or missing response" include subgroups of women who were not administered the questions to collect calendar data. For details, see the country-specific comparability text for information about why large numbers of cases were coded "9" (not in universe or missing response) in CALCONTR for some samples.

Some other samples that collected data on births, pregnancies, terminations, and contraceptive use included months with missing data (filled with blanks), but all or nearly all women included in the sample had at least one calendar month reporting a meaningful response for a reproductive event. IPUMS DHS has coded the months with missing data in these samples as "Not in universe or missing response" (code 9) in CALCONTR.

Researchers may choose to recode those "not in universe or missing response" cases in CALCONTR as "0" for "No contraceptive use during the month" for their analyses. If so, researchers should *not* recode as "0" those cases coded as "99" (not in universe) in [CALCONTR_TOTAL](#). Only cases relating to women with no valid calendar data for *any* month are coded "99" in CALCONTR_TOTAL.

Code	Label	benin 17	jordan 12	mali 18	nigera 18	zambia 18
01	Became pregnant while using	107	2,249	39	891	451
02	Wanted to become pregnant	1,334	4,602	748	2,289	1,926
03	Husband disapproved	120	165	144	213	252
04	Lack of access/availability	23	16	19	60	258
05	Cost	22	3	6	35	11
06	Fatalistic	54	8	23	27	16
07	Doctor's opinion/advice	0	0	0	0	0
08	Changed method	0	0	0	0	0
09	Rest	0	105	0	0	0
10	Side effects	370	1,655	353	936	1,848
11	Gained weight	0	0	0	0	0
12	Lack of sexual satisfaction	0	0	0	0	0
13	Created menstrual problem	0	0	0	0	0
20	Health concerns	0	41	0	0	0
30	Other method-related	0	0	0	0	0
31	Wanted more effective method	194	1,616	91	586	550
32	Inconvenient to use	77	254	16	349	165
33	IUD fell out	0	0	0	0	0
34	Method expired	0	32	0	0	0
35	Afraid of forgetting method	0	0	0	0	0
36	Lack of privacy	0	0	0	0	0
37	Did not like method	0	0	0	0	0
38	Ended breastfeeding/period returned	0	1,533	0	0	0
40	Low risk of pregnancy	0	0	0	0	0
41	Infrequent sex/husband away or ill	187	247	69	735	442



IPUMS DHS

DEMOGRAPHIC AND HEALTH SURVEYS

HOME | SELECT DATA | MY DATA | SUPPORT

DATA CART

YOUR DATA EXTRACT

8 VARIABLES
5 SAMPLES

[VIEW CART](#)

CURRENTLY BROWSING: "WOMAN MONTHS" [CHANGE](#)

CHANGE
SAMPLES

SELECT VARIABLES

TOPICS

A-Z

SEARCH



IDHS VARIABLE NAMES

ORIGINAL DHS VARIABLE NAMES

DISPLAY
OPTIONS

[HELP](#)
[COUNTRY](#)

IPUMS.ORG

Be sure to select the data format that works best for you



EXTRACT REQUEST ([HELP](#))

SAMPLES: 3 [\(show\)](#) [Change](#)

