

## Key Findings After the Second Year of the Intervention

HPTN 071 (PopART) is a community-based, randomized study evaluating the impact of a combination HIV prevention package on HIV incidence. This study is the largest community-randomized trial – total estimated population 1 million – testing the universal HIV test and treat strategy and is being conducted across 21 high HIV burden, resource-limited urban settings in the Western Cape of South Africa and Zambia.

Study communities were randomly assigned to one of three study arms (A, B and C). In the original study design, Arm A received a household intervention package with an offer of HIV treatment irrespective of CD4 count, Arm B received the household intervention package, but with HIV treatment offered per national guidelines, and in Arm C there was no household intervention and treatment followed national guidelines. The household intervention comprises annual rounds of home-based HIV counseling and testing delivered by Community HIV Care Providers (CHiPs) who also support linkage to care, antiretroviral therapy (ART) retention and other HIV-related services.

In late 2015, in response to mounting evidence of clinical benefit, the World Health Organization (WHO) revised its guidelines to recommend ART for all people living with HIV. The PopART study team responded by successfully incorporating this recommendation into the study design, making ART available for all people living with HIV (PLWH) in all study arms. As a result, Arms A and B now offer study participants the same intervention: the household intervention package plus HIV treatment irrespective of CD4 count.

### 3 arm cluster randomized trial with 21 communities

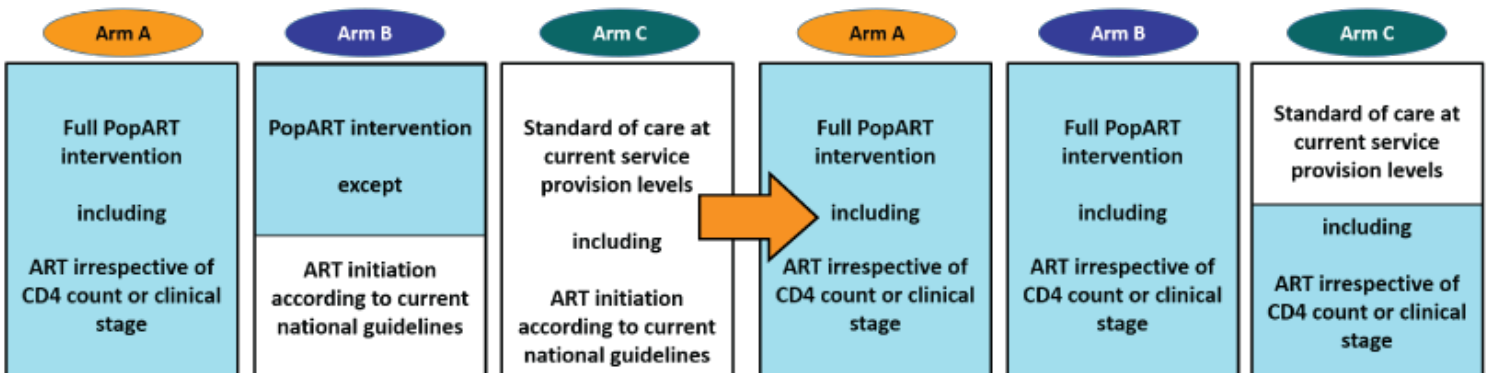


Fig. 1. Illustration of the changes made to the intervention during 2016

HIV incidence, the study’s primary outcome, will be assessed through a research cohort (the Population Cohort) of randomly-selected adults from all study communities, approximately 42,000 individuals, to be followed for three years. Findings from this study will also help inform the scale-up of future HIV programs and identify cost-effective interventions.



CHiPs in South Africa



Explaining the study in Zambia



Blood testing in South Africa

# Successful Delivery of Home-based HIV Counseling and Testing: Lessons Learned

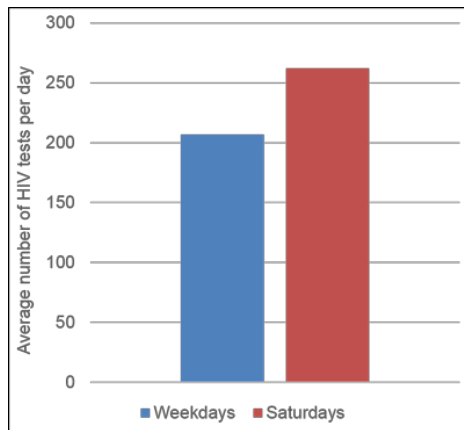
## Home-Based Testing Improves Uptake of HCT Among Pregnant Women in Zambia

