HIV Testing and Counseling Leads to Immediate Consistent Condom Use Among South African Stable HIV-Discordant Couples

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Objective: Effective behavioral HIV prevention is needed for stable HIV-discordant couples at risk for HIV, especially those without access to biomedical prevention. This analysis addressed whether HIV testing and counseling with ongoing counseling and condom distribution lead to reduced unprotected sex in HIV-discordant couples.

Results: At baseline, participants who knew their HIV status for less time experienced higher predicted probabilities of unprotected sex in the last month: 0–7 days, 0.71; 8–14 days, 0.52; 15–30 days, 0.49; >30 days, 0.26. At month 1, once all participants had been aware of their HIV-discordant relationships for ≥1 month, predicted probabilities declined: 0–7 days, 0.08; 8–14 days, 0.08; 15–30 days, 0.15; >30 days, 0.14. Lower predicted probabilities were sustained through month 12: 0–7 days, 0.08; 8–14 days, 0.11; 15–30 days, 0.05; >30 days, 0.19.

Conclusions: Unprotected sex declined after HIV-positive diagnosis and declined further after awareness of HIV discordance. Identifying HIV-discordant couples for behavioral prevention is important for reducing HIV transmission risk.

Key Words: HIV, condom, unprotected sex, HIV counseling and testing, discordant couple, South Africa

However, many HIV-infected partners are not eligible for antiretroviral therapy, and preexposure prophylaxis is not yet available in most settings.

Behavioral interventions, such as individual and couples HIV testing and counseling (HTC), remain viable approaches to prevention within HIV-discordant couples. Couples HTC is associated with increased condom use.\(^8\)\(^\rightarrow\)\(^12\) However, timing of condom use is not well understood nor is whether those who continue engaging in unprotected sex engage in fewer unprotected acts. Although recent World Health Organization guidance recommends couples HTC, it indicates that the quality of evidence is weak, which suggests that additional research is needed.\(^13\)

The objective of this analysis is to assess whether HIV-infected persons in stable HIV-discordant couples increase condom use after individual or couples HTC and whether this behavior is maintained in the presence of monthly counseling for HIV-infected partners, 3 monthly HTC for HIV-uninfected partners, and condom access for both partners. We also assess the impact of HTC on number of sexual acts among persons who continue to engage in unprotected sex. To assess these questions, we use behavioral data from South African HIV-discordant couples enrolled in Partners in Prevention HSV/ HIV Transmission Study.\(^14\)

**METHODS**

**Participants**

Partners in Prevention HSV/HIV Transmission Study was a randomized placebo controlled trial to assess the impact of acyclovir taken twice daily by HIV-1/HSV-2–coinfected persons on HIV-1 disease progression\(^15\) and HIV-1 transmission to HIV-1–uninfected sex partners.\(^14\)

Couples were followed for up to 24 months from 2004 to 2008 or until death, dropout, or site closure. This analysis uses data from 508 HIV-infected participants enrolled in the South African sites: Gugulethu, Orange Farm, and Soweto. Three HIV-infected participants enrolled with 2 HIV-uninfected partners, but for this analysis, only the sexual behavior of the first HIV-uninfected partner is analyzed.

Couples were screened to identify which were HIV discordant and eligible. HIV-infected participants were eligible if they had CD4 \(\geq 250\), no AIDS-defining illness, and were HSV-2 seropositive. Couples who were not in stable relationships (ie, those who did not expect to remain together \(\geq 24\) months and those with no sexual activity for \(\geq 3\) months) were excluded. Detailed descriptions of recruitment, eligibility, and baseline characteristics are available.\(^14\)\(^\rightarrow\)\(^17\)

**Ethical Approval**

The trial was approved by the Human Subjects Review Committee at the University of Washington and ethical review committees at participating sites. This analysis was approved by the Public Health-Nursing Institutional Review Board at the University of North Carolina at Chapel Hill, Chapel Hill.

**Behavioral Interventions**

Many HIV-infected participants, especially in Soweto, had learned that they were HIV positive months before baseline. Some of these participants had initially learned their HIV status through individual HTC, and others had learned their HIV status through couples HTC. By baseline, all HIV-discordant couples, even those who had been tested previously, had participated in couples HTC, typically in the month before baseline. Couples HTC emphasized the risk for HIV transmission within the couple, and risk reduction through abstinence or consistent condom use. Additionally, HIV-infected participants were counseled about HIV risk reduction and provided with free condoms monthly. They were not re-tested for HIV. HIV-uninfected participants received HTC quarterly, typically with the HIV-infected partner, and also had access to free condoms.

