

WHAT DO THE **2013** GUIDELINES SAY?  
WHAT DOES THIS MEAN FOR MY COUNTRY?

# Antiretroviral therapy for children

Infants and young children<sup>1</sup> living with HIV have a higher risk of falling ill and of dying than adults because their immune systems are not fully developed. Starting children living with HIV on antiretroviral therapy (ART) early has been shown to help them live longer and healthier lives. Early infant diagnosis (EID) is critical for this. But progress towards improving access to HIV testing and ART for children has been extremely slow.

While EID is expanding in many countries, in 2012 only 39% of children in low- and middle-income countries had access to HIV testing within the recommended two months from birth. In addition, programmes are failing to start treatment for infants diagnosed with HIV. In 2012, 34% of children received the life-saving ART they needed compared to 64% of adults.

To help simplify and expand treatment access for children, the 2013 Guidelines recommend immediate treatment without CD4 testing for all children aged under five. For children over five, the recommendation is the same as that for adults: to start treatment at CD4 cell count  $\leq 500$  cells/mm<sup>3</sup>.

## Research!

Investment is urgently needed to research the impact of earlier treatment of children on retention, adherence and potential drug resistance.



providing non-antiretroviral HIV care like cotrimoxazole prophylaxis and timely treatment of opportunistic infections.

There are serious concerns about the greater risks of drug resistance with early treatment if adherence is poor or supplies of medicines are unreliable. Many also point to the continued lack of child-friendly formulations that do not require refrigeration as a major challenge. There are further concerns regarding the toxicity of drugs used over a sustained period when treatment is initiated early in children who may otherwise be long-term non-progressors (individuals living with HIV who remain well for many years without ART, before developing symptoms of opportunistic infections or AIDS).

These recommendations are based on programmatic benefits as much as clinical evidence. Treating all children under five is expected to simplify paediatric treatment and facilitate significant expansion of ART coverage. Programmatic data suggests that children living with HIV are at greater risk of dying or being lost to follow up before starting ART than when enrolled in a treatment programme. Early treatment for children with HIV will help improve retention in care and may also facilitate treatment of other preventable diseases. This is because treatment programmes have a very active tracing system, including home visits and social support, as well as



 Message

**Without diagnosis and treatment, half of all children living with HIV die before their second birthday.**

Forward



Link

This module links to Chapter 7: Clinical guidance across the continuum of care: antiretroviral therapy, in the 2013 WHO *Consolidated guidelines on the use of antiretroviral drugs for treating and preventing HIV infection*. Available at: [www.who.int/hiv/pub/guidelines/arv2013/art/en/](http://www.who.int/hiv/pub/guidelines/arv2013/art/en/)

1. The 2013 Guidelines define infants as children under one year of age. They make separate recommendations for children under five and older children (five to ten years). Separate guidelines for adolescents are covered in Module H.

## What do the 2013 Guidelines say?

### Antiretroviral therapy should be initiated:

- ▶ in all children living with HIV aged below five, regardless of WHO clinical stage or CD4 count, with priority given to children under two
- ▶ in all children living with HIV aged five and older with CD4 cell count  $\leq 500$  cells/mm<sup>3</sup>, with priority given to those with CD4 count  $\leq 350$  cells/mm<sup>3</sup>
- ▶ in all children living with HIV with severe or advanced symptomatic disease (WHO clinical stage 3 or 4) regardless of age and CD4 count
- ▶ in any child younger than 18 months who has been given a presumptive clinical diagnosis (based on existing symptoms and a positive antibody test, where virological testing is unavailable) of HIV infection.

### What antiretroviral therapy regimens?

Choosing the best antiretrovirals (ARVs) for children is complex due to limited availability of child-friendly formulations, the long-term toxicities of ARVs and the difficulty of ensuring adherence in children. In addition, many children with HIV may have viral resistance to a class of ARVs called non-nucleoside reverse transcriptase inhibitors (NNRTIs) because they were exposed to these medications as prophylaxis given to mothers and infants to prevent vertical transmission of HIV.

