

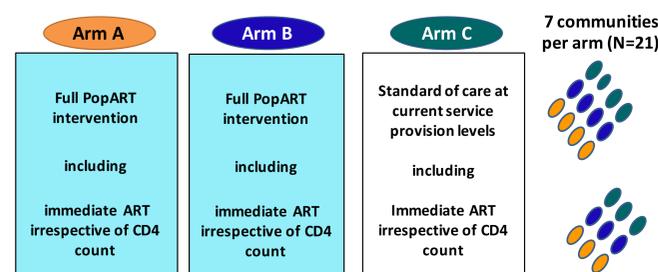
BACKGROUND

HPTN 071 (POPART)

HPTN 071 (PopART) is a community-randomised trial of the impact of a combination HIV prevention intervention on population-level HIV incidence, being conducted in Zambia and South Africa (SA).

Twenty-one high HIV prevalence communities (Twelve in Zambia, 9 in SA) were originally randomised into three trial arms. Arms A and B both received the PopART intervention and arm C received standard care. Only arm A received immediate ART initiation at the start of the trial, with arms B and C initiating ART based on CD4 count (as per national guidelines at the time). However in 2016 all three arms moved to immediate ART initiation in response to a change WHO guidelines on ART initiation.

3 arm cluster-randomised trial with 21 communities



METHODS

The analysis included participants in R3 of the PopART intervention (September 2016-December 2017) from arm A, aged 18+, known to the CHiPs as HIV positive and who have self-reported ever taking ART either during R3, or at a previous annual round. An individual was classed as “retained on ART” at a CHiP visit if they self-reported taking ART within the last month (checked by CHiPs by confirming with an individuals’ clinic card) and also reported not missing any pills in the last three days.

A cross-sectional measure of self-reported retention during R3 was defined as the proportion of participants who, on the date of the R3 annual visit, were retained on ART, among those who had ever been on ART.

The estimate of retention on ART at six months was defined using an individual’s self-reported ART start date, obtained either at the R3 visit or a previous CHiP visit. The earliest CHiP visit after six months after the ART start date (up to a maximum of 18 months) was identified, and the retained on ART status was taken from that visit. If no visit took place within that window, a CHiP visit between five and six months was accepted. The 12-month retention measure was obtained in the same manner, with a window for the relevant CHiP visit between 11-24 months after ART start date.

Individuals were also classified by whether the R3 CHiP visit was their first participation in PopART, or if they had participated previously in rounds 1 and/or 2. It was thought that where we had a history of information about a participants HIV status and ART usage the information was likely to be more reliable compared to those first participating in R3.

THE INTERVENTION



The PopART intervention was delivered door-to-door in three annual rounds (R1-R3) by Community HIV-care Providers (CHiPs) who provide home-based counselling and HIV testing services as well as provision of other HIV-prevention services including condom provision, referrals for prevention of mother-to-child transmission (PMTCT) and referrals for voluntary medical male circumcision (VMMC). CHiPs made repeat visits to HIV-positive individuals during each annual round, to support linkage to care and retention on Antiretroviral Therapy (ART).

RETENTION ON ART

The aim of this analysis was to provide estimates of retention on ART, in the absence of routine viral load testing, among individuals in the seven communities that were randomised to receive the full PopART universal test and treat intervention from the start of the trial (arm A).

TABLE 1. Self-reported retention on ART in the seven communities in Zambia and S Africa during the third annual round of the HPTN 071 (PopART) trial

