



Elizabeth Glaser  
Pediatric AIDS  
Foundation

*Until no  
child has  
AIDS.*

## **STRENGTHENING ANTIRETROVIRAL TREATMENT FOR WOMEN AND CHILDREN IN MATERNAL, NEONATAL, AND CHILD HEALTH SERVICES**

Experiences from the Elizabeth Glaser Pediatric AIDS Foundation's

### **CLINICAL MENTORSHIP PROGRAM IN ZIMBABWE**





## Acknowledgments

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Unless otherwise stated, it is not implied or to be inferred that any individuals appearing in this publication are living with HIV.

## About the Elizabeth Glaser Pediatric AIDS Foundation Zimbabwe Program

EGPAF began supporting the Zimbabwe national program for prevention of mother-to-child HIV transmission (PMTCT) in 2001 and has remained one of the MOHCC's key HIV prevention, care, and treatment services implementing partners. In 2011, Zimbabwe launched its National Strategy for Eliminating New HIV infections in Children and Keeping Mothers Alive (2011–2015) using the 2010 World Health Organization (WHO) PMTCT guidelines as a catalyst.<sup>1,2</sup> Since that launch, EGPAF has supported rapid expansion and optimization of PMTCT services. As of June 2015, EGPAF continues to provide direct support to a total of 1,495 sites in 62 districts of Zimbabwe, representing 96% coverage of the total 1,560 antenatal care (ANC) sites in the country. EGPAF remains the largest partner in delivering HIV services to the national PMTCT and pediatric HIV program in Zimbabwe.





## Background

Zimbabwe was one of 22 priority countries highlighted by the Joint United Nations Programme on HIV/AIDS (UNAIDS) in its Global Plan towards the elimination of new HIV infections among children by 2015 and keeping their mothers alive, 2011–2015, with a high HIV disease burden and in need of swift action to combat its mother-to-child HIV transmission rate. HIV prevalence has declined since its peak in 1997 at 26%, to 15% in 2013.<sup>3</sup> The decline in new infections has in part been attributed to increased coverage of antiretroviral therapy (ART) and PMTCT services throughout the country.

National adoption of the 2010 World Health Organization PMTCT guidelines (Option A) in May 2010 helped Zimbabwe move closer to ending mother-to-child transmission; in 2009 the overall MTCT rate was estimated to be approximately 30%, and by 2013 the rate had decreased to less than 9%. In 2014, Zimbabwe adopted the 2013 WHO PMTCT guidelines recommending that all HIV-positive pregnant and breastfeeding women be placed on lifelong ART regardless of their CD4 count or WHO clinical stage (Option B+). In line with these global recommendations, Zimbabwe's MOHCC began work to decentralize ART services to all 1,560 maternal, neonatal, and child health (MNCH) facilities throughout the country by January 2015.

According to MOHCC 2014 HIV estimates, 665,299 people were receiving ART, including 618,980 adults and 46,319 children, with more than 9,000 patients being initiated on treatment each month.<sup>4</sup> Significant progress has been made in scaling up the provision of HIV prevention, care, and treatment services; however, work remains to achieve the elimination of new HIV infections in children.

Implementation of the 2010 WHO PMTCT guidelines resulted in more women being identified as eligible for ART within MNCH settings. During this scale-up, however, the MOHCC realized that the target of initiating 40% to 50% of HIV-positive pregnant women on ART (according to guidelines in use at that time) could not be met by the centralized doctor-led ART program in Zimbabwe. Trained doctors are in high demand and quite frequently overburdened in Zimbabwe. This gap highlighted the need to allow nurses and other health workers to initiate ART in the MNCH setting—a need that is even greater with the current roll-out of lifelong ART for HIV-positive pregnant women (Option B+), given that even more women will require treatment. Zimbabwe's Demographic Health Survey 2010/2011 indicated that 80% of ANC services are provided by nurses, further demonstrating the key role nurses play in the provision of services to women (Figure 1).

