

# UNICEF Learning Collaborative

## Summary of Selected Research Articles

January - March 2018

### Topic I: Linking HIV to the broader development agenda

[Webb, D., Cluver, L., Luo, C., 'Evolution or extinction? Paediatric and adolescent HIV responses in the Agenda 2030 era', \*Journal of the International AIDS Society\*, vol. 21 \(S1\), 27 February 2018.](#)

- This editorial notes the fundamental change in advocacy strategies brought about by Agenda 2030 and the Sustainable Development Goals (SDGs). HIV is now included within one of the many targets and goals of the SDGs. This requires the active integration of HIV across health, education, violence prevention, and poverty reduction. The HIV community needs to root itself in the new development framework.
- Lessons from the HIV/AIDS response can inform and guide broader development objectives with decades of success in addressing social determinants of health, gender equality, health information systems, service delivery platforms, commodity access and other critical aspects related to reaching the most vulnerable.
- The authors note the value brought by the HIV response to SDG approaches for children and adolescents, and call for recognizing AIDS to be a key component of the SDG agenda.

Webb, Luo and Cluver are guest editors of a Special Issue of the *Journal of the International AIDS Society*: "[Paediatric and Adolescent HIV and the Sustainable Development Goals: the road ahead to 2030](#)" (27 February 2018). The follow papers in the Special Issue identify a set of opportunities and synergies for addressing paediatric and adolescent HIV that are offered by the SDGs.

- [Cluver, Lucie, et al., 'Sustainable Survival for adolescents living with HIV: do SDG-aligned provisions reduce potential mortality risk?'](#)
- [Chaudhury, Sumona, et al., 'Equity of child and adolescent treatment, continuity of care and mortality, according to age and gender among enrollees in a large HIV programme in Tanzania'](#).
- [Fatti, Geoffrey, et al., 'The effectiveness and cost-effectiveness of community-based support for adolescents receiving antiretroviral treatment: an operational research study in South Africa'](#).
- [Slogrove, Amy, et al., 'Inequality in outcomes for adolescents living with perinatally acquired HIV in sub-Saharan Africa: a Collaborative Initiative for Paediatric HIV Education and Research \(CIPHER\) Cohort Collaboration analysis'](#).
- [Killburn, Kelly, et al., 'Conditional cash transfers and the reduction in partner violence for young women: an investigation of causal pathways using evidence from a randomized experiment in South Africa'](#).

Cluver and colleagues demonstrate how provisions aligned with SDGs 1, 2, 3, 8 and 16 were associated with reduced HIV mortality risk for adolescents in South Africa. Chaudhury and colleagues link equity concerns critical to SDGs 3 and 5 with the risk of late presentation, delayed treatment initiation and loss of continuity of care among adolescents. Using data from adolescents and youth receiving antiretroviral treatment (ART), Fatti et al. note that community-based support is a critical link for several SDG targets. Slogrove and the CIPHER Global Cohort Collaboration find that despite ART access, there are measurable differences in mortality for adolescents living with HIV based on country income status, highlighting the importance of making progress on SDG 10. Kilburn and colleagues add evidence on how conditional cash transfers for adolescent girls reduce intimate partner violence, lead to safer sexual behaviours and lower HIV risk.

- [Grosso, Ashley, et al., 'HIV risks and needs related to the Sustainable Development Goals among female sex workers who were commercially sexually exploited as children in Lesotho'.](#)
- [Gleeson, Hayley S., et al., 'Ending AIDS by 2030: the importance of an interlinked approach and meaningful youth leadership'.](#)
- [Hodes, Rebecca, et al., 'The stuff that dreams are made of: HIV-positive adolescents' aspirations for development'.](#)
- [Penazzato, Martina, et al., 'Shortening the decade-long gap between adult and paediatric drug formulations: a new framework based on the HIV experience in low- and middle-income countries'.](#)
- [Tinasti, Khalid, 'HIV and AIDS among adolescents who use drugs: opportunities for drug policy reform within the sustainable development agenda'.](#)
- [Chamla, Dick, et al., 'Children, HIV, emergencies and Sustainable Development Goals: roadblocks ahead and possible solutions'.](#)

Grosso et al. map complex causal pathways between child sexual abuse, sex work and HIV risk through a retrospective study with adult female sex workers. Gleeson et al. demand further inclusion of adolescents and young people as leaders of the HIV response to support equitable development that best addresses unique adolescent needs. Hodes and colleagues develop this further by exploring participatory engagement by adolescents in South Africa with strong linkages to SDGs 2, 3 and 6. Penazzato et al. spotlight a collaborative model to accelerate treatment options for HIV and other infectious diseases in low-income countries through capacity-building and South-North collaborations. Tinasti critically reviews the impact of punitive drug policies on adolescent HIV transmission risks and recommends a horizontal approach to address adolescent health, built on the broad nature of the SDGs. Chamla et al. evaluates the links between complex emergencies and HIV/AIDS, particularly for children, and calls for adapting the humanitarian-development nexus as a framework for the HIV response in emergencies.

