

MRC/UVRI MONTHLY PUBLICATIONS DIGEST – MARCH 2016

1. **Heterogeneity of HIV incidence: a comparative analysis between fishing communities and in a neighbouring rural general population, Uganda, and implications for HIV control.** [Kamali A](#), [Nsubuga RN](#), [Ruzagira E](#), [Bahemuka U](#), [Asiki G](#), [Price MA](#), [Newton R](#), [Kaleebu P](#), [Fast P](#). *Sex Transm Infect.* 2016 Mar 1. pii: *sextrans-2015-052179*. doi: *10.1136/sextrans-2015-052179*.

OBJECTIVES: To describe HIV heterogeneity in rural Uganda using incidence data collected between January 2012 and December 2014 among fishing cohort (FC) and in an adjacent rural general population cohort (GPC).

METHODS: In the FC, eligible HIV high-risk adults aged 18+ years were enrolled, followed and HIV tested every 3 months. Demographic and sexual behaviour data were also collected. The GPC, approximately 47 km away from the FC, was followed through annual surveys, and sociodemographic and behavioural data collected. A subset of GPC with comparable risk profiles to the FC was selected. We presented sociodemographic and risk profiles and also computed stratified HIV incidence. Cox regression was used to assess factors associated with HIV incidence.

RESULTS: Overall HIV incidence was higher in the FC than in the 'high-risk' GPC, 6.04 and 0.56 per 100 person years at risk, respectively, with a rate ratio (RR) of 10.83 (95% CI 6.11 to 19.76). This was higher among those aged 18-24 years, unmarried and those with more than two sex partners in the past year, RR of 15.44, 22.99 and 19.29, respectively. In the FC, factors associated with high incidence in multivariate analysis were duration in the community and unprotected sex. The factors in the GPC were ethnicity, marital status and duration in the community.

CONCLUSIONS: We have observed a substantial heterogeneity in HIV incidence. The high incidence in fishing communities is contributing greatly to the overall HIV burden in Uganda, and thus urgent combination prevention efforts are needed towards national goal to reduce HIV epidemic.

2. **Comparison of HIV incidence estimated in clinical trial and observational cohort settings in a high risk fishing population in Uganda: Implications for sample size estimates.** [Abaasa A](#), [Asiki G](#), [Price MA](#), [Ruzagira E](#), [Kibengo F](#), [Bahemuka U](#), [Fast PE](#), [Kamali A](#). *Vaccine.* 2016 Mar 2. pii: *S0264-410X(16)00229-2*. doi: *10.1016/j.vaccine.2016.02.048*.

BACKGROUND: Clinical trial participants may differ from the source population due to the demands of trial participation and self-selection, inadvertent selection of a lower-risk group, or both. We investigated the HIV risk status of volunteers in a Simulated Vaccine Efficacy Trial (SiVET) nested within a prospective observational cohort of fisher folks in South Western Uganda.

METHODS: Volunteers aged 18-49 years, at high risk for HIV from fishing communities in Masaka district were recruited into an observational cohort and followed quarterly. High risk was defined as a self-report, of at least one of the following in the past three months; sexually transmitted infections, unprotected sex with >1 partner or a new sexual partner, use of recreational drugs, weekly alcohol use, and/or frequent travel. Volunteers who had at least three months of follow-up in the observational cohort were consecutively enrolled in SiVET, administered Hepatitis B vaccine at months (0, 1, 6) and followed-up three days post vaccinations to mimic a vaccine trial schedule. HIV incidence over the next 12 months was compared between SiVET and the observational cohort studies.

RESULTS: Between January 2012 and February 2013, 575 individuals were enrolled in the observational cohort, of whom 282 were enrolled in SiVET between July 2012 and February 2013. Despite similar pattern of reported risk behaviour in both studies, HIV incidence was higher in observational cohort, 11.4 cases/100 PYO [95% CI: 7.4-17.7] compared to 3.8 [95% CI: 2.0-7.0] in SiVET ($p < 0.01$). SiVET volunteers tended to be men, having some education and longer-term residents, all factors that are also associated with lower HIV risk.