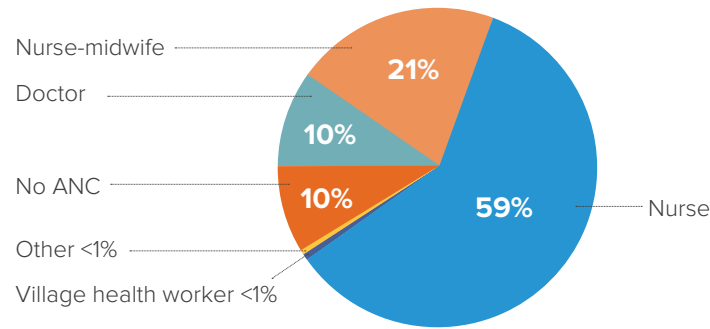


Figure 1. Percentage distribution of providers attending women giving birth in the past five years in Zimbabwe, 2010/2011

Strategies to reduce dependence on highly trained and overburdened physicians and to enable many more staff (nurses, lay counselors) in health facilities to provide PMTCT and pediatric HIV care and treatment services became an area of focus and growth in the effort to implement the 2013 WHO guidelines and decentralize services to MNCH units. With the availability of clear guidance for ART initiation and follow-up of mother–baby pairs, nurses have been incredibly successful in providing and scaling up effective combination antiretroviral prophylaxis, ART, and treatment follow-up services in the sub-Saharan African region. Examples of the success of this task-shifting work can be found in Botswana, South Africa, Uganda, and Malawi.<sup>5</sup> As Table 1 shows, nurses form the largest cadre of the health workforce in Zimbabwe. Enabling nurses to initiate ART and follow up with mothers and babies in PMTCT is a key priority in supporting the successful implementation of Option B+ in Zimbabwe. This approach, however, must be supported by a robust mentoring and supportive supervision program to build the capacity and confidence of nurses to initiate and manage patients on ART.

Occupational Category/Cadre		Doctors	Nurses
2010	Number	916	17,029
	Vacancy rate (%)	48	12
	Health workers per 1,000 population	0.07	1.35
2011	Number	1,054	17,022
	Vacancy rate (%)	40	12
	Health workers per 1,000 population	0.083	1.33
2012	Number	1,059	15,536
	Vacancy rate (%)	40	20
	Health workers per 1,000 population	0.08	1.19

Table 1. Human Resources for Health—Zimbabwe Country Profile<sup>6</sup>





## The EGPAF-Supported Clinical Mentorship Approach

Since 2009, EGPAF has worked to increase the HIV management capacity of nurses and other health care workers throughout Zimbabwe. Capacity building was advanced through the use of didactic training. The aim of the EGPAF-supported instruction was to enable health workers to initiate HIV-positive pregnant, breastfeeding, and postpartum women and children on ART for their own health.

ART initiation among pregnant women and infants remained challenging even after implementation of this skills-building training: only 39% of eligible pregnant women and 7% of HIV-infected infants had been initiated on ART as of December 2012.<sup>7</sup> To understand and address this challenge, EGPAF supported the MOHCC to conduct a survey on barriers to ART initiation for women attending PMTCT services in 2012. The survey revealed that trained nurses lacked confidence in initiating eligible patients on ART. In addition, the lack of integration of ART services within MNCH departments, resulting in pregnant women being referred to specialized ART clinics for HIV care and treatment, was a contributory factor.<sup>8</sup> Informed by these findings, EGPAF supported the MOHCC to develop and implement a clinical attachment (or internship) and mentorship program aimed at building the capacity and confidence of nurses to initiate pregnant women, breastfeeding women, and children on ART in the MNCH settings in which they worked.

### EGPAF ART in MNCH Clinical Mentorship Program Objectives

- Ensure that a large number of health workers attending to pregnant and breastfeeding women are equipped with skills and confidence in initiating adult and pediatric patients on ART and in managing patients on treatment.
- Support the application of classroom learning to clinical settings.
- Increase the number of sites accredited to initiate clients on ART.
- Support the delivery of high-quality HIV prevention, care, and treatment services at all levels.
- Improve the motivation of health workers by providing effective technical support.

Under the EGPAF clinical mentorship model, launched in 2013, completion of didactic training in HIV management is followed by a one-week clinical attachment for nurses at the MNCH or opportunistic infection (OI) clinics. Clinical attachment hospitals were selected using the following criteria:

- Availability of point-of-care CD4 machine or conventional laboratory-based CD4 machine
- Nurse-driven ART initiation
- Initiation of more than 30 patients on ART per month
- ART offered in MNCH on-site
- Early infant diagnosis and treatment offered as per national guidelines

In the mentorship phase, the newly trained nurse shadows a clinical mentor—an experienced staff member providing ART services to clients. Clinical mentors were identified by MOHCC provincial and district managers with assistance from EGPAF; all mentors were currently practicing clinicians who have received basic ART training and have at least one year of clinical practice in ART and OI management. Mentors completed a five-day training course on concepts of clinical mentorship, including adult-teaching methodology and communication skills.

