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Community Engagement		
Multi-country	Health communication may enhance retention in care through improved overall provider-patient communication, enhanced IPC, psychosocial support from community, “patient navigators” accompanying the patient to health care visits and counseling by community health-care workers. While there were substantial differences in patient populations and resources available across different studies, all outcomes provided positive evidence in support of community-based ART. ⁴	
Multi-country	This literature review found an unambiguous positive impact of community support on a wide range of aspects, including access, coverage, adherence, virological and immunological outcomes, patient retention and survival. Looking at the mechanisms through which community support can impact ART programs, the review indicates that community support initiatives are a promising strategy to address challenges to ART scale-up. ²⁵	
Rwanda	Higher retention rates with suppressed viral load were found in Rwanda with the addition of community-based accompaniment (daily home visits, provision of social support, monitoring of adverse events/barriers to adherence, directly observed ingestion of all medication, food rations and transportation stipends were given for clinic visits) compared with the national model. The accompaniment also greatly reduced loss-to-follow-up. Individuals receiving accompaniment were more likely to be retained with a suppressed viral load at one year (risk ratio: 1.15; 95% CI, 1.03–1.27; P = 0.01). ⁵	
Uganda	Findings from an RCT in rural Uganda showed that involvement of community-based peer treatment supporters decreased the amount of people lost to follow-up by 44% compared with no peer treatment supporters. Virologic failure rates less than or equal to 96 weeks into ART were significantly decreased in the intervention arm compared to the control arm (96-week failure RR 0.50, 95% CI 0.31–0.81; 120 week, RR 0.59, 95% CI 0.22–1.60; 144-week, RR 0.39, 95% CI 0.16–0.95; 168-week, RR 0.30, 95% CI 0.097–0.92; 192-week, RR 0.067, 95% CI 0.0065–0.71). ³	
South Africa	A study compared treatment outcomes between children on ART in South Africa who received and who did not receive community-based adherence support from PAs. The study found that patient retention after three years of ART was significantly higher for children with PAs than for children without PAs. For children on ART, retention was 91.5% (95% CI: 86.8% to 94.7%) among children with PAs vs. 85.6% (95% CI: 83.3% to 87.6%) amongst children with and without PAs, respectively (p = 0.027). Children with PAs were also less likely to leave treatment and to die, AHR 0.57 (95% CI: 0.35 to 0.94) and 0.39 (95% CI: 0.15 to 1.04), respectively. ⁶	
South Africa	A study looking at PAs in South Africa found a significantly higher percentage of patients at health facilities with PA services maintained a suppressed viral load for a longer period than those at health facilities without PA services (p 0.001). Additionally, a significantly higher proportion of patients with PAs attained a treatment pick-up rate of over 95% than those without PAs (p 0.001). ⁹	
Uganda	A study assessing the effectiveness of a rural community-based ART program and comparing home-based treatment programs to hospital-based treatment of HIV/AIDS in Uganda found that community-based programs were more likely to achieve viral suppression than hospital-based treatments. Additionally, almost all patients on treatment in the community-based cohort reported a significant increase in their overall quality of life. Volunteers made weekly visits, monitored adherence through pill counts, assessed the presence of adverse reactions and referred them to the health centre. Volunteers also obtained ARVs monthly and delivered them to their patients. Patients were also asked to identify a family member/friend as their daily treatment supporter to help with the daily intake of the drugs. ¹²	



Peru	CHWs who made home visits to directly observe patients taking their ARVs greatly increased the number of PLHIV remaining on treatment after 12 months (90% vs. 65% p<0.01), adherence to treatment (80% vs. 61.7% p<0.05) and those with a suppressed viral load (76.7% vs 58.3% p<0.05), when compared with a matched control group in Peru, as well as improved psychosocial outcomes in the intervention group. ¹⁸	