CONCLUSION: We observed a lower HIV incidence in SiVET than in the observational cohort. The two populations differed significantly in demographics but not in reported risk. HIV incidence estimates from observational cohorts must be used with caution to estimate the trial study size.

3. **Helminths are positively associated with atopy and wheeze in Ugandan fishing communities: results from across-sectional survey.** Webb EL, Nampijja M, Kaweesa J, Kizindo R, Namutebi M, Nakazibwe E, Oduru G, Kabubi P, Kabagenyi J, Nkurunungi G, Kizito D, Muhangi L, Akello M, Verweij JJ, Nerima B, Tukahebwa E, Elliott AM; LaVIISWA trial team. *Allergy*. 2016 Feb 25. doi: 10.1111/all.12867.

BACKGROUND: Parasitic helminths are potent immunomodulators and chronic infections may protect against allergy-related disease and atopy. We conducted a cross-sectional survey to test the hypothesis that in heavily helminth-exposed fishing villages on Lake Victoria, Uganda, helminth infections would be inversely associated with allergy-related conditions.

METHODS: A household survey was conducted as baseline to an anthelmintic intervention trial. Outcomes were reported wheeze in last year, atopy assessed both by skin prick testing (SPT) and by the measurement of allergen-specific IgE to dust mites and cockroach in plasma. Helminth infections were ascertained by stool, urine and haemoparasitology. Associations were examined using multivariable regression.

RESULTS: 2316 individuals were surveyed. Prevalence of reported wheeze was 2% in under-fives and 5% in participants ≥ 5 years; 19% had a positive SPT; median Dermatophagoides- and cockroach-specific IgE were 1440ng/ml and 220ng/ml, respectively. *S. mansoni*, *N. americanus*, *S. stercoralis*, *T. trichiura*, *M. perstans* and *A. lumbricoides* prevalence was estimated as 51%, 22%, 12%, 10%, 2% and 1%, respectively. *S. mansoni* was positively associated with Dermatophagoides-specific IgE (adjusted geometric mean ratio (aGMR) (95% confidence interval) 1.64 (1.23, 2.18)); *T. trichiura* with SPT (adjusted odds ratio (aOR) 2.08 (1.38, 3.15)); *M. perstans* with cockroach-specific IgE (aGMR 2.37 (1.39, 4.06)), *A. lumbricoides* with wheeze in participants ≥ 5 years (aOR 6.36 (1.10, 36.63)) and with Dermatophagoides-specific IgE (aGMR 2.34 (1.11, 4.95)). No inverse associations were observed.

CONCLUSIONS: Contrary to our hypothesis, we found little evidence of an inverse relationship between helminths and allergy-related outcomes, but strong evidence that individuals with certain helminths were more prone to atopy in this setting. This article is protected by copyright. All rights reserved.

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4. **Data Resource Profile: Network for Analysing Longitudinal Population-based HIV/AIDS data on Africa (ALPHA Network).** *Int. J. Epidemiol.* Reniers G, Wamukoya M, Urassa M, Nyaguara A, Nakiyingi-Miiro J, Lutalo T, Hosegood V, Gregson S, Gómez-Olivé X, Geubbels E, Crampin AC, Wringe A, Waswa L, Tollman S, Todd J, Slaymaker E, Serwadda D, Price A, Oti S, Nyirenda MJ, Nabukalu D, Nyamukapa C, Nalugoda F, Mugurungi O, Mtenga B, Mills L, Michael D, McLean E, McGrath N, Martin E, Marston M, Maquins S, Levira F, Kyobutungi C, Kwaro D, Kasamba J, Kanjala C, Kahn K, Kabudula C, Herbst K, Gareta D, Eaton JW, Clark SJ, Church K, Chihana M, Calvert C, Beguy D, Asiki G, Amri S, Abdul R, Zaba B. (2016) doi: 10.1093/ije/dyv343.

