

## POLICY BRIEF

# COMPREHENSIVE PACKAGE OF CARE FOR INFANTS AND YOUNG CHILDREN EXPOSED TO HIV

2021







Elizabeth Glaser Pediatric AIDS Foundation Fighting for an AIDS-free generation



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ISBN 978-92-4-004023-6 (electronic version) ISBN 978-92-4-004024-3 (print version)

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Suggested citation. Comprehensive package of care for infants and young children exposed to HIV: policy brief. Geneva: World Health Organization; 2021. Licence: CC BY-NC-SA 3.0 IGO.

Cataloguing-in-Publication (CIP) data. CIP data are available at http://apps.who.int/iris.

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## ACKNOWLEDGEMENTS

This policy brief was developed by Ivy Kasirye (Consultant, WHO) and Catherine Wedderburn (Consultant, WHO), with technical oversight by Martina Penazzato and Morkor Newman Owiredu of the Department of Global HIV, Hepatitis and Sexually Transmitted Infections Programmes of WHO, in collaboration with UNICEF, Elizabeth Glaser Pediatric AIDS Foundation and ICAP at Columbia University.

WHO gratefully acknowledges the technical input of the external peer reviewers: Elaine Abrams and Nandita Sugandhi (ICAP at Columbia University, USA), George Alemji, Chelsea Solmo, Michelle Zavila, Michelle Chevalier, Hilary Wolf (United States Centers for Disease Control and Prevention and United States President's Emergency Plan for AIDS Relief), Cathrien Alons and Judith Kose (Elizabeth Glaser Pediatric AIDS Foundation), Geoffrey Chipungu, Shaffiq Essajee and Laurie Gulaid (UNICEF), Stuart Keane (Consultant), Andy Prendergast (Queen Mary University of London, United Kingdom of Great Britain and Northern Ireland), Amy Slogrove (Stellenbosch University, South Africa).

## ABBREVIATIONS

3TC	lamivudine
ART	antiretroviral therapy
ARV	antiretroviral
AZT	zidovudine
СТХ	Co-trimoxazole
LPV/r	lopinavir/ritonavir
NAT	Nucleic acid testing
NNRTI	non-nucleoside reverse-transcriptase inhibitor
NVP	nevirapine
PNP	postnatal prophylaxis
RAL	raltegravir
UNICEF	United Nations Children's Fund

## BACKGROUND

Despite global progress to eliminate the vertical transmission of HIV, the targets for maternal antiretroviral therapy (ART) coverage and new vertical transmission have yet to be achieved (1). Globally, an estimated 85% of pregnant women living with HIV were receiving lifelong ART, and 150 000 infants acquired HIV through vertical transmission in 2020. Although more than 84% of vertical tranmissions occur in sub-Saharan Africa, it is encouraging that eastern and southern Africa (the epicentre of the HIV pandemic) has sustained maternal antiretroviral (ARV) coverage rates of  $\geq$ 90% since 2014 (1). Nevertheless, persisting challenges remain in preventing infants and young children from acquiring HIV during pregnancy and the breastfeeding period. Viral suppression among mothers living with HIV, achieved with optimized ART and adherence, is critical for preventing the vertical transmission of HIV. ARV drug prophylaxis provided to infants exposed to HIV further reduces the risk of acquiring HIV.

About half of all vertical transmission occurs during breastfeeding (2). Vertical transmission occurring postnatally primarily results from maternal seroconversion during breastfeeding and breastfeeding mothers not initiating or retained on ART. Nevertheless, considering the significant health benefits of breastfeeding in the context of HIV in preventing infant morbidity and mortality and the reduced risk of HIV transmission if mothers are receiving ART and have suppressed viral loads, WHO recommends that mothers living with HIV who are receiving ART and have suppressed viral loads may breastfeed their infants for up to two years, with the infants being exclusively breastfed in the initial six months to prevent vertical transmission in the postpartum period and optimize infant survival (2).

Evidence suggests that even among infants who are not HIV-infected, HIV exposure results in greater morbidity and mortality than in unexposed infants. These effects on morbidity and mortality extend well beyond the period of HIV exposure and include low birth weight, prematurity, growth impairment and neurodevelopmental delays, increased risk of mortality, increased morbidity (congenital and acquired infections including TB, herpes simplex virus, syphylis, hepatitis B, cytomegalovirus and severe forms of infectious morbidity such as diarrhoeal disease, bacterial sepsis and pneumonia), potential for haematologic abnormalities as well as social and environmental factors (orphanhood, stigma, discrimination, household poverty, family illness and disruptions) (3-12).

Following up infants and young children exposed to HIV throughout and beyond the exposure period is therefore critical to minimize the risk of HIV transmission and to intensify efforts to improve child survival, promote child growth and development in order to obtain holistic health and well-being outcomes.

