

**A SHORT GUIDE ON METHODS**

**MEASURING THE IMPACT OF NATIONAL PMTCT  
PROGRAMMES**

Towards the Elimination of New HIV Infections Among Children  
by 2015 and Keeping Their Mothers Alive

**JULY 2012**





**A SHORT GUIDE ON METHODS**

**MEASURING THE IMPACT OF NATIONAL PMTCT  
PROGRAMMES**

Towards the Elimination of New HIV Infections Among Children  
by 2015 and Keeping Their Mothers Alive

**JULY 2012**

#### WHO Library Cataloguing-in-Publication Data

A short guide on methods: measuring the impact of national PMTCT programmes: towards the elimination of new HIV infections among children by 2015 and keeping their mothers alive.

1.HIV infections - prevention and control. 2.Disease transmission, Vertical - prevention and control. 3.National health programs. 4.Program evaluation. 5.Data collection. 6.Child. 7.Pregnant women. I.World Health Organization.

ISBN 978 92 4 150436 2

(NLM classification: WC 503.2)

© World Health Organization 2012

All rights reserved. Publications of the World Health Organization are available on the WHO web site ([www.who.int](http://www.who.int)) or can be purchased from WHO Press, World Health Organization, 20 Avenue Appia, 1211 Geneva 27, Switzerland (tel.: +41 22 791 3264; fax: +41 22 791 4857; e-mail: [bookorders@who.int](mailto:bookorders@who.int)).

Requests for permission to reproduce or translate WHO publications – whether for sale or for noncommercial distribution – should be addressed to WHO Press through the WHO web site ([http://www.who.int/about/licensing/copyright\\_form/en/index.html](http://www.who.int/about/licensing/copyright_form/en/index.html)).

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted lines on maps represent approximate border lines for which there may not yet be full agreement.

The mention of specific companies or of certain manufacturers' products does not imply that they are endorsed or recommended by the World Health Organization in preference to others of a similar nature that are not mentioned. Errors and omissions excepted, the names of proprietary products are distinguished by initial capital letters.

All reasonable precautions have been taken by the World Health Organization to verify the information contained in this publication. However, the published material is being distributed without warranty of any kind, either expressed or implied. The responsibility for the interpretation and use of the material lies with the reader. In no event shall the World Health Organization be liable for damages arising from its use.

Layout by L'IV Com Sàrl, Villars-sous-Yens, Switzerland.

Printed by the WHO Document Production Services, Geneva, Switzerland.

# CONTENTS

|  |    |
|--|----|
| <b>Acknowledgements</b> .....  | 2  |
| <b>Acronyms and abbreviations</b> .....  | 3  |
| <b>1. Introduction</b> .....   | 4  |
| 1.1 Background .....   | 4  |
| 1.2 Purpose of this guide .....  | 4  |
| 1.3 Outcome measures of PMTCT impact .....   | 4  |
| 1.4 Time points for estimation of MTCT .....   | 5  |
| 1.5 Structure of this guide .....  | 6  |
| 1.6 Monitoring EMTCT .....   | 6  |
| <b>2. Summary of methodologies to measure the IMPACT of PMTCT programmes</b> .....     | 9  |
| <b>3. Methods</b> .....  | 11 |
| 3.1 Modelling .....  | 11 |
| 3.2 Facility-based survey and follow-up .....  | 14 |
| 3.3 Cohort/follow-up data .....  | 19 |
| 3.4 Population-based household surveys .....   | 23 |
| 3.5 Analysis of Early Infant Diagnosis and child HIV testing data .....                | 26 |
| <b>Annexes: Improving routine data collection systems to assess PMTCT impact</b> ..... | 31 |
| Annex 1. References and links related to vital registration systems .....              | 31 |
| Annex 2. Data triangulation and PMTCT impact evaluation xx .....                       | 33 |
| <b>References</b> .....  | 34 |

## ACKNOWLEDGEMENTS

The following individuals contributed to this guide by drafting specific sections or providing comments:

Centers for Disease Control and Prevention (CDC): Thu-Ha Dinh

Clinton Health Access Initiative (CHAI): Kate Sabot

ICAP-Columbia University, Mailman School of Public Health: Rosalind Carter, Fatima Tsiouris

Interagency Task Team on the Prevention and Treatment of HIV Infection in Pregnant Women, Mothers, and Children (IATT), Monitoring and Evaluation Working Group members

Office of the Global AIDS Coordinator (OGAC): Rob Lyerla, Jordana De Leon

Joint United Nations Programme on HIV/AIDS (UNAIDS): Mary Mahy, Rand Stoneburner

United Nations Children's Fund (UNICEF): Priscilla Idele

World Health Organization (WHO): Chika Hayashi, Nigel Rollins, Nathan Shaffer

Experts and meeting participants of the Consultation on a Generic Protocol to Assess PMTCT Impact Using the 6-Week Child Visit; the Consultation on Measuring the Impact of National PMTCT Programmes Using Population-based Household Surveys; and the Consultation on Measuring the Impact of National PMTCT Programmes Using Cohort Methods.