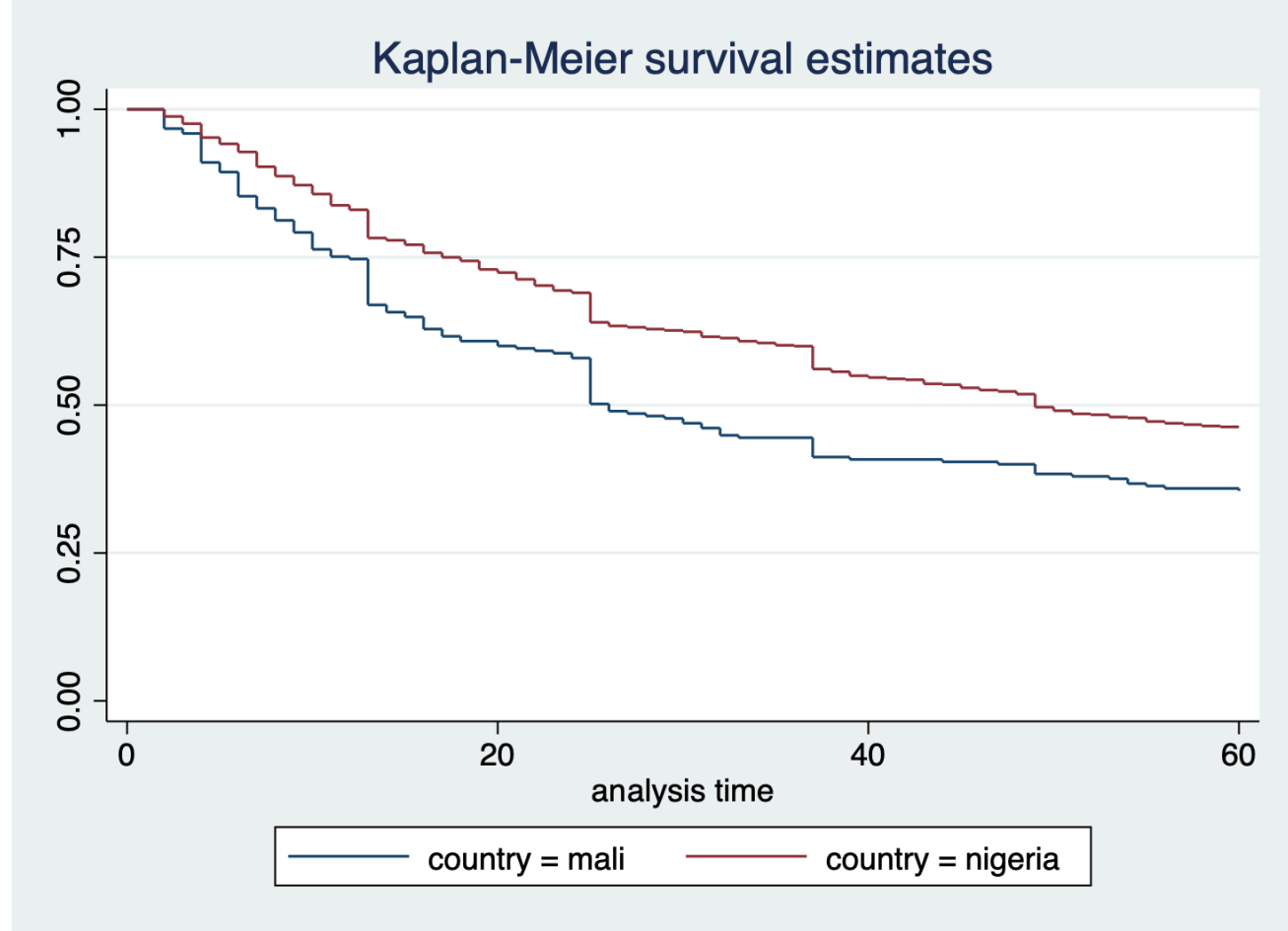
VARIABLES: 50 [\(show\)](#) [Change](#)

DATA FORMAT: .dat (fixed-width text) [Change](#)

