The Impact Of Financial Incentives and a Decision-support App on the HIV Care Cascade

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BACKGROUND

In South Africa, the HIV care cascade remains suboptimal among men. In a 2x2 factorial cluster randomized controlled trial, "Home-Based Intervention to Test and Start" (HITS), we previously demonstrated the effectiveness of small conditional financial incentives (CFI) on home-based HIV testing uptake and the moderate effect of CFI or a gender-sensitised HIV-specific decision-support app (EPIC-HIV) on early linkage to care (<6 weeks). Leveraging 20 years of on-going HIV surveillance program in the trial area, we aim to assess the impact of HITS interventions on the HIV care cascade.

METHODS

In 2018, in uMkhanyakude district of KwaZulu-Natal, 45 communities were randomly assigned to one of four arms: (i) CFI for home-based HIV testing and linkage to care within 6 weeks (R50 [$3] food voucher each); (ii) EPIC-HIV which is based on self-determination theory; (iii) both CFI and EPIC-HIV; and (iv) standard of care. EPIC-HIV was individually offered to men via a tablet at the point of HIV test offer or 1 month after home-based HIV testing if individuals who tested positive had not linked to care.

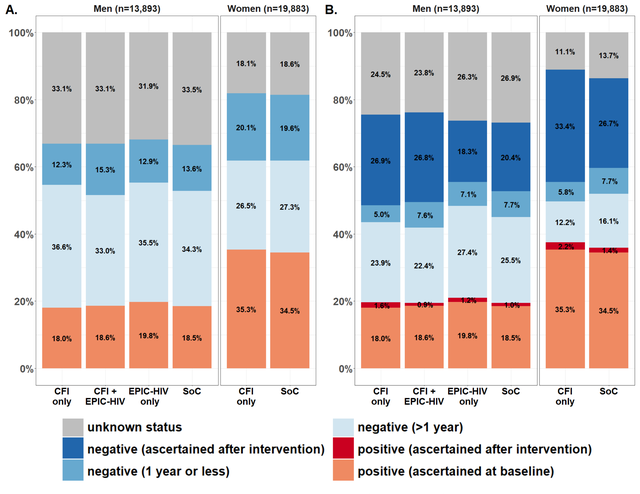


Figure 1. Documented HIV status at baseline (A) and after intervention (B) per trial arm, 2018 (n=33,776).
CFI: conditional financial incentive, EPIC-HIV: empowering people through informed choices for HIV, HITS: home-based intervention to test and start, SoC: standard of care, Note: positive status ascertained after intervention include both those tested by home-based rapid test and those who agree to provide a blood sample for the HIV surveillance survey.

Small **conditional financial incentives (CFI)** combined with home-based HIV testing significantly **increase the proportion** of people living with HIV **aware of their infection** at a community level. Neither CFI nor a decision-support App were found to increase linkage to ART and viral suppression.

Linking HITS trial data to national ART programme data and HIV surveillance program data, we estimated HIV status awareness, ART status 3 month after HITS and viral load suppression one year later. Analysis included all known HIV positive individuals in the study area including those who did not participate in the HITS trial.

RESULTS

On the 33,776 residents in the surveillance area, 2,753 men and 7,236 women were documented as HIV positive (figure 1). No significant difference was found for HIV awareness, linkage to ART and viral suppression between arms at baseline (figure 2). Compared to control arms, individuals aware of HIV-positive status were more frequent in CFI arms among men (86.1% vs 82.6%, RR 1.04 [1.00-1.09], p=0.05) and women (92.2% vs 90.4%, RR 1.02 [1.00-1.04], p=0.05) but not in the EPIC-HIV arms (figure 2A). Three months after the intervention, no differences were found for linkage to ART between arms (figure 2B).

On the 3,150 and 1,829 viral load measurements available in 2018 and 2019 respectively, viral load suppression increased but not significantly among both men (60.2% vs 57.4%, p=0.45) and women (67.4% vs 66.4%, p=0.64) with similar increase between arms (figure 2C).

CONCLUSIONS

Small CFIs combined with home-based HIV-testing significantly increase the number of PLHIV aware of their status at a community level. However, neither CFI nor EPIC-HIV were sufficient to increase the number of people on ART at 3 months. The combined intervention of both CFI and EPIC-HIV viral could improve viral suppression at a community level after a year, but additional evidence is needed considering the low sample size in our study.



Figure 2. Percentage of HIV-positive men and women aware of their status (A), on ART (B) and virally suppressed (C) per trial arm, 2018.
Note 1: total headcounts for linkage to ART before the HITS visit date are 2,739 for men and 7,179 for women
Note 2: One year after the HITS intervention, viral load measurement was available for 407 men and 1,398 women.

ADDITIONAL KEY INFORMATION

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