### Justification for the comprehensive package of care for infants and young children exposed to HIV

A systematic review revealed that 49% of women living with HIV in sub-Saharan Africa are lost between antenatal care registration and delivery, 34% of infants exposed to HIV are lost to follow-up by three months and a further 45% of infants exposed to HIV are lost after their first HIV test and before definitive diagnosis (13). This highlights significant attrition along the continuum between identifying HIV among pregnant women, initiating treatment to prevent vertical transmission and improve maternal health, initiating prophylaxis among infants and testing infants early for HIV. Several factors are associated with poor postnatal continuity of care, including fragmentation of services. During the first two years of life, infants are expected to access routine wellchild services. In addition to these services, infants and young children exposed to HIV also need to access HIV preventive or treatment services. Furthermore, their mothers need to access services for their own health, including postnatal care, family planning and ART. These encounters often entail multiple clinic visits, multiple service delivery points, multiple service providers, service delivery on specific days and referral within or outside the facility, which serve as barriers to care and a full range of services for mothers and their infants (14).

Integrating child health and HIV services has the potential to improve health outcomes by addressing multiple family health-care needs simultaneously and reducing missed opportunities to reach infants and children with all the health services they require (15). Integration is also associated with improved access to care, efficiency and cost-effectiveness of service delivery and patient

satisfaction (16). Integrating HIV testing services into child health platforms has been shown to: increase the identification of infants and children living with HIV; increase the uptake of postnatal services; improve TB treatment completion rates when integrated into TB programmes; and result in either increased or unchanged immunization uptake rates (17-21). Reproductive, maternal, newborn, child and adolescent health platforms and settings with high diagnostic yield for children living with HIV at primary care facilities including inpatient wards and nutrition centres (22) may also be strategic platforms for integrated service delivery for infants and children exposed to HIV. The purpose of this brief is to provide an integrated approach that combines effective interventions along the continuum of care in a harmonized package that simplifies implementation in decentralized settings, minimizes missed opportunities, eases navigation by mothers and their children and increases access to services aimed at HIV-free survival and optimal development for infants and young children exposed to HIV.

### Scope

Although the comprehensive package of care includes maternal, infant and young child interventions, this policy brief focuses mainly on the service package for infants and young children up to two years of age who are exposed to HIV. It emphasizes the maternal interventions that directly affect decision-making for interventions for the infants and young children exposed to HIV. For the detailed interventions for preventing vertical transmission, including combination HIV prevention for pregnant and breastfeeding women at risk of acquiring HIV, see the 2021 WHO consolidated guidelines (2). Since some children younger than two years both within the vertical transmission cascade and among those who have not had access to services to prevent vertical transmission may acquire HIV, the recommendations and service considerations in relation to the comprehensive package that remain relevant to infants and young children living with HIV will also be highlighted to demonstrate the continuity of care. This policy, however, will not articulate a comprehensive service package for infants and children living with HIV.

# Overview of the interventions along the continuum of care

Children younger than two years typically receive wellchild visits for routine services, including immunization, monitoring growth and development, micronutrient supplementation, deworming, preventing and managing common childhood conditions as well as infant feeding counselling and support. In addition to these routine services, infants and young children exposed to HIV should receive specific services in a comprehensive package as outlined below.

### Components of the comprehensive package of care for infants and young children exposed to HIV

The comprehensive package of care brings together interventions across the continuum of care that collectively aim to reduce the risk of vertical transmission of HIV and improve the health and well-being of infants and young children exposed to HIV. The package includes both maternal and infant components (Fig. 1):

- maternal HIV testing and retesting: other prevention interventions for HIV-negative mothers are highly relevant (2):
- maternal ART, adherence counselling and monitoring;
- infant diagnosis;
- infant ARV prophylaxis;
- co-trimoxazole prophylaxis;
- postnatal care and infant feeding in the context of HIV; and
- promoting nurturing care.

### Fig. 1. Components of the comprehensive package of care for infants and young children exposed to HIV

#### Infant diagnosis

Timely identification of infants living with HIV by testing multiple times and ensuring infant diagnosis

#### Postnatal care

Routine postnatal care, including immunization, growth and development monitoring, infant feeding counselling and support

### Postnatal prophylaxis

Timely provision of ARV drugs to prevent HIV acquisition for all infants exposed, with particular attention to those at high risk



## Maternal testing, treatment and monitoring

Identifying mothers through antenatal care and maternal, newborn and child health services, ensuring that they start ART and remain virally suppressed

#### Nurturing care

Implementing simple interventions to promote early childhood development at the facility and in the community

### **Co-trimoxazole**

Timely provision of co-trimoxazole to prevent Pneumocystis jirovecii pneumonia and mortality among infants and children living with HIV

## Box 1. Infants and young children living with HIV

If an infant or young child is confirmed to be living with HIV during the period of followup, the early infant diagnosis cascade will have reached a final endpoint. If the infant is still on ARV drug prophylaxis, this should be stopped, and ART initiated with the recommended triple ARV drug first-line ART regimen (Fig. 3). WHO recommends early or same-day initiation of ART with an age-appropriate ART regimen once the HIV diagnosis is made and while awaiting confirmation. Co-trimoxazole prophylaxis and nurturing care interventions should be continued based on the recommendations discussed in Sections 4 and 5.

Further guidance on WHO recommendations for ART for infants and children living with HIV is available (2).

The initiation and duration of the components occur at different times during the period of risk. The scheduling of several interventions coincides or is near the times for childhood immunization, although this may vary depending on national immunization schedules (Fig. 2).



Fig. 2. Package of care service times



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