

Annex 4A. Effectiveness of HIV Interventions

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HIV Testing Services				
Intervention	Outcome	Effect	Citations	CE Data
Voluntary Counseling and Testing (VCT)	Individuals actively seek HIV testing at a clinic, hospital, mobile health unit or free-standing center.	VCT effectively provides testing to individuals who perceive themselves at risk for HIV.	Matovu and Makumbi 2007	Grabbe and others 2010; Thielman and others 2006
		VCT has low yield and low utilization in some settings.	Ahmed and others 2013	
Provider Initiated Testing and Counseling (PITC)	Health care providers advise patients who are receiving services at health facilities to also receive HIV testing.	PITC is acceptable and is near universal in some settings for testing pregnant women in ANC programs	Kennedy and others 2013; Roura and others 2013; WHO 2007	
		PITC increased uptake of HIV testing after it was implemented in antenatal/family planning, tuberculosis, STI and outpatient clinics.	Kennedy and others 2013	
		PITC acceptance has been lower among men and non-pregnant women.	Baggaley and others 2012; Hensen and others 2012	
Community Based Testing (CBT)	Strategies include voluntary HIV testing in homes, schools,	PITC implementation has been effective in infant inpatient settings, but not widely implemented for children.	Kankasa and others 2009	
		CBT has shown promise for increasing knowledge of HIV status.	Bateganya, Abdulwadud, and Kiene 2010; Coates and others 2014	

	workplace or other community venues.	CBT has been associated with increased testing; increased proportion of first time testers; increased proportion of individuals identified with CD4 cell count >350 cell/μL; and decreased seropositivity rate. Home-based HIV testing has been highly accepted; more effective at diagnosing less advanced disease; and has increased linkage to care. When coupled with home-based CD4 testing, CBT increased linkage to care among HIV positive persons.	Suthar and others 2013b Sabapathy and others 2012; Wachira and others 2012 Lugada and others 2015	
		CBT has potential for finding HIV-infected children not in clinical care. CBT mass campaigns have successfully reached large proportions of population and young children; and less successful in reaching and testing young adults and adult males.	Ahmed and others 2015 Lugada and others 2015; Shea and others 2013; Chamie and others 2014; Ostermann and others 2011	
Couples Testing	Testing of couples to identify concordant HIV-positive couples and discordant couples.	Couples testing improves identification of concordant HIV-positive couples in need of ART; links discordant couples to ART and pre-exposure prophylaxis or voluntary medical male circumcision for positive and negative partner respectively. Couples testing shown effective among men who have sex with men (MSM).	Baeten and others 2012; Gray and others 2007 Stephenson and others 2013	Sweat and others 2000
Self-Testing	Individuals perform HIV tests entirely by themselves.	Self-testing, with oral HIV test kits, was shown to be feasible and acceptable, providing up to 99% specificity. There is concern about the lack of linkage to care among persons who test positive and disclosure of results to partners.	Choko and others. 2011; Pant Pei and others 2013; Thirumurthy and others 2016	
Early Infant Diagnosis (EID)	Virologic testing of HIV-exposed infants at 4-6 weeks of age	EID uptake and accessibility has been improved by laboratory technology and use of dried blood spots for specimen collection.	Essajee and others 2015; Ghadreshenas and others 2013	

		EID results returned to clinics and families have increased with use of SMS printers and computerized tracking systems.	Essajee and others 2015; Finocchario-Kessler and others 2014	
Partner Notification	Identifying, locating, and testing individuals who may have been exposed to HIV.	Contract and provider notification has been significantly more effective than passive (patient) partner notification.	Brown and others 2011; Henley and others 2013	
<i>Linkage to and Engagement with HIV Care</i>				
Intervention	Outcome	Effect	Citations	CE Data
Counseling and provision of support services	Patients receive extended post-test counseling and visits	Post-test counseling and monthly peer support worker visits has shown to significantly increase patient access to HIV care.	Muhamadi and others 2011; Wouters and others 2012	
Support by Community Health Workers (CHWs) or Patient Navigators	CHWs and peer educators provide support, guidance and navigation to HIV-positive individuals	CHW and peer support visits has improved ART enrollment among newly diagnosed HIV-positive persons, including women and children.	Ackerman, Gulaid, and Kiragu 2012; Hatcher and others 2012; Kim and others 2012; Craw and others 2008; Kohler and others 2011	
Incentives	Food, conditional cash transfers and vouchers are provided to encourage linkage to care	Modest vouchers have shown effective in linking PWID to care.	Kundu and others 2012; Solomon and others 2014	
Mobile Phones	SMS messages remind patients of appointments, testing, medication adherence	SMS messages were associated with improved linkage to HIV services for HIV-exposed infants.	Van Velthoven and others 2013; Finocchario-Kessler and others 2004.	
Point of Care Laboratory Services	CD4 cell count is performed at point of care (POC)	POC CD4 testing at time of HIV diagnosis has shown to increase timely access to HIV care; likelihood of eligible patients initiating ART doubled.	Faal and others 2011; Larson and others 2013; Larson and others 2012; Patten and others 2013; Wynberg and others 2014	