During home visits in four study communities in Zambia, nearly 40% of pregnant women had not yet tested for HIV through antenatal care (ANC) services. HIV prevalence among these women was high at 12.3% of those accepting HIV testing, nearly double the rate seen among women in ANC programs (6.3%). Among all pregnant women participating in the intervention, knowledge of HIV status – defined as self-reported HIV-positive, tested by study staff in the household, or tested elsewhere within the past six months – increased from 60% before the PopART household intervention to 95.1% after the intervention. Community wide, home-based testing may be an important tool for finding undiagnosed HIV infections among pregnant women, particularly those not yet tested through antenatal care. (Besa, S.. CROI 2017 (poster presentation). Seattle, Wash.)

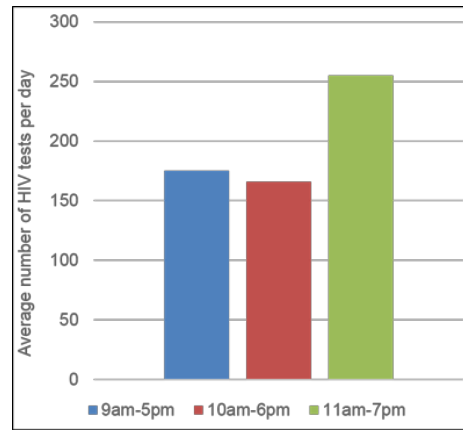
## Working Evening and Weekend Schedules is Effective in Reaching More Men for Home-based HIV Testing

Field teams have been challenged to find men at home to receive home-based HIV counseling and testing (HB-HCT) and other components of the PopART study intervention. The South African study site implemented non-standard work hours (late shifts and Saturday shifts) for field workers over a 14-week period in 2014 and found late shift schedules (until 7pm) and Saturday shifts significantly improved HB-HCT uptake among men. (Yang, B. IAS 2016 (poster presentation). Durban, South Africa)

**Fig. 2.**  
HB-HCT uptake among men:  
Weekday shifts versus Saturday shifts

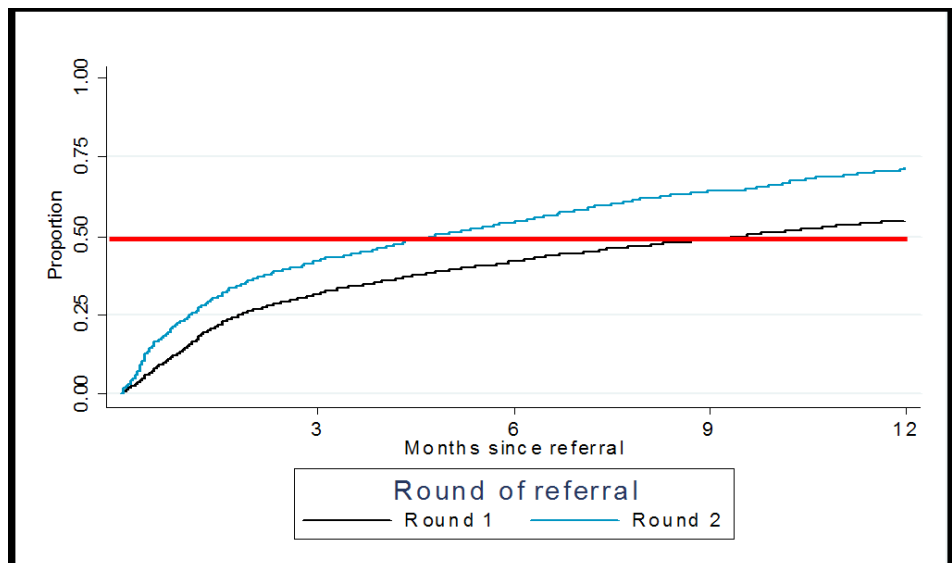


**Fig 3.**  
HB-HCT uptake comparison based on shift schedules



## ART Coverage Increases After Two Years of a UTT Intervention in Zambia

At the end of a second round of the PopART intervention in four Arm A communities in Zambia, 78% of known HIV-positive men and 79% of known HIV-positive women were on ART. This is compared with 64% and 69%, respectively, at the start of the round. The median time to start ART was ~5 months in the second round, compared with ~9.5 months in the first round. The shorter time to ART initiation in the second round was likely attributable to several factors including an increased focus by the community health workers on linkage to care in the second round compared with the first round, an increasing familiarity with and acceptance of the intervention with time, and increased coordination between community health workers and the clinic to facilitate linkage. (Floyd, S. CROI 2017 (poster presentation). Seattle, Wash.)



