

Zimbabwe

*Africaid-Zvandiri
Community Adolescent Treatment
Supporters (CATS)*



Table of Contents

BACKGROUND	1
PROGRAM DESCRIPTION: ZVANDIRI'S COMMUNITY ADOLESCENT TREATMENT SUPPORTERS (CATS MODEL	5
COSTING OVERVIEW	20
COSTING METHODOLOGY	22
CLIENT NUMBERS	22
COST CATEGORIES	23
COSTING LIMITATIONS	27
IMACT AND VALUE OF THE CATS MODEL	27
CONCLUSIONS / KEY MESSAGES	35
RECOMMENDATIONS	36

INTRODUCTION

Africaid is a non-governmental organization based in Harare, Zimbabwe (www.Africaid-Zvandiri.org). Through its Zvandiri ('As I am') program, Africaid provides community-based treatment, care, support and prevention services, which complement clinic-based care, for children, adolescents and young people living with HIV. These community interventions are primarily led by community adolescent treatment supporters (CATS), who are HIV-positive adolescents and young people from 17 to 23 years old. As part of an effort to ensure a holistic approach, CATS seek to improve both the psychosocial well-being and health outcomes of their HIV-positive peers. Those objectives are reflected in Africaid-Zvandiri's overall vision:

That HIV-positive children and adolescents are equipped with the knowledge, skills, and confidence to cope with their HIV status, to be happy and proactive about their individual lives, to remain linked with health care systems and to be able to make informed treatment and secondary prevention decisions.

The following activities and associated impacts are among the main reasons the Zvandiri CATS model has been identified as a best practice for the provision of sustainable care and support services for children, adolescents and young people with HIV:

- ***Demand Creation:*** CATS actively seek children and adolescents through 'adolescent corners' in clinics and outreach in the community to promote and increase the uptake of HIV testing and counselling, treatment, care and support.
- ***Task-shifting:*** CATS provide a support system for nurses and providers by positioning themselves as a primary contact in clinics and the community for children and adolescents. Through this support system, health care providers can refer children and adolescents to CATS for pre- and post-test counseling, information, disclosure and treatment adherence support. Those young people often then become Zvandiri clients.
- ***Improved Adherence and Retention:*** Adherence among adolescents is a challenging issue. Through the work of CATS, Zvandiri clients are adhering to their medications and retained in the program.
- ***Improved Technology:*** The program introduced digital tablets for CATS to use in their client monitoring in 2014. Moving from paper to tablets has provided a significant opportunity for improved reporting, quality control, and data management for adherence and retention. The shift to tablets also promises to improve CATS' technological capacities.

Over the years, Zvandiri has been recognized as a highly effective, relevant and innovative program for children and adolescents. Its honors include the following:

- ***Documentation in the World Health Organization's Guidelines on Adolescent HIV, 2013***
- ***Awarded the Auxillia Chimusoro Alumni Award, USAID/PEPFAR, 2013***
- ***Documentation as a regional best practice by the Southern African Development Community (SADC), SAfAIDS and UNICEF, 2012***
- ***Documentation as a model of good practice in an AIDSTAR-One Technical Brief, Transitioning of care and other services for adolescents living with HIV in sub-Saharan Africa, 2012***

BACKGROUND

Status of HIV Epidemic in Zimbabwe

ZIMBABWE HAS A TOTAL POPULATION OF 13 MILLION, WITH ANNUAL POPULATION GROWTH OF ABOUT 1.1 PERCENT.¹ Long one of the countries most affected by HIV, it has a

generalized heterosexually driven HIV epidemic with adult prevalence now of 15 percent, down from over 27 percent in 1997, and HIV incidence of 0.98 percent.² According to the Ministry of Health and Child Care (MoHCC), in 2014 there were 1,420,600 million adults (aged 15–49) and 203,933 children (0–14) living with HIV, and more than 800,000 children in the country had lost one or both parents to AIDS.³ HIV prevalence is slightly higher in urban areas than in rural areas and within the 15–24 age group; also of note is that prevalence among women is 1.5 times higher than among men.

Zimbabwe's tuberculosis (TB) case rate (603 per 100,000 persons) is one of the highest in the world and is largely HIV-driven due to a very

high TB/HIV co-infection rate (at 80 percent).⁴ TB is the second leading cause of adult morbidity and mortality in Zimbabwe after AIDS.

The country has faced a number of severe economic, social and health crises in the last decade, including an unprecedented rise in inflation (in January 2008 it reached 100,000 percent), a severe cholera epidemic, high rates of unemployment, political violence, and a near-total collapse of the public health system. However some progress and improvements have been achieved regarding HIV. Zimbabwe is one of the few countries in which incidence has declined by at least 50 percent between 2001 and 2011⁵ and the number of adults and children dying from HIV-related illnesses dropped from 170,000 in 2003 to about 60,000 in 2013.⁶

National HIV Response

The National AIDS Council (NAC) of Zimbabwe was established in 1999 to coordinate and facilitate the national multi-sectoral response to HIV. The operations of NAC have been guided by a series of policies and strategic plans outlined below:

- Emergency Short Term Plan (ESTP) – 1987
- Mid Term Plan (MTP1) – 1993
- Mid Tern Plan (MTP2) – 1994–99
- National Policy on HIV and AIDS – 1999
- National HIV and AIDS Strategic Framework – 2000–2004
- Zimbabwe National HIV and AIDS Strategic Plan – 2006–2010

- Zimbabwe National HIV and AIDS Strategic Plan 2011 – 2015

In 1999, Zimbabwe became the first country in Africa to introduce a dedicated 'AIDS levy', in this case a 3 percent tax on individuals, companies and trusts to raise money for HIV treatment and prevention programs. In addition to funds raised and allocated in-country, including through the national budget, Zimbabwe receives extensive support from external sources including the Global Fund to Fight AIDS, Tuberculosis and Malaria, which provided \$311 million in 2013

to support the national response. Other external partners include the United Nations Development Programme (UNPD), through which Global Fund money has been channeled, and the U.S. President's Emergency Plan for AIDS Relief (PEPFAR), which in 2014 contributed about \$95 million to HIV programming that targeted prevention, care and treatment support, and health systems strengthening.

Access to HIV Testing

The Zimbabwean government emphasized the importance of voluntary counseling and testing (VCT) for HIV in its National Policy on HIV and AIDS in 1999. National guidelines on HIV testing and counseling (HTC) were developed in 2005 that stipulate the age of consent in Zimbabwe as 16 years. In addition to VCT, the MoHCC introduced provider-initiated counseling and testing (PICT) in 2007 through a policy stating that anyone presenting to any level of health care institution should be offered HIV testing as part of standard service.^{7,8}

Between 2005 and 2014 the total number of health facilities offering HTC increased from 395 to 1,567, and data indicate that a total of 2,274,328 persons aged 15–49 accessed such services in 2013.⁹ According to the Multiple Indicator Cluster Survey (MICS), which was carried out in 2014 by the Zimbabwe National Statistics Agency (ZIMSTAT), 57 percent of people living with HIV between the ages of 15 and 49 know their HIV status. Of all females aged 15–24, about 85 percent were estimated to know their HIV status in 2014 compared with 59 percent of males in the same age group.

1 Zimbabwe Population Census Report 2012; Zimbabwe AIDS Progress Report 2014 (available at <http://www.unaids.org/en/regionscountries/countries/zimbabwe>).

2 Zimbabwe AIDS Progress Report 2014 (available at <http://www.unaids.org/en/regionscountries/countries/zimbabwe>).

3 According to an interview in February 2015 with an MoHCC representative.

4 PEPFAR Zimbabwe Operational Plan Report 2013 (available at <http://www.pepfar.gov/countries/cop/2013/index.htm>).

5 See www.avert.org/hiv-aids-zimbabwe.htm.

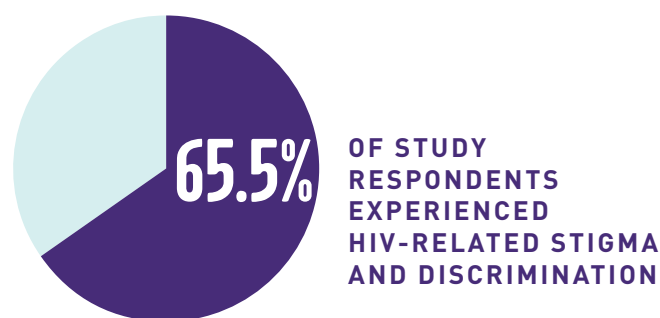
6 According to an interview in February 2015 with an MoHCC representative.

7 See www.avert.org/hiv-aids-zimbabwe.htm.

8 Sibanda EL, Hatzold K, Mugurungi O, Ncube G, Dupwa B, Siraha P, Madyira KL, Mangwiro A, Bhattacharya G and Cowan MF. (2012). An assessment of the Zimbabwe ministry of health and child welfare provider-initiated HIV testing and counselling programme. *BMC Health Services Research* 12:131 doi:10.1186/1472-6963-12-131.

9 Zimbabwe AIDS Progress Report 2014 (available at <http://www.unaids.org/en/regionscountries/countries/zimbabwe>).

HIV-related stigma and discrimination impede testing efforts and limit some individuals' ability and inclination to disclose their status and to seek treatment. In 2014, the Zimbabwe National Network of People Living with HIV/AIDS (ZNNP+) published the results of an HIV stigma index for Zimbabwe. Out of the total of 1,905 respondents who participated in the study (38% male and 62% female), 65.5 percent reported that they had experienced one or more forms of HIV-related stigma and discrimination. The impact and consequences of such barriers can also influence whether or not a person adheres to treatment and stays healthy.



Access to AntiRetroviral Therapy (ART)

The ART program in Zimbabwe was started in April 2004. Largely as a result of Zimbabwe's declining economy during the early 2000s, there was a shortage of antiretroviral drugs (ARVs). In 2002 the government declared the treatment shortage to be a national emergency, thereby allowing Zimbabwe to produce and purchase generic HIV drugs locally under international law, and thereby reducing their cost.¹⁰ Since 2008, both ART initiation and follow-up services have been decentralized to lower-level health facilities, a step that has led to overall improvements in access. At the end of 2014, there were 1,449 ART initiating sites across the country. (The target had been to have all health facilities initiating ART by the end of 2014, but various constraints have meant that 12 percent of facilities were not providing such services by the target date.)

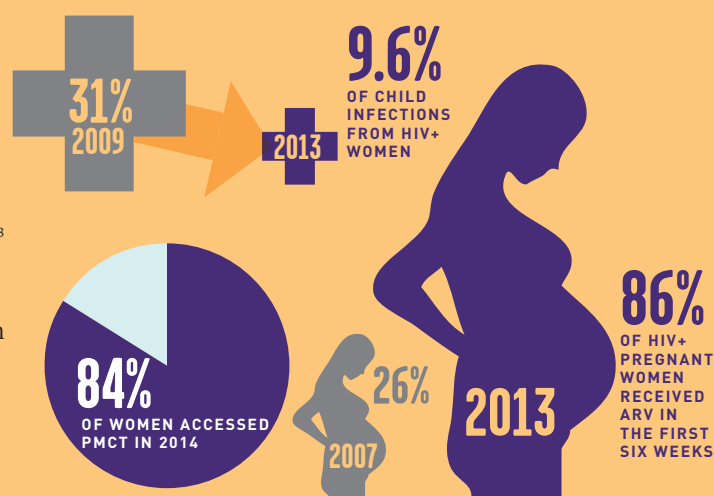
The expansion in sites has occurred as eligibility has increased. Most recently, in 2013, the government adopted the latest World Health Organization (WHO) guidelines recommending that all patients with CD4 counts below 500 cells/mm³ be offered ART. Three years earlier, the government had committed to using a better-quality, tenofovir-containing first-line regimen and then began phasing it in.

The total number of PLHIV receiving ART in Zimbabwe is 665,299 that includes 618,980 adults (77%) and 46,319 children (0-14)(46%) with more than 9,000 PLHIV initiating treatment each month in 2014.¹¹ Yet although the overall number on ART continues to increase, a substantial gap persists given that an estimated 1.42 million of Zimbabweans are currently eligible for treatment.

Access to Prevention of Mother-to-Child Transmission (PMTCT)

HIV PREVALENCE AMONG PREGNANT WOMEN AGED 15-24 WAS 9.6 PERCENT IN 2013, DOWN FROM 12.5 PERCENT IN 2011.¹² In February 2013, the MoHCC decided to adopt Option B+ as its official PMTCT regimen, a step that greatly increased overall ART eligibility. Option B+ recommends providing lifelong ART to all pregnant and breastfeeding women living with HIV regardless of CD4 count or clinical stage of HIV disease. Option B+ has been rolled out in a phased approach since 2013 and was available in more than 1,500 sites by the end of 2014.¹³

Coverage gaps persist, but are narrowing. In 2014, for example, about 84 percent of women in need of PMTCT were estimated to be accessing such services. The share of newborn infections in 2013 was 9.6 percent, down from 31 percent for 2009.¹⁴ One particularly hopeful sign is that the percentage of infants born to HIV-positive women who received ART in the first six weeks was 86 percent in 2014, up from 26 percent in 2007.