Decentralization, Task Shifting and Integration of HIV Services	HIV services are decentralized to the primary care level	Task shifting to non-physician cadres has significantly enabled decentralization of care, reduced transport time and care improving linkage to care.	Govindasamy, Ford, and Kranzer 2012; Suthar and others 2013; Arem and others 2011; McCollum and others 2010
	Integration of HTS into other health services	Co-locating PMTCT into ANC has shown effective in enrolling HIV-pregnant and breastfeeding women into care.	Torian and others 2008; Ferguson and others 2012
Home-based HIV Services	Home-based HIV testing, POC CD4 testing and immediate initiation of ART	In rural areas and settings with high stigma, home-based HIV services have significantly increased ART initiation.	Helleringer and others 2009; Lahuerta and others 2013; Myer et. al. 2013; van Rooyen and others 2013; MacPherson and others 2014

Retention in HIV Care

Intervention	Outcome	Effect	Citations	CE Data
Eliminating Patient Costs and Providing Incentives	Costs of HIV care are eliminated	Providing free HIV prophylaxis significantly improved retention among pre-ART patients.	Kohler and others 2011	
	Incentives are provided to HIV patients	Provision of food incentives was associated with increased clinic attendance; provision of transportation costs was associated with increased retention.	Ivers and others 2010; Emenyonu, Thirumurthy, and Muyindike 2010	
Text Messaging	Patients receive weekly communication via text message	Regular text message communication may show promise for improving retention.	van der Kop and others 2013	
Staff outreach	Outreach to patients who fail to attend clinic visits	Staff outreach has been effective in increasing retention, decreasing loss to follow-up, and improved estimated mortality.	McMahon and others 2013	Rosen and Ketlha-pile 2010

	Intense post-test and follow-up counseling provided by CHWs	Intensified staff outreach significantly increased key population enrollment in HIV care.	WHO 2014; Wouters and others 2012a
Task Shifting	Shifting HIV management from physicians to nurses	Task-shifting was associated with improved retention.	Assefa and others 2012; Brennan and others 2011; Emdin, Chong, and Millson 2013; Fairall and others 2012; Iwu and Holzemer 2014; Shumbusho and others 2009; Sherr and others 2010; Thurman and others 2010
Decentralization of Care	Patients initiate and maintain ART at primary health facilities. One individual designated to pick up medication for group	Retention in care was improved among participants initiated on ART at a primary facility compared to those initiated at a secondary facility. Patient ART groups significantly increased retention in care.	Auld and others 2015; Reidy and others 2014 Luque-Fernandez and others 2013; Rasschaert et. al. 2014

Adherence to HIV Treatment

Intervention	Outcome	Effect	Citations	CE Data
Text Messages	Patients receive text messages reminders to take medication	ART adherence was significantly higher among text message recipients than controls.	Lester and others 2010; Mbuagbaw and others 2013; Horvath and others 2012; Finitis, Pellowski and Johnson 2014	
Treatment Supporters	Community adherence support is delivered by peers	Treatment supporters improved ART retention in children and adults; associated with decreased mortality. Viral load suppression significantly improved among pa	Bemelmans and others 2014; Grimwood and others 2012; Root and Whiteside. 2013 Chang and others 2010; Pearson and others 2007; Taiwo and others 2010	Chang and others 2013

		Among PWID, those in supportive environments have shown similar outcomes to non-PWID HIV individuals.	Wolfe and others 2010
	Adherence clubs decentralize care to CHWs	Decentralizing care has shown improved virologic suppression; decreased loss to follow-up and viral rebound.	Chishinga and others. 2014; Grimsrud and others 2015
Directly Observed Therapy	HIV medication is taken under direct observation	Directly observed therapy may improve ART adherence.	Denison and others 2015
Education and Counseling	Patients receive education and skill training	Adolescents living with HIV may improve ART adherence from education and trainings.	Mupambireyi and others 2014; Denison and others 2015
Food Supplements	Food incentives provided at scheduled appointments	Food incentives have improved ART adherence and nutritional status.	Cantrell and others 2008
Different Care Delivery Models	Option B+ enables daily fixed dose combination regimen	Option B+ may improve adherence among pregnant and breastfeeding women.	CDC 2013
	Integration of drug treatment and HIV services for PWID	Integration of opioid substitution therapy for PWID was associated with improved ART adherence.	Malta and others 2008; Millo, Montaner, and Wood 2012
	Adherence counseling and support groups tailored to SW	Among SW, tailored interventions have improved ART adherence.	Graham and others 2013; Huet and others 2011; Konate and others 2011

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