

Retention in non-facility-based ART delivery models among stable ART patients in Lusaka, Zambia – Findings from the HPTN 071 (PopART) trial

M. Limbada¹, D. Macleod², S. Fidler³, A. Schaap^{1,2}, O. Shibwela¹, B. Chiti¹, D. Nzara¹, V. Situmbeko¹, R. Hayes², H. Ayles^{1,4}, on behalf of the HPTN 071(PopART) study team

¹ZAMBART (Zambia AIDS-Related TB Project), Lusaka, Zambia, ²London School of Hygiene and Tropical Medicine, Department of Infectious Disease Epidemiology, London, United Kingdom, ³Imperial College London, HIV Clinical Trials Unit, London, United Kingdom, ⁴London School of Hygiene and Tropical Medicine, Department of Infectious and Tropical Diseases, London, United Kingdom

INTRODUCTION

To achieve the UNAIDS 90:90:90 targets of HIV testing and ART coverage, it is critical to minimize any barriers in maintaining the continuum of care. In high HIV-prevalence resource-limited settings with overburdened health care facilities, retention on ART and viral suppression are key challenges. Non-facility based models of antiretroviral therapy (ART) delivery are being increasingly recognized as safe and effective alternatives to the current standard model of health facility based care [1,2]. Decentralizing ART services outside the health care facility into the community holds the promise of improving retention in care and adherence to treatment by overcoming barriers described in providing facility-based care including overburdened clinics, long waiting times, lack of human resources and transport costs [2,3]. Within the HPTN 071 (PopART) trial, two models of non-facility based ART delivery; either home-based delivery (HBD) or adherence clubs (AC), were offered and compared to facility-based delivery (standard of care, SoC) for stable HIV+ patients. The primary outcome of this study is to compare virological suppression at 12 months in HIV+ patients receiving care via community ART models with those receiving care in the clinic (standard of care). The secondary outcomes include patient retention in care, loss-to follow-up and HIV disease progression. In this poster we present on one of the secondary outcomes and describe patient retention in the two intervention models that patients were randomly assigned to and agreed to the models of care.



CHIP conducting a club session

Community ART delivery for people living with HIV is highly feasible, acceptable and reaches high levels of retention on ART (>85%) over 18 months

METHODS

This is a three-arm cluster randomized non-inferiority trial comparing outcomes including virological suppression among patients offered home-based delivery of ART or adherence clubs in two of the urban HPTN 071 (PopART) trial communities in Lusaka, Zambia.

The communities were divided into zones. Each zone within these communities had approximately 400-450 households served by a pair of community HIV providers (CHIPs) and each zone was randomized to one of the three delivery arms:

- Arm 1 - stable PLWH on ART continue to receive care at the clinic (standard of care or control arm)
- Arm 2 - stable PLWH on ART offered a choice between home-based delivery and standard of care
- Arm 3 - stable PLWH on ART offered a choice between adherence club or standard of care.

The eligible study population included all stable HIV+ infected adult patients (>18years) residing within the two communities and enrolled in the two primary health care facilities within the community. Stable patients were defined as those on first line therapy, on treatment and consistently retained in care for more than 6 months, virologically suppressed and have no other health conditions requiring a clinician's attention.

Stable adult HIV+ patients living within the community zones were invited to take part in the study and a written consent was obtained. All patients received ARVs and support every 3 months at home (HBD), out-of-clinic adherence club (AC) or at the clinic (SoC). In both intervention arms, patients were referred back to SoC if they relocated to an area not offering the intervention, developed a co-morbidity, had a viral rebound, missed >2 visits or opted out.

RESULTS



Between May and December 2017, 2,493 stable patients were enrolled into the study of which 774 (31%) were randomized to standard of care (SoC), 869 (35%) to home-based delivery (HBD) and 850 (34%) to adherence clubs (AC) arms [Fig 1].

