

# 48-week outcomes of African children starting ART at CD4>500 with streamlined care

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## Background

- To reach the UNAIDS goal of 90/90/90, there is a need for efficient and effective strategies to scale up ART-delivery while ensuring good clinical outcomes in children
- Data on retention, viral suppression and safety of ART in children 2-14 years with high CD4 counts (>500 cells/ml) are particularly limited

## Objectives

- To evaluate the clinical outcomes of HIV+ children starting ART at CD4> 500 cells/μl using a streamlined care model

## Methods

### Study subjects

- Residents of 16 rural East African communities were tested for HIV at a community fair or at home between 2013-2015 and offered ART
- Children aged 2-14 years who had CD4 >500 cells/μl and were otherwise ineligible for ART by country guidelines were enrolled

### Patient assessments

- Visits were scheduled at week 0, 4, 12, and every 12 weeks after with screening for physical signs or symptoms of ART toxicity
- Viral load and basic safety tests assessed at baseline, 24 and 48 weeks

### Analysis

- Proportion of children retained in care at 48 weeks
- Proportion of children with viral suppression at 48 weeks
- Rates of DAIDS Grade III/IV adverse events in first 48 weeks of ART

### The Streamlined Care Model

- Nurse-driven visits focused on symptom-based ART toxicity screening,
- On-site nurse referral of complex cases to a physician
- Streamlined Visit schedule with Provision of 3 months' ART refills, and
- Appointment reminders and patient tracking
- Viral load (VL) measurement and structured VL counseling
- A patient-centered care system, fostering a welcoming environment

## Results:

Figure 1. Enrollment, retention and suppression through 48 weeks

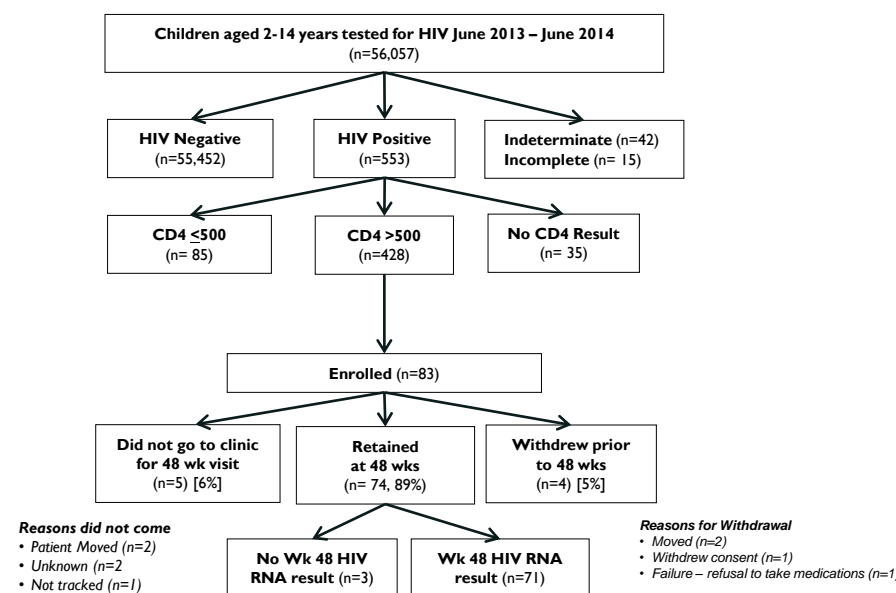


Table 1. Subject Characteristics

<b>Region</b>	
Uganda	37 (45%)
Kenya	46 (55%)
<b>Male</b>	36 (43%)
<b>Age in years, median (IQR)</b>	8 (6-11)
<b>Orphan</b>	29 (35%)
<b>Baseline CD4 cells/mm<sup>3</sup>, median (IQR)</b>	863 (662-1180)
<b>Baseline HIV RNA, copies/ml</b>	
<500	3 (4%)
500-10,000	16 (19%)
10,001-100,000	31 (37%)
> 100,000	16 (19%)
Pending / not done / failed	17 (20%)

Figure 2. Retention by study visit

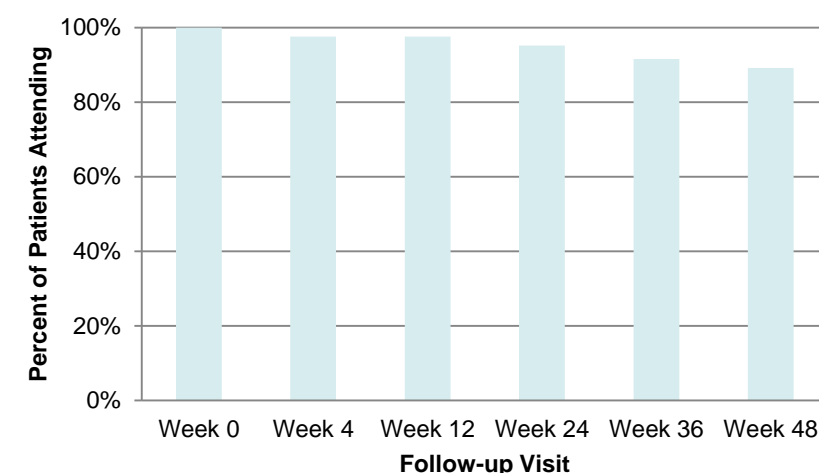


Table 2. HIV RNA Levels at 48 Weeks

< 500 copies/ml	65 (92%)
500-10,000 copies/ml	4 (6%)
>10,000 copies/ml	2 (3%)

Total of 74 attended 48 week visit, but viral load results missing for 3.

**89% of children attended their week 48 visit and 92% of those were virally suppressed (<500 copies/ml)**

Table 3. Safety of ART through 48 weeks

Grade III or IV Adverse Events (n=3)	Neutropenia (III) Thrombocytopenia (III) Rash (IV)
ART Regimen Change (n=2)	Nevirapine and abacavir stopped for rashes.
Deaths (n=0)	n/a

## Conclusions

- HIV+ children 2-14 years old with CD4>500cells/μl receiving ART in rural African clinics employing streamlined ART delivery had 89% retention in care; 92% of those tested had viral suppression at 48 weeks
- Streamlined nurse-driven care systems can deliver safe and effective ART care to HIV+ children
- As nations seek to achieve universal ART for children, similar programs should be considered

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