After completing the one-week attachment, a nurse mentee was then visited at his or her own MNCH or OI site every two weeks for three to four months by a multidisciplinary team of mentors consisting of a doctor, a nurse, and a pharmacist (from the district hospital). The mentors were selected by the respective district health executive based on HIV care and treatment experience, willingness to travel, and ability to teach others. This team observed case management, reviewed patient cards and registers, reviewed clinical cases, and documented outcomes of the mentee training.

Each member of the multidisciplinary team played a specific role in support of the mentee:

- The medical doctor took the mentee through the cascade of clinical case management, including pre-initiation lab tests, approved drug regimens, when to initiate ART, when to stop therapy, possible drug side effects and interactions, and management of common OIs.
- The nurse took the mentee through ART counseling, adherence preparation, support, and review of all registers.
- The pharmacist took responsibility for mentoring on drug management—and together the pharmacist and nurse reviewed the pharmacy ART register, stock cards, storage, the counseling of patients, and good pharmacy practice.

Between visits, mentors were available via phone (phone credit was given to the mentor by EGPAF) so that on-the-job clinical management questions could be answered as they arose via phone calls, text messaging, or e-mail. Technical officers from EGPAF joined each mentor team twice per quarter during visits to the mentee sites. After three months of intensive mentorship, these activities were integrated into monthly site support by EGPAF-supported PMTCT district focal persons or district health executive teams.

A phased approach was used to roll out the clinical mentorship program, starting in four targeted provinces that had less than 40% ART coverage among pregnant women in ANC (Manicaland, Mashonaland East, Midlands, and Matabeleland North). The program was subsequently extended to include Masvingo, Matabeleland South, and Mashonaland West. In phase one, one mentoring team covered two districts, but as the program matured each district had its own multidisciplinary team of mentors. Under the leadership of the MOHCC, national semiannual clinical mentorship review meetings were held to share experiences.

#### Mentee Capacity Building: Services Offered by Mentees During Mentorship Program

During the clinical attachment and mentorship period, mentees were expected to offer the following services:

- HIV counseling, including preparing patients for lifelong ART
- Initiation of patients on first-line ART
- Management of acute illnesses and complications
- Routine follow-up and review of patients on ART
- Follow-up of patients who miss clinical appointments
- Completion of medical records/tools
- Ordering, storage, and dispensing of antiretroviral drugs



## Monitoring Processes and Tools

A variety of tools were developed and utilized to track the progress of the mentees and of the mentorship process. These tools included the following:

- **Clinical competency mentee assessment:** This tool was used by mentors to measure the level of confidence and ability of mentees while performing specific HIV/AIDS-related clinical tasks.
- **Clinical mentoring logbook:** This logbook was kept by mentees and used to document all case studies discussed by the mentees and mentors. Each mentee was expected to record at least eight cases of initiating ART and 16 cases for follow-up.
- **Clinical mentoring mentor monthly report:** This standard monthly report form was filled out by all mentors, to collect data on mentoring activities for management and reporting.
- **Clinical mentoring evaluation of mentors:** This confidential evaluation tool was completed by the mentees on a monthly basis.

A standard checklist, utilized by mentors and mentees, was used to guide the clinical attachment and mentorship process. Together with program officers from the respective provincial medical directorates, EGPAF tracked the following indicators to monitor the roll-out and implementation of the program:

### Inputs

- Number of mentor visits to a mentee site (target: six visits in three months)
- Number of sites mentored
- Total hours spent at site
- Number/duration of consultations off-site (per phone)

### Outputs

- Number of health care workers mentored
- Number of health care workers initiating patients on ART
- Number of sites providing OI services
- Number of clients referred for further care

In May 2013, Dr. Precious Andifasi, then district medical officer of the Bindura district, was trained under the EGPAF-supported mentorship program. As part of the program, Dr. Andifasi and her colleagues visited health clinics around the district and mentored staff in management of pediatric HIV cases. “Through the mentorship and the decentralization, we are seeing results now,” said Dr. Andifasi.