After 18 months into the program, 743/802 (93.6%) patients were retained in the adherence club models versus 715/842 (84.9%) in the home-based delivery model. The most common reasons for not retaining patients in the models of ART delivery were due to shifting houses within and outside the study catchment and community, co-morbidities and opting out [Table 1].

Reasons for termination included mortality and transferring out of the community health care facility [Table 2].

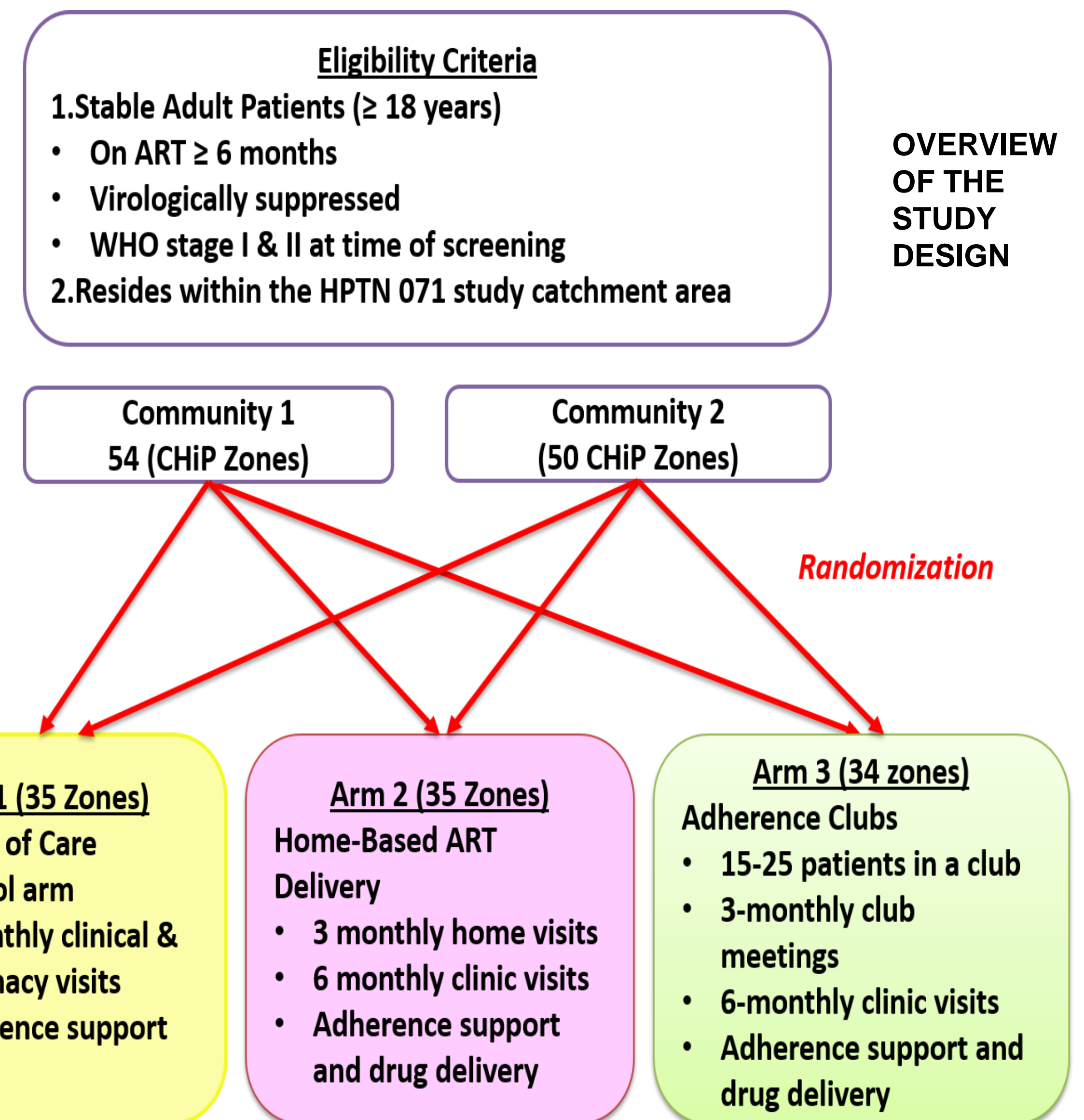


Fig 1. Flow Chart of Study Participants

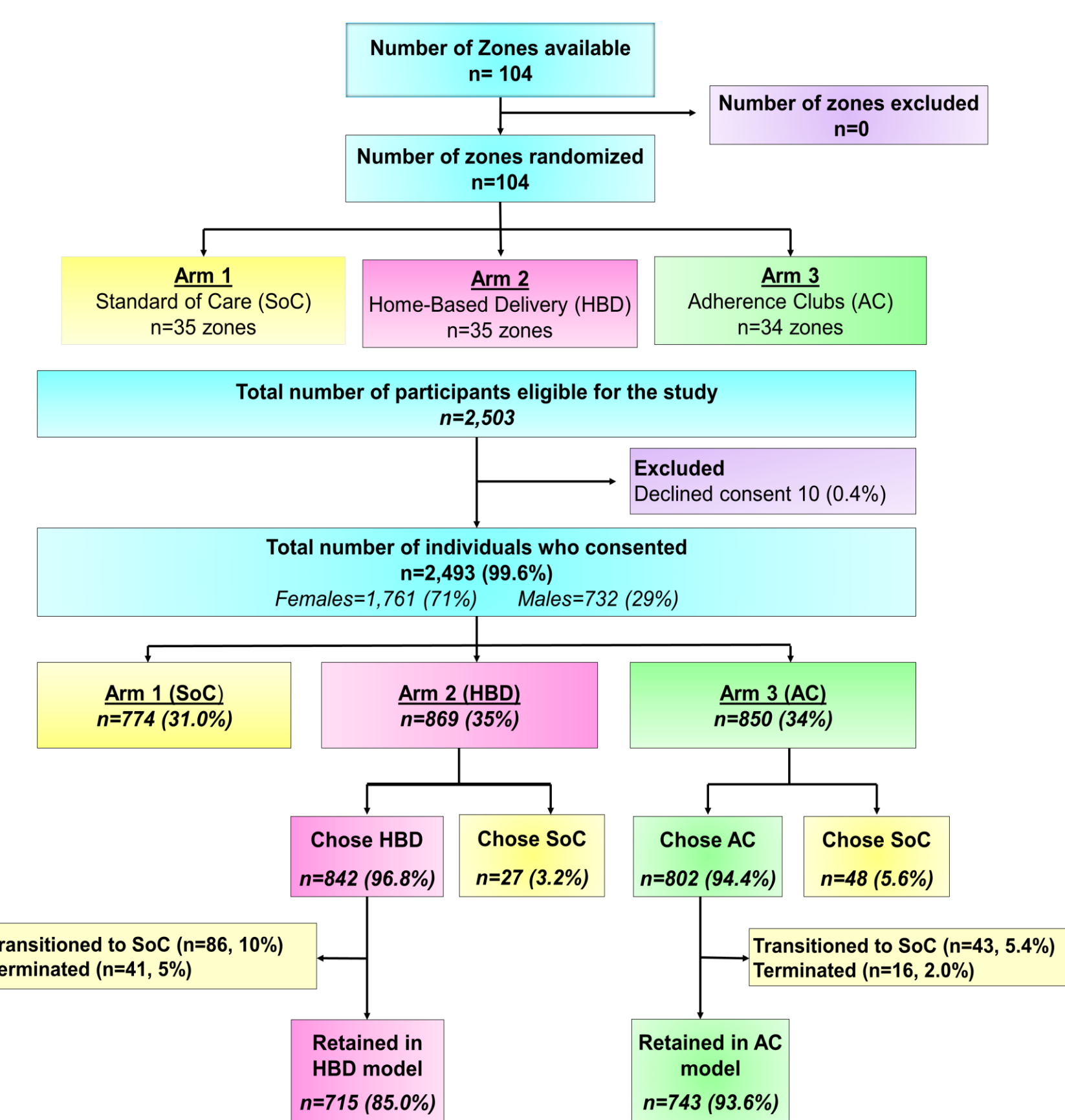


Table 1: Reasons for transitioning to SoC

Reasons for transition to SoC	Home-Based Delivery N= 842	Adherence Clubs N=802
Shifted outside the study catchment area	32 3.8%	15 1.9%
Shifted within the study catchment area not offering the initial intervention	13 1.5%	6 0.7%
Transfer to another community but continue care at clinic	6 0.7%	0 0
Referral by study team due to comorbidities	12 1.4%	8 1.0%
Opting out	14 1.7%	8 1.0%
Other	9 1.1%	6 0.8%
Total	86 10.2%	43 5.4%

Table 2: Reasons for Terminations

Reasons for Terminations	Home-Based Delivery N= 842	Adherence Clubs N=802
Transfer/Relocated	29 3.4%	10 1.2%
Deaths	12 1.4%	6 0.7%
Total	41 4.8%	16 1.9%

Primary Outcome