## Topic II: Elimination of mother-to-child transmission (EMTCT)

[Knettel, Brandon A., et al., 'Retention in HIV Care During Pregnancy and the Postpartum Period in the Option B+ Era: Systematic Review and Meta-Analysis of Studies in Africa', \*Journal of Acquired Immune Deficiency Syndromes\*, vol. 77 \(5\), 15 April 2018, p 427–438.](#)

- The study reviewed 35 articles with two aims: (1) to synthesize data on retention rates among HIV-infected pregnant women after starting lifelong ART (Option B+) in Africa, and (2) to identify key factors associated with retention in care.
- The synthesized results representing more than 60,000 pregnant and postpartum women initiating ART under Option B+ showed estimated retention among women to be 79.4 per cent 6 months after ART initiation and 74.5 percent 12 months after initiation. These rates are below those of the general adult population and fall short of the UNAIDS 90-90-90 targets.
- Risk factors for poor retention included younger age, initiating ART on the same day as diagnosis, initiating during pregnancy compared to during breastfeeding and initiating late in the pregnancy. Retention was compromised by stigma, fear of disclosure and lack of social support.
- Interventions to improve retention should address challenges at all levels, such as: individual (difficulty accepting diagnosis), social (anticipated or enacted stigma, fear of disclosure), clinical (quality of counselling and care) and practical (transportation and finances). The authors note that other research has suggested that peer support models would be useful but further research is needed to assess cost-effectiveness.

[Thomson, Kerry A., et al., 'Navigating the risks of prevention of mother to child transmission \(PMTCT\) of HIV services in Kibera, Kenya: Barriers to engaging and remaining in care', \*PLoS One\*, vol. 13 \(1\), 24 January 2018.](#)

- This qualitative study explored engagement and retention in PMTCT services in an informal settlement with high HIV prevalence in Kibera, Kenya.
- The data from focus group discussions and in-depth interviews across stakeholder groups highlighted the various barriers faced by pregnant women in accessing PMTCT services and education.
- Attrition from the programme was influenced by: (1) HIV in the context of Kibera, e.g., socioeconomic stress, gaps in knowledge of HIV, and reluctance to use condoms; (2) knowledge of HIV status when stigma, fear and denial prevented voluntary testing; (3) knowledge of PMTCT limited among male partners; (4) stigma on disclosing HIV status; and (5) lack of male partner support for PMTCT services.
- The authors call for confronting these barriers with increased community-based HIV testing and PMTCT education, male partner involvement in antenatal care and ongoing patient-tailored counselling for HIV-positive pregnant women.

Additional articles on EMTCT:

- [The Lancet HIV Editorial Board. "Mother-to-Child Transmission Must Remain on the Agenda." \*The Lancet HIV\*, vol. 5 \(2\), February 2018.](#)
- [Srivastava, M., et al., 'Boosting ART uptake and retention among HIV-infected pregnant and breastfeeding women and their infants: the promise of innovative](#)

[service delivery models', \*Journal of the International AIDS Society\*, vol. 21 \(1\), 21 January 2018.](#)

- [Domingues, Rosa MSM., et al., 'Mother to child transmission of HIV in Brazil: Data from the "Birth in Brazil study", a national hospital-based study', \*PLoS One\*, vol. 13 \(2\), 13 February 2018.](#)

### **Topic III: Paediatric and adolescent HIV testing and treatment**

[Mwenda, Reuben, et al., 'Significant Patient Impact Observed Upon Implementation of Point-of-Care Early Infant Diagnosis Technologies in an Observational Study in Malawi', \*Clinical Infectious Diseases\*, 27 February 2018.](#)

- This observational study compared the proportion of HIV-positive infants starting ART after implementing point-of-care (POC) early infant diagnosis (EID) technologies versus laboratory-based testing services with longer turnaround times. The new same-day EID testing was introduced into routine services at seven health facilities.
- Twice as many HIV-infected infants were initiated on ART in the POC testing group compared to the laboratory testing group. Nearly half (48.4 per cent) of HIV-infected infants in the baseline group did not initiate treatment. POC EID also significantly reduced the time between sample collection and ART initiation from 38 days in the laboratory testing arm to <1 day in the POC arm.
- A notable finding is that HIV-infected infants were presenting to testing later than the currently recommended six-week standard; the median age was 127 days in the baseline group and 148 days in the POC group.
- The study results are consistent with previous research from Mozambique (Jani, I. V., et al., *Top Antivir Med*, 2017). The authors note that POC EID holds promise in significantly reducing turnaround times and initiating more infants on treatment, but its full potential requires good referral systems, documentation, robust supply chain systems, clear patient linkages and integration of the POC technologies within the national system and care facilities.