As a mentor, Dr. Andifasi now devotes five days each month to visiting clinics around the district, observing ART adherence counseling sessions, and advising local health care workers on how to improve their performance.



## Program Impact

From April to December 2013, 230 mentees from 103 mentee sites completed the clinical attachment and mentorship program. The majority (68%) of the mentees were primary care nurses, with the remaining 32% made up of registered general nurses and state-certified nurses.

Prior to program implementation, it took eligible patients an average of up to two months to be initiated on ART, due to unavailability of ART services at the referring (mentee) site. This wait time for ART initiation was reduced to two weeks or less following the completion of the mentorship program.

In addition, 92% of the 103 mentee sites (94/103) were accredited to become stand-alone ART initiating sites during this period of the clinical mentorship roll-out. This further contributed to improvements in the uptake of ART among HIV-positive pregnant women at the mentee sites, from 27% in March 2013 to 58% by September 2013 and 67% by December 2013.

A total of 168 children under two years of age were initiated on ART at the mentee sites on receipt of HIV-positive results. Prior to the introduction of the clinical mentorship program, all HIV-infected infants were managed at central referral sites.

Nurse-led ART initiation for HIV-positive pregnant women also increased significantly ( $p = .048$ ) for the period October 2012 to December 2013 at the mentee sites versus nonmentee sites (Figure 2).

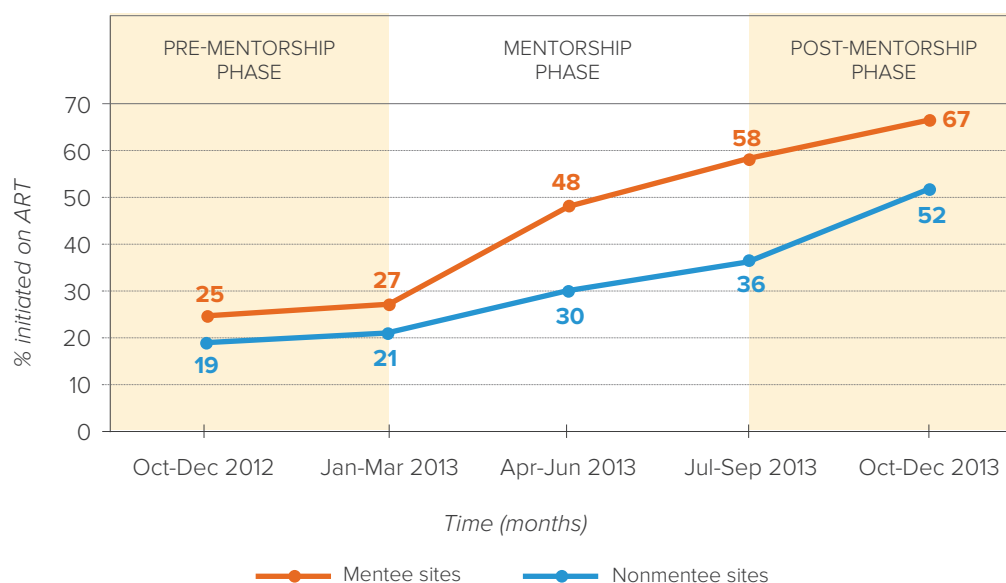


Figure 2. Trend in uptake of ART initiation at mentee and nonmentee sites

The increase in maternal ART uptake was not uniform across the seven provinces, with Manicaland province showing the most improvement (48% increase) and Mashonaland West demonstrating the least (10% increase) (Figure 3). This could be explained by the unique challenges that the mentor teams faced in different districts, as well as varying levels of involvement and ownership of the district health teams.