Data resource basics

The Network for Analysing Longitudinal Population-based HIV/AIDS data on Africa (ALPHA Network) was established in 2005 and aims to: (i) broaden the evidence base on HIV epidemiology for informing policy; (ii) strengthen analytical capacity for HIV research; and (iii) foster collaboration between study sites.¹ All of the study sites participating in the ALPHA Network are independently managed and have their own scientific agendas and tailored research methodologies, but share a common interest in HIV epidemiology and its interactions with the socio-demographic characteristics of the populations they cover. The ALPHA Network study sites and their institutional affiliations are described in Table 1, and their geographical distribution is shown in Figure 1. Several of the ALPHA Network study sites have published site-specific profiles that contain more detail.^{2–10} Most of the ALPHA Network study sites are also members of the INDEPTH Network of demographic surveillance sites [<http://www.indepth-network.org/>]. The population perspective offered by the study sites complements the evidence from HIV clinical cohorts and health facility-based studies; their longitudinal character is what sets them apart from cross-sectional serological surveys. The activities of the Network revolve around a series of thematic workshops that lay the foundations for both site-specific and pooled analyses. Topics that have been studied in the past include HIV incidence,¹¹ sexual behaviour,¹² orphaning and children's living arrangements,¹³ and fertility.¹⁴ The monitoring of HIV-associated mortality has been and continues to be one of its focus areas.^{15–17} The Network is also well positioned to evaluate the population-level effects of antiretroviral therapy (ART) scale up, and member sites have recently extended their efforts to collect more and better data on the uptake of HIV diagnostic and AIDS care services. The ALPHA Network is a regular contributor to the United Nations Programme on HIV/AIDS (UNAIDS) Reference Group on Estimates, Modelling and Projections [<http://www.epidem.org/>], which oversees the data and methods used for producing HIV estimates for most countries in the world, and to the modelling community through an agreement with the HIV Modelling Consortium [<http://www.hivmodelling.org/>].

5. **Burden of Suicidal Ideation and Attempt among Persons Living with HIV and AIDS in Semiurban Uganda.** Rukundo GZ, Mishara BL, Kinyanda E: *AIDS Research and Treatment*. Volume 2016, doi.org/10.1155/2016/3015468

Although the impact of HIV/AIDS has changed globally, it still causes considerable morbidity and mortality, including suicidality, in countries like Uganda. This paper describes the burden and risk factors for suicidal ideation and attempt among 543 HIV-positive attending two HIV specialized clinics in Mbarara municipality, Uganda. The rate of suicidal ideation was 8.8% (n=48; 95% CI: 6.70–11.50) and suicidal attempt was 3.1% (17, 95% CI 2.00–5.00). The factors associated with increased risk for suicidal ideation and attempts were state anger (OR = 1.06, 95% CI: 1.03–1.09; p=0.001); trait anger (OR 1.10, 95% CI 1.04–1.16, p=0.002); depression (OR 1.13, 95% CI 1.07–1.20, 0.001); hopelessness (OR 1.12, 95% CI 1.02–1.23, p=0.024); anxiety (OR 1.06, 95% CI 1.03–1.09); low social support (OR 0.19, 95% CI 0.07–0.47, p=0.001); inability to provide for others (OR 0.19, 95% CI 0.07–0.47,); and stigma (OR 2.48, 95% CI 1.11–5.54, p=0.027). At multivariate analysis, only state anger remained statistically significant. HIV/AIDS is associated with several clinical, psychological, and social factors which increase vulnerability to suicidal ideation and attempts. Making suicide risk assessment and management an integral part of HIV care is warranted.

6. **Tuberculosis incidence is high in HIV-infected African children but is reduced by co-trimoxazole and time on antiretroviral therapy.** Crook AM, Turkova A, Musiime V , Bwakura-Dangarembizi M, Bakeera-Kitaka S, Nahiry-Ntege P, Thomason M, Mugenyi P, Musoke P, Kekitiinwa A, Munderi P, Nathoo K, Prendergast AJ, Walker AS, Gibb DM; ARROW Trial Team. (2016) *BMC Med*. 2016 Mar 23;14(1):50. doi: 10.1186/s12916-016-0593-7

BACKGROUND: There are few data on tuberculosis (TB) incidence in HIV-infected children on antiretroviral therapy (ART). Observational studies suggest co-trimoxazole prophylaxis may prevent TB, but there are no randomized data supporting this. The ARROW trial, which enrolled HIV-infected children initiating ART in Uganda and Zimbabwe and included randomized cessation of co-trimoxazole prophylaxis, provided an opportunity to estimate the incidence of TB over time, to explore potential risk factors for TB, and to evaluate the effect of stopping co-trimoxazole prophylaxis.