ESTIMATED SIZE: 1051.4 MB

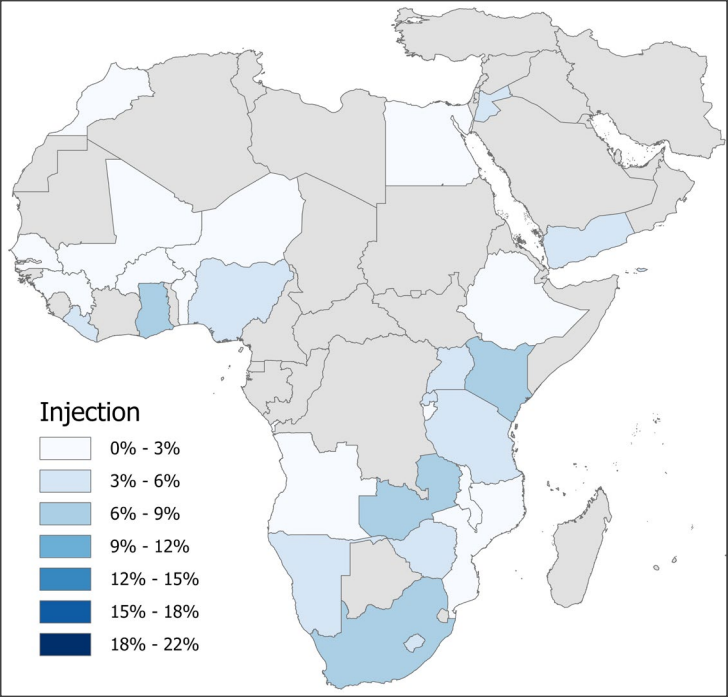
Examples using IPUMS DHS
calendar data

Contraceptive discontinuation over time

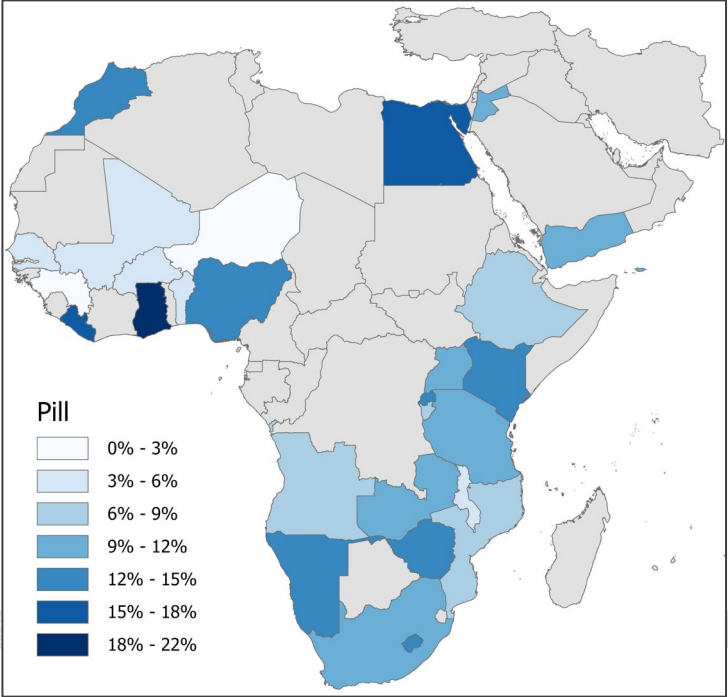


Perc. women becoming pregnant while using FP

Injectables



Pill



Event format basics

- Event: change to a new state, e.g., becoming pregnant
- Episode: length of time or duration in this state
- Event files are good for studying:
 - What happens before or after an episode or event
 - Duration, such as 12-month method discontinuation rates

Event data files

- Each row is an episode and includes:
 - Month episode started
 - Month episode stopped
 - Episode duration
 - Events that precede/follow episode