- Viral suppression at 12 months in patients receiving care via community models of ART with those in SoC

Secondary Outcomes

- Viral suppression at 24 months
- Retention on treatment/Loss to Follow up
- HIV disease progression
- Death
- Drug supplies in the models of care
- Qualitative evaluation of the acceptability and functioning of the models
- Economic Analysis

CONCLUSION

Offering PLWHIV alternate options for ART delivery is highly acceptable in high burden HIV resource limited settings with overburdened health care facilities and inadequate human resources with over 90% of those offered an alternate option to SoC taking it up. Overall patient retention in non-facility based ART models was high (85%) and this was higher in adherence clubs as patients who shifted from study zones could continue going for their club meetings to receive care. These findings are important when scaling up types of differentiated models of ART delivery in an urban setting to ensure patient retention and adherence to treatment.

REFERENCES

1. Nachega, J.B., et al., *Community-Based Interventions to Improve and Sustain Antiretroviral Therapy Adherence, Retention in HIV Care and Clinical Outcomes in Low- and Middle-Income Countries for Achieving the UNAIDS 90-90-90 Targets*. Current HIV/AIDS Reports, 2016.
2. Decroo, T., et al., *Community-based antiretroviral therapy programs can overcome barriers to retention of patients and decongest health services in sub-Saharan Africa: a systematic review*. Int Health, 2013.
3. Siedner, M.J., et al., *GPS-measured distance to clinic, but not self-reported transportation factors, are associated with missed HIV clinic visits in rural Uganda*. AIDS, 2013.

ACKNOWLEDGMENTS

HPTN 071 is sponsored by the National Institute of Allergy and Infectious Diseases (NIAID) under Cooperative Agreements UM1-AI068619, UM1-AI068617, and UM1-AI068613, with funding from the U.S. President's Emergency Plan for AIDS Relief (PEPFAR). Additional funding is provided by the International Initiative for Impact Evaluation (3ie) with support from the Bill & Melinda Gates Foundation, as well as by NIAID, the National Institute on Drug Abuse (NIDA) and the National Institute of Mental Health (NIMH), all part of the U.S. National Institutes of Health (NIH). The content is solely the responsibility of the authors and does not necessarily represent the official views of the NIAID, NIMH, NIDA, PEPFAR, 3ie, or the Bill & Melinda Gates Foundation.

For more information, visit hptn.org and follow us:

Facebook: [HIVptn](https://www.facebook.com/HIVptn) | Twitter: [@HIVptn](https://twitter.com/HIVptn) | Youtube: [HIVptn](https://www.youtube.com/HIVptn)