# Performance Monitoring and Accountability

# Handbook of Longitudinal Data Analysis with Examples using Stata™

# Introduction

Performance Monitoring for Action (PMA) conducts low-cost, rapid-turnaround surveys that monitor key health and development indicators.

“PMA surveys collect longitudinal data throughout a country at the household and health facility levels by female data collectors, known as resident enumerators, using mobile phones. The survey collects information from the same women and households over time for regular tracking of progress and for understanding the drivers of contraceptive use dynamics. The data are rapidly validated, aggregated, and prepared into tables and graphs, making results quickly available to stakeholders. PMA surveys can be integrated into national monitoring and evaluation systems using a low-cost, rapid-turnaround survey platform that can be adapted and used for various health data needs.

The PMA project is implemented by local partner universities and research organizations who train and deploy the cadres of female resident enumerators.”[[1]](#footnote-1)

IPUMS PMA makes available **harmonized panel data** focused on the reproductive and sexual health of women surveyed by our partners at [Performance Monitoring for Action](https://www.pmadata.org/) (PMA). Participating women will be interviewed up to three times over three years, so IPUMS made big changes to our [data extract system](https://pma.ipums.org/) making it easy to compare an individual’s responses across multiple rounds of data collection. Cross-sectional samples of women, households, and service delivery points remain available from IPUMS PMA as before, but we’ve also streamlined navigation for users interested in longitudinal analysis with these new panel surveys.

The purpose of this manual is to provide examples of longitudinal analysis of PMA data using Stata statistical software. The examples here complement those in a companion handbook with examples in R. [cite] For a detailed overview of the PMA program, see its website (<https://www.pmadata.org/>), and see the even earlier companion handbook that describes cross-sectional analyses with PMA data using Stata [cite] in both [English](https://www.pmadata.org/media/1243/download?attachment) and [French](https://www.pmadata.org/media/1244/download?attachment).

This manual is accompanied by reference .do files located in [a GitHub repository to be named later].

# A note on PMA dataset formats

PMA data are available from two sources and in two formats.

Files in what we will call the *PMA/JHU* *data format* are available from the PMA program website. Users can register for a free account and be approved to download datasets. The files are specific to individual countries, survey instruments, and survey rounds. Some details vary across countries and surveys. These files are commonly used by PMA principal investigators and program staff. The data are not initially conducive to being combined across surveys and sites with simple merge or append commands. For more information, explore the PMA website.

Files in what we will call the *IPUMS-PMA data format* are available from the IPUMS website (<https://pma.ipums.org/pma/>). Users can register there for a free account and download datasets that have been harmonized and may be downloaded already combined across surveys or sites. For more information, explore the IPUMS PMA website.

Do we want to include a pointer to something that describes the harmonization process in some detail?

Do we want to include an annex with some simple code for combining or renaming datasets in JHU format?

# Suggested CITATION

TBD

# Acknowledgements

The work was commissioned and funded by the Family Planning Team at the Bill & Melinda Gates Foundation. The examples here are directly based on the companion manual [named here], which was authored by Matt Gunther and Devon Kristiansen under the management of Kathryn Grace, all of whom work on IPUMS PMA at the University of Minnesota. The R examples were ported to Stata by Mia Yu and Dale Rhoda and Caitlin Clary at Biostat Global Consulting. [Something like: The authors are grateful for helpful reviews & comments from Philip Anglewicz and [ name others here ] at Johns Hopkins University.]

# Abbreviations

* BMGF
* DEFF
* DEFT
* DRC
* ICC
* IPUMS
* PMA

# Glossary of Terms (?)

# OTHER

* PMA website
* IPUMS-PMA website
* Chapter 2 has it, but consider adding here a pointer(s) specifically to where readers can find the PMA Longitudinal Briefs

# How this manual is organized (to be fleshed out as we go)

Chapter 1 describes …

Chapter 2 …

Chapter 3 …

Chapter 4 …

Chapter 5 …

Chapter 6 …

Chapter 7 lists useful PMA resources and materials that may help in analyzing longitudinal data with Stata.

1. From the introduction of the Performance Monitoring and Accountability Data Analysis Handbook – August 2020 [↑](#footnote-ref-1)