**Data Collection**

Trained research staff collected demographic and sexual behavior information at baseline and monthly follow-up using interviewer-administered questionnaires.

**Factors of Interest and Outcome Assessment**

The primary factor of interest was timing of HTC for the HIV-infected participant. At baseline, HIV-infected participants reported the date of their first HIV-positive test. This date was subtracted from the baseline date to determine the number of days since HTC. Some HIV-infected participants had been tested \(\geq 30\) days before baseline (previously tested). Others learned their HIV status \(< 30\) days before baseline (newly tested). For some analyses, the newly tested group was further divided into 3 categories: HTC \(\leq 7\), 8–14, and 15–30 days before baseline. We explored cut-points within the previously tested category but did not observe meaningful differences if this category was divided at HTC \(> 60\) days (\(P = 0.7\)) or \(> 365\) days (\(P = 0.3\)).

The primary outcome was unprotected sex self-reported by the HIV-infected participant. At baseline and each month thereafter, HIV-infected participants were first asked the total number of vaginal and anal sex acts they had with their study partner in the last month and, of those acts, the number of times a condom was used. From these responses, numbers of sex acts and unprotected sex acts in the last month were calculated.

At baseline, for previously tested persons (\(> 30\) days), all unprotected sex acts must have occurred after HTC. For newly tested participants, unprotected sex could have occurred before becoming aware of their HIV status or soon after. Persons tested \(\leq 7\) days before baseline were unaware of their HIV status for most of the month preceding baseline and serve as a proxy for persons unaware of their HIV-positive status. At all subsequent visits, all HIV-infected participants were aware of being HIV infected and in HIV-discordant relationships for the full month preceding the visit (Fig. 1).

We compared the sexual behavior of newly and previously tested persons at baseline and months 1, 6, and 12. We hypothesized that at baseline the persons tested \(\leq 7\) days before baseline would have the highest prevalence of unprotected sex
The # = 0.1. Covariates

Individual-level variables were gender,| 

Schematic representation of baseline and longitudinal analyses. The figure displays the four exposure groups and time periods when outcomes are assessed. At baseline, those in the newly tested groups (≤7, 8–14, and 15–30 days) are aware of their HIV status for only part of the month before baseline (indicated in gray), whereas those in the previously tested group (>30 days) are aware of their HIV status for the entire month before baseline (indicated in black). The more recently someone was tested, the longer they spent unaware of their HIV status. By months 1, 6, and 12, persons in all groups had known their HIV status for >30 days. After baseline, HIV-infected partners had access to counseling and condoms each month. HIV-discordant couples had access to couples HIV counseling and testing at 3, 6, 9, and 12 months.

and the highest number of unprotected acts, but by month 1, all groups would be comparable.

Baseline Analyses

At baseline, the primary comparison of interest was whether HIV-infected participants aware of their HIV status for a fraction of the previous month (≤7 days) reported more sexual risk than HIV-infected participants aware of their HIV status for the entire previous month. This comparison assesses whether learning one's own HIV-positive status through individual or couples HTC is protective. To assess this question, a Zero-Inflated Negative Binomial (ZINB) model was implemented. A ZINB model was appropriate because data were overdispersed, and there were a large number of zero counts. By solving 2 simultaneous equations, ZINB models generate 2 sets of parameters.\(^1\) The first set, generated using logistic regression, estimates the odds of being in a group that can only get a zero count (ie, zero unprotected sex acts in the last month). The second set, generated using negative binomial (NB) regression, estimates the relative number of unprotected sex acts between the exposed and unexposed, conditional on not being in the first group. To mitigate influence of extreme observations, values >15 sex acts (N = 20, median number of acts = 25) were truncated.