ART initiation date	Retention measure	All		Post-2014		
		At time of R3 visit	At time of R3 visit	At time of R3 visit	6 Months after ART start date*	12 months after ART start date**
Zambia	N ever on ART(All)	9,902	4,716	5,186	3,419	3,058
	% Retained (All)	95.9% (9,491/9,902)	97.7% (4,609/4,716)	94.1% (4,882/5,186)	93.9% (3,209/3,419)	95.4% (2,918/3,058)
	% Retained (Men)	94.8% (2,575/2,717)	97.0% (1,243/1,281)	92.8% (1,332/1,436)	93.6% (875/935)	95.1% (770/810)
	% Retained (Women)	96.3% (6,916/7,185)	98.0% (3,366/3,435)	94.7% (3,550/3,750)	94.0% (2,334/2,484)	95.6% (2,148/2,248)
	% Retained (First participated R3 †)	94.3% (2,765/2,931)	96.8% (1,185/1,224)	92.6% (1,580/1,707)	98.5% (712/723)	99.5% (589/592)
% Retained (Prev participated in R1/2)	96.5% (6,726/6,971)	98.1% (3,424/3,492)	94.9% (3,302/3,479)	92.6% (2,497/2,696)	94.4% (2,329/2,466)	
SA	N ever on ART(All)	4,651	2,224	2,427	1,502	1,429
	% Retained (All)	94.6% (4,399/4,651)	95.7% (2,129/2,224)	93.5% (2,270/2,427)	90.9% (1,365/1,502)	91.1% (1,302/1,429)
	% Retained (Men)	93.0% (989/1,063)	94.9% (425/448)	91.7% (564/615)	90.8% (354/390)	91.6% (304/332)
	% Retained (Women)	95.0% (3,410/3,588)	96.0% (1,704/1,776)	94.2% (1,706/1,812)	90.9% (1,011/1,112)	91.0% (998/1,097)
	% Retained (First participated R3†)	95.1% (1,320/1,388)	95.0% (575/605)	95.2% (745/783)	96.1% (316/329)	95.6% (280/293)
% Retained (Prev participated in R1/2)	94.4% (3,079/3,263)	96.0% (1,544/1,619)	92.8% (1,525/1,644)	89.4% (1,049/1,173)	90.0% (1,022/1,136)	

*Included in denominator are those that had at least one follow up visit 5-18 months after ART start date.

**Included in denominator are those that had at least one follow up visit 11-24 months after ART start date.

†The data available on history of ART use among those who first participated in round 3 are more limited than those who participated in previous rounds as there are no data available prior to the R3 visit.

RESULTS

In the four Zambian communities, using the cross-sectional measure of retention, on the date of the R3 visit 95.9% (9,491/9,902) adults were retained on ART. Restricting to those who initiated ART after the start of the PopART intervention (in 2014), 94.1% (4,882/5,186) were classed as retained on ART.

A corresponding analysis in the three SA communities identified 94.6% (4,399/4,651) adults were retained on ART at R3, with a slightly lower proportion, 93.5% (2,270/2,427) retained among the group of individuals who initiated ART post-2014. Retention among women using this measure was slightly higher than in men (table 1).

Six-month retention on ART in Zambia was estimated to be 93.9% (3,209/3,419) which was higher than in SA, which was 90.9% (1,365/1,502). There was little difference in retention between men and women.

A difference was observed when stratifying the data on whether an individual first participated in the PopART intervention in R3 or had participated previously in R1 and/or R2. Those participating for the first time had much higher estimated retention on ART than those where a history of CHiP visits was available. In Zambia 98.5% of those participating for the first time were estimated to be retained on ART, compared to 92.6% in prior participants. In SA the figures were estimated as 96.1% and 89.4% respectively.

In Zambia, twelve-month retention on ART estimates were in fact higher than six-month retention, with 95.4% (2,918/3,058) of adults who report ever taking ART being retained at 12 months. In SA the proportion retained was estimated to be 91.1% (1,302/1,429). As with the six-month estimates, there were large differences between those who had participated previously and first-time participants.

It was unexpected to observe higher proportions retained on ART at twelve months compared to the proportion at six months. However, this appeared to be due to the pattern of follow up visits and less follow up time being possible – therefore those who were less likely to be retained were also less likely to have a follow up visit in the twelve month window.

The participants who had previously participated in rounds 1 and/or 2 of the PopART intervention had a much more detailed history of CHiP visits compared to new participants in R3, and as such the estimates from these individuals are likely to be more reliable.

CONCLUSION

Overall self-reported retention was high. The estimates from individuals who participated in R1 and/or R2 are considered the most reliable, as they are based on a history of CHiP follow-visits rather than relying on a single self-report at the start of R3. Among this group, six-month retention on ART was estimated to be 92.6% in Zambia and 89.4% in SA. Twelve month retention was estimated to be 94.4% in Zambia and 90.0% in SA.

The main limitation of this analysis is that it relies on self-reported data on retention (although CHiPs do inspect clinic cards), which could be prone to bias. However in the absence of routine viral load testing these results do provide us with some indication that the retention on ART within the PopART trial is high, which is a necessary component in order to meet the “third 90” of the 90-90-90 targets.

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). We also wish to acknowledge implementing partners in South Africa (City of Cape Town and Western Cape Government health departments, Kheth’ Impilo, ANOVA Healthcare, SACTWU Worker Health Programme and Supply Chain Management Services) and Zambia (Zambian Ministry of Health, CIDRZ, ZPCT II and JSI).

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.