¹⁰ See www.avert.org/hiv-aids-zimbabwe.htm.
¹¹ Zimbabwe AIDS Progress Report 2014 (available at <http://www.unaids.org/en/regionscountries/countries/zimbabwe>).
¹² Zimbabwe AIDS Progress Report 2014 (available at <http://www.unaids.org/en/regionscountries/countries/zimbabwe>).
¹³ According to an interview in 2014 with an MoHCC representative.
¹⁴ Zimbabwe AIDS Progress Report 2014 (available at <http://www.unaids.org/en/regionscountries/countries/zimbabwe>).

Adolescent and Pediatric HIV

SUMMARY OF SITUATION

There were a high number of infants infected in the southern Africa region during the 1990s (before the introduction of interventions for the prevention of mother-to-child transmission), and it is anticipated that the number of adolescents in this region who are living with HIV will continue to grow during the coming decade, peaking at <1%–2% of all children aged 10 to 15 years.¹⁵ As noted earlier, there are an estimated 204,000 children (0–14 years) living with HIV in Zimbabwe, most of whom were perinatally infected. Evidence suggests that there are increasing numbers of HIV-positive children who are reaching adolescence, the majority of whom are not yet in HIV care.¹⁶

Yet even though death rates were declining among adults (128,272 in 2005 versus 40,390 in 2014), HIV-related deaths in adolescents rose significantly between 2005 (14 deaths) and 2014 (1,218) in part due to late diagnosis and disclosure, poor adherence to ART and sub-optimal retention in care.¹⁷ As 75 percent of deaths among hospitalized adolescents are attributed to HIV in Zimbabwe, it is crucial that more young people understand the importance of knowing their status so they can access life-saving drugs.¹⁸

ACCESS TO PEDIATRIC TESTING

Efforts to diagnose pediatric HIV remain a major challenge in Zimbabwe despite increased rates of access to PMTCT services and the expansion to Option B+. A key barrier is the limited access to early infant diagnosis (EID) testing, which is a more complex and costly endeavor than standard HIV testing. Estimates reported in recent years suggest pediatric testing coverage of as low as 30 percent in Zimbabwe.¹⁹

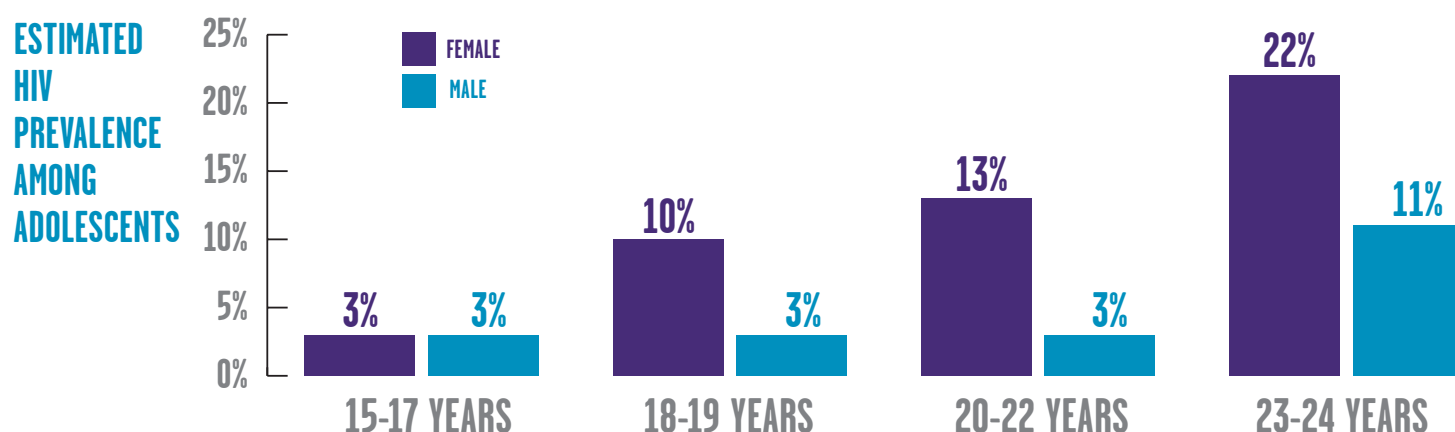
Limited access to effective EID stems from the following challenges:

- **insufficient availability of essential components** (e.g., test kits and reagents, especially at lower-level health facilities in rural areas);
- **chronic capacity constraints** (e.g., long turnaround time for results due to poor management and bottlenecks and under-resourced laboratories);
- **loss to follow-up.**

Some important policy changes offer hope that the situation will improve. By

the end of 2013, for example, 79 percent of facilities offered EID using dried blood spots as the sample method.²⁰ By increasing the use of this simpler and more stable method, the government hopes to boost efficiency and reach. Improving the transportation of HIV test samples to designated district-level collection points is aimed at reducing the turnaround time.

ADOLESCENT AND PEDIATRIC ART ACCESS (SOURCE: UNICEF)



15 Ferrand RA, Munaiwa L, Matsekete J, Bandason T et al. Undiagnosed HIV Infection among Adolescents Seeking Primary Health Care in Zimbabwe *Clin Infect Dis*. (2010) 51 (7):844-851.
16 Ferrand RA, Munaiwa L, Matsekete J, Bandason T et al. (2010). Undiagnosed HIV Infection among adolescents seeking primary health care in Zimbabwe. *Clin Infect Dis*. 51 (7):844-851.
17 According to an interview in 2014 with an MoHCC representative.
18 See www.avert.org/hiv-aids-zimbabwe.htm.
19 Zvandaziva C, Sibanda M, Patel D, Engelsmann B, Mukotekwa T. (2011). Factors associated with uptake of pediatric HIV testing by mothers accessing HIV treatment and care services in Zimbabwe. 6th IAS Conference on HIV Pathogenesis and Treatment / Abstract no. MOPE456.
20 Dr. Tsitsi Mutasa-Apollo, Zimbabwe Ministry of Health and Child Care (MoHCC). Scaling up treatment in Zimbabwe: the path to high coverage. Presentation at IAS Conference 2013

Pediatric and adolescent ART coverage remains low compared with adults: as of the end of 2014, coverage was at 46 percent and 66 percent for children and adolescents, respectively compared to the 77% for adults.²¹ The numerous challenges in accessing treatment, particularly among children, and ensuring their retention in care, include the following:²²

- **distance, cost, and travel time to clinics and hospitals;**
- **lack of treatment availability in clinics and hospitals** due to stock-outs (in particular for pediatric doses of antiretroviral medications);
- **lack of adequate competencies** for pediatric ART and counseling skills;
- **poor linkages** among testing, PMTCT and treatment programs, which leads to poor pediatric ART retention. Similarly, there are weak links between pediatric HIV and other critical wraparound services; and

- **inability to afford medications.** Adolescents do not fall within non-paying groups for ART, and many thus are required to pay fees from \$1–\$6 when picking up medicines.²³ Paying such fees regularly can be difficult for adolescents and families with limited income.

The government and its partners recognize the problems and are seeking to respond by, among other things, i) supporting health workers to overcome treatment eligibility challenges, and ii) expanding and strengthening programming beyond ART provision to include treatment literacy, support groups for children and caregivers, nutrition support and education, and psychosocial services.

Highlighting other past and current challenges to providing services to adolescents and children

Adolescent-Specific Data

There is a need to adapt data collection procedures so adolescent-specific data are available. In terms of HIV service provision, an adolescent is considered to be a young person between 10 and 19 years of age in Zimbabwe.²⁴ However, within the national monitoring and evaluation (M&E) system, although there is disaggregation by age, reports are broken down into three categories: 0–14 years, 15–19 years, and 19+ years of age.²⁵ This can lead to difficulties in data analysis and understanding the context and situation for younger and older adolescents.

Access to HIV Testing & Consent

A recent study in Zimbabwe by the London School of Hygiene & Tropical Medicine revealed that young people are less likely than the general population to get tested for HIV because concerns about guardianship and consent laws discourage clinics from testing children.²⁶ For children and young people under 16 to get tested for HIV in Zimbabwe, a parent and/or guardian is needed for consent. However, emancipated minors (i.e., individual aged younger than 16 years who are married or have children) can give consent independently.

The current consent law can pose challenges for those children who have lost one or both parents and/or are living with relatives or non-family guardians. A common concern among caregivers that has been cited in numerous studies is that testing a child not only exposes his or her status, but also that of the surviving parent and/or guardian. The consequence is that most adolescents under age 16 who want to get tested, but are unable to have a parent or guardian accompany them to a clinic, are left neither getting tested nor knowing their status. Such situations underscore the need to reinforce the testing policies and guidance on consent and guardianship.

Status Disclosure by parents and/or guardians

Status disclosure to children and adolescents is a complex psychosocial process. There are many cases in which parents and/or guardians know the status of a child but have not informed the child of his or her status. Some notable challenges to this process were examined in a recent study.²⁷ One was that

many caregivers believed that their child was too young to grasp the concepts associated with HIV. A second concern for many caregivers was that most children are not mature enough to keep a secret and might share it with others in the community. Support services for parents and/or guardians needing guidance in disclosing HIV status to their children have been limited in urban areas and mostly unavailable in rural settings.

Adolescent Friendly Clinic Services and Psychosocial Support Services

"In addition to the physical changes and emotional ups and downs adolescents experience as they grow from children to adults, HIV-positive adolescents face the challenges of living with a chronic infection, breaking the news to the people close to them and preventing transmission," said Dr. Jane Ferguson, a scientist in WHO's Department of Maternal, Newborn, Child and Adolescent Health.²⁸ Dr. Ferguson's observation reinforces the importance of having child- and adolescent-friendly HIV clinics that can improve uptake of services and retention in care.

With support from donors and the MoHCC, the United Nations Population Fund (UNFPA) is working to strengthen and revitalize the youth-friendly focus of service delivery by creating space in every health facility to address youth issues and integrate health services through its Integrated Support Program.²⁹ Until recently in Zimbabwe, the implementation of these spaces in clinics—known as 'adolescent corners'—was limited in both urban and rural communities.

Such psychosocial support systems are crucial for children and adolescents who have been diagnosed with HIV. Studies have shown that adolescents learn a great deal about HIV and AIDS and its ramifications from their more-experienced peers during peer support groups and sharing sessions.³⁰ The opportunity to share experiences reinforces the learning trajectory around HIV and can build the confidence and empowerment needed to stay healthy and adherent to their medication.

ADHERENCE AND RETENTION IN CARE

It is not just adults who find it difficult to comply with ART regimens. Adherence and retention continue to pose challenges for many individuals in Zimbabwe, regardless of their age or how long they have been on ART. Some people are prematurely stopping treatment regimens after feeling better or upon receiving alleged spiritual healing from religious leaders, among other reasons.

Efforts by the government to improve adherence rates have included further integration and strengthening of treatment care and support programs, and improving referral processes. Government programs have

also utilized the home-based care model using community health workers to implement adherence counseling and support, and encouraging the use of 'treatment buddies'.³¹

Tracking adherence and supporting clients to achieve it would be greatly improved by routine viral load monitoring for all on ART. Such monitoring is only available on a limited basis in Zimbabwe to date. The MoHCC considers viral load testing to be an important future priority and has developed a costed implementation plan to be rolled out in 2015 in a phased approach.

21 According to an interview in 2014 with an MoHCC representative.

22 Dr. Farai Charasika, Director of Programs, World Education, Inc./Bantwana. Presentation: The integrated management of pediatric AIDS care and treatment (IMPACT) approach in Zimbabwe (2013).

23 At the time research for this report was conducted, the government policy stipulated that health services (including all medications) were free of charge for pregnant and lactating mothers, children under five and those aged 60 years and over..

24 UNICEF / UNAIDS 2013

25 USAID (2013). Mapping HIV services and policies for adolescents: a survey of 10 countries in sub-Saharan Africa. Available at www.youngpeopleandhiv.org/files/AIDSTAR-One_Report_Mapping_HIV_Services_Final.pdf.

26 Ferrand RA, Munaiwa L, Matsekete J, Bandason T et al. (2010). Undiagnosed HIV Infection among adolescents seeking primary health care in Zimbabwe. Clin Infect Dis. 51 (7):844–851.

27 Kidia KK, Mupambireyi Z, Cluver L, Ndhlovu CE, Borok M, et al. (2014). HIV status disclosure to perinatally-infected adolescents in Zimbabwe: a qualitative study of adolescent and health care worker perspectives. PLoS ONE 9(1): e87322. doi:10.1371/journal.pone.0087322.

28 WHO (2013). Coming to terms with HIV in adolescence (available at www.who.int/features/2013/adolescents-hiv/en/).

29 USAID (2013). Mapping HIV services and policies for adolescents: a survey of 10 countries in sub-Saharan Africa. Available at www.youngpeopleandhiv.org/files/AIDSTAR-One_Report_Mapping_HIV_Services_Final.pdf.

30 Kidia KK, Mupambireyi Z, Cluver L, Ndhlovu CE, Borok M, et al. (2014). HIV status disclosure to perinatally-infected adolescents in Zimbabwe: a qualitative study of adolescent and health care worker perspectives. PLoS ONE 9(1): e87322. doi:10.1371/journal.pone.0087322.

31 Zimbabwe National HIV and AIDS Strategic Plan 2014 (available at <http://www.unaids.org/en/regionscountries/countries/zimbabwe/>).



