HIV Testing Patterns in Two-Community Based Approaches to Universal Test and Treat in the HPTN 071 (PopART) Intervention in South Africa

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BACKGROUND

HPTN 071 (PopART) is a community-randomised trial conducted in 21 communities in Zambia and South Africa (SA) with a population of over 1 million individuals, to measure the impact of a combination HIV prevention intervention on population-level HIV incidence.

The combination HIV prevention intervention was delivered 2014-2017 in annual rounds by Community HIV-care Providers (CHPs), who provided home-based HIV testing services (HTS) door-to-door to the community, in addition to tuberculosis (TB) screening, sexually transmitted infections (STI) screening, male and female condom demonstrations with the provision of male and female condoms, if applicable household members were referred into the primary health care facility for HIV care, the initiation of antiretroviral therapy (ART), the prevention of mother-to-child transmission (PMTCT) for women, voluntary medical male circumcision (VMMC) for males, TB treatment, STI care, sexual and reproductive health services, and family planning services (Figure 1).

In response to it being challenging to reach a high proportion of adults solely through home-based HTS (HBHTS), particularly among men, CHPs also offered HIV testing services in mobile tents in areas of high foot traffic. We analysed data collected during HBHTS and tent-HTS to determine to what extent men could be reached through tent-HTS as compared to HBHTS, and compared other demographic characteristics between HBHTS and tent-HTS to understand HIV testing patterns.

METHODS

From April 2017-December 2017, when both HBHTS and tent-HTS were offered by CHPs in six SA communities, tent-HTS was conducted at public transport hubs (4 days), shopping centres (13 days), schools/libraries (6 days), and a community event (1 day). 3-5 tent-HTS events were conducted in each community. CHPs conducted HIV testing services through a finger-prick rapid test using the South African National HIV testing services serial testing algorithm, and the full services of the PopART intervention that is also offered during the home visits. Demographic and health data were captured onto an electronic data capture device.

Multivariable logistic regression analysis was used to compare the population reached through HBHTS versus tent-HTS on gender, age, history of prior HIV testing, status as a presumptive TB case, and community.

RESULTS

32,032 HIV tests were done through home-based HIV testing services and 402 tent HIV testing services. Table 1 shows characteristics of the population tested.

Those testing through tent-HTS testing services were more likely than those testing through home-based HIV testing services to be men (aOR 1.9, 95%CI 1.5-2.3), more likely to be from the older age-groups of 25-29, 30-39, 40-49, 50+ compared to group 0-19 years (p<0.001), and more likely to be residents of communities SAS and SA6 (agricultural communities, located further away from Cape Town), HIV positivity was slightly higher due to the home-based HIV testing services as compared to tent HIV testing services but was not significant (2.1% vs 1.7%).

CONCLUSION

Tent-HTS testing services in high traffic areas proved successful in reaching men, although the absolute number of additional tests was relatively small. A variety of methods are needed to reach both men and women in communities where many adults are mobile and relatively difficult to reach at home during normal working hours. Tent-HIV testing services was also relatively more successful in agricultural areas. Studies with more frequent and more systematic offer of such services are required to understand differences in home-based versus home-based HIV testing services and tent-HIV testing services. There may have been a further uptake of tent-HTS in the two agricultural areas as these two communities are rural areas where many community members work on the farms and may not be home during normal working hours.

Table 1. Characteristics of individuals tested for HIV by Community HIV-care Providers at home and in tents in two communities in six SA communities during April-December 2017

<table>
<thead>
<tr>
<th>Test Method</th>
<th>n</th>
<th>%</th>
<th>p-value</th>
<th>age</th>
<th>gender</th>
<th>previous HIV testing</th>
<th>presence of pregnancy</th>
<th>education</th>
<th>occupation</th>
<th>distance to capital (km)</th>
<th>distance to the capital</th>
<th>aOR</th>
<th>95% CI</th>
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</thead>
<tbody>
<tr>
<td>HBHTS</td>
<td>31,630</td>
<td>32,032</td>
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<td></td>
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<tr>
<td>Tent</td>
<td>392</td>
<td>1,032</td>
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