**Fig. 4.** Time to start ART after CHiP Referral to care, by round in which referral was given

## High Levels of Self-reported Personal Accomplishment Amongst Three Cadres of Health Workers

Key to the study intervention is the delivery of community wide HIV testing, treatment and linkage to care by the CHiPs. Their understanding, enthusiasm and passion for their work is a critical component to the success of the entire study. A component of a self-administered survey on HIV stigma sought to explore work satisfaction amongst a group of consenting health care workers, including CHiPs teams, to assess their evaluation of their work. Health workers are vulnerable to high levels of job-related stress and burnout in settings with high disease burden and limited resources. Survey results at baseline (2014-15), however, reveal surprisingly low levels of job stress in these high-burden contexts. While this is encouraging, additional research is needed to understand the effectiveness of quantitative measures of stress and whether high levels of personal accomplishment may build resilience and offer a protective effect from burnout. *(Bond, V. IAS 2016 (poster presentation). Durban, South Africa)*

## Healthcare Worker Reflections on the Relationship Between Health Facility Space and HIV Stigma in 21 South African and Zambian Health Facilities – The Elephant in the Room of HIV Service Delivery?

Earlier research identified that a barrier to community residents receiving HIV testing or ART in government clinics was the potential exposure to stigma if a participant was seen receiving these services at the clinic. Further analysis has identified five specific factors contributing to these fears and experiences. These factors are: physical infrastructure, material items, patient flow, relationships within the clinic and personal HIV and social individual identity. For example, clinic layout may not permit private conversations or may group clients for HIV-related services on specific benches, and clinic materials such as visit cards or referral slips may use a specific color for HIV-related services. People living with HIV (PLWH) who are closer to diagnosis, and/or belonging to a group assigned a more marked identity, are more vulnerable to fears of being seen at the clinic. Hence, stigma within health facilities can be considered ‘the elephant in the room’ of HIV service delivery. PLWH sometimes ‘feel’ uncomfortable in ways not immediately obvious. Similarly, stigma is both anticipated and experienced in ways not always either intended or immediately discernible. *(Bond, V. IAS 2016 (poster presentation). Durban, South Africa)*

## Health Care Worker Perceptions of Stigma

Stigma (experienced or anticipated) can be a barrier for people to receive HIV testing or care at health care facilities. Health care workers (HCWs) at the 21 clinics in the study participated in an assessment of their attitudes--and their perceptions of the attitudes of their community and fellow HCWs—toward three key population groups: men who have sex with men, female sex workers, and young women who became pregnant before marriage. The HCWs who were interviewed perceived that stigmatizing attitudes toward these groups were prevalent in general, but that the interviewees themselves and their co-workers were less likely to treat people in these groups poorly or to hold stigmatizing attitudes toward them. Overall, interviewees in Zambia reported greater levels of perceived stigma than the interviewees in South Africa. *(Krishnaratne, S. IAS 2016 (poster presentation). Durban, South Africa)*



**Fig. 5. A field worker performs a finger prick HIV test**

## PopART and the UNAIDS's 90-90-90 Target

### Reaching 90-90-90? PopART in Zambia

The HPTN 071 (PopART) study previously reported that one round of household visits to provide HIV testing and linkage to care in study communities substantially increased the percentage of adults who knew their HIV status, and the percentage of HIV-infected clients on ART. The findings from the four Arm A communities in Zambia, after a second round of household visits, show a further increase in the estimated percentage of HIV-infected community members who knew their status to 86% (approaching the first 90) and the percentage of those on ART among those aware of their HIV infection to 80% (approaching the second 90). The largest gains were seen among those