Harare CATS Supervision Meeting at Zvandiri House

PROGRAM DESCRIPTION

Zvandiri's Community Adolescent Treatment Supporters (CATS) Model

WHY THE CATS INITIATIVE IS NEEDED

Historically in Zimbabwe, many HIV-positive children and adolescents faced challenges in accessing HIV treatment and care and had limited knowledge of their HIV condition. Additionally, there is insufficient testing among children and adolescents, young people do not have adequate access to psychosocial support, and gaps persist in qualified personnel to test and treat children.

Findings from recent research data in Zimbabwe³² indicate that a large number of children and adolescents are dealing with issues such as stigma, depression, going through puberty with a chronic illness, presenting late for treatment, and struggling with adherence to ART. In addition, young people who are HIV-positive tend to have limited access to adolescent-friendly sexual and reproductive health (SRH) services.

Moreover, the critical issue of adherence (discussed in general above) is especially problematic among HIV-positive children and adolescents. Barriers include:

- **treatment fatigue,**
- **difficulties in remembering to take treatment,**
- **emotional distress,**
- **depression and feelings of despondency, and**
- **the child/youth has not been informed of his or her status and therefore does not understand the importance of staying on treatment.**

Further research on pediatric HIV infection has concluded that untreated children and adolescents are prone to stunting, delayed puberty, and neurocognitive, renal, and bone diseases.³³ Those on treatment, can experience painful and embarrassing side effects such as nausea, skin rashes, headaches, and lipodystrophy (fat redistribution) that can be challenging to live with. Support systems for HIV-positive children and adolescents in Zimbabwe that offer them the consistent and comfortable ability to connect and learn from one another about HIV have mostly been unavailable since the start of the epidemic.

The Zvandiri program emerged as a response to these challenges faced by children and adolescents living with HIV. The program was launched in 2004 when a group of HIV-positive children in Harare decided to establish a support group where they could share experiences and develop skills for growing up with HIV. Amanda, a 14-year-old girl, who was at the first support group meeting in 2004, named the group ‘Zvandiri’. She wanted to say:

“I am a child with HIV, but accept me as I am.”

HOW THE CATS MODEL WORKS

The Zvandiri program provides community-based care and support services for HIV-positive children and adolescents and their families through community support groups, Zvandiri centers, and community outreach teams. The main objective of Zvandiri is to support both the psychosocial well-being and clinical health of children with HIV throughout the continuum of care. Through the CATS model, HIV-positive children and young people develop the knowledge, skills, and confidence to cope with their HIV status, have improved quality of life, and remain linked with health care systems.

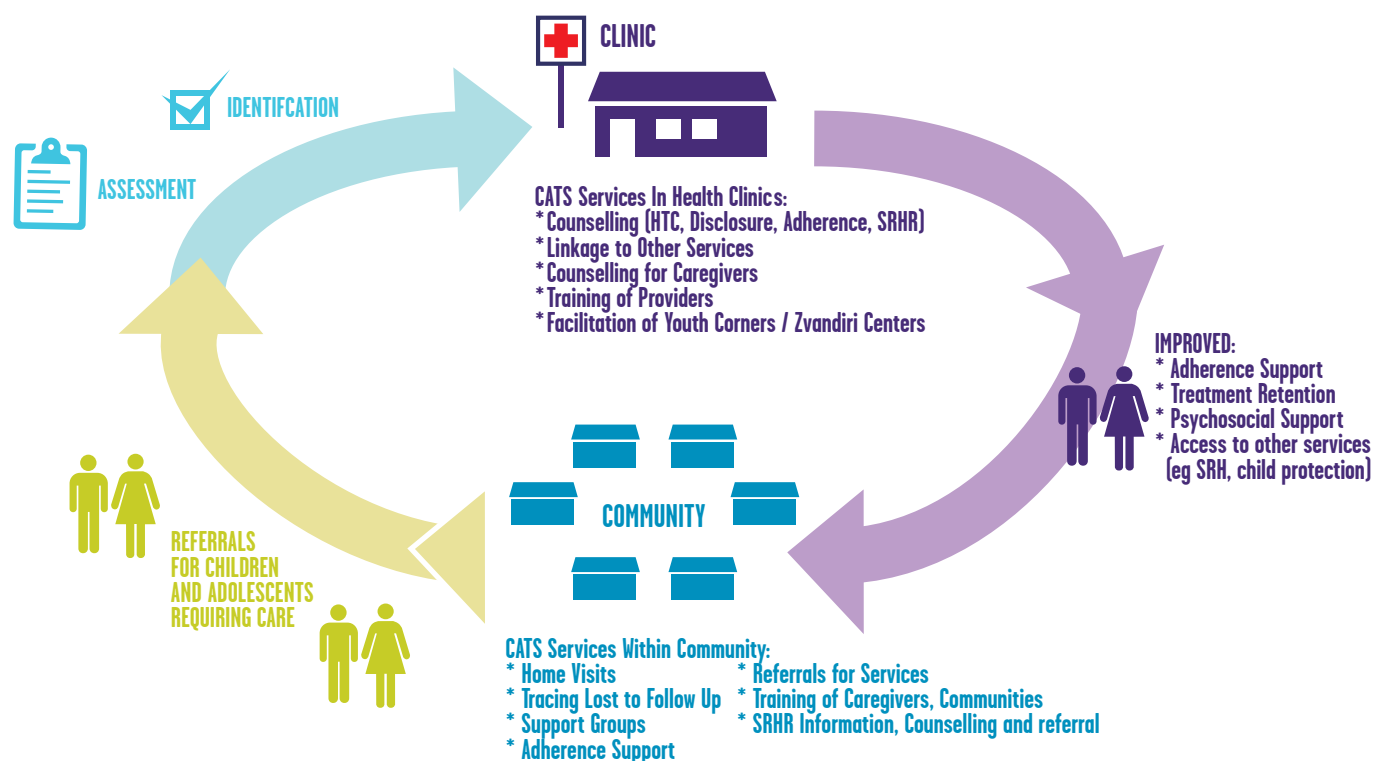
The CATS model was initiated in 2009 and is an integral element in the implementation of the Zvandiri program. The key imperative for the CATS intervention is to support the continuum of care for children and adolescents with HIV. CATS themselves are HIV-positive adolescents who range in age from 17–24 and have been trained and mentored to provide community-based adherence monitoring and support services for their HIV-positive peers. Working within their own communities, they seek to create a safety net through which their peers can be supported around the disclosure process, starting ART, staying adherent, and dealing with the numerous difficulties and challenging associated with being a young person living with HIV.

CATS play a central role in identifying and addressing barriers to adherence and retention through home visits, reminder SMS text messages, and the establishment and running of ‘adolescent corners’ and Zvandiri Centers in health clinics. These in-clinic sites have been a primary point of contact for children and adolescents and the CATS. Other CATS services include collaborating with providers in clinics to strengthen their capacity to meet the needs of HIV-positive children and adolescents (e.g., through provider training); pre- and post-test counseling; disclosure support services; locating clients who have dropped out of care; support with linkage to SRH services through referrals; and facilitating support groups.

³³ Lowenthal ED, Bakeera-Kitaka S, Marukutira T, Chapman J, Goldrath K, Ferrand R. (2014). Perinatally acquired HIV infection in adolescents from sub-Saharan Africa: a review of emerging challenges. *Lancet Infect Dis*; 14: 627–39. Published online 7 January 2014.

FIGURE 1 THE ZVANDIRI APPROACH

SUPPORTING THE CONTINUUM OF CARE FOR CHILDREN AND ADOLESCENTS WITH HIV



All new CATS go through an intensive four-week training before being assigned to a client cohort. This includes two weeks of classroom training and two weeks of training at an ART clinic. After training, CATS are each assigned a cohort of between 75 and 125 clients. The 35 CATS working in Harare each served an average of about 105 patients during 2014.

In response to promising feedback, the MoHCC adopted the Zvandiri program with a particular focus on the CATS model. Forty CATS were trained in 2013 in three other provinces (Bulawayo, Manicaland and Midlands) under the MoHCC, with the total increasing to 100 CATS across all four provinces, including Harare by 2014. Currently, CATS in Harare report to Zvandiri while their counterparts in the three other districts, are supervised by MoHCC staff in clinics. This growth in the number of CATS resulted in an increase in the number of children reached with direct CATS services from 3,031 in 2013 to 5,009 in 2014.

A total of 178 CATS have been trained since the program began in 2009. Many of those who graduated (i.e., reached the age of 24) have either joined the MoHCC primary counselor program as trainees or the Zvandiri vocational skills training program (where they have since attained skills to start their own businesses). Others have gone for further studies at university or moved on to other professional positions. The CATS who resigned left the program because they relocated; wanted to pursue their education at school, college or university; or decided that they were unable to fulfill the role of peer counselor. (Table 1 below further illustrates the breakdown of CATS by status.)

TABLE 1 2009–2014 ZVANDIRI CATS SUMMARY

STATUS	NUMBER OF CATS
ACTIVE	113
GRADUATED	32
RESIGNED	27
DECEASED	6
GRAND TOTAL	178

In 2014, there were a total of 100 CATS actively serving across all provinces. Of those, 71 were attached to 22 health facilities with the remaining 29 CATS based in the community (see Table 2).

TABLE 2 HEALTH FACILITIES SERVED BY CATS IN 2014, BY PROVINCE

NAME OF HEALTH FACILITY	NUMBER OF CATS
BULAWAYO	8
United Bulawayo Hospitals	8
HARARE	6
Mabvuku Poly Clinic	1
Newlands Clinic	2
Rutsanana Clinic	1
Wilkins Hospital	2
MANICALAND	28
Betera Clinic	2
Marange Mission Hospital	1
Munyanyi Clinic	3
Murambinda Mission Hospital	3
Muromo Clinic	2
Mutare Provincial Hospital	4
Nerutanga Clinic	3
Nyagundi Clinic	2
Odzi Clinic	2
Rusape District Hospital	1
Sakubva Clinic	1
St Andrews Mission Hospital	1

St. Joseph Rural Hospital	2
MIDLANDS	28
Kwekwe General Hospital	19
Mkoba 1 Clinic	5
Mkoba Poly Clinic	5
GRAND TOTAL	70

ELIGIBILITY CRITERIA

To be considered and selected for the CATS initiative, an individual must be:

- ***aged between 17–23 (CATS graduate from the program at 24)***
- ***registered as a Zvandiri member,***
- ***committed to the program and supporting peers living with HIV,***
- ***articulate about the needs and experiences of young people living with HIV,***
- ***on ART with a good adherence track record, and***
- ***not currently in school.***

Through the Zvandiri model in Harare, CATS are compensated with a stipend of \$100 per month and also receive transportation benefits for their work and training activities. However, CATS working in the provinces under the MoHCC-led model (Gweru, Buhera and Murambinda) work as volunteer cadres and do not receive any compensation.

Upon reaching age 23, all CATS are partnered with an individual within their client base who is then mentored and trained. A year later, when they are 24, CATS transition out of the program and hand over to their protégé who will take over. This process ensures a level of continuity and ensures a smooth transition once CATS graduate from the program.

CLIENTS SERVED IN 2014

In 2014, the CATS program in Harare served more than 3,800 individual clients and the provincial CATS program registered over 1,100 patients throughout the other three provinces where the model operates.

ROLES AND RESPONSIBILITIES

MAIN CATS SERVICES

Since the CATS program began in 2009, the scope of services has evolved to become better defined and more proactive. In particular, efforts have been made to revise the CATS approach to engaging with clients with the goal of further improving retention in care and adherence to medications. Currently each client receives a standard package of care that includes a home visit at least once a month (and more often if needed),

reminders to attend clinic appointments and support group meetings, and a daily SMS text message reminder on adherence.

CATS provide the same core services regardless of where they serve. However, as illustrated in Table 3, some of their key tasks differ depending on whether they are based in health facilities or within communities.

TABLE 3 MAIN CATS SERVICES

HEALTH FACILITY-BASED CATS	COMMUNITY-BASED CATS
Manage ‘adolescent corners’ and Zvandiri centers within health facilities	Undertake home visits
Provide pre- and post-test counseling (for HIV tests)	Provide pre- and post-test counseling (for HIV tests)
Seek out clients who are lost to follow-up	Seek out clients who are lost to follow-up
Adherence monitoring and support	Adherence monitoring and support
Facilitate support groups	Facilitate support groups
Sexual and reproductive health (SRH) service information and referrals	Sexual and reproductive health (SRH) service information and referrals
Provide disclosure support services	Provide disclosure support services
Facilitate provider trainings	Facilitate community trainings for caregivers, community leaders and other stakeholders
Link children and adolescents in need of community-based care and support to Zvandiri support groups and community outreach	Link children and adolescents in need of HIV testing and counselling (HTC), treatment and care to health facilities
Link children and adolescents to child protection and social welfare services as required	Link children and adolescents to child protection and social welfare services as required

CATS aim to create an enabling social environment through their engagement with providers and nurses in clinics, their outreach in the community and home visits, and through their facilitation of support groups for clients, family members, and caregivers. Additional information about some of the main services is provided below.