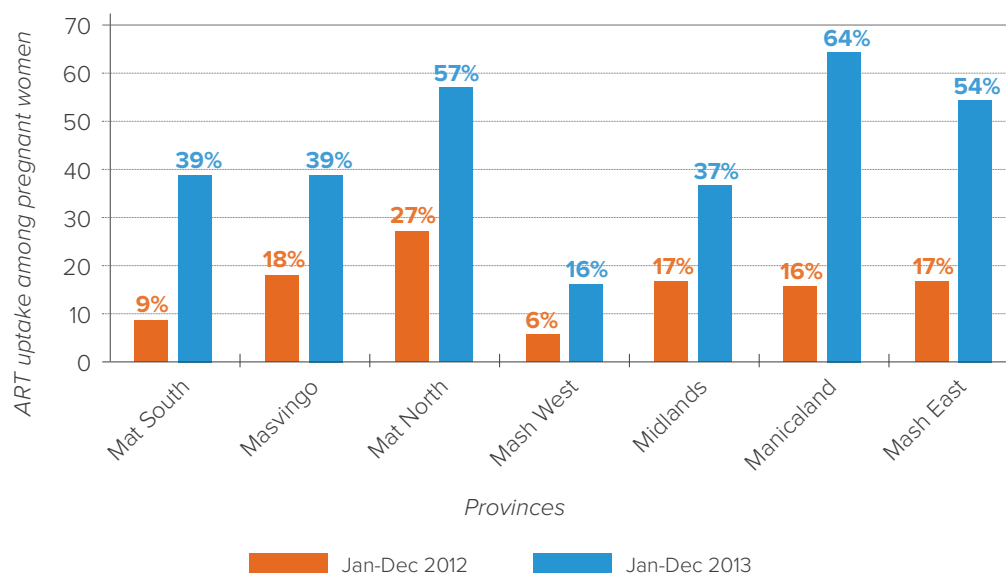


Figure 3. Proportion of eligible HIV-positive pregnant women initiated on ART at mentee sites by province (before and after mentorship program)

In view of the above-mentioned successes of the mentorship program, some of the districts mobilized local resources to complement and sustain the gains of the EGPAF-supported initiative as well as expedite implementation of Option B+. This resulted in an increase in ART uptake at the nonmentee sites, especially during the October-to-December 2013 quarter.



## Lessons Learned

- A standardized mentorship program was seen as acceptable, feasible, and instrumental in the decentralization of ART services.
- Prior to the introduction of the mentor model, mentorship initiatives were not standardized, varying in duration and scope, and there were no guidelines or tools to use. Implementation of the model helped the MOHCC adopt a standardized approach to clinical mentorship.
- Clinical attachment and mentorship built the confidence and clinical skills of nurses, as seen in increased numbers of eligible patients successfully initiated on ART and a reduction in the time between HIV diagnosis and initiation of ART for eligible patients.
- Clinics have an insufficient number of HIV-management-related job aids because these sites initially were not involved in frontline management of HIV-infected patients. This resulted in EGPAF supporting the MOHCC to develop and distribute job aids such as the pediatric ART dosing wheel and the appointment diary (Figure 4).
- Nurses' greatest concern related to decentralization of ART services to primary health sites was the potential high volume of patients, leading to overall increased workload. This concern was based on experiences from the outreach model, where an average of 200 people were being seen per outreach per month. However, through the mentorship program, skills to manage patient flow as well as workload through appointment systems were strengthened. Instead of having one HIV clinic day per month, sites were mentored to offer daily HIV services, thereby spreading the workload from an average of 200 persons being seen on an outreach day to 10 people per day.
- District ownership is a key to successful and sustainable implementation of the clinical mentorship and attachment program.

One of the provincial managers said, "This has actually come late; please go into the field and mentor ... we do not want the outreach method anymore as this is straining us on human, financial, as well as material resources."

(The outreach model entails a multidisciplinary team traveling to offer HIV care and treatment services at selected community structures such as churches, schools, and other community meeting points.)