Examples

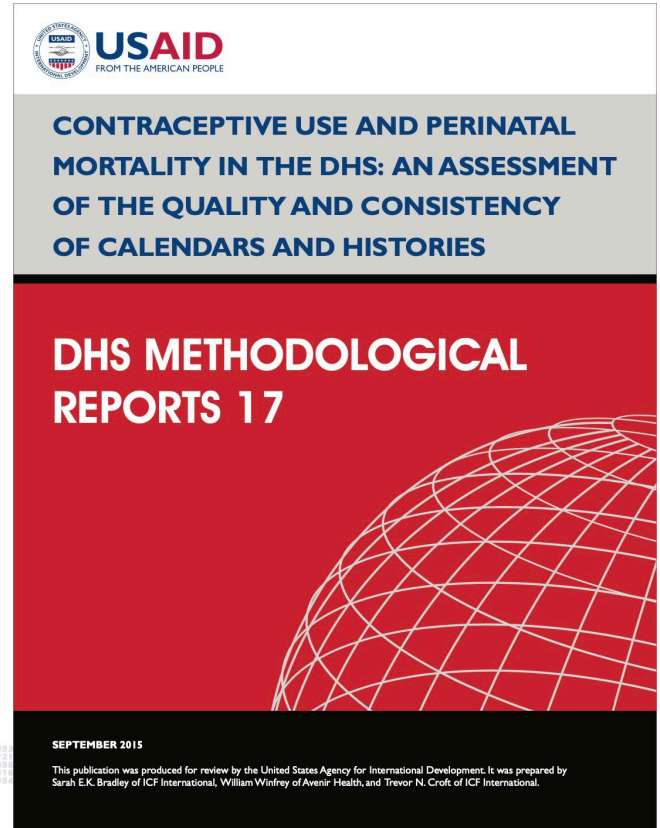
- How many women switch to a new method after stopping one type?
 - How does this vary across type of method?
- Are short birth-spacing intervals associated with lower-birth weights?

In DHS and IPUMS DHS require some data manipulation

ADDITIONAL CONSIDERATIONS

A limitation: Recall bias

Research shows that the calendar data are most accurate for older women, women who don't switch methods a lot & for long-acting methods.



IPUMS DHS calendar data files are large

Strategies if you have a slow Internet connection

- Browser extension that facilitates large downloads
- Download one sample at a time

Learn on your own

MAKING THE CONTRACEPTIVE
CALENDAR DATA WORK FOR
YOU

Questions?

Thank you very much!

DATA AVAILABLE



USA

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

CPS

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

INTERNATIONAL

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

TIME USE

U.S. and international time use data from 1965 to the present.

NHGIS

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

GLOBAL HEALTH

Health survey data for Africa and Asia, including harmonized data collections for **DHS** and **PMA2020**.

HIGHER ED

Data on the science and engineering workforce in the U.S. from 1993 to the present.

HEALTH SURVEYS

Health survey data from the National Health Interview Survey and the Medical Expenditure Panel Survey.

TERRA

Integrated data on population and the environment from 1960 to the present.

Summary variables in IPUMS DHS

What type of event occurred in month?	
CALREPROD_ALLEVENTS	Pregnancy, termination, birth, or contraceptive use (by type) occurred
CALREPROD_PBT	Pregnancy, termination, or birth occurred
Total events during calendar period	
CALCONTR_TOTAL	Total months woman used contraception
CALPREG_TOTAL	Total months woman was pregnant
CALBIRTH_TOTAL	Total live births during period
CALTERM_TOTAL	Total pregnancy terminations during period
CALABORT_TOTAL	Total abortions during period
CALMISCAR_TOTAL	Total miscarriages during period
CALSIBIRTH_TOTAL	Total stillbirths during period
CALCONTR_STOP_TOTAL	Total times woman stopped using contraceptive method during period
Details on contraceptive use	
CALCONTR_START	Woman began using contraceptive method that month
CALCONTR_CHANGE	Woman began using different contraceptive method that month
CALCONTR_STOP	Woman stopped using contraceptive method that month
CALREASON	Reason woman stopped using a contraceptive method
Details on pregnancy	
CALPREG_LENGTH	Cumulative duration of non-truncated pregnancy in months
CALPREG_LONG	Cumulative duration of non-truncated pregnancy exceeds 9 months
CALPREG_LC	Duration of reported pregnancy truncated by start of calendar period
CALPREG_RC	Duration of reported pregnancy truncated by end of calendar period