REFLECTIONS OF A COMMUNITY-BASED CATS

In an interview, a 21-year-old female participant in the CATS program working within the community reported that she services the Mbare area and has approximately 125 clients in that community who she visits once a month. She sees four clients per day and 16–20 per week during Monday to Friday. Of the 125 she was serving at the time of the interview, 47 were under 19 years of age and the rest were older.

The participant said that each visit's duration varies according to complexity; some visits can last for 30 minutes if it is just a general visit and others can take longer (one hour or more) if a client is struggling with adherence or needs psychosocial support. She reported that she often refers clients to the clinic and liaises with CATS at the health facility to ensure follow-up. Where there are no CATS at the health facility, those based in the community go to the clinic to meet with the staff to check in and get a list of clients to follow up with in the community.

SUPPORT GROUPS

Monthly support group meetings are a forum for children and adolescents to bring out issues in a safe, non-judgmental environment. These support groups at a clinic or in the community are an essential link between CATS and their clients and caregivers. There are 48 community support groups across the four provinces (Harare, Bulawayo, Manicaland and Midlands), with Harare having 44 percent of the total number. Slightly more than 1,000 children and adolescents attended a support group per month across all four provinces in 2014.

The number of clients per support group

currently ranges from a minimum of 20 to a maximum of 50, depending on the area, and a session can run up to four hours. In 2014, the retention rate of clients within support groups was 94 percent.³⁴

The main modules used in 2014 were aimed at increasing understanding of ART among support group members and their caregivers. More specifically, the modules focused on the benefits of ART and why clients need to adhere to their treatment. As part of efforts to improve adherence, the proper use of pill boxes and appropriate storage of pills were discussed.

In addition to adherence, CATS focus on the following during support group meetings:

- ***counseling and mentoring their peers about HIV and AIDS;***
- ***building confidence, self-esteem and resilience;***
- ***clarifying any misconceptions about treatment and secondary prevention;***
- ***providing information on SRH and building skills to negotiate safer sex practices; and***
- ***providing status disclosure support.***

'ADOLESCENT CORNERS'

As noted previously, CATS based in health facilities oversee the 'adolescent corners' in clinics so as to facilitate adolescent-friendly clinical services and increase the uptake of SRH services by adolescents/young people. The Zvandiri Centers that are located on some of the clinic grounds also provide a separate space for children and adolescents to connect with the health facility CATS. This space is ideal as it is separate from the clinic, but still within easy reach of the facility to facilitate referrals, testing, and counseling. Adolescents generally find it easier to speak with and open up to someone of their own age and sex, and therefore are often willing to access information and counseling from CATS.

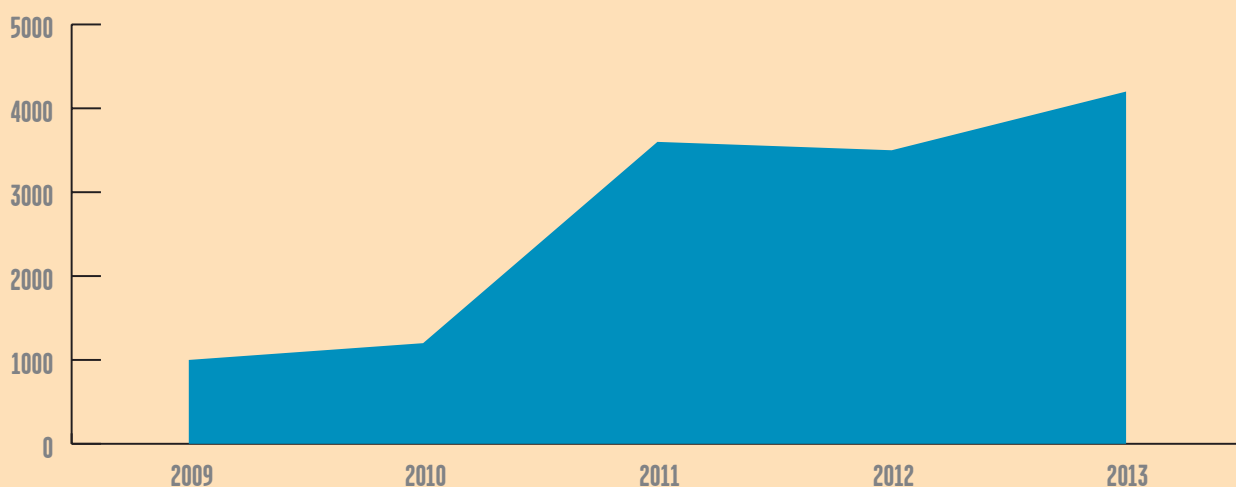
³⁴ This was calculated by dividing the number of clients alive and have been active in support groups in the past 12 months by total number of clients who are registered under support groups multiplied by 100 i.e. expressed in a formula it is Retention Rate = (x/y)100.

HOME VISITS

Home visits with clients are part of the basic package of services provided by community-based CATS and are a key component of the program. Home visits are beneficial not only to clients, but to caregivers as well. The visits provide opportunities for caregivers to identify ways to get involved in the children's health care and lives, including by helping them be better equipped to offer support with adherence as well as encouragement and psychosocial support. Caregiver engagement has yielded promising results, and some children who previously felt stigmatized now report feeling embraced and treated as family.

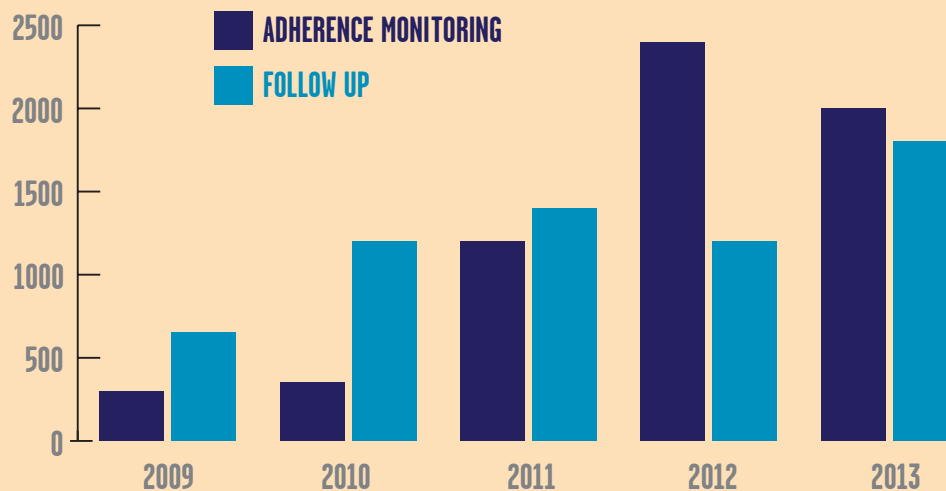
From August 2009 to December 2014, CATS conducted a total of 18,115 home visits in eight districts of Harare province, as shown in Figure 1, of which 12,248 were primarily for adherence support or related follow-up services (see Figure 2).

FIGURE 1
CATS HOME
VISITS
IN HARARE



Some visits were conducted primarily for the purposes of monitoring adherence, and counseling. The follow-up visits provided multiple services including psychosocial support and general health monitoring as well as information for caregivers and clients. The remaining 2,826 home visits were for linking clients to upcoming activities and support groups.

FIGURE 2
CATS VISITS
BY PURPOSE
OF VISIT



In an interview during the site visit, with a primary care counselor at a health facility in Mabvuku that services 240 HIV-positive children and adolescents, she appreciated the value added by having the CATS in the facility. She acknowledged that the CATS have eased the burden and are critical in assisting with HIV-positive young people that come to the health facility. Before the implementation of the CATS model, she reported that there was limited psychosocial support for HIV-positive children and adolescents. Since CATS have been involved, she has seen a huge drop in defaulters and meaningful interaction between CATS and clients that has led to better health outcomes for children and adolescents.

REFERRALS

In collaboration with the MoHCC, CATS also train health service providers (e.g., medical doctors, nurses, and counselors) on the provision of adolescent-sensitive services and caring for and supporting children and adolescents living with HIV. By November 2014, a total of 1,476 health care workers had been trained in providing adolescent-friendly services for HIV-positive youth since the program began in 2009.

KEY FOCUS: ADHERENCE AND RETENTION

Maintaining treatment adherence for adolescents is fundamental not only to ensure treatment success and longevity but also to prevent HIV transmission. In 2014, Zvandiri reported a 90 percent retention rate among clients served by CATS, as calculated by a formula that includes the number of active clients on ART in the program by the end of the quarter who received direct support (home visits, clinic review reminders); the number of new clients; the number of clients traced back to the program; the number of clients on ART by the start of the quarter; the number of clients lost to follow-up during the quarter; and the number of deceased clients during the quarter.

Discussions on treatment adherence among peers have led to better understanding of the importance of staying adherent. By working with CATS, adolescent clients more fully understand the importance of anti-retroviral medications and the potentially debilitating and deadly effects of non-adherence.

Counseling on issues regarding adherence is usually done during home visits and, ideally, involves both clients and their caregivers. One method used to monitor adherence is pill counting using a pill box provided to each client by Zvandiri. The pill box is a compartmentalized unit with slots—Sunday to Saturday each with morning, afternoon and evening compartments—in which a client prepacks medication for the week. When CATS perform their monthly home visits they check whether pill boxes are being used and medication taken as prescribed.

The introduction of digital tablets for data collection in September 2014 already has shown great promise in helping improve adherence monitoring. The tablets are used to collect data on demographics, ART regimens and adherence monitoring. During a CATS visit, each client is asked to complete a self-report adherence assessment on a digital tablet and an adherence measure is automatically generated for the client. A picture is taken of where the medications are stored and the amount of pills in the pill box. This information is uploaded onto the Zvandiri server and analyzed each month.

CATS also use the digital tablets to send SMS texts to remind clients to take their medication. These texts are written in a code that only clients know in order to ensure confidentiality, a particular vital priority for clients who do not have their own phones. (If a client does not have a phone, SMS texts are sent to a caregiver who then passes on the message to the client.) CATS have also created a 'WhatsApp' group chats where clients can discuss any issues that are affecting them as well as get updated information on HIV, treatment, and relevant community events.

SELF-REPORTED TREATMENT ADHERENCE SUMMARY

Data and information regarding adherence have been more efficiently captured since Zvandiri introduced the digital tablets in 2014. Data on self-adherence reporting were collected from 236 children in January 2015, and some results are summarized in Tables 1 through 4 in this text box. As shown in Table 1, the majority (78 percent) of the children who participated in the January 2015 survey reported an adherence rate of more than 90 percent.

Seventy-eight percent (78%) of the clients surveyed indicated that they did not have any problem taking ART, although most acknowledged a number of challenges that they sometimes face. As noted in Table 4 below, the most commonly cited challenge (48 percent) was forgetting to take their medicines at prescribed times. In addition, a significant number reported that they failed to take their drugs on time because they were traveling (20 percent), were tired of being on ART (10 percent), or were just not able to take their medicines on time (13 percent).

BOX TABLE 1 ADHERENCE RATE BY SEX

GENDER	ADHERENCE >90%		
	<90%	>90%	
FEMALE	22%	78%	100%
MALE	22%	78%	100%
TOTAL	22%	78%	100%

Source: Africaid, January 2015

BOX TABLE 2 ADHERENCE RATE BY AGE RANGE

AGE RANGE	ADHERENCE >90%		
	<90%	>90%	
(5 – 9)	10%	90%	100%
(10 – 14)	28%	72%	100%
(15 – 19)	19%	81%	100%
TOTAL	22%	78%	100%

Source: Africaid, January 2015

BOX TABLE 3 DIFFICULTY IN TAKING ART AND ADHERENCE RATES

DIFFICULTY TAKING	ADHERENCE >90%	TOTAL	TOTAL
	<90%	>90%	
NO	18%	82%	100%
YES	33%	67%	100%
TOTAL	22%	78%	100%

Source: Africaid, January 2015

BOX TABLE 4 REASONS FOR CHALLENGES ADHERING TO ART

ADHERENCE	SHARE OF SURVEYED CLIENTS*
CHANGE OF ROUTINE	2.5%
FAILED TO TAKE ON TIME	12.5%
FELT TIRED OF TAKING THEIR MEDICINES	10%
FORGOT	47.5%
RAN OUT OF DRUGS	2.5%
TRAVELED	20%
DRUGS' UNPLEASANT TASTE	5%
TOTAL	100%

* Clients were asked to select only one main challenge each.

Source: Africaid, January 2015

The above information on adherence is used to track clients who have failed to report an adherence rate above 90 percent and for identifying and addressing their challenges. Two clients who had reported an adherence rate lower than 90 percent in the previous week prior to the assessment revealed that they had failed to attend their last doctor's review for medicine prescription and hence had missed subsequent doses. The CATS intervention in such circumstances is to provide adherence counseling and to linking the clients with a health facility as well as to provide intensified follow-up support to ensure adherence. CATS follow up defaulters through home visits and at schools as a result of their commitment to enhance treatment adherence among their peers.

SERVICES PROVIDED AT DIFFERENT SITES: HEALTH FACILITIES AND IN THE COMMUNITY

As indicated earlier, CATS operate i) in the community or ii) within a health facility supervising its 'adolescent corner' or at a Zvandiri center located on the clinic grounds. CATS based at a health facility work closely with clinic staff to counsel clients who have just tested positive, to assist with disclosure and adherence counseling or other psychosocial issues, and then to liaise with community-based CATS who follow up clients in the community.