Longitudinal Analyses

In longitudinal analyses, the primary comparison of interest was whether there had been a decline in unprotected sex after baseline among those tested ≤7 days before baseline. At month 1, this comparison assessed whether couples HTC was associated with a rapid decline in unprotected sex. At months 6 and 12, this comparison assessed whether HTC and ongoing counseling and condom distribution was associated with a sustained decline in unprotected sex. We used generalized estimating equations to assess the effect of HTC timing on sexual behavior at baseline, and months 1, 6, and 12 among couples remaining HIV discordant. Logistic models were used in the entire population, and the NB models were restricted to persons reporting ≥1 unprotected sex act in a given period. In both logistic and NB models, to account for within-subject correlation, robust variance estimators with exchangeable correlation matrices were used.\(^1\) We calculated odds ratios (OR), relative numbers of unprotected acts, predicted probabilities of unprotected sex, predicted numbers of unprotected sex acts, and 95% confidence intervals (CIs).

Both baseline and longitudinal models were restricted to persons sexually active with their study partners. Analyses were conducted in SAS v.9.2. (SAS Institute, Cary, NC).

Covariates

A directed acyclic graph was used to identify possible confounders of the association between time since HTC and unprotected sex.\(^2\) Individual-level variables were gender, age, education, having a living child, having ≥1 sex partner in the previous month (including ≥1 study partner), and study site. Couple-level variables were marital and cohabitation status, relationship length, relationship violence in the past 3 months, and male–female age difference.

To determine which variables to include in the final adjusted analyses, we first implemented models with all covariates presented in Tables 1 and 2 and interaction terms for age, gender, and site. Interaction terms were retained if they reached statistical significance at α = 0.1. Covariates were removed one-by-one, and retained if removal resulted in >10% change in estimate.\(^2\) Fully adjusted models were implemented as sensitivity analyses.

RESULTS

Descriptive Statistics

Soweto was the most common enrollment site (47%), followed by Gugulethu (39%), and Orange Farm (14%) (Table 1). Most HIV-infected participants (77%) were women. The mean age of HIV-infected participants was 33 years, and 29% had completed secondary school. Most HIV-infected participants (82%) had at least 1 child, and few (4%) reported >1 sex partner in the last month. Two thirds of couples were married or cohabitating; 79% had been together for >1 year (Table 2). On average, men were 4.1 years older than women, regardless of which partner was HIV infected. Few HIV-infected participants (4%) reported recent relationship violence.

At baseline, 13% of HIV-infected participants were tested ≤7 days before baseline, 26% 8–14 days before baseline, 11% 15–30 days before baseline, and 50% >30 days before baseline (Table 1). The median time since HTC was 29 days (interquartile range: 11 days–9.2 months) overall and 9.2 months (interquartile range: 3.8 months–25.6 months) among the previously tested.
TABLE 1. Baseline Characteristics of HIV-Infected Participants by Time Since HTC