METHODS: Of 1,206 children enrolled in ARROW, there were 969 children with no previous TB history. After 96 weeks on ART, children older than 3 years were randomized to stop or continue co-trimoxazole prophylaxis; 622 were eligible and included in the co-trimoxazole analysis. Endpoints, including TB, were adjudicated blind to randomization by an independent endpoint review committee (ERC). Crude incidence rates of TB were estimated and potential risk factors, including age, sex, center, CD4, weight, height, and initial ART strategy, were explored in multivariable Cox proportional hazards models.

RESULTS: After a median of 4 years follow-up (3,632 child-years), 69 children had an ERC-confirmed TB diagnosis. The overall TB incidence was 1.9/100 child-years (95 % CI, 1.5-2.4), and was highest in the first 12 weeks following ART initiation (8.8/100 child-years (5.2-13.4) versus 1.2/100 child-years (0.8-1.6) after 52 weeks). A higher TB risk was independently associated with younger age (<3 years), female sex, lower pre-ART weight-for-age Z-score, and current CD4 percent; fewer TB diagnoses were observed in children on maintenance triple nucleoside reverse transcriptase inhibitor (NRTI) ART

compared to standard non-NRTI + 2NRTI. Over the median 2 years of follow-up, there were 20 ERC-adjudicated TB cases among 622 children in the co-trimoxazole analysis: 5 in the continue arm and 15 in the stop arm (hazard ratio (stop: continue) = 3.0 (95 % CI, 1.1-8.3), P = 0.028). TB risk was also independently associated with lower current CD4 percent (P <0.001).

CONCLUSIONS: TB incidence varies over time following ART initiation, and is particularly high during the first 3 months post-ART, reinforcing the importance of TB screening prior to starting ART and use of isoniazid preventive therapy once active TB is excluded. HIV-infected children continuing co-trimoxazole prophylaxis after 96 weeks of ART were diagnosed with TB less frequently, highlighting a potentially important role of co-trimoxazole in preventing TB.

7. **Population level usage of health services, and HIV testing and care, prior to decentralization of antiretroviral therapy in Agago district in rural Northern Uganda.** Abongomera G, Kiwuwa-Muyingo S, Revill P, Chiwaula L, Mabugu T, Phillips A, Katabira E, Musiime V, Gilks C, Chan A, Hakim J, Colebunders R, Kityo C, Gibb DM, [Seeley J](#), Ford D; Lablite Project Team. BMC Health Serv Res. 2015 Nov 28;15:527. doi: 10.1186/s12913-015-1194-4.

BACKGROUND: Decentralization of ART services scaled up significantly with the country wide roll out of option B plus in Uganda. Little work has been undertaken to examine population level access to HIV care particularly in hard to reach areas in rural Africa. Most work on ART scale up has been done at health facility level which omits people not accessing healthcare in the community. This study describes health service usage, particularly HIV testing and care in 2/6 parishes of Lapono sub-county of northern Uganda, prior to introduction of ART services in Lira Kato HealthCentre (a local lower-level health centre III), as part of ART decentralization.

METHODS: Household and individual questionnaires were administered to household members (aged 15-59 years). Logit random effects models were used to test for differences in proportions (allowing for clustering within villages).