In four health facilities in Harare, CATS provided 285 pre- and post-test counseling sessions during 2014. On average, CATS take 30 minutes per session (e.g., for pre-test and post-test counseling sessions); however, the amount of time depends on the individual and the test results. The number of pre- and post-test counseling sessions provided through the program in Harare in 2014 is summarized below (Table 4).

TABLE 4 HTC-RELATED COUNSELING SESSIONS UNDERTAKEN BY CATS IN HARARE IN 2014

	MALE	FEMALE	TOTAL
PRE-TEST	23	28	51
POST-TEST	114	120	234
TOTAL	137	148	285

Other key areas of work for community-based CATS include identifying children within the community who need to get tested; assistance with access to treatment; and providing referrals for other services (e.g., birth registration, deceased estate management, education assistance, SRH services, medication support, and HIV-related tests such as viral load and CD4 count).

The total number of clients reached with youth friendly SRH services in 2014 was 374. In addition to referrals for those who need immediate clinic services, CATS provide information and condoms. Their support enables sexually active adolescents to access family planning services, which is important given the high adolescent fertility rate in Zimbabwe of 115 births per 1,000 women aged 15 to 19 years.³⁵

35 UNFPA 2013.

The total number of **referrals** made in 2014 was 626 (see Table 5). Tables 6 and 7 below provide additional referral overviews of the age ranges and assessed risk levels of community-based CATS clients in 2014.

TABLE 5 OVERVIEW OF REFERRALS MADE BY COMMUNITY-BASED CATS IN 2014

TYPE OF REFERRAL	FEMALE	MALE	TOTAL
HEALTH: MEDICATION ³⁷	101	75	176
HIV TESTING AND COUNSELING	65	54	119
EDUCATION ASSISTANCE	74	45	119
BIRTH REGISTRATION	27	26	53
HEALTH: TREATMENT ³⁸	30	15	45
HEALTH: CD4 COUNT	24	17	41
CERVICAL CANCER SCREENING	38		38
ABUSE	9	7	16
NUTRITIONAL ASSISTANCE	4	4	8
LEGAL ASSISTANCE	3	4	7
DEATH REGISTRATION ASSISTANCE	2	2	4
TOTAL	377	249	626

TABLE 6 AGES OF COMMUNITY-BASED CATS CLIENTS IN 2014

AGE RANGE	FEMALE	MALE	TOTAL
(5 – 9)	19	13	32
(10 – 14)	119	92	211
(15 – 18)	152	97	249
(19+)	87	47	134
TOTAL	377	249	626

³⁶ The medication sub-category includes all referrals for access to ART, adherence issues, and treatment regimen change.

³⁷ The treatment sub-category refers to all referrals on treatment of opportunistic infections (OIs), treatment site transfer, and assistance with funds to pay for consultation fees (among other things).

TABLE 7 RISK LEVELS OF COMMUNITY-BASED CATS CLIENTS³⁸

LEVEL OF RISK ³⁹	FEMALE	MALE	TOTAL
HIGH RISK	164	114	278
LOW RISK	38		38
MEDIUM RISK	175	135	310
TOTAL	377	249	626

“I got to know them [CATS] last year in December because I had gone for three months without taking my medication so my stepmother figured it out and brought me to the clinic. Then when I was attended [by nurses] they said ‘she needs to go to those her age’ [CATS] so that they can explain to her how these things go. Then I came here [to the Zvandiri Centre] and I was counseled and helped.” —Zvandiri client

“The nurse who works at Wilkins [an OI hospital] referred me to Maud [a member of the CATS Team] and they started to speak to me—and Maud said, how come we are also taking medication and nothing has happened to us. So Maud and the guys counseled me and prescribed three counseling sessions, daily. So I went and after the counseling I understood. Maud is the person that really helped me to the point where I am taking my medication now without skipping. Maud really counseled me; she would even visit me at home and I accepted that this is who I am [Zvandiri].” —A Zvandiri client who became very ill due to failing to adhere to treatment

SUPPORT SYSTEMS FOR CATS

CATS are closely supported by members of the community outreach team who are paid Africaid-Zvandiri staff. The Outreach team act as a supervisory and supportive role to the CATS to ensure the provision of quality services for clients. The team is comprised of a nurse counselor, social worker, outreach worker, and psychologist. During home or clinic visits, CATS sometimes encounter challenging cases that they then refer to outreach teams for follow-up. Some of the challenges most likely to prompt referrals to outreach teams include lack of school fees, food shortages, and physical or other kinds of abuse. In such situations, Zvandiri works closely with its own social worker as well as the Child Protection Services under the Ministry of Social Welfare to obtain assistance as well as for more extensive referral services.

An integral part of the CATS supervision and support system includes a weekly debrief meeting at the Zvandiri House. These meetings are a forum for CATS to discuss challenging cases, plan the upcoming week, submit data monitoring forms, and implement quality Improvement (QI) measures. They are also opportunities for them to ‘check-in’ and discuss any personal challenges or issues they are facing. The weekly

³⁸ ‘High risk’ is defined as all cases that require a response within 24 hours, and include (among other things) child protection issues such as abuse and health-related issues associated with treatment and medication. ‘Medium risk’ cases are those that require a process to be followed such as HIV testing and counseling and child welfare issues such as birth registration, education assistance and legal assistance. However, if any of these cases normally considered ‘medium risk’ are further evaluated as having a significant impact on child protection and health of the child, the referral becomes high risk.



sessions also help CATS to share news about clients who have relocated and liaise with CATS from relevant areas to follow up. This support system is an essential component to the model because it is through these weekly sessions that CATS get consistent supervision and feedback.

TRAINING

Trainings are critical to building the capacity of CATS to provide services and support to their client cohort. Trainings are conducted quarterly and CATS are brought together for a two-day in-service training at Zvandiri House to ensure they are up to date on any developments in treatment and care guidelines and protocols. Topics can include counseling techniques; how to work in the community; how to approach a client/caregiver; information on HIV and Issues around the virus and epidemic, SRH, treatment, PMTCT etc. Refresher trainings are also conducted as needed.

COSTING OVERVIEW

As part of an effort to provide insight about the resource implications of implementing a best practice – including scaling it more broadly through the public sector, the study team for this report conducted a costing analysis to identify the costs of CATS service delivery on a per-client basis. The team reviewed both the CATS program as administered through Zvandiri in Harare and the MoHCC-led model in the other three provinces. When comparing the Harare and provincial programs, it is important to note a few important differences that have significant impacts on their respective costs:

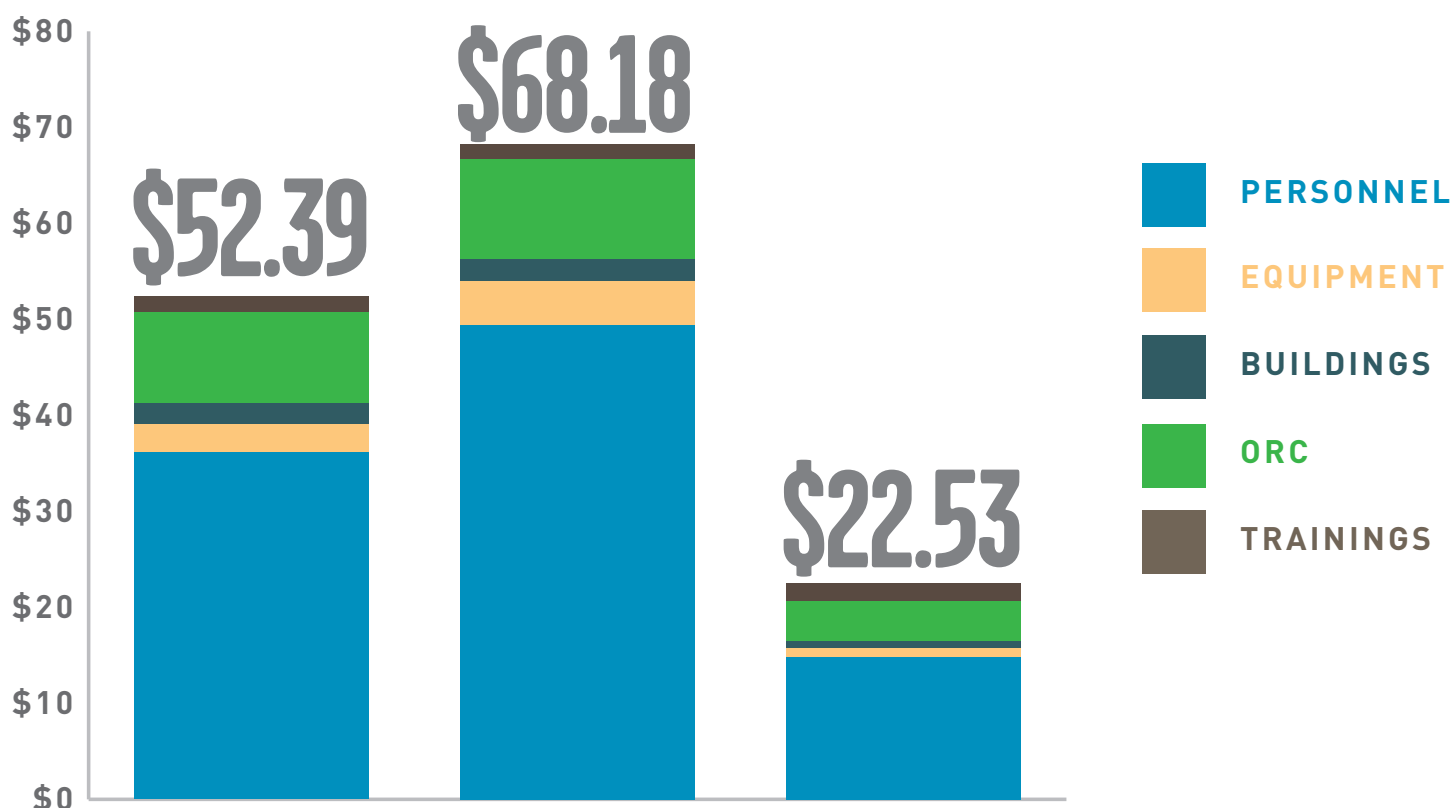
- **CATS' compensation:** Through the Zvandiri model in Harare, CATS are compensated with a stipend of \$100/month and also receive transportation benefits for their work and training activities. However, CATS working in the provinces under the MoHCC-led model work as volunteers and do not receive any compensation.
- **Joint MoHCC/Zvandiri support in the provinces:** While the CATS program in the provinces outside Harare is MoHCC-led, Zvandiri supported the ministry in adapting and implementing the existing model to best suit the MoHCC's available financial and human resources. Although MoHCC is leading this effort, Zvandiri continues to provide technical support, particularly for training and development of adolescent-friendly spaces at MoHCC sites. For this reason, the costs of the provincial program include both MoHCC salaries, buildings and equipment but also a portion of Zvandiri salaries, buildings and equipment. In the future, it is expected that Zvandiri's support role will decrease somewhat over time as the MoHCC continues to scale up the program.
- **Total number of clients:** The number of clients served by the provincial program is still much lower than in Harare, which is not surprising given that the program was only two years old in 2014 and was still building its client cohort. (In contrast, the Harare program was already five years old in 2014.) With scale-up, it is assumed that the costs of the provincial program will decrease on a per-client basis as shared costs are spread over a larger number of clients.

In 2014, Zvandiri's CATS program in Harare cost \$52.39 per-patient, per-year (PPPY), while the provincial program cost \$68.18 PPPY. For both programs, personnel were the primary cost driver, including the supervisory and administrative staff that supports CATS' service provision.

When considering the overall care and treatment of HIV-positive adolescents, it is important to note that these costs are supplementary to the costs of facility-based ART treatment—as the aim is to improve the treatment outcomes and overall patient quality of care through the provision of psychosocial support services.

FIGURE 4 CATS COSTS BY PROGRAM TYPE

CATS PROGRAM COSTS PPPY	PERSONNEL	EQUIPMENT	BUILDINGS	ORC	TRAININGS	TOTAL
1. HARARE ZVANDIRI-LED	\$36.13	\$2.93	\$2.23	\$9.42	\$1.68	\$52.39
2. PROVINCES MoHCC-LED WITH ZVANDIRI SUPPORT	\$49.44	\$4.49	\$2.30	\$10.48	\$1.48	\$68.18
3. PROVINCES MoHCC-LED WITH ZVANDIRI SUPPORT (AT SCALE-UP)	\$14.83	\$0.84	\$0.77	\$4.23	\$1.86	\$22.53



Going forward, as the MoHCC further scales up the program in the provinces, modeling suggests that the program could be maintained at a cost of ~\$23 per beneficiary per year. This 67 percent decrease (from \$68.18 PPPY) is primarily due to an expected increase in the number of clients served through the provincial program, which would allow shared costs to be spread across a larger number of beneficiaries. In Harare in the future, the expectation is that costs will remain similar to 2014 data since the cohort in Harare is already well established and is expected to grow at a slower rate than the provinces program. The full costs and client numbers for each program (Harare vs. the other three provinces) are described below in depth.