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Newly Tested</th>
<th>8–14 d n = 134 (26%)</th>
<th>15–30 d n = 254 (50%)</th>
<th>Prevalently Tested</th>
<th>8–14 d n = 134 (26%)</th>
<th>15–30 d n = 254 (50%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Male</td>
<td>14 (21.5)</td>
<td>31 (23.1)</td>
<td>16 (29.1)</td>
<td>58 (22.8)</td>
<td>31 (24.6)</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>51 (78.5)</td>
<td>103 (76.9)</td>
<td>39 (70.9)</td>
<td>196 (77.2)</td>
<td>103 (74.6)</td>
</tr>
<tr>
<td>Age, yrs</td>
<td>&lt;25</td>
<td>12 (18.8)</td>
<td>18 (13.6)</td>
<td>4 (7.3)</td>
<td>48 (18.9)</td>
<td>18 (13.6)</td>
</tr>
<tr>
<td></td>
<td>25–34</td>
<td>27 (42.2)</td>
<td>53 (40.2)</td>
<td>35 (63.6)</td>
<td>132 (52.0)</td>
<td>53 (40.2)</td>
</tr>
<tr>
<td></td>
<td>≥35</td>
<td>25 (39.1)</td>
<td>61 (46.2)</td>
<td>16 (29.1)</td>
<td>74 (29.1)</td>
<td>61 (46.2)</td>
</tr>
<tr>
<td>Education</td>
<td>&lt;Secondary</td>
<td>44 (67.7)</td>
<td>111 (82.8)</td>
<td>37 (67.3)</td>
<td>167 (67.7)</td>
<td>111 (82.8)</td>
</tr>
<tr>
<td></td>
<td>≥Secondary</td>
<td>21 (32.3)</td>
<td>23 (17.2)</td>
<td>18 (32.7)</td>
<td>87 (32.3)</td>
<td>23 (17.2)</td>
</tr>
<tr>
<td>Has a living</td>
<td>child</td>
<td>Yes</td>
<td>55 (84.6)</td>
<td>100 (74.6)</td>
<td>44 (80.0)</td>
<td>100 (74.6)</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>10 (15.4)</td>
<td>34 (25.4)</td>
<td>11 (20.0)</td>
<td>36 (14.2)</td>
<td>34 (25.4)</td>
</tr>
<tr>
<td></td>
<td>≥1 sex partner</td>
<td>Yes</td>
<td>4 (6.2)</td>
<td>6 (4.5)</td>
<td>1 (1.8)</td>
<td>6 (4.5)</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>61 (93.8)</td>
<td>128 (95.5)</td>
<td>54 (98.2)</td>
<td>247 (97.2)</td>
<td>128 (95.5)</td>
</tr>
<tr>
<td>Study site</td>
<td>Gugulethu</td>
<td>24 (36.9)</td>
<td>79 (59.0)</td>
<td>30 (54.5)</td>
<td>62 (24.4)</td>
<td>79 (59.0)</td>
</tr>
<tr>
<td></td>
<td>Orange Farm</td>
<td>13 (20.0)</td>
<td>22 (16.4)</td>
<td>10 (18.2)</td>
<td>28 (11.0)</td>
<td>22 (16.4)</td>
</tr>
<tr>
<td></td>
<td>Soweto</td>
<td>28 (43.1)</td>
<td>33 (24.6)</td>
<td>15 (27.3)</td>
<td>164 (64.6)</td>
<td>33 (24.6)</td>
</tr>
</tbody>
</table>

*Results may not add to column totals due to missing data.

At baseline, almost all HIV-infected participants reported ≥1 sex act in the last month with their study partner (new: 94.1%, previous: 96.1%, P = 0.3) (Table 3). Among those newly tested, 53% reported ≥1 unprotected sex act in the last month compared with 25% of those previously tested (OR: 3.3, 95% CI: 2.3 to 4.8). Of those reporting any unprotected sex, the mean numbers of unprotected acts were 8 (newly tested) and 6 (previously tested).

One month after baseline, most HIV-infected participants reported sexual activity with study partners (new: 87.9%, previous: 89.1%, P = 0.7). Nine percent of those newly tested and 13% of those previously tested reported any unprotected sex in the last month (OR: 0.7, 95% CI: 0.4 to 1.3). Of those reporting any unprotected sex, the mean numbers of unprotected acts were 8 (newly tested) and 7 (previously tested).

Twelve months after baseline, most HIV-infected participants continued to report sexual activity with study partners (new: 73.6%, previous: 78.2%, P = 0.3). Six percent of those newly tested and 14% of those previously tested reported any unprotected sex in the last month (OR: 0.4, 95% CI: 0.2 to 0.8). The mean number of unprotected sex acts was 6 in both groups.

**Baseline Analyses**

In multivariable analysis with adjustment for study site and marital status, the odds of being in a group engaging in unprotected sex were higher among those tested ≤7 days before baseline compared with those tested >30 days before baseline (adjusted OR: 9.3, 95% CI: 3.6 to 24.2). Similarly, the number of unprotected sex acts was higher among those tested ≤7 days before baseline compared with those tested >30 days before baseline (adjusted relative number: 1.7, 95% CI: 1.2 to 2.6). The final adjusted model differed minimally from the unadjusted model (Table 4) or the fully adjusted model (2%, logistic parameter estimate; 8%, NB parameter estimate). Both the adjusted odds and adjusted relative number of unprotected sex acts were higher among those tested 7–14 and 15–30 days before baseline compared with those tested >30 days before baseline (Table 4).

**Longitudinal Analyses**

At baseline, the odds of unprotected sex in the last month were substantially higher among those tested ≤7 days before baseline than those tested >30 days before baseline (OR: 7.01, 95% CI: 3.80 to 12.94), but these groups were more comparable by month 1 (OR: 0.53, 95% CI: 0.18 to 1.58) and remained so at month 6 (OR: 0.45, 95% CI: 0.15 to 1.34) and month 12 (OR: 0.40, 95% CI 0.10 to 1.53).