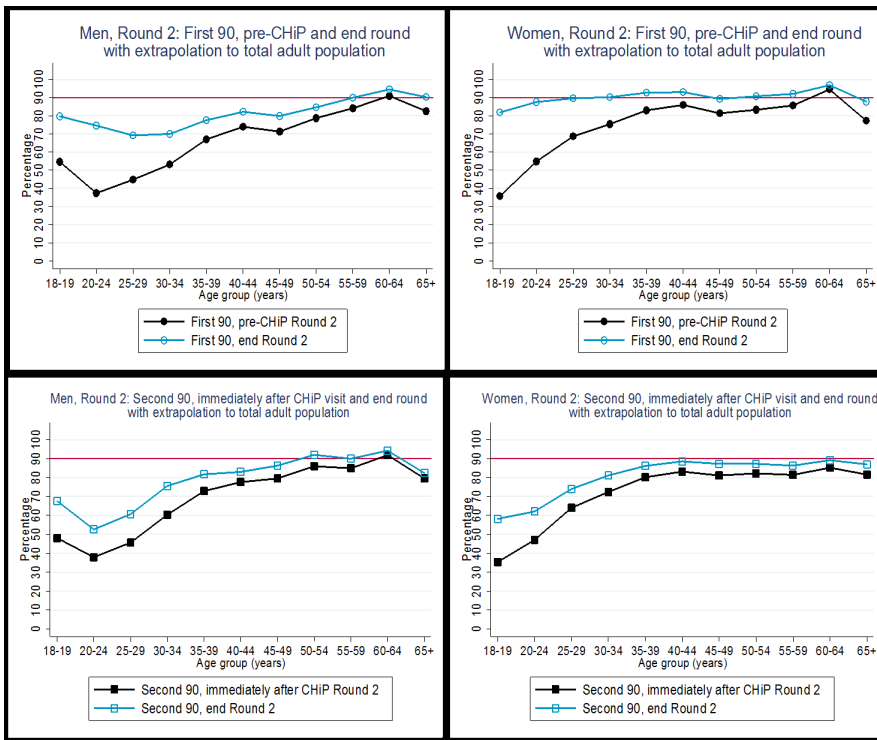


Fig. 6. Estimated success at reaching the first two '90's by sex and age group

who did not participate in the prior round (most commonly because they were not previously resident in the community). Older adults achieved consistently higher ART coverage than younger adults although overall coverage increased across all age ranges. The high mobility, especially amongst the young (18-30 years-old), and large number of new individuals accepting testing for the first time in the second round emphasize the need for repeated visits in these high density urban communities if the UNAIDS targets are to be achieved. In addition, there remains a key need for additional strategies to reach young adults. (Hayes, R. CROI 2017 (poster presentation). Seattle, Wash.)

### Community Intervention Improves Adolescent HIV Status Knowledge in Zambia

Young people living in high HIV burden communities are particularly vulnerable to HIV acquisition in addition to being the most challenging age group to engage in testing and accessing care. Uptake of the community-wide household-based PopART intervention was very high (97.7%) among adolescents 15-19 years old who were reached in the household of four Arm A communities in Zambia. The acceptance rate of HCT among these young men and women was high, and similar for women and men, at 81.4% and 80.4% respectively. Following the CHiPs' visit, knowledge of HIV status among young men and women found in the households – defined as self-reported HIV-positive, receiving HCT from the CHiPs or reporting an HIV-negative test in the previous 12 months – increased from 26.5% to 88.4% among those who consented to the intervention. However, while uptake of HCT was dramatically enhanced through the household approach for those present, further efforts are needed to reach young men as more males (32.7%) than females (20.2%) were not at home at the time of CHiPs visits. (Shanaube, K. CROI 2017 (poster presentation). Seattle, Wash.)

Indicator	Baseline	End of Annual Round
Self reported HIV positive	62	62
Tested in last 12 months (Accepted HCT by CHiPs)	1,803	1,803
Tested in last 12 months (Declined HCT by CHiPs)	704	704
Accepted HCT (not tested in last 12 months)	*NA	5,987
<b>TOTAL</b>	<b>2,569</b>	<b>8,556</b>
Known HIV status at different study points (%)	<b>26.5%</b> (2,569/9,683)	<b>88.4%</b> (8,556/9,683)



U.S. NATIONAL INSTITUTES OF HEALTH:  
National Institute of Allergy and Infectious Diseases  
National Institute of Mental Health  
National Institute on Drug Abuse