COSTING METHODOLOGY

The analysis sought to identify costs specific to the provision of services to adolescents through the CATS program, including CATS-led adherence support groups, facility-based counseling and support services, and home visits.³⁹ Data were collected for a 12-month period (January–December 2014) to capture the annual costs of maintaining the program in both Harare and the three other provinces.

Researchers primarily used a top-down costing approach for this analysis; this consisted of comprehensively collecting all the resources used for the program in 2014 and then allocating a portion of them to the CATS program. For shared Zvandiri resources (e.g., Zvandiri staff acting as provincial mentors or supervisors), CATS-specific costs were then allocated to either Harare or the provinces as appropriate. Researchers divided total costs by the number of patient years to arrive at a unit cost—the cost per-patient, per-year.⁴⁰ As in ART costing, a patient year unit combines the number of clients with time receiving the service, and is calculated by adding the number of clients receiving the service each month and dividing by 12 to arrive at a patient year. One patient year may be formed of a single client who received continuous care from January through December, or for example, by four clients who each received the service for only one quarter in the same costing year.

CLIENT NUMBERS

In 2014, the CATS program in Harare served more than 3,800 individual patients, accounting for 3,663 total patient years. Thirty-five CATS were active during 2014, which implies that every CATS served an average of 105 clients during the costing year. The Harare cohort has grown each year as Zvandiri has increased its capacity to serve larger numbers of patients through the CATS program—and as ART facilities across Harare refer more patients to Zvandiri for adherence support and psychosocial counseling.

At the same time, the MoHCC is currently leading service provision through the CATS-model in three provinces outside of Harare, a separate but associated initiative that began in 2012. In the provinces, 100 CATS were active in 2014, and the program served over 1,100 patients, accounting for 1,038 total patient years. This implies that CATS served an average of 11 patients each during the costing year. Although the client load is much lower in the provinces than in Harare, which is expected to change as the program becomes better known and as the CATS continue to enroll additional patients.

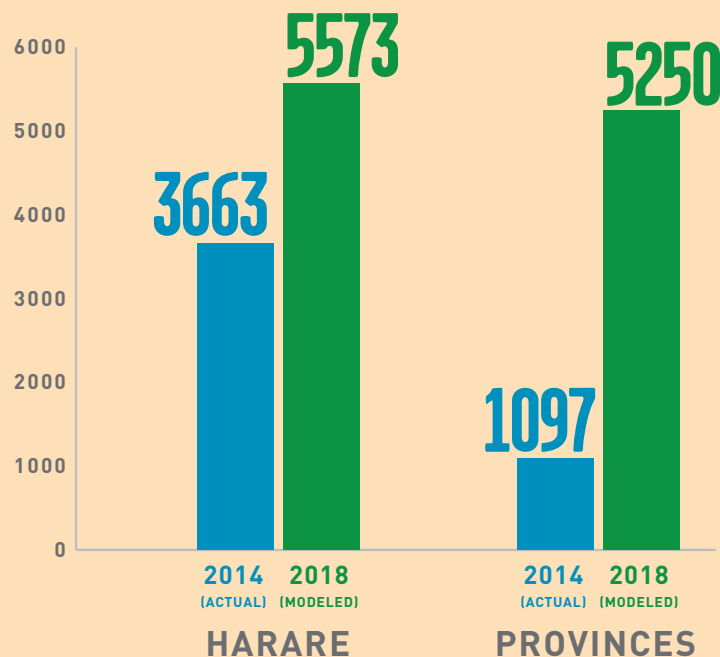
Given that the provincial program is still in the early stages of its implementation, this analysis also sought to estimate costs at expected scale-up levels in 2018. For the forward looking analysis, analysts assumed that each of the 100 CATS assigned to the provinces would increase the number of average number of patients served per year from 11 to 53. (This would increase the efficiency of the CATS program, but the target

³⁹ Harare-based CATS are responsible for regular home visits for their assigned cohort of clients. However, if they encounter a particularly challenging case (e.g., an instance of child abuse), they are expected to alert Zvandiri community outreach teams, which comprise a nurse, counselor and social worker. Those teams then conduct a follow-up home visit with the child and family. The costs of the outreach teams are also included in this analysis as they are considered critical to the CATS program.

⁴⁰ Zimbabwe currently uses the U.S. dollar as its primary currency. For this reason, all costs were collected and analyzed in U.S. dollars, without making any conversions.

number of clients per CAT would nonetheless still remain only about half that of the Harare program given that catchment areas are more rural in the provinces, thereby requiring greater travel time to reach clients during home visits.) With these estimates, the provincial program would be expected to serve 5,250 patient years, a 378 percent increase from 2014. In comparison, in 2018, the model estimates that the Harare-based program would continue to grow at a rate of 15 percent per year (based on 2014 growth rates), given that the program is older and more established. Total patient years in Harare in 2018 are assumed to grow to 5,573, a 52 percent increase over 2014 patient years. (See Figure 5.)

FIGURE 5 TOTAL PATIENT YEARS, CURRENT AND FUTURE PROJECTIONS



COST CATEGORIES

PERSONNEL

Personnel was the primary cost driver of the CATS program in 2014, accounting for ~70 percent of total costs PPPY in both Harare and the provinces (69 percent in Harare and 73 percent in the provinces). As the program is largely focused on counseling and psychosocial support to supplement facility-based treatment services, personnel time devoted to each client (e.g., from CATS, nurse supervisors, counselor supervisors and indirect staff) can be intensive, and other costs are relatively low. However, overall personnel costs are also mitigated by the role of the CATS as a peer-led cadre, who largely volunteer their time. (As noted previously, CATS in Harare are compensated through a stipend of \$100/month but their counterparts in the other provinces do not currently receive any compensation.⁴¹)

Personnel costs for the Harare program totaled \$36.13 PPPY, which includes the costs of CATS, Zvandiri staff who supervise and train CATS, and the broader indirect personnel cadres that support the overall function-

⁴¹ Although CATS working outside of Harare do not receive a stipend, the MoHCC is supportive of CATS working toward a certification for a primary counselor cadre. Those who are in that track are eligible for a stipend of \$190/month.

ing of the Zvandiri CATS program (e.g., M&E staff, finance, etc.) In Harare, two-thirds of total personnel costs were attributed to direct personnel costs, which for the purpose of this analysis include all staff who are client-facing (i.e., CATS), as well as the CATS' direct supervisors.

Personnel costs in the provinces were slightly higher than the Harare program, totaling \$49.44 PPPY. This does not include any costs for the CATS since they do not receive a stipend in the provinces. However, it does include MoHCC supervisory staff for the 100 CATS throughout the provincial program. (At each of the 18 facilities with CATS-support, there are MoHCC primary counselors and nurses who act as supervisors to the CATS.) Provincial personnel costs also include a portion of staff time from key cadres at Zvandiri who are supporting the MoHCC with provincial scale-up.

With scale-up, modeling shows that personnel costs in the provinces would be expected to decrease to \$14.83 PPPY by 2018.

BUILDINGS AND EQUIPMENT

Buildings costs contributed very little to the overall cost of the program, accounting for \$2.23 PPPY in Harare and \$2.30 PPPY in the other three provinces. Although a large portion of CATS' work, particularly in Harare, is done through community-based home visits or community-based adherence groups, there are some important centrally located buildings that support the program. Zvandiri's office in Harare ('Zvandiri House') is the main meeting and training space for CATS. For those based in Harare, Zvandiri House is the location of all weekly and quarterly training sessions and supervisory sessions. Some costs of Zvandiri House are also allocated to the provinces program, given the support role that Zvandiri still plays in the MoHCC scale-up process. For example, through Zvandiri House's computer lab, Harare-based CATS provide peer-to-peer training via Skype for CATS based in the provinces. (All costs associated with Skype-based training are included in the 'Running costs' section below.)

Aside from Zvandiri House, buildings costs are derived from the facility-based areas that CATS use to provide adolescent-friendly care and support. In Harare, this includes four stand-alone buildings that are designated as 'Zvandiri Centers' where adolescents can congregate, receive counseling and education services, and participate in adherence support groups. Buildings costs for the provinces are driven primarily by the costs related to the 18 MoHCC health care facilities where CATS provide adolescent care and support services. In most of these facilities, a corner or side room has been designated as an adolescent corner and is staffed by CATS.

Equipment costs were also limited on a per-client basis at \$2.93 PPPY in Harare and \$4.49 PPPY in the provinces. There are no medical equipment costs related to the CATS program, so most equipment costs refer to furniture and other materials used to support counseling and other care and support services to clients. Key elements include children's books, board games and televisions, which are purchased for each Zvandiri Center in Harare and for each of the CATS-supported facilities in the provinces. For the Harare program, equipment costs also include the digital tablets that were provided to all CATS in 2014 to track their client outreach. Costs were annualized for these tablets and other equipment used on a longer-term basis, such as televisions, etc.



With scale-up, modeling shows that buildings costs in the provinces would be expected to decrease to \$0.77 PPPY and equipment costs would decrease to \$0.84 PPPY by 2018.

RUNNING COSTS

The analysis also sought to capture running costs of the CATS program, including utilities, fuel, internet, telecommunications and snacks and beverages that are provided to clients. Running costs amounted to \$9.42 PPPY in Harare and \$10.48 PPPY in the provinces; they were driven primarily by transport/fuel costs, which make up 66 percent and 47 percent of total running costs in Harare and the provinces, respectively.

In Harare, running costs also include transport reimbursement for all CATS to cover travel to the weekly training/supervisory session at Zvandiri House and all transport costs related to home visits. In the provinces, CATS do not currently receive any transport reimbursement. However, anecdotal evidence suggests that this policy may result in CATS spending more time at facilities and less time engaging with patients in the community, which could have a negative impact on efforts to successfully retain clients in the CATS program.

With scale-up, running costs in the provinces would be expected to decrease to \$4.23 PPPY by 2018.

TRAININGS

Trainings are critical to building the capacity of CATS to provide counseling and support to their patient cohort. In Harare, the CATS program includes three kinds of trainings:

- **Orientation Training:** All new CATS go through an intensive four-week training before being assigned to a client cohort. This includes two weeks of classroom training and two weeks of training at an ART clinic.
- **Weekly Trainings/Supervision Meetings:** Every week on Tuesdays, Harare-based CATS are required



to gather at Zvandiri House for reporting, supervision and ongoing trainings. (For example, a psychiatrist may provide a seminar on grief counseling to build CATS' capacity for engaging clients and their families.)

- **Quarterly Skills Development Trainings:** Additionally, every quarter CATS are brought together for a two-day in-service training at Zvandiri House to ensure all client-facing staff are up to date on any developments in treatment and care guidelines and protocols.

The costs associated with 'training' in this analysis are primarily composed of food and transport stipends for participating CATS. Across all three types of trainings, these costs are very low for the Harare program, at \$1.68 PPPY. However, it is important to note that this figure understates the true costs of training because the human resources required to provide trainings have already been captured in personnel cost calculations, and there are no real venue costs given the ability to utilize existing facilities. Zvandiri does not hire any outside trainers and instead relies on the expertise of its staff (which includes nurses, counselors, social workers, etc.) to lead all skills and capacity development for CATS.

When CATS first join the program in the provinces, they are provided with a five-day training that is run jointly by the MoHCC and Zvandiri. Currently there is no ongoing training schedule for CATS in the provinces beyond this initial orientation. Total training costs in the provinces, which include trainer fees, only amount to \$1.48 PPPY. (although ongoing supportive supervision is provided by MoHCC staff). Training costs under the 2018 scale-up scenario would increase slightly to \$1.86 PPPY as the program intends to hold smaller district-level trainings, instead of bringing all CATS from the provinces-program together.

COSTING LIMITATIONS

During data collection for the analysis, the study team spent time at Zvandiri House in Harare and observed CATS-led adherence groups and home visits within communities. However, analysts did not directly observe the MoHCC-led program in the provinces and thus did not have an opportunity to speak to CATS or their MoHCC supervisors across these service sites. Thus although members of the study team were able to estimate the overall cost data of the program based on Zvandiri records, they lacked the ability to obtain more qualitative and observational insight of the sort that was collected in Harare.