The odds of unprotected sex were lower at month 1 compared with baseline within each group: ≤7 days, OR = 0.03; 8–14 days, OR = 0.09; 15–30 days, OR = 0.19; >30 days, OR = 0.45. In all groups, the odds of unprotected sex remained lower at month 6 compared with baseline: ≤7 days, OR = 0.04; 8–14 days, OR = 0.17; 15–30 days, OR = 0.16;
30 days, OR = 0.69. Similarly, in all groups, the odds of unprotected sex remained lower at month 12 compared with baseline: <7 days, OR = 0.04; 8–14 days, OR = 0.10; 15–30 days, OR = 0.06; >30 days, OR = 0.66 (Figure 2a). All ORs were significant at an alpha level of 0.05. Model-building resulted in no adjustment. Full adjustment resulted in a 7% change in the primary comparison of interest (month 1 versus baseline among persons tested ≤7 days before baseline).

In longitudinal NB analysis, all newly tested participants (<30 days) were analyzed together because of sparse data. The number of unprotected sex acts was higher among the newly tested than the previously tested at baseline (1.4, 95% CI: 1.1 to 1.8), but the groups were the same by month 1 (relative number: 1.0, 95% CI: 0.6 to 1.8) and remained so at month 6 (relative number 0.9, 95% CI: 0.5 to 1.7) and month 12 (relative number: 1.1, 95% CI: 0.6 to 2.0). Among the newly tested, the number of unprotected sex acts in the last month was similar at month 1 (0.8, 95% CI: 0.5 to 1.3), month 6 (0.8, 95% CI: 0.4 to 1.1), and month 12 (1.0, 95% CI: 0.6 to 1.7) compared with baseline, but the results were imprecise. Among previously tested persons, the number of unprotected sex acts was the same at month 1 (1.1, 95% CI: 0.9 to 1.5), month 6 (1.0, 95% CI: 0.7 to 1.5), and month 12 (1.2, 95% CI: 0.9 to 1.7) compared with baseline, though also imprecise.

### TABLE 3. Sexual Behavior in the Previous Month Comparing Newly to Previously Tested at Baseline, Month 1, and Month 12

<table>
<thead>
<tr>
<th>Timing of Testing</th>
<th>Entire population</th>
<th>New (N = 254)</th>
<th>Previous (N = 254)</th>
<th>New (N = 239)</th>
<th>Previous (N = 248)</th>
<th>New (N = 174)</th>
<th>Previous (N = 202)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total sex acts</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N (%) ≥1</td>
<td>239 (94.1)</td>
<td>244 (96.1)</td>
<td>210 (87.9)</td>
<td>221 (89.1)</td>
<td>128 (73.6)</td>
<td>158 (78.2)</td>
<td></td>
</tr>
<tr>
<td>N (%) = 0</td>
<td>15 (5.9)</td>
<td>10 (3.9)</td>
<td>29 (12.1)</td>
<td>27 (10.9)</td>
<td>46 (26.4)</td>
<td>44 (21.8)</td>
<td></td>
</tr>
<tr>
<td>Mean (SD) count</td>
<td>7.1 (10.3)</td>
<td>6.9 (9.3)</td>
<td>5.3 (6.5)</td>
<td>6.3 (7.7)</td>
<td>4.4 (5.3)</td>
<td>4.9 (5.6)</td>
<td></td>
</tr>
<tr>
<td>Median (IQR) count</td>
<td>4 (3–8)</td>
<td>4 (3–8)</td>
<td>3 (2–5)</td>
<td>4 (2–8)</td>
<td>3 (0–7)</td>
<td>3 (1–7)</td>
<td></td>
</tr>
</tbody>
</table>