RESULTS: 2124 adults from 1351 households were interviewed (755 [36%] males, 1369 [64 %] females). 2051 (97%) participants reported seeking care locally for fever, most on foot and over half at Lira Kato Health Centre. 574 (76%) men and 1156 (84%) women reported ever-testing for HIV (P < 0.001 for difference); 34/574 (6%) men and 102/1156 (9%) women reported testing positive (P = 0.04). 818/850 (96%) women who had given birth in the last 5 years had attended antenatal care in their last pregnancy: 7 women were already diagnosed with HIV (3 on ART) and 790 (97%) reported being tested for HIV (34 tested newly positive). 124/136 (91%) HIV-positive adults were in HIV-care, 123/136 (90 %) were taking cotrimoxazole and 74/136 (54%) were on ART. Of adults in HIV-care, most were seen at Kalongo hospital (n = 87), Patongo Health Centre (n = 7) or Lira Kato HealthCentre (n = 23; no ART services). 58/87, 5/7 and 20/23 individuals walked to Kalongo hospital (56 km round-trip, District Health Office information), Patongo Health Centre (76 km round-trip, District Health Office information) and Lira Kato Health Centre (local) respectively. 8 HIV-infected children were reported; only 2 were diagnosed aged <24 months: 7/8 were in HIV-care including 3 on ART.

CONCLUSIONS: Higher proportions of women compared to men reported ever-testing for HIV and testing HIV-positive, similar to other surveys. HIV-infected men and women travelled considerable distances for ART services. Children appeared to be under-accessing testing and referral for treatment. Decentralization of ART services to a local health facility would decrease travel time and transport costs, making care and treatment more easily accessible.

8. **Sexual Behavior of Older Adults Living with HIV in Uganda.** Negin, J., L. Geddes, M. Brennan-Ing, M. Kuteesa, S. Karpiak and J. Seeley (2016 *Archives of Sexual Behavior* 45(2): 441-449.

Sexual behavior among older adults with HIV in Sub-Saharan Africa has been understudied despite the burgeoning of this population. We examined sexual behavior among older adults living with HIV in Uganda. Participants were eligible for the study if they were 50 years of age or older and living with HIV. Quantitative data were collected through face-to-face interviews, including demographic characteristics, health, sexual behavior and function, and mental health. Of respondents, 42 were men and 59 women. More than one-quarter of these HIV-positive older adults were sexually active. A greater proportion of older HIV-positive men reported being sexually active compared to women (54 vs. 15 %). Among those who are sexually active, a majority never use condoms. Sixty-one percent of men regarded sex as at least somewhat important (42 %), while few women shared this opinion (20 %). Multivariate logistic regression analyses revealed that odds of sexual activity in the past year were significantly increased by the availability of a partner (married/cohabitating), better physical functioning, and male gender. As more adults live longer with HIV, it is critical to understand their sexual behavior and related psychosocial variables in order to improve prevention efforts.

9. **Finding Meaning: HIV Self-Management and Wellbeing among People Taking Antiretroviral Therapy in Uganda.** Russell, S., F. Martin, F. Zalwango, S. Namukwaya, R. Nalugya, R. Muhumuza, J. Katongole and J. Seeley (2016). *PloS One* 11(1).

The health of people living with HIV (PLWH) and the sustained success of antiretroviral therapy (ART) programmes depends on PLWH's motivation and ability to self-manage the condition over the long term, including adherence to drugs on a daily basis. PLWH's self-management of HIV and their wellbeing are likely to be interrelated. Successful self-management sustains wellbeing, and wellbeing is likely to motivate continued self-management. Detailed research is lacking on PLWH's self-management processes on ART in resource-limited settings. This paper presents findings from a study of PLWH's self-management and wellbeing in Wakiso District, Uganda. Thirty-eight PLWH (20 women, 18 men) were purposefully selected at ART facilities run by the government and by The AIDS Support Organisation in and around Entebbe. Two in-depth interviews were completed with each participant over three or four visits. Many were struggling economically, however the recovery of health and hope on ART had enhanced wellbeing and motivated self-management. The majority were managing their condition well across three broad domains of self-management. First, they had mobilised resources, notably through good relationships with health workers. Advice and counselling had helped them to reconceptualise their condition and situation more positively and see hope for the future, motivating their work to self-manage. Many had also developed a new network of support

through contacts they had developed at the ART clinic. Second, they had acquired knowledge and skills to manage their health, a useful framework to manage their condition and to live their life. Third, participants were psychologically adjusting to their condition and their new 'self': they saw HIV as a normal disease, were coping with stigma and had regained self-esteem, and were finding meaning in life. Our study demonstrates the centrality of social relationships and other non-medical aspects of wellbeing for self-management which ART programmes might explore further and encourage.