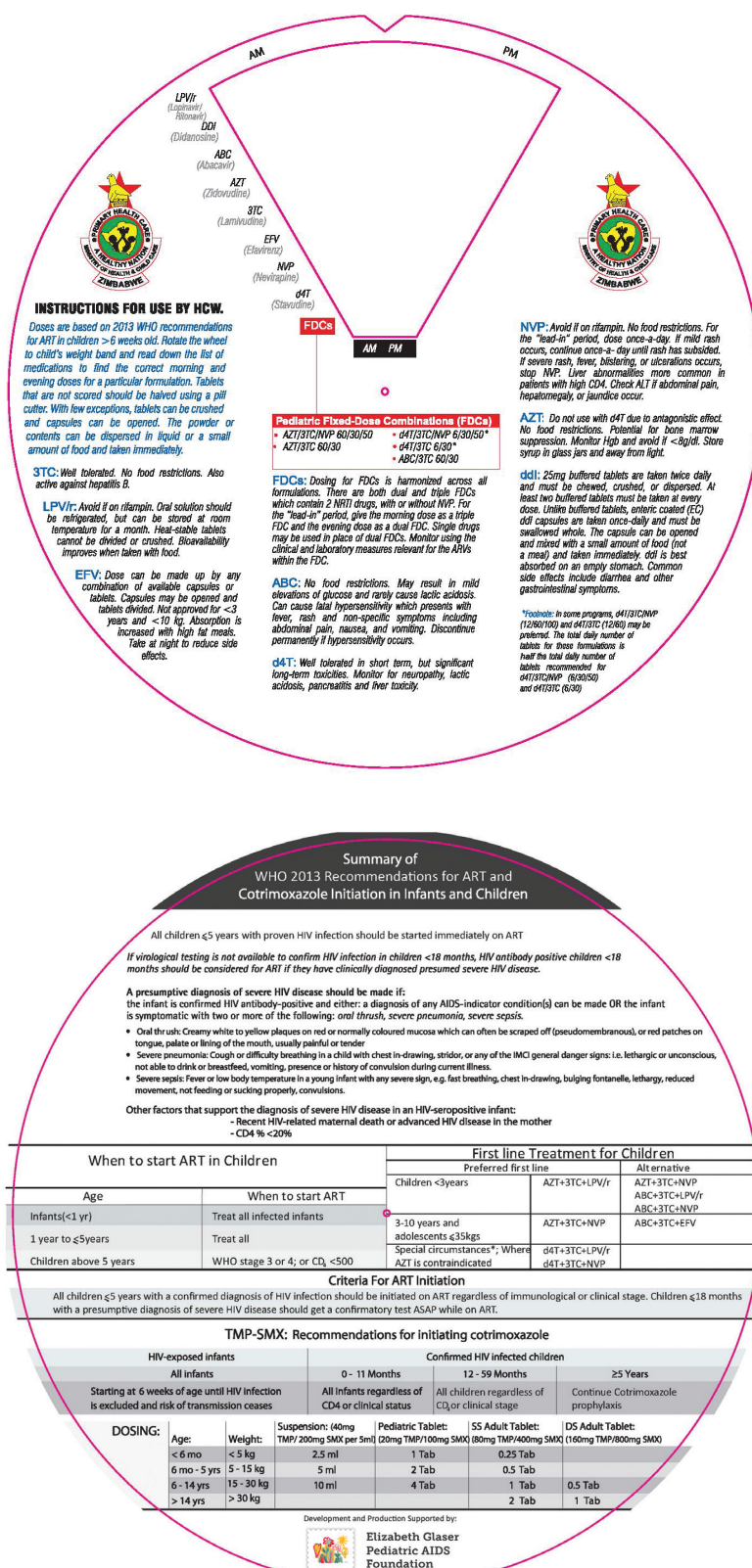


Figure 4. A pediatric antiretroviral dosage wheel, developed by EGPAF



## Challenges

Because mentors in the program were not full-time, they often had competing priorities, and mentorship visits were either postponed or the team would go with one member missing.

Mentor teams initially covered two districts, and that proved to be a considerable challenge during the first phase of implementation. It was especially difficult to synchronize and have the members of the team, originating from two separate districts, all free at the same time.

Another challenge faced was the lack of availability of monitoring and evaluation tools, namely, the newly revised pre-ART and ART registers, as well as the site-based patient booklets and files. This was due to a delay in procurement and distribution of these registers, and therefore some sites were still using older versions of the registers.

One health care worker said, “You know, it has been so disheartening to see a patient deteriorate because they have not been able to make it on the day the outreach team came over and yet that patient has no money to go to the district hospital after you referred them. All this will be a thing of the past if we’re keeping our own medicines and commencing the patients on ART.”



## Conclusions

Clinical attachment and mentorship is a feasible and acceptable approach to building nurses' confidence and clinical skills to initiate and manage HIV care in primary care settings. Support and involvement of the district health management team is a critical factor for the success of this approach.

The clinical mentorship approach should be used by ministries of health to support an accelerated transition to guidelines and strategic plans.

In addition, the gap in pediatric ART coverage in Zimbabwe continues to be a major challenge. According to the Zimbabwe HIV estimates (2013), ART coverage for children up to 14 years of age remains dismally low, at 34.5%, compared with adult ART, which stood at 54.9% based on total numbers of people living with HIV. Clinical mentorship can be used to rapidly scale up pediatric ART and close the gap between adults and children.

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