Malawi	In Malawi, community support for ART (defined as exposure to SBCC materials, community conversations/BCC activities; symptomatic treatment of opportunistic infections at home; support to family carers; referrals; continuing adherence counseling; and defaulter tracing) was associated with a considerably lower death rate and better overall ART outcomes. Between April 2003 and December 2004, 95.6% of those enrolled with community support were alive and on treatment vs. 76% of those without community support (RR 1.26; p<0.001), 3.5% had died vs. 15.5% (RR 0.22; p<0.001) and 0.1% had defaulted vs. 5.2% (RR 0.02; p<0.001). ²⁷	
Uganda	An evaluation of the Rakai Health Sciences Program PHWs intervention found PHWs had a direct role in many patients' lives, providing psychosocial support and combatting stigma. The processes by which PHWs contributed to decreasing lost to follow-up rates included being present in and knowledgeable about the community and ably assisting with tracking down patients. PHWs were noted to be consistent and reputable sources of information and motivation both in the clinic and in the communities. Additionally, clinic staff responses and qualitative interviews showed that staff believed PHWs positively impacted adherence. The trial showed the intervention decreased virological failure rates among long-term patients on ART for 96 weeks or more. ²	
Kenya	In Kenya, community members were trained as CHWs to provide home-based care to HIV/AIDS clients in rural areas. An assessment of this intervention found an improved quality of life, dignity and sense of belonging among PLHIV, as well as reduced stigma and an increase in testing. ¹⁰	
Uganda	Evaluation of the CBART programs using community volunteers in Uganda to monitor HIV-positive clients, deliver medications, send reminders to take pills and counsel them as needed found a significant increase in physical (42.7 to 50.1; p<0.01) and mental health (43.4 to 49.5; p<0.01). ¹	
Rwanda	A community-based ART program in Rwanda achieved 92.3% retention in care after 24 months by enrolling patients in education and support groups that met the same day as clinic appointments and included daily visits by trained CHWs who directly observed them taking their medication and offered psychosocial support. The program also provided PLHIV with a travel allowance, HIV education and nutritional assistance. ²²	
South Africa	An intervention in South Africa utilized CHWs and treatment support groups to encourage disclosure to family members and consequently, better adherence, as well as treatment. Results demonstrated a noticeable positive impact of CHWs and support groups on disclosure to family members. Participation in support groups was significantly, positively associated with disclosure to relatives at time 1 ($\beta=0.19$, p<0.001) and 2 ($\beta=0.23$, p<0.001) in the regression analysis, as well as positively associated with community support through CHWs, at time 1 ($\beta=0.12$, p<0.001) and at time 2 ($\beta=0.14$, p<0.01). ²⁶	
Interpersonal Communication		
Kenya	In Kenya, treatment enrollment rates were significantly higher among participants in a community-based HTC campaign who received a visit from a person living with HIV, suggesting that a peer navigator approach may improve linkage to care from community-based testing campaigns. Receiving a visit from a PLHIV remained associated with linkage and the association increased over time to 1.77 at five months (95% CI 1.47–2.13) and 1.99 at 10 months (95% CI 1.52–2.60). ⁷	
India	A group-based treatment intervention that included a regular visit with a provider and three one-hour sessions each month addressing HIV, ARVs, adherence and coping, and social support led to improved adherence. Post-intervention to six months post-baseline, adherence in the group intervention (immediate onset) continued to improve (P = 0.02). Patient-provider communication, commitment to adherence, social functioning and social support, and reduced perceived barriers to medication adherence were associated with adherence at long-term follow-up. ¹¹	

Multiple SSA	Clinics with adherence support were significantly associated with lower attrition compared with clinics without these services. The support associated with lower attrition included counseling (RR 0.62 95% CI), educational materials (RR 0.73 95% CI), reminder tools (RR 0.79 95% CI) and food rations (RR 0.72, 95% CI), while clinics with available peer educators (RR 0.84 95% CI), support groups (RR 0.81 95% CI) and adherence reminder tools (RR 0.83 95% CI) were associated with lower rates of measured death compared to clinics without these services. ¹⁵	
Uganda	An RCT in Uganda found those who received enhanced post-test counseling, coupled with home visits and continued counseling support, were 80% more likely (RR 1.8; 95% CI), compared to those in the standard counseling group to return for pre-ART care. ¹⁷	