The 2013 Guidelines recommend that infants and young children aged up to three who test positive should be started on a ritonavir-boosted lopinavir-containing (LPV/r) regimen. Despite concerns about storage, price, potential long-term toxicity and administration difficulties, many respondents in a community consultation<sup>2</sup> accepted LPV/r syrup because of its greater effectiveness. In some resource-limited settings, where providing a LPV/r-based regimen is not feasible or affordable, the 2013 Guidelines recommend providing a nevirapine-containing (NVP) regimen as an effective alternative, especially given the availability of two- and three-drug fixed-dose combinations. However, if the infant has or develops tuberculosis (TB) they will need access to an abacavir-containing (ABC) regimen because of the interactions between NVP and some TB medications. After reaching the age of three, the 2013 Guidelines recommend that children be switched over to the same first-line regimen that adults use (see Module C or 2013 Guidelines, Chapter 7).

Since 2010, WHO has recommended phasing out the use of stavudine (d4T) among adults and children because of its known long-term toxicity. However, considering the limited availability of age-appropriate nucleoside reverse transcriptase inhibitor (NRTI) formulations, d4T may be used in certain circumstances. These include when using zidovudine (AZT) may not be advisable due to the high risk of anaemia; where formulations of ABC are not available for children; or in a situation in which toxicity to AZT is suspected and ABC cannot be used.

## What does this mean for my country?

There are many technical, social and psychological challenges to improving access to treatment for children living with HIV. The first challenge is the low coverage of EID, which is the entry point for treatment for most children. Links between diagnosis and treatment need to be improved as they are frequently offered at different facilities. An algorithm for EID (Annex 2.1) and best practices for EID implementation (Box 2.3) are presented in the supplementary section to the 2013 Guidelines.<sup>3</sup> In the coming years, point-of-care virological tests for EID should become available, and this could enable more timely diagnosis of HIV in infants and promote more rapid linkage to treatment and care. There is also a need to identify opportunities to better integrate EID within other services, such as antenatal care, maternal and child health settings, and nutrition programmes.

Given the evidence gaps on the clinical benefits of initiating early treatment in all children aged under five diagnosed with HIV (regardless of WHO clinical stage

## Advocate!

Communities need to advocate for training and support to prepare nurses and other healthcare workers to use improved point-of-care infant diagnostic tests, bringing programmes closer to communities.



2. International HIV/AIDS Alliance and GNP+ (2013). Community consultation to inform the 2013 WHO Consolidated guidelines on the use of antiretroviral drugs for treating and preventing HIV infection.

3. See Annex 2.1, and Box 2.3 in 'Section 1: HIV self-testing' in the March 2014 supplement to the 2013 WHO Consolidated guidelines on the use of antiretroviral drugs for treating and preventing HIV infection. Available at: [www.who.int/hiv/pub/guidelines/arv2013/arv2013supplement\\_to\\_chapter05.pdf?ua=1](http://www.who.int/hiv/pub/guidelines/arv2013/arv2013supplement_to_chapter05.pdf?ua=1)

or CD4 cell count), national programme managers and affected communities will need to determine how best to implement this recommendation in their country. They will have to choose whether to recommend universal treatment for all children aged under five, or focus on universal treatment for infants younger than one and apply clinical and immunological criteria for children aged one to five until stronger evidence is available.

## Respect!

High-quality, affordable, child-friendly ARVs should be available to all children in need.



Yet another challenge is the limited availability of child friendly formulations of ARVs and substantial difficulties in harmonising regimens with adults. Infants who are too young to swallow tablets ideally need to be provided with medications that are more child friendly, such as syrups, powders and sprinkles. However, these formulations are only slowly becoming available and are expensive. Unfortunately, a lot of HIV medicine has an unpleasant taste, especially in syrups and powder form. This can make it difficult for children to take their ARVs daily. Also certain formulations require refrigeration, which is not always feasible.

The preferred first-line for young children (LPV/r) is not child friendly and has a particularly poor taste. A better generic sprinkles formulation that is heat stable has been developed, but issues regarding patents are hampering licensing of the formulations for use in middle-income countries such as South Africa.