### TABLE 4. Unadjusted and Adjusted Baseline ZINB Models by Time Since HTC

<table>
<thead>
<tr>
<th>Time since HTC</th>
<th>OR of Any Unprotected Sex (95% CI)</th>
<th>Relative No. of Unprotected Acts (95% CI)</th>
<th>OR of Any Unprotected Sex (95% CI)</th>
<th>Relative No. of Unprotected Acts (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥30 days</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>15–30 days</td>
<td>2.6 (1.2 to 5.4)</td>
<td>1.5 (0.9 to 2.4)</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>8–14 days</td>
<td>3.5 (1.9 to 6.4)</td>
<td>1.1 (0.8 to 1.6)</td>
<td>4.2 (2.2 to 8.0)</td>
<td>1.2 (0.8 to 1.7)</td>
</tr>
<tr>
<td>≤7 days</td>
<td>9.0 (3.4 to 23.9)</td>
<td>1.7 (1.2 to 2.6)</td>
<td>9.3 (3.5 to 24.2)</td>
<td>1.7 (1.2 to 2.6)</td>
</tr>
</tbody>
</table>

*Adjusted for marital status and study site.
DISCUSSION

These findings strongly suggest that HTC, and particularly couples HTC, lead to the adoption of consistent condom use in these stable HIV-discordant couples. At baseline, HIV-infected participants who had just learned their HIV status were much more likely to report unprotected sex (71%) than HIV-infected participants who had known their HIV status for the full month (26%). One month later, after both groups had received couples HTC, the proportion reporting unprotected sex declined from 71% to 8%. In the presence of monthly counseling for the HIV-infected participant, 3 monthly HTC for the HIV-uninfected participant, and condom access for both, low levels of unprotected sex persisted for 1 year (8%).

The protective nature of couples HTC for HIV-discordant couples is consistent with findings from earlier work in Africa. Couples HTC is associated with high condom use among HIV-infected persons, particularly persons in HIV-discordant relationships. Our analysis is the first to show that condom use occurs within the first week after couples HTC.

Our findings further suggest that a couple’s mutual awareness of HIV discordance is more protective than a person’s individual awareness of HIV-positive status. This finding is supported by the modest decline in unprotected sex observed from baseline to month 1 among HIV-infected persons who had received HTC previously. Although these persons had sought HTC before, some may have sought individual HTC and not disclosed to sex partners, learned their partner’s HIV status, or received counseling with partners until just before baseline when they received couples HTC.
Couples HTC may not before and may have an Additionally, there can be used to Couples HTC assures simultaneous disclosure, has experienced an even higher probability of unprotected sex than a group unaware for the entire month would be expected to unprotected sex at baseline. If this trend were to continue the relationship between the amount of time someone was aware of their HIV status, the more likely they were to report any sex was monotonic. The more time someone spent unaware of their HIV status and the odds of unprotected sex was strong correlation (84%) between the HIV-infected and HIV-uninfected partners with respect to the number of self-reported unprotected sex acts at baseline. Caution is needed when generalizing results beyond these stable HIV-discordant couples. Persons enrolling in HIV prevention trials may be more motivated to adopt HIV prevention behaviors than the general population. Additionally, persons who are willing to enroll with partners may differ from persons who are unwilling. Most couples were in long-term marital or cohabiting relationships, and levels of intimate partner violence were low. Couples HTC may not be as protective in segments of the population in less stable more violent partnerships. Understanding effectiveness of couples HTC in these less stable partnerships is an area for future investigation.

Our findings raise questions about the current HTC paradigm, which is not typically couple oriented. When stable couples learn that they are in HIV-discordant relationships they adopt consistent condom use quickly, but such marked behavior change is not typically reported after individual HTC. Couples HTC assures simultaneous disclosure, has a substantial impact on sexual behavior, and may have an impact on adherence to biomedical prevention. However, most current HTC efforts are aimed at individuals, not couples, leading to missed HIV prevention opportunities. Strategies, such as home-based testing, supportive HIV-disclosure counseling, and partner notification, can be used to inform persons of HIV discordance. Such couple-oriented strategies have recently been recommended in the World Health Organization’s Guidance on Couples HIV Testing and Counseling.

In summary, our results add to a growing body of evidence demonstrating that couples HTC is effective at rapidly increasing condom use, facilitating ongoing condom use, and likely lowering rates of HIV transmission. Although initial findings were published nearly 2 decades ago, most countries have been slow to implement couple-based strategies. With expanding HTC capacity in Africa, decision-makers now need to consider how to reach couples. Such expansion will help a high-risk group make informed sexual health decisions and likely prevent a substantial number of HIV infections.

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