10. **Antiretroviral therapy and changing patterns of HIV stigmatisation in Entebbe, Uganda.** Russell, S., E. Zalwango, S. Namukwaya, J. Katongole, R. Muhumuza, R. Nalugya and J. Seeley (2016). *Sociology of Health and Illness* 38(1): 58-72.

The health of people living with HIV (PLWH) and the sustained success of antiretroviral therapy (ART) programmes depends on PLWH's motivation and ability to self-manage the condition over the long term, including adherence to drugs on a daily basis. PLWH's self-management of HIV and their wellbeing are likely to be interrelated. Successful self-management sustains wellbeing, and wellbeing is likely to motivate continued self-management. Detailed research is lacking on PLWH's self-management processes on ART in resource-limited settings. This paper presents findings from a study of PLWH's self-management and wellbeing in Wakiso District, Uganda. Thirty-eight PLWH (20 women, 18 men) were purposefully selected at ART facilities run by the government and by The AIDS Support Organisation in and around Entebbe. Two in-depth interviews were completed with each participant over three or four visits. Many were struggling economically, however the recovery of health and hope on ART had enhanced wellbeing and motivated self-management. The majority were managing their condition well across three broad domains of self-management. First, they had mobilised resources, notably through good relationships with health workers. Advice and counselling had helped them to reconceptualise their condition and situation more positively and see hope for the future, motivating their work to self-manage. Many had also developed a new network of support through contacts they had developed at the ART clinic. Second, they had acquired knowledge and skills to manage their health, a useful framework to manage their condition and to live their life. Third, participants were psychologically adjusting to their condition and their new 'self': they saw HIV as a normal disease, were coping with stigma and had regained self-esteem, and were finding meaning in life. Our study demonstrates the centrality of social relationships and other non-medical aspects of wellbeing for self-management which ART programmes might explore further and encourage.

11. **High Levels of Persistent Problem Drinking in Women at High Risk for HIV in Kampala, Uganda: A Prospective Cohort Study.** Weiss, H. A., J. Vandepitte, J. N. Bukonya, Y. Mayanja, S. Nakubulwa, A. Kamali, J. Seeley and H. Grosskurth (2016). *International Journal of Environmental Research and Public Health* 13(2): 153.

The aim of this study was to describe the epidemiology of problem drinking in a cohort of women at high-risk of HIV in Kampala, Uganda. Overall, 1027 women at high risk of HIV infection were followed from 2008 to 2013. The CAGE and AUDIT questionnaires were used to identify problem drinkers in the cohort. Interviewer-administered questionnaires were used to ascertain socio-demographic and behavioural factors. Blood and genital samples were tested for HIV and other sexually transmitted infections. At enrollment,

most women (71%) reported using alcohol at least weekly and about a third reported having drunk alcohol daily for at least 2 weeks during the past 3 months. Over half (56%) were problem drinkers by CAGE at enrollment, and this was independently associated with vulnerability (being divorced/separated/widowed, less education, recruiting clients at bars/clubs, and forced sex at first sexual experience). Factors associated with problem drinking during follow-up included younger age, meeting clients in bars/clubs, number of clients, using drugs and HSV-2 infection. HIV prevalence was associated with drinking at enrollment, but not during follow-up. This longitudinal study found high levels of persistent problem drinking. Further research is needed to adapt and implement alcohol-focused interventions in vulnerable key populations in sub-Saharan Africa.

12. **When information does not suffice: young people living with HIV and communication about ART adherence in the clinic.** Bernays, S., S. Papparini, D. M. Gibb and J. Seeley (2016). *Vulnerable Children and Youth Studies*.

Despite mounting evidence recommending disclosure of human immunodeficiency virus (HIV) status to young people with perinatally acquired HIV as a central motivating factor for adherence to antiretroviral therapy, many young people continue to experience disclosure as a partial event, rather than a process. Drawing from two longitudinal, interview-based qualitative studies with young people living with HIV (aged 10-24) in five different countries in low and high income settings, we present data regarding disclosure and information about HIV in the clinic. The article highlights the limits of discussions framing disclosure and patient literacy, and young people's reluctance to voice their adherence difficulties in the context of their relationships with clinical care teams. We suggest that a clinician-initiated, explicit acknowledgment of the social and practical hurdles of daily adherence for young people would aid a more transparent conversation and encourage young people to disclose missed doses and other problems they may be facing with their treatment. This may help to reduce health harms and poor adherence in the longer-term.