In countries where there is a lack of affordable paediatric ARV formulations, clinicians often divide adult fixed-dose combinations into measures appropriate for children. The good news is that various fixed-dose regimens for children are now increasingly available. However, these paediatric formulations are often unaffordable for developing country governments to procure for the settings where they are most needed. Country programmes are urged to limit the procurement of ARVs for children to formulations included in the list of optimal and limited-use ARV formulations for children published by the Interagency Task Team on Prevention and Treatment of HIV Infection in Pregnant Women, Mothers and their Children.<sup>4</sup>

Communities and governments should advocate strongly for development of better medications for children. However, while the use of better regimens is important, expanding ART coverage among children is the priority. We need to have a better understanding of the challenges experienced by affected communities, and they must be consulted and involved in addressing these challenges that may go beyond the availability of child-friendly formulations.

One of the major challenges is the lack of knowledge and training on how to provide adequate psychosocial support both to children affected by HIV and their parents and or caregivers. This includes challenges around testing older children, disclosure of HIV status within families, lack of child-sensitive counselling, and inadequate documentation of children's needs and priorities, including ways to address the stigma and discrimination they face. Another issue is the lack of differentiation in health services or guidance for children of varying ages, from infancy to adolescence.

The role of communities is critical in providing family-centred care strategies, psychosocial and nutritional support, disclosure and adherence support, and in reducing stigma and discrimination faced by children living with HIV.

The paediatric ART recommendations are slightly more complicated than those for other populations, with different recommendations on when to start and what to start with depending on the age of the child. This makes it harder for nurses and community healthcare workers to provide paediatric care. However, the hope is that better technologies, more effective regimens and simplified guidance will help bring services closer to communities.

## Engage!

Communities need to be fully engaged in research and guideline development to ensure the best possible outcomes for children and uphold their rights.



## Advocate!

Invest in community-based initiatives and strategies to deliver comprehensive care for children living with HIV and their families, including ways to engage them and respond to their own expressed priorities.



4. See Annex 10.1 of 'Section 8: Phasing out stavudine: progress and challenges', in the March 2014 supplement to the 2013 WHO Consolidated guidelines on the use of antiretroviral drugs for treating and preventing HIV infection. Available at: [www.who.int/hiv/pub/guidelines/arv2013/arv2013supplement\\_to\\_chapter09.pdf?ua=1](http://www.who.int/hiv/pub/guidelines/arv2013/arv2013supplement_to_chapter09.pdf?ua=1), Annex 10.1

## Take stock! Take action!

- What are the barriers to EID in my country and what plans are there to address these? What is the current ART coverage among children in my country? What are the barriers to linking children diagnosed with HIV to treatment and care, and what plans are there to address these?
- What are the current initiatives to provide children affected by HIV, their families and caregivers with the psychosocial care, nutritional support and social protection they need? How can this be improved?
- Is ART for children available at the same facilities where adults go for ART or other relevant services such as maternal and child health? How can we improve the links between testing, diagnosis and treatment? What strategies should be used to improve retention and treatment adherence among children?
- Is my country moving towards the guideline of initiating immediate treatment for infants and children aged under five? Are we as communities discussing possible opportunities within and concerns about the new recommendations? Are community voices being heard and taken into account by policymakers?
- Are women living with HIV and community organisations engaged and able to influence discussions about which approach is most suitable for our country? Is consideration being given to how treatment for children will impact on their mothers and other family members?
- Is there enough consideration being given to ethical and human rights issues in initiating lifelong ART for all children living with HIV?
- Are there plans to switch to better regimens for children and to phase out medications like d4T? If not, what are the obstacles and what are the plans to overcome these?
- Are stock-outs for paediatric ARVs common? Can the programme guarantee a reliable supply of the preferred first-line regimen? Is there action to address supply chain management issues associated with delivery of medicines and other supplies at peripheral sites across the country? If not, what needs to change?
- What is the role of civil society and communities in paediatric care for children living with HIV? What services do, or should, we provide? Are we undertaking advocacy for child-friendly formulations, affordable and quality ARVs for children, and child-friendly health services that consider children's evolving capabilities?
- What operational research is being undertaken to identify the best strategies, including family-based care, to improve uptake and retention in paediatric care and promote and support adherence? What has worked and should be scaled up? What hasn't worked and should be stopped? What new models should be piloted?
- Is there adequate funding for treatment and care for children living with HIV in the national budget? What are the gaps? How can these gaps be sustainably filled?