IMPACT AND VALUE OF THE CATS MODEL

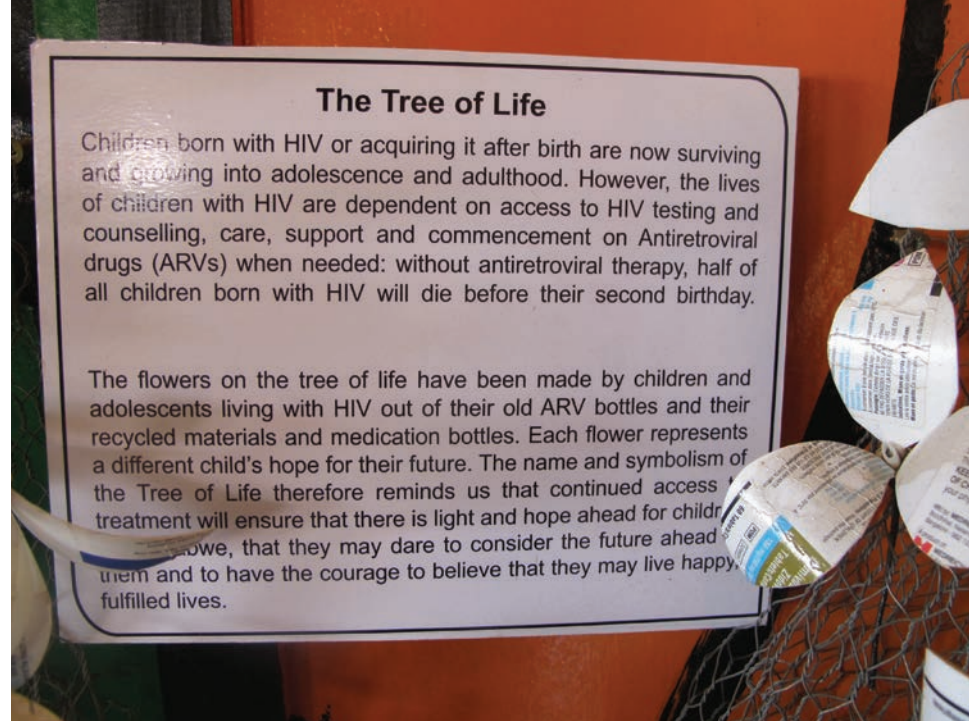
OVERALL IMPACT

Due to the increase in the number of CATS in all four provinces during 2014, there was a 65 percent increase (from 3,031 to 5,009) in the number of children and adolescents reached with direct services from 2013 to 2014. The engagement of CATS at both facility and community level strengthened the identification and referral of high-risk cases, including children in need of HTC and/or ART, children in need of disclosure support, children who were unwell or defaulting on treatment, and children at risk of treatment failure. All clients registered in the Zvandiri program are proactively engaged and when gaps were identified in their care, they were linked back to their health facility. This process helped ensure that 90 percent of clients were retained in the program and 81 percent of them report (as per results from a regularly administered survey tool) having experiencing improved psychosocial well-being, confidence, and self-esteem.⁴²

“Zvandiri lifted my self-esteem and [I] became confident through them. And also I was very, very quiet so when I came to Zvandiri that’s when I started to talk as well, all this time I never used to talk, I was very, very quiet. So I would want to say thank you for that because right now I can say [talk] at any congregation I can say whatever I want to say. —Zvandiri client

“Children out there are being helped and are being transformed through the help of CATS; more children are becoming confident about themselves and their lives and feeling better about themselves. They are also helped with their adherence; most of the children are now adhering. They also feel that there is someone who cares for them, rather than the family members only. Also they now feel that being HIV-positive does not mean the end of the world because they have seen the success stories of the CATS themselves. —A CATS

⁴² An ‘ask the expert’ tool is administered by a social worker mainly during community support group meetings and walk-in visits to Zvandiri House to a representative sample of 10 percent randomly selected clients every month. The selected children in the program are asked to fill in the Tool. This process is also repeated to draw comparisons on their scores and make a relevant action plan through case management.



A key component behind the success of the model is the peer-to-peer interaction and commitment of CATS in working with their clients. The opportunity to socialize with HIV-positive peers provides a haven for them 'to be kids'. They play games, eat together, and have a space to talk about anything they want (including their health and fears) without feeling that they are being judged for their HIV status. Such engagement and acceptance are key building blocks to improving an individual's self-esteem.

Clients of CATS report being better able to handle daily life and get along with family and peers. Many say their coping skills have improved, that they are more accepting of their HIV status, that they adhere more regularly to their medications, and that they have more hope for the future. One 15-year-old client noted the following:

“Every discussion that I participate in, I benefit from. The space to be around people like me gives me the confidence that I need to move forward with my everyday issues.”

HOW AND WHY CATS HAVE BENEFITTED

The CATS model enables these CATS to be change agents among their peers and in the community as well as being a platform for active engagement for the needs of children and young people living with HIV. CATS benefit personally and socially through professional development, improved interpersonal skills, and the satisfaction of positively influencing peers to overcome challenges and barriers that can undermine effective HIV treatment and care. They have had an impact on the lives of their peers and the community, as can be seen by the numbers of children and adolescents who join Zvandiri and stay with the CATS program.

A number of the CATS have been invited to represent their peers at different national, regional, and international platforms. This has provided several of them with opportunities in 2014 to advocate for key issues of access to treatment, care and support and to contribute meaningfully at high-level platforms. Some of the forums in which they have participated are listed in Table 8 below.

TABLE 8 SELECTED LIST OF WHERE CATS HAVE PARTICIPATED AND ENGAGED IN ADVOCACY AND ACCESS ISSUES

INTERNATIONAL	REGIONAL	NATIONAL
Member of the steering committee of the Y+ Network (the Global Network of Young People Living with HIV), which is hosted by the Global Network of People Living with HIV (GNP+)	Panelist at an Accelerating Children's HIV & AIDS Treatment (ACT) Initiative global strategy consultation in Tanzania. The initiative is supported by PEPFAR and the Children's Investment Fund Foundation	Representatives in the National Strategic Planning process for the post-2015 agenda
Member of the Communities Delegation to the Board of the Global Fund to Fight AIDS, TB and Malaria	Speaker at the Adolescent Sexual and Reproductive Health and Rights (ASRHR) and HIV in Africa Symposium in Zambia, at which the Zvandiri model was presented	Representation in the National Young People's Technical Working Group
Guest speaker at the 67th World Health Assembly	Speaker on ASRH for ALHIV at the Regional Psychosocial Support Forum, South Africa	Members of the National Community Child-Care Workers to support the National Case Management System.
Representatives at the WHO consultation meetings for the development of treatment guidelines for adolescents living with HIV		

In a focus group discussion with several CATS conducted during the site visit to prepare this report, many reported that they had gained increased confidence and a sense of purpose as a result of helping other children and adolescents like themselves. The two following quotes are illustrative of that impact:

“I used to default treatment and now I am not. I now feel like a role model to other children. I have a different outlook to life. I take good care of myself and live positively.”
—18-year-old CATS.

“At first it would be difficult to go into the community to meet with the caregivers and maybe you’ll be too shy or you will be afraid of say, ‘How am I going to meet with that caregiver?’ because normally when you are doing home visits in a local community you may be afraid of how people are going to accept you. Now I have the confidence to engage with my community.”
—21-year-old CATS

HOW AND WHY CATS HAVE BENEFITTED

The CATS model has a valuable role to play in helping connect children and adolescents to treatment and support services, keep them engaged in care, and improve their ART adherence. Zvandiri creates a safe space at health clinics and facilitates support groups for HIV-positive children and young people to meet and feel no fear of judgment or rejection associated with their HIV status. This supportive environment is crucial for their personal growth and improved health outcomes.

Being able to talk about physical, emotional and psychological issues in a peer setting can assist many adolescents in better navigating the stigma around being HIV-positive as well as openly discuss relationships, sex, family planning, and any other issues they are dealing with. As they mature into adulthood, adolescents have to make decisions about sexual relationships and their plans for the future. These decisions can only be made with an accurate understanding of the nature of their illnesses and how they can acquire the personal tools needed to make the best decisions for themselves. The CATS model can be a useful tool in their ability to move forward with greater confidence and knowledge.

“Before I came to Zvandiri I used to look down upon myself and did not feel confident being around other people like we are here. But from the time I came to Zvandiri I noticed that my clinic visits were going well and we were talking. At Zvandiri they really treat people well.”
—13-year-old Zvandiri client.”

“For me, in 2008 that’s when I got tested and then I was told my status, I didn’t believe of course. I have a brother who is negative, so I just questioned why is it me? He is negative and I am positive why did it happen? So when someone came to me and just invited me... you should come to our support group meetings I didn’t know what a support group was so I just went. I didn’t know that they were all positive [HIV-positive], the same as me and oh gosh I was way too shy and I had no confidence in myself so that’s where I gained confidence and also from the CAT who came to see me, visiting me all the weeks, that’s the person who inspired me so that I can also help my other peers to boost their confidence and now I feel like I am on top of the world.” —17-year-old Zvandiri client

Reflecting on improved children's agency, a UNICEF Zimbabwe representative Joyce Mphaya said, "The kids who have HIV have no power and they are getting it back through [Zvandiri], and that power is going to help them throughout all aspects of their life."

The clients and CATS at Zvandiri designed a poster campaign with the message "Bury stigma, resurrect love" with the aim of addressing the self-stigma that many HIV-positive children and youth experience. This campaign included confidence-building sessions and exercises that were intended to help

clients build their self-esteem. The total number of children and adolescents reached through these sessions in 2014 was 1,117.

HOW AND WHY THE COMMUNITY HAS BENEFITTED

CATS confront community perceptions around HIV and HIV-related stigma and discrimination through their engagement with health clinics, the training of caregivers and providers, the provision of home visits, and engagement with the community and leaders.

One of the benefits of reducing/eliminating stigma and discrimination within a community is that the disclosure of HIV status and treatment adherence become easier for individuals because they are more inclined to seek out comprehensive services and to follow their treatment regimens. In collaboration with the MoHCC, CATS have conducted HTC campaigns in communities and schools in an effort to address stigma and discrimination and increase uptake of testing among children and adolescents. CATS offer HIV information, pre- and post-test counseling as well as referrals for clinic services. Referrals are made to a Zvandiri outreach team or a local clinic depending on the needs identified.

"In our community there is a child whom I referred to the hospital because she was afraid of going to the clinic because she saw her neighbors and also her friends there. They would keep on asking her, 'what were you doing at the clinic and what is your business there' and so forth. So she didn't want to disclose her status. That is the root problem, it's stigmatization all over." —A CATS describing the effects of stigma on disclosure and adherence to treatment

CATS are also engaging religious leaders in an effort to improve their knowledge around HIV and AIDS in order to address the negative consequences of faith healing, which has resulted in many individuals defaulting on their medication and in some cases even death. In 2013, Zvandiri trained 77 religious leaders on the needs of HIV-positive children and adolescents. In addition to these trainings, community-based training workshops are conducted by CATS for caregivers and community members. Through these sessions, caregivers and community members are provided with knowledge intended to boost their understanding of children's experiences and to better accept and support them.

In a focus group discussion conducted by Zvandiri for caregivers, participants reported that they highly valued the Zvandiri support through CATS because they now better understood the importance of adherence, how HIV is transmitted, and why and how to monitor the health of their children. A total of 172 caregivers attended support groups and a total of 1,066 community members were reached with information on the needs of HIV-positive children and adolescents in three provinces (Harare, Bulawayo, and Midlands) in 2014.

Numerous caregivers have changed their attitudes towards people living with HIV, a development some have attributed to Zvandiri. One client noted the following, for example:

“Personally I think caregivers are now more understanding because if you look at the first days they used to say, “This is your plate [to eat from], this is your spoon, and this is your cup” and so on. But because of the help we get from the CATS when we go home with them and teaching us how things really are, I find that things have really changed.”

HOW AND WHY SERVICE PROVIDERS HAVE BENEFITTED

The development of individual and context-specific strategies for early identification of HIV infection in children and prompt linkage to care are critical. HIV care and support should integrate age-appropriate SRH and psychological, educational, and social services. In this regard, health care workers need to be trained to recognize and manage the needs of young people to ensure that the increasing numbers of HIV-positive children surviving to adolescence can access quality care at low-level health-care facilities.⁴³

The CATS training programs for health workers are planned and delivered by HIV-positive children and adolescents, in collaboration with the MoHCC, using a variety of media which they themselves have produced. A total of 531 health workers were trained in 2014 in HIV prevention, treatment, care and support for HIV-positive children and adolescents. The goal of these trainings was to strengthen participants’ understanding of and ability to respond to the needs of HIV-positive children and adolescents.

“At the clinic there are counselors and nurses who have been trained by Zvandiri so they know about the CATS program and what we normally do. So when we get to the clinic we normally go and see those trained nurses and counselors and they introduce us to others and we have a good relationship with the other members of the clinic staff.” —20-year-old CATS

The trainings and engagement with service providers have helped CATS establish relationships with personnel at health clinics that have often led to task-shifting within the facilities. CATS are increasingly the primary point of contact in health clinics for adolescents through their oversight of ‘adolescent corners’ and the Zvandiri centers on clinic grounds. Many now also provide pre- and post-test counseling and adherence counseling, activities that were previously performed by health clinic staff. This task-shifting from providers to CATS has allowed clinicians more time to focus efforts on more challenging cases.

Health facilities are also actively involved in stigma reduction. For example, all adolescents reporting at outpatient departments and opportunistic infection (OI) clinics are referred to Zvandiri as a matter of practice. This is done as part of the nurses’ strategy of reducing stigma and discrimination by referring all young people who visit the OI clinic irrespective of HIV status for information and screening.

⁴³ Lowenthal ED, Bakeera-Kitaka S, Marukutira T, Chapman J, Goldrath K, Ferrand R. (2014). Perinatally acquired HIV infection in adolescents from sub-Saharan Africa: a review of emerging challenges. *Lancet Infect Dis*; 14: 627–39. Published online 7 January 2014.

HOW AND WHY THE HEALTH SYSTEM HAS BENEFITTED

The CATS model links a client's clinic care with the community home-based care system. Adolescents who come to a clinic are immediately referred to Zvandiri and are enrolled to receive home visits and access to support groups. The adherence monitoring support that CATS provide is a component of a multi-pronged effort that has increased the number of children and adolescents who are adherent to their medication.