India	The Asha-Life pilot program led to a significant (p<0.001) increase in adherence compared to those without the intervention. Barriers to adherence were also found to be significantly decreased from the intervention (p<0.001). Asha-Life trained women about HIV who would visit HIV-positive women weekly to help them mitigate barriers to adherence, counsel them and accompany them to appointments as needed. Through the intervention, Ashas were trained to inquire about side effects, provide basic education and counseling, promote healthy lifestyle choices and link women living with AIDS to community resources to match health needs. ²⁰	
Multi-country	A review found that interventions that rely primarily on IPC, especially individual and group counseling, both within and beyond clinical settings can enhance the uptake of and continued engagement in care. Many successful communication interventions mobilize trained community supporters who provide education, counseling, psychosocial support, treatment supervision and other assistance across the care continuum. Additionally, mobile technologies are increasingly seen as promising avenues for ongoing cost-effective communication throughout the treatment cascade. ²³	
Uganda	In Uganda, participants were randomized to receive standard post-test counseling on linkage to care or to receive enhanced counseling that included facilitated disclosure, introduction to HIV clinic staff, appointment reminder phone calls and home visits for appointment reminders, if needed. The enhanced counseling improved time to care by women (AHR 0.80 95% CI) and reduced the time to initiation of ART for those eligible among men (HR 0.60 95% CI). ²⁴	
Kenya	Training nurses in adherence counseling and sexual risk reduction led to a significant increase in adherence assessments being conducted (29% vs. 66% p<0.001), as well as improved overall counseling with patients and increased comfort discussing sensitive topics with patients. ¹⁴	
Multi-country	Health communication may enhance retention in care through improved overall provider-patient communication, enhanced IPC, psychosocial support from community "patient navigators," accompanying the patient to health care visits and counseling by community health care workers. ¹⁹	
mHealth		
Kenya	In a meta-analysis of two RCTs in Kenya, weekly text messaging reminders were associated with a lower risk of non-adherence at 12 months (RR 0.77, 95% CI 0.63 to 0.93) and with the non-occurrence of virologic failure at 12 months (RR 0.83, 95% CI 0.69 to 0.99) when compared to the standard care. ⁸	
Uganda	In rural Uganda, sending SMS reminders to patients who missed an appointment resulted in 79% of those then presenting for treatment within two days. It also led to an increase in mean adherence from 80.1% to 90%. ¹³	
Kenya	In an RCT in Kenya, weekly SMS messages to patients inquiring about their health and requesting a response within 24 hours improved rates of self-reported adherence (RR for non-adherence 0.81 p=0.006) and increased the likelihood of viral suppression (RR for virologic failure 0.84 p=0.04). ¹⁶	
Kenya	An RCT in Kenya found weekly SMS treatment reminders improved treatment adherence with 53% of those in the intervention group adhering during the 48-week study compared to 40% in the control group (p=0.03). ²¹	



Acronyms

AHR	Adjusted hazard ratio	MSG	Mother support groups
AOR	Adjusted odds ratio	MSM	Men who have sex with men
ANC	Antenatal care	MSPs	Multiple sex partners
ART	Antiretroviral therapy	OR	Odds ratio
ARV	Antiretroviral	PA	Patient advocate
B4L	Brothers 4 Life	PHW	Peer health worker
BCC	Behavior change communication	PLHIV	People living with HIV
CBART	Community-based antiretroviral therapy	PMTCT	Prevention of mother-to-child transmission
CHW	Community health worker	PSA	Public service announcement
DiC	Drop-in center	PWID	People who inject drugs
EE	Entertainment education	RCT	Randomized control trial
FSW	Female sex worker	SBCC	Social and behavior change communication
HTC	HIV testing and counseling	SMS	Short message service
IPC	Interpersonal communication	STI	Sexually transmitted infection
Mtf	Male-to-female	VCT	Voluntary counseling and testing
MMC	Medical male circumcision	VMMC	Voluntary medical male circumcision

Citations

- ¹Alibhai, A., J Martin, L., Kipp, W., Konde-Lule, J., Duncan Saunders, L., Rubaale, T., ... & Okech-Ojony, J. (2010). Quality of Life of HIV Patients in a Rural Area of Western Uganda: Impact of a Community-Based Antiretroviral Treatment Program. *Current HIV Research*, 8(5), 370-378.
- ²Arem, H., Nakyanjo, N., Kagaayi, J., Mulamba, J., Nakigozi, G., Serwadda, D., ... & Chang, L. W. (2011). Peer Health Workers and AIDS Care in Rakai, Uganda: A Mixed Methods Operations Research Evaluation of a Cluster-Randomized Trial. *AIDS Patient Care and STDs*, 25(12), 719-724.
