

**Supplement 4:** Interventions to improve the continuum of care for adolescents and young adults living with HIV in South Africa

Authors	Title	Publication and Date	Location	Number of Subjects	Ages (Target Population)	Study Type	Intervention Description	Overall Results	Median Overall Score Round 1
<b>Adolescent HIV Testing</b>									
Doherty, et al.	Effect of Home-Based HIV Counseling and Testing Intervention in Rural South Africa: Cluster Randomised Trial	<i>BMJ</i> 2013	uMzimkhulu subdistrict, KwaZulu-Natal, South Africa	4154 Adolescents and Adults	14-17, 18+ Adult Guardians	Cluster Randomized Controlled Trial; Door-to-Door Testing	Door-to-door home-based HIV testing (HBT) performed by lay counselors compared to standard of care HIV counseling and testing at local clinics.	Testing completed in 69% of HBT compared to 47% in control (PR 1.54 95% CI 1.32 to 1.81)	72.5
Rotheram-Borus, et al.	Feasibility of Using Soccer and Job Training to Prevent Drug Abuse and HIV	<i>AIDS and Behavior</i> 2016	South Africa	142 Adolescents	18-25 Unemployed Males	Community Randomized Controlled Trial	Randomized neighborhoods to immediate intervention or delayed control; Intervention: Grassroot Soccer program with trained coaches, random rapid diagnostic tests for alcohol/drugs, and vocational training.	29% testing in immediate vs. 24% in delayed (no significant difference)	50
Hershow, et al.	Using Soccer to Build Confidence and Increase HCT Uptake Among Adolescent Girls	<i>Sport in Society</i> 2015	South Africa	1953 Adolescents	12-16 (Females Only)	Pre-Post Evaluation	Survey before and after participation in SKILLZ Street intervention developed by Grassroot Soccer (GRS). SKILLZ Street female coaches delivered an afterschool education program consisting of 10, two hour bi-weekly sessions.	69% tested for HIV No control group.	63
Shanaube, et al.	Community Intervention Improves Knowledge of HIV Status of Adolescents in Zambia: Findings from HPTN 071-PopART for Youth Study	<i>AIDS</i> 2017	Results from Zambia only; Intervention also conducted in South Africa	11 175 Adolescents	15-19	Community-Randomized Clinical Trial	<b>HPTN 071 (PopART)</b> Door-to-door HIV prevention package delivered by community health workers. Intervention included in-home HIV Counseling and Testing (HCT), support for linkage to care for individuals identified living with HIV, ART adherence support, referrals for voluntary medical male circumcision	HCT uptake 80% (8,707/10,809) and awareness of an HIV-positive status tripled from 75 to 210. Home visits from providers saw the percentage of ALWH aware of their HIV status rise from 27.6% to 88.5%.  No comparison with standard care.	76

Pettifor, et al	HIVself-testing among young women in rural South Africa: A randomized controlled trial comparing clinic-based HIVtesting to the choice of eitherclinic esting or HIVself-testing with secondary distribution to peers andpartners	<i>EClinical Medicine</i> 2020	Mpumlanga, SouthAfrica	287 women	18 - 26	Randomized Controlled Trial	Standard of care HIV counseling and testing (HCT) at government clinics vs. choice of clinic based HCT or HIV self-testing kits.  +referrals for peers to receive clinic based HCT or HIV self-testing kits	146 randomized to HCT and 141 to choice. In the choice arm 95% (n=135) chose HIV self testing kits. After 3 months a significantly higher percent (92%) of participants in the choice arm reported HIV testing compared to (43%) the HCT arm with a difference of 43% (95% CI 40% - 58%). By 9 months the difference decreased to 25% (95% CI 17% - 33%). Participants in the choice arm were more likely to invite peers or partners to test (94% vs. 76%)	70
<b>Adherence</b>									
Bhana, et al.	The VUKA Family Program: Piloting a Family-Based Psychosocial Intervention to Promote Health and Mental Health Among HIV Infected Early Adolescents in South Africa	<i>AIDS Care</i> Jan 2014	KwaZulu-Natal, South Africa	65 Adolescents and Their Family Members	10-13	Randomized Controlled Trial	<b>VUKA Family Program</b> Inspired by CHAMP, the intervention consisted of 3 months and ten sessions involving a culturally-tailored cartoon storyline and curriculum. The curriculum follows the story and provides step-by-step guidance for problem solving and facilitating discussions. ALWH were assessed for feelings of stigma, knowledge of ART, adherence depression and caregiver support.	ART adherence: Intervention (I) 1.10, Control (C) -. 43 at baseline; Follow-up, $p < .05$ .  Caregiver/child communication: (I) .41, (C) -.07, $p < .09$ .  Youth knowledge of HIV treatment: (I) .27; (C) -.74, $p < .08$ .	68.5
Cluver, et al.	Achieving Equity in HIV-Treatment Outcomes: Can Social Protection Improve Adolescent ART-Adherence in South Africa?	<i>AIDS Care</i> 2016	Eastern Cape, South Africa	1059 Adolescents	10-19	Observational Cohort	Evaluated the provision of social protections on adherence. Social provisions included government cash transfers, food security, school fees/materials, school feeding, and clothing; HIV support group, sports groups, choir/art groups, positive parenting and parental supervision/monitoring.	Three social protection provisions were associated with reduced non-adherence:  Food provision (aOR .57, CI .42-.76, $p < .001$ );  HIV support group attendance (aOR .60, CI .40-.91, $p < .02$ ); High parental/caregiver supervision (aOR .56, CI .43-.73, $p < .001$ ).	75
<b>Retention in Care</b>									

Fatti, et al.	The Effectiveness and Cost-Effectiveness of Community-Based Support for Adolescents Receiving Antiretroviral Treatment: An Operational Research Study in South Africa	<i>Journal of the International AIDS Society</i> 2018	KwaZulu-Natal/Western Cape/Eastern Cape/Mpumalanga, South Africa	6706 Adolescents	10-24	Retrospective Cohort Study	Community based support (CBS) included home-based ART-related education, psychosocial support, symptom screening for opportunistic infections and support to access government grants. CBS was compared to standard of care.	Cumulative LTFU was 40% lower amongst participants receiving CBS (29.9%) compared to participants without CBS (38.9%), aHR = 0.60 (95% CI: 0.51 to 0.71); p < 0.0001).  Viral failure: at 3 years – no difference; at five years 18.8% CBS participants versus 37.2% non-CBS participants had viral failure, adjusted odds ratio = 0.24 (95% CI: 0.06 to 1.03).	80
Zanoni, et al.	Higher Retention and Viral Suppression with Adolescent-Focused HIV Clinic in South Africa	<i>PLoS One</i> 2017	KwaZulu-Natal, South Africa	254 HIV+ Adolescents	13-24	Retrospective Cohort Analysis	Weekend adolescent-focused clinic with peer support, group activities, counseling, and meals compared to standard of care.	Retention: 95% in adolescent-friendly clinic vs. 85% in standard clinic (OR 3.5; 95% CI 1.2 – 11.1; p=0.018).  Viral Suppression: 91% adolescent-friendly clinic vs. 80% in standard clinic. (OR 2.5; 95% CI 1.1 – 5.8; p=0.028)	88