Health care workers and young people living with HIV report that clinical services have been strengthened due to both the training of health care workers that Zvandiri and CATS provide and the community outreach work undertaken by Zvandiri outreach teams and CATS. In 2014, a total of 308 clients across all four provinces were lost to follow-up. Of those, 200 had stopped showing up at their clinics and thus had defaulted on their ART. Far more than half, 126, of those 200 were subsequently re-engaged following outreach services by CATS.

CATS are setting a standard for the provision of appropriate and accessible care and support services. This can be observed by the fact that the MoHCC has demonstrated its full support for the intervention by rolling out the CATS model in other parts of Zimbabwe outside of Harare. One MoHCC representative observed the following about the CATS initiative: "These benefits that are realized through engaging these adolescents in policy discussions have influenced how we should work more with them, as part of improving the whole health care delivery systems."

At the time research for this report was concluded, the Zvandiri program had been integrated in 28 clinics in nine districts across three provinces outside Harare. Within Harare and nearby Chitungwiza, meanwhile, the program was integrated in 19 clinics. In their work, CATS have advocated (often successfully) for the following at the clinics where they work:

- *changing opening hours at some clinics;*
- *dedicated children review days with multiple activities for stakeholders and families involved;*
and
- *removal of administrative charges for some children and young living with HIV who are on ART.*

CHALLENGES OF THE CATS MODEL TO DATE

The CATS peer-based model can be effective in engaging with children and adolescents. However, there are some challenges to this model. When the program began in 2009 as a response to the gaps in testing, treatment and psychosocial care for children and adolescents with HIV, there was the challenge in collecting data and being able to show the direct impact on adherence and retention as a result of the CATS initiative. This will continue to be a work in progress and addressed through the use of the digital tablets which can more effectively capture data for future evaluation studies. Other challenges include the following:

Challenges for CATS

- **IDENTIFICATION CARDS.** The lack of identification cards for CATS poses a particular challenge for those CATS working in the community. There are some situations when the police or other social workers are involved and CATS are requested to show confirmation that they are in fact working for Zvandiri. Identification cards would support them in doing their work.
- **CERTIFICATES.** Once CATS retire from the program at 24, they are not provided with a certificate or documentation they can bring with them as they apply for universities or formal work. Through their work with Zvandiri, most CATS will have accrued a number of years of training and experience in working in medical environments, with children and youth, and providing HIV and AIDS support services. A certificate highlighting their participation in the CATS program can provide further opportunities for these young people who want to establish themselves professionally or begin university.
- **COPING WITH DIFFICULT SITUATIONS AND ENVIRONMENTS.** The clients with whom CATS work with can have complicated and difficult home lives and regularly face challenging situations. This can be emotionally draining for some CATS. Having the emotional capacity to address these issues involves a certain level of maturity and substantial training and support that may not always be available regularly.
- **REFERRAL PROCESSES.** CATS help to facilitate referral processes and their aim is to help a client get particular services within 24 hours if a risk is deemed to be 'high'. Unfortunately, in some instances there is no sense of urgency from clinicians and the result is a client not getting such time-sensitive services within that period.
- **BALANCING PROGRAM COMMITMENTS AND PERSONAL LIVES.** Many CATS live busy lives. For those engaged in vocational or distance-learning courses, for example, trying to find a balance in tending to their own obligations and taking time for personal activities in addition to the program commitments can be stressful.
- **THE STIPEND AMOUNT FOR THE CATS IS SMALL (IF THEY RECEIVE ONE AT ALL).** Some CATS are living on their own while others have had their parents and/or guardians discontinue financial support. The \$100 monthly stipend is insufficient for their needs, especially if they are paying their own school fees and/or aspire to save to go to university. The situation is of course even more difficult for those outside of Harare, who receive no stipends at all—and thus may find it difficult to find adequate funds to cover transport and other costs.
- **HIV FATIGUE.** CATS live with HIV themselves, and it can be emotionally draining to have it be the focus of so much of their lives. Greater efforts perhaps should be made to help ensure they are engaged in activities not related to HIV—such as sports, drama/theater, or nature camps—that give them opportunities to bond with other CATS and clients around issues other than HIV.

Challenges associated with the community

Stigma and discrimination around HIV create an atmosphere of fear and misinformation that can hinder the growth and success of the model. In some instances CATS are unable to do home visits because clients fear being identified by neighbors as living with HIV. Some adolescents who move houses often and live with a number of guardians and caregivers are reluctant to disclose their status with each move.

Reaching parents and caregivers to encourage testing and status disclosure can be a challenge, and it reflects the pervasive culture of HIV stigma. Continuing the dialogue around HIV through campaigns, sensitization efforts, and public discourse is necessary to help mitigate the impact of stigma.

Challenges associated with providers

A key element of the CATS model is the provision of trainings on the needs of HIV-positive children and adolescents. For these trainings to be successful, providers need to make themselves available and be receptive to this process. This can be a challenge for clinic staff members who are over-stretched and have limited time.

As noted elsewhere, CATS help to facilitate the referral process and their aim is for referred clients get certain services within 24 hours if the need is considered 'high risk'. Unfortunately, in some instances there is no sense of urgency from clinicians and other health staff—and the result is a client not getting services within the specific time period.

Challenges associated with the health system

Determining reliable and accurate HIV prevalence rates for children and adolescents is vital for the provision of adequate and comprehensive care and treatment. Current estimates suggest 4 percent prevalence in Harare for children aged 10–19, but many working in the field with adolescents believe that this not reflective of the true rates. Without more accurate information, it will be a challenge to know how to scale-up the program to meet the needs of all HIV-positive children and adolescents who might benefit.

The Zimbabwean government has set a goal for 85 percent of the population, including children and adolescents, to know their HIV status by the end of 2015. For this goal to be met all key stakeholders working in the interest of children and adolescents must take an active role in encouraging testing and working with providers to better understand and implement the consent laws. There is a need to reinforce the testing guidelines so that all clinic and hospital staff and the community at large are informed.

CONCLUSION AND KEY MESSAGES

Prior to the start of Zvandiri the uptake of HIV services for adolescents was weak to non-existent in many communities in Zimbabwe. The availability of and access to pediatric medicines was poor; few children and adolescents were being counseled and tested; and most had inadequate or insufficient access to psychosocial support and wrap-around services.

The CATS model, as an adolescent-led approach, seeks to ensure effective adherence and retention in care for HIV-positive children and adolescents. Its approach includes facilitating an enabling social environment that has demonstrated improvements in the psychosocial well-being and overall health of their clients.

A notable innovation of Zvandiri's CATS model is that it places adolescents themselves at the forefront of the HIV response. CATS can be effective in addressing peer problems and concerns as they themselves have lived similar experiences. Peer-to-peer motivational support is often beneficial and therapeutic for young people who want to interact more with those like them. It gives them a sense of belonging and community that they can draw strength and courage from as they face the challenges that can come with having a chronic disease.

Zvandiri CATS Model is:

- *creating more demand for testing among the adolescent population by actively seeking clients through 'adolescent corners' in clinics, awareness campaigns, and provider and community leader trainings;*
- *contributing significantly to children and adolescents' health and survival by reducing their isolation, improving adherence, and helping them build their resilience and long-term coping capacity;*
- *aiming to reform and improve national policies to better reflect the needs of HIV-positive children and adolescents;*
- *promoting task-shifting within clinics whereby CATS provide a support system for nurses and providers that allow for them to be a primary contact point in clinics for adolescents;*
- *expanding so that more clients are added annually;*
- *providing holistic and comprehensive services that help keep children and adolescents engaged in care;*
- *supporting improved knowledge, skills, coping capacity, and health and psychosocial well-being among children and young people living with HIV and caregivers; and*
- *promoting the unification of health, support and child protection services.*

RECOMMENDATIONS

HIV positive children and adolescents are a highly vulnerable group that require linkage to and retention within a range of integrated services which together optimize HIV treatment outcomes as well as their broader psychosocial well-being. The following recommendations are made to support the provision of comprehensive, accessible, appropriate services for children and adolescents along the continuum of care (including HIV testing, counselling, treatment and care and referral to sexual and reproductive health, mental health and social services).

ADOLESCENT-SPECIFIC DATA

There is a need for data collection procedures to include adolescent-specific data. CATS aim to improve adherence and psychosocial well-being, both of which are subjective measures. There is now need for more systematic data from health facilities and the community interventions, to provide evidence of impact for adolescents. There should be a harmonization of data collection and M&E processes that can effectively capture data that will accurately describe the context and situation for children and adolescents through the continuum of care.

PEER-LED INTERVENTIONS

There is strong programmatic evidence that peer-led interventions support adolescents with linkage and retention in care, adherence, psychosocial well being and access to other critical services such as SRH and child protection services. The CATS model has provided one example and scale up of this intervention is recommended as a critical component of the standard of care for adolescents living with HIV.

COMMUNITY-BASED TREATMENT, CARE AND SUPPORT

There is a critical role for community-based services in the comprehensive care of adolescents with HIV. In order for health services to effectively support and retain young people and to address their often complex, evolving needs through the continuum of care, it is vital that community based initiatives are integrated within the facility-based care. These services provide an important extension to the facility based care by ensuring a continuation of counselling, treatment support and monitoring of young people with HIV outside the clinic.

GOVERNMENT SUPPORT

One of the key successes for the CATS model is the buy in from Ministry of Health and Child Care. For continued scale up or replication, this should be coordinated and integrated within government structures rather than a stand-alone NGO model. For retention of CATS, governments need to consider adopting the CATS as an official cadre so that they can be remunerated. The costing which was included in this case study has provided such important data for this.

ACCESS TO HIV TESTING & CONSENT

While stipulation of different ages of consent for HIV testing and counselling are intended to protect adolescents, policy-makers must carefully consider whether and how such stipulations could affect adolescents' access to health services. Policy makers should also consider especially how to facilitate access to HTC and linkage to care for orphans and vulnerable adolescents, including those living on the streets, adolescents in child-headed households or with disability, and particularly vulnerable adolescents from key populations.

STATUS DISCLOSURE BY PARENTS AND/OR GUARDIANS

Status disclosure to children and adolescents is a complex psychosocial process. There is need for continued advocacy around the benefits of earlier disclosure whilst at the same time supporting parents and/or guardians needing guidance and counselling themselves. Training and mentorship for health care workers in disclosure counselling is critical.

ADOLESCENT FRIENDLY CLINIC SERVICES AND PSYCHOSOCIAL SUPPORT SERVICES

There is need for continued scale up of adolescent friendly service delivery within HIV care and treatment programmes. Health care providers require training and mentorship so that service delivery is sensitive and responsive to the needs of young people growing up with HIV. Services should be accessible, affordable, confidentiality, non-judgmental and integrated with other services which young people require. They should be a safe space for young people and should actively engage peers in the planning and delivery of services.

Best Practices Project

Pangaea Global AIDS, in partnership with the Clinton Health Access Initiative (CHAI), received funding from the Bill and Melinda Gates Foundation to develop and cost a series of single descriptive case studies documenting effective approaches to HIV service delivery in Sub-Saharan Africa. The selection of programs for the case studies will seek to present information and costs about a diverse set of programs, looking at both community- and facility-based services and at programs addressing urban and rural populations, key affected populations, and programs that are well integrated with other areas of health services including primary care, sexual, reproductive, and maternal health, and TB services. The case studies will provide information on both health systems level programs as well as specific implementation models that program managers and others can consider and adapt for their constituencies. Through this process, Pangaea seeks to improve uptake and scale of HIV services and fill the gaps in the HIV treatment cascade.

Pangaea Global AIDS

Pangaea Global AIDS is an international public health technical cooperation agency, based in Oakland, California USA, and Harare, Zimbabwe. We convene experts from science, health services, affected communities and the private sector, helping countries design the best quality, affordable and sustainable strategies for HIV and related health issues. We work at the global level, and with national partners to promote rights- based, evidence driven public health strategies.

CHAI — Clinton Health Access Initiative

In 2002, the Clinton Health Access Initiative (CHAI) began as the Clinton HIV/AIDS Initiative to address the HIV/AIDS crisis in the developing world and strengthen health systems there. Taking the lead from governments and working with partners, CHAI works to improve markets for lifesaving medicines and diagnostics, lower the costs of treatments, and expand access to life-saving technologies — creating a sustainable model that can be owned and maintained by governments.

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ACRONYMS

ART	antiretroviral therapy
CATS	community adolescent treatment supporters
EID	early infant diagnosis
HTC	HIV testing and counseling
M&E	Monitoring & Evaluation
MICS	Multiple Indicator Cluster Survey
MoHCC	Ministry of Health and Child Care
NAC	National AIDS Council
OI	Opportunistic Infection
QI	Quality Improvement
PEPFAR	U.S. President's Emergency Plan for AIDS Relief
PICT	Provider Initiated Counseling & Testing
PMTCT	prevention of mother-to-child transmission
PPPY	per-patient, per-year
SRH	sexual and reproductive health
VCT	voluntary counseling and testing
TB	tuberculosis
UNDP	United Nations Development Program
WHO	World Health Organization
ZIMSTAT	Zimbabwe National Statistics Agency
ZNNP+	Zimbabwe National Network of People Living with HIV/AIDS

Note on text: All \$ figures are U.S. dollar amounts.



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