- ³Chang, L. W., Kagaayi, J., Nakigozi, G., Ssempijja, V., Packer, A. H., Serwadda, D., ... & Reynolds, S. J. (2010). Effect of Peer Health Workers on AIDS Care in Rakai, Uganda: A Cluster-Randomized Trial. *PLoS One*, 5(6), e10923.
- ⁴Decroo, T., Rasschaert, F., Telfer, B., Remartinez, D., Laga, M., & Ford, N. (2013). Community-Based Antiretroviral Therapy Programs Can Overcome Barriers to Retention of Patients and Decongest Health Services in Sub-Saharan Africa: A Systematic Review. *International health*, 5(3), 169-179.
- ⁵Franke, M. F., Kaigamba, F., Socci, A. R., Hakizamungu, M., Patel, A., Bagiruwigize, E., ... & Rich, M. L. (2013). Improved Retention Associated with Community-Based Accompaniment for Antiretroviral Therapy Delivery in Rural Rwanda. *Clinical Infectious Diseases*, 56(9), 1319-1326.
- ⁶Grimwood, A., Fatti, G., Mothibi, E., Malahlela, M., Shea, J., & Eley, B. (2012). Community Adherence Support Improves Programme Retention in Children on Antiretroviral Treatment: A Multicentre Cohort Study in South Africa. *Journal of the International AIDS Society*, 15(2).
- ⁷Hatcher, A. M., Turan, J. M., Leslie, H. H., Kanya, L. W., Kwena, Z., Johnson, M. O., ... & Cohen, C. R. (2012). Predictors of Linkage to Care Following Community-Based HIV Counseling and Testing in Rural Kenya. *AIDS and Behavior*, 16(5), 1295-1307.
- ⁸Horvath, T., Azman, H., Kennedy, G. E., & Rutherford, G. W. (2012). Mobile Phone Text Messaging for Promoting Adherence to Antiretroviral Therapy in Patients with HIV Infection. *Cochrane Database Syst Rev*, 3.
- ⁹Igumbor, J. O., Scheepers, E., Ebrahim, R., Jason, A., & Grimwood, A. (2011). An Evaluation of the Impact of a Community-Based Adherence Support Programme on ART Outcomes in Selected Government HIV Treatment Sites in South Africa. *AIDS Care*, 23(2), 231-236.
- ¹⁰Johnson, B. A., & Khanna, S. K. (2004). Community Health Workers and Home-Based Care Programs for HIV Clients. *Journal of the National Medical Association*, 96(4), 496.
- ¹¹Jones, D., Sharma, A., Kumar, M., Waldrop-Valverde, D., Nehra, R., Vamos, S., ... & Weiss, S. M. (2013). Enhancing HIV Medication Adherence in India. *Journal of the International Association of Providers of AIDS Care (JIAPAC)*, 12(5), 343-348.
- ¹²Kipp, W., Konde-Lule, J., Rubaale, T., Okech-Ojony, J., Alibhai, A., & Saunders, D. L. (2011). Comparing Antiretroviral Treatment Outcomes Between a Prospective Community-Based and Hospital-Based Cohort of HIV Patients in Rural Uganda. *BMC International Health and Human Rights*, 11(Suppl 2), S12.
- ¹³Kunutsor, S., Walley, J., Katabira, E., Muchuro, S., Balidawa, H., Namagala, E., & Ikoona, E. (2010). Using Mobile Phones to Improve Clinic Attendance Amongst an Antiretroviral Treatment Cohort in Rural Uganda: A Cross-Sectional and Prospective Study. *AIDS and Behavior*, 14(6), 1347-1352.
- ¹⁴Kurth, A. E., McClelland, L., Wanje, G., Ghee, A. E., Peshu, N., Mutunga, E., ... & McClelland, S. (2012). An Integrated Approach for Antiretroviral Adherence and Secondary HIV Transmission Risk-Reduction Support by Nurses in Kenya. *Journal of the Association of Nurses in AIDS Care*, 23(2), 146-154.

- ¹⁵Lamb, M. R., El-Sadr, W. M., Geng, E., & Nash, D. (2012). Association of Adherence Support and Outreach Services with Total Attrition, Loss to Follow-Up, and Death Among ART Patients in sub-Saharan Africa. *PLoS One*, 7(6), e38443.