13. **Strengthening universal HIV 'test and treat' approaches with social science research.** Camlin, C., J. Seeley, L. Viljoen, E. Vernooij, M. Simwinga, L. Reynolds, R. Reis, R. Plank, J. Orne-Gliemann, N. McGrath, J. Larmarange, G. Hoddinott, M. Getahun, E. Charlebois and V. Bond (2016). *AIDS* 30(6): 969-970.

The recent publication of new WHO guidelines, including a call for antiretroviral therapy for everyone diagnosed with HIV regardless of CD4p cell count and pre-exposure prophylaxis for people at substantial risk of HIV infection [1], marks an important moment for taking stock of what will be needed to take biomedical HIV prevention approaches to scale, and sustain them. As the author of a recent editorial in *The Lancet* [2] observes, these guidelines are 'welcome but ambitious. [...] No studies exist that address how such a strategy can be executed on a global scale' (p. 1420). We, a multidisciplinary group of social scientists working as part of five large-scale 'universal test-and-treat' (UTT) trials being implemented across six African countries, would argue that successful large-scale expansion of treatment and pre-exposure prophylaxis will require an in-depth understanding of the heterogeneous community and health systems' contexts of the rollout. The Social Science of Universal Test and Treat Network group met in Kampala in October 2015 to critically reflect on the role social

science plays in supporting the successful implementation of UTT in African contexts. These deliberations underlined the complexities of implementing the new era of treatment and prevention. Social science work to date and the experience of others implementing UTT already shows that UTT is not a biomedical 'one-size-fits-all' intervention. It includes multiple client journeys and repeated activities (such as testing and adherence) in diverse health systems and social contexts; moreover, diverse 'models' of UTT are currently being implemented. We cannot control for the very varied contexts in which antiretroviral therapy will be delivered, and the unanticipated factors in 'real life' contexts that can mediate the effects of UTT on desired outcomes.

14. **Understanding Specific Contexts of Antiretroviral Therapy Adherence in Rural South Africa: A Thematic Analysis of Digital Stories from a Community with High HIV Prevalence.** Treffry-Goatley, A., R. Lessells, P. Sykes, T. Bärnighausen, T. de Oliveira, R. Moletsane and [J. Seeley](#) (2016). *PLoS One* 11(2): e0148801.

Near-perfect adherence to antiretroviral therapy (ART) is required to achieve the best possible prevention and treatment outcomes. Yet, there have been particular concerns about the challenges of adherence among patients living in resource-limited settings in sub-Saharan Africa. The primary objective of this study was to explore adherence in a low-resourced, rural community of high HIV prevalence in South Africa and to identify specific individual and structural factors that can either challenge or support adherence in this context. We applied digital stories as a qualitative research tool to gain insights into personal contexts of HIV and ART adherence. Through an inductive thematic analysis of twenty story texts, soundtracks and drawings, we explored experiences, understandings, and contexts of the participants and identified potential barriers and facilitators for those on lifelong treatment. We found that many of the stories reflected a growing confidence in the effectiveness of ART, which should be viewed as a key facilitator to successful adherence since this attitude can promote disclosure and boost access to social support. Nevertheless, stories also highlighted the complexity of the issues that individuals and households face as they deal with HIV and ART in this setting and it is clear that an overburdened local healthcare system has often struggled to meet the demands of a rapidly expanding epidemic and to provide the necessary medical and emotional support. Our analysis suggests several opportunities for further research and the design of novel health interventions to support optimal adherence. Firstly, future health promotion campaigns should encourage individuals to test together, or at least accompany each other for testing, to encourage social support from the outset. Additionally, home-based testing and ART club interventions might be recommended to make it easier for individuals to adhere to their treatment regimens and to provide a sense of support and solidarity.