Chika Hayashi (Department of HIV/AIDS, WHO) is the principal author and coordinated the development of the guide.

We thank Ward Rinehart of Jura Editorial Services for technical editing, and L'IV Sàrl for the layout of the document.

This work received financial support from the U.S. President's Emergency Plan for AIDS Relief (PEPFAR) through the Centers for Disease Control.

We would value any feedback you may have on the content or format of this guide that would make it more useful. Please send any comments to: [pmtctmoneval@who.int](mailto:pmtctmoneval@who.int).

## ABBREVIATIONS AND ACRONYMS

|                |  |
|----------------|--|
| <b>AIDS</b>    | acquired immune deficiency syndrome                  |
| <b>ANC</b>     | antenatal care                                       |
| <b>ART</b>     | antiretroviral therapy                               |
| <b>ARV</b>     | antiretroviral drug                                  |
| <b>CDC</b>     | Centers for Disease Control and Prevention           |
| <b>DBS</b>     | dried blood spot                                     |
| <b>DHS</b>     | Demographic and Health Surveys                       |
| <b>DPT</b>     | diphtheria, pertussis, tetanus                       |
| <b>DSS</b>     | demographic surveillance site                        |
| <b>EID</b>     | early infant diagnosis                               |
| <b>ELISA</b>   | enzyme-linked immunosorbent assay                    |
| <b>EMTCT</b>   | elimination of mother-to-child transmission (of HIV) |
| <b>HEI</b>     | HIV-exposed infant                                   |
| <b>HIV</b>     | human immunodeficiency virus                         |
| <b>IATT</b>    | Interagency Task Team                                |
| <b>ICD</b>     | International Classification of Diseases             |
| <b>M&amp;E</b> | monitoring and evaluation                            |
| <b>MICS</b>    | Multiple Indicator Cluster Survey                    |
| <b>PCR</b>     | polymerase chain reaction                            |
| <b>PEPFAR</b>  | US President's Emergency Plan for AIDS Relief        |
| <b>PMTCT</b>   | prevention of mother-to-child transmission (of HIV)  |
| <b>UNAIDS</b>  | Joint United Nations Programme on HIV/AIDS           |
| <b>UNICEF</b>  | United Nations Children's Fund                       |
| <b>USAID</b>   | United States Agency for International Development   |
| <b>WHO</b>     | World Health Organization                            |

## 1. INTRODUCTION

### 1.1 BACKGROUND

The Global Plan Towards the Elimination of New HIV Infections Among Children by 2015 and Keeping Their Mothers Alive (1) was launched in June 2011. With the goal of virtually eliminating new HIV infections of children by 2015, the plan sets ambitious targets—for example, reducing new paediatric HIV infections by 90%, reducing HIV-associated deaths to women during pregnancy, childbirth and puerperium by 50%, and reducing mother-to-child transmission (MTCT) of HIV to less than 5% at the population level. While progress towards these targets will be modelled at the global level, directly measuring impact at the country level is important. Impact assessment activities should be part of every country's plans for the elimination of mother-to-child-transmission of HIV (EMTCT).

### 1.2 PURPOSE OF THIS GUIDE

This short guide summarizes the different approaches to assessing specific outcomes of interventions to prevent mother-to-child transmission (PMTCT) of HIV. It can serve as a reference that provides an overview of methods to measure PMTCT impact. It also can be used when planning impact assessment activities because the description may support the selection of activities and estimation of the cost of a particular assessment method.

For most methods described, more detailed guidance or a generic protocol will be developed, which can be adapted for country implementation. These generic protocols will provide more information about each method and the practical steps necessary to implement it.

This guide and the generic protocols, as they become available, will be posted on the WHO web site at <http://www.who.int/hiv/pub/me/en/index.html>.

### 1.3 OUTCOME MEASURES OF PMTCT IMPACT

预览已结束，完整报告链接和二维码如下：

[https://www.yunbaogao.cn/report/index/report?reportId=5\\_28389](https://www.yunbaogao.cn/report/index/report?reportId=5_28389)



云报告  
<https://www.yunbaogao.cn>

云报告  
<https://www.yunbaogao.cn>

云报告  
<https://www.yunbaogao.cn>