- ¹⁶Lester, R. T., Ritvo, P., Mills, E. J., Kariri, A., Karanja, S., Chung, M. H., ... & Plummer, F. A. (2010). Effects of a Mobile Phone Short Message Service on Antiretroviral Treatment Adherence in Kenya (WelTel Kenya1): A Randomised Trial. *The Lancet*, 376(9755), 1838-1845.
- ¹⁷Muhamadi, L., Tumwesigye, N. M., Kadobera, D., Marrone, G., Wabwire-Mangen, F., Pariyo, G., ... & Ekström, A. M. (2011). A Single-Blind Randomized Controlled Trial to Evaluate the Effect of Extended Counseling on Uptake of Pre-Antiretroviral Care in Eastern Uganda. *Trials*, 12(1), 184.
- ¹⁸Muñoz, M., Finnegan, K., Zeladita, J., Caldas, A., Sanchez, E., Callacna, M., ... & Shin, S. (2010). Community-Based DOT-HAART Accompaniment in an Urban Resource-Poor Setting. *AIDS and Behavior*, 14(3), 721-730.
- ¹⁹Mwai, G. W., Mburu, G., Torpey, K., Frost, P., Ford, N., & Seeley, J. (2013). Role and Outcomes of Community Health Workers in HIV Care in Sub-Saharan Africa: A Systematic Review. *Journal of the International AIDS Society*, 16(1).
- ²⁰Nyamathi, A., Hanson, A. Y., Salem, B. E., Sinha, S., Ganguly, K. K., Leake, B., ... & Marfisee, M. (2012). Impact of a Rural Village Women (Asha) Intervention on Adherence to Antiretroviral Therapy in Southern India. *Nursing Research*, 61(5), 353.
- ²¹Pop-Eleches, C., Thirumurthy, H., Habyarimana, J. P., Zivin, J. G., Goldstein, M. P., De Walque, D., ... & Bangsberg, D. R. (2011). Mobile Phone Technologies Improve Adherence to Antiretroviral Treatment in a Resource-Limited Setting: A Randomized Controlled Trial of Text Message Reminders. *AIDS (London, England)*, 25(6), 825.
- ²²Rich, M. L., Miller, A. C., Niyigena, P., Franke, M. F., Niyonzima, J. B., Socci, A., ... & Binagwaho, A. (2012). Excellent Clinical Outcomes and High Retention in Care Among Adults in a Community-Based HIV Treatment Program in Rural Rwanda. *JAIDS Journal of Acquired Immune Deficiency Syndromes*, 59(3), e35-e42.
- ²³Tomori, C., Risher, K., Limaye, R. J., Van Lith, L. M., Gibbs, S., Smelyanskaya, M., & Celentano, D. D. (2014). A Role for Health Communication in the Continuum of HIV Care, Treatment and Prevention. *JAIDS Journal of Acquired Immune Deficiency Syndromes*, 66, S306-S310.
- ²⁴Wanyenze, R. K., Kanya, M. R., Fatch, R., Mayanja-Kizza, H., Baveewo, S., Szekeres, G., ... & Hahn, J. A. (2013). Abbreviated HIV Counselling and Testing and Enhanced Referral to Care in Uganda: A Factorial Randomised Controlled Trial. *The Lancet Global Health*, 1(3), e137-e145.
- ²⁵Wouters, E., Van Damme, W., van Rensburg, D., Masquillier, C., & Meulemans, H. (2012). Impact of Community-Based Support Services on Antiretroviral Treatment Programme Delivery and Outcomes in Resource-Limited Countries: A Synthetic Review. *BMC Health Services Research*, 12(1), 194.
- ²⁶Wouters, E., van Loon, F., van Rensburg, D., & Meulemans, H. (2009). Community Support and Disclosure of HIV Serostatus to Family Members by Public-Sector Antiretroviral Treatment Patients in the Free State Province of South Africa. *AIDS Patient Care and STDs*, 23(5), 357-364.
- ²⁷Zachariah, R., Teck, R., Buhendwa, L., Fitzerland, M., Labana, S., Chinji, C., ... & Harries, A. D. (2007). Community Support is Associated with Better Antiretroviral Treatment Outcomes in a Resource-Limited Rural District in Malawi. *Transactions of the Royal Society of Tropical Medicine and Hygiene*, 101(1), 79-84.