[Wools-Kaloustian, Kara, et al., "Time to First-Line ART Failure and Time to Second-Line ART Switch in the IeDEA Pediatric Cohort", \*Journal of Acquired Immune Deficiency Syndromes\*, Epub ahead of print, 2 March 2018.](#)

- This five-region analysis of data from sub-Saharan Africa and Asia by the International Epidemiology Databases to Evaluate AIDS (IeDEA) consortium explored factors associated with ART failure and the time it takes to change to second-line ART among children between 2 and 14 years of age initiating treatment. Outcomes of interest in the analysis were first-line ART failure (clinical, immunologic or virologic), change to second-line ART and attrition (death or loss to programme).
- Among 27,031 children included in the study, the cumulative incidence of any type of failure was 7.7 per cent at one year after initiation and 25.9 per cent at five years after initiation. At one and five years after ART initiation, the cumulative incidence of attrition was 14.4 per cent and 29.4 per cent respectively. Of children meeting failure criteria, only one-third were transitioned to second-line ART within five years.

- Data for comparison with previous studies are limited. The authors note that this is one of the few studies that has been able to assess the incidence of failure based on monitoring strategies utilized by programmes and the time taken between an indication of failure and a change to second-line ART. Further studies are needed in order to understand how providers assess and respond to HIV treatment failure events.

[Wagner, Anjuli, et al., 'Disclosure, consent, opportunity costs, and inaccurate risk assessment deter paediatric HIV testing', \*Journal of Acquired Immune Deficiency Syndromes\*, vol. 77 \(4\), 1 April 2018.](#)

- This cross-sectional mixed-methods study aimed to identify factors that influence paediatric HIV testing by analysing focus-group discussions, interviews with HIV-infected adults whose children's status is unknown, and questionnaires from HIV-infected caregivers of children of unknown status.
- The analysis showed that unique challenges for paediatric HIV testing include inaccurate risk perception (e.g., asymptomatic children), issues with disclosure and consent (e.g., disclosure to partners and family members before testing the child) and prohibitory costs and scheduling limitations (e.g., school schedules).
- The study noted that barriers for HIV testing in children are different from the challenges faced by adult-focused programmes and highlighted new opportunities for interventions. Potential solutions cited by authors include: addressing the gaps in paediatric HIV knowledge, expanding testing access around school schedules, utilizing caregivers who test children as peer mentors for the community and adding psychosocial support for caregivers to address concerns about paediatric testing.

[Makadzange, A., et al., 'Temporal improvements in long-term outcome in care among HIV infected children enrolled in public ART care', \*The Pediatric Infectious Disease Journal\*, Epub ahead of print, 18 January 2018.](#)

- This longitudinal evaluation analysed engagement and retention among children and infants enrolled in public HIV treatment programmes in Zimbabwe over an eight-year period (2004–2012).
- Among 1,664 enrolled children and infants, 33.4 per cent dropped out of care within three months. Those who dropped out early were younger infants and younger children; severe immunosuppression, malnutrition and severe anemia were more prevalent in this cohort. Discontinuing care was associated with more advanced stage of disease in children.
- Researchers also evaluated temporal trends in retention to explore the effects of expanding the PMTCT programme and decentralizing the national paediatric ART programme by comparing cohorts between 2004–2008 and 2009–2012. There were improvements in enrolment and retention in the later cohort and fewer children presented to care at later stages of disease.
- The authors attribute the improvement to the implementation of revised guidelines in 2009 in line with WHO recommendations, along with a decentralization of care, expansion of the number of treatment facilities and increased access to PMTCT services. However, infants remain highly vulnerable to discontinued care compared

to older children, and the authors stress that efforts are needed to sustain these positive outcomes.

[Judd, Ali, et al., 'Long-term trends in mortality and AIDS-defining events after combination ART initiation among children and adolescents with perinatal HIV infection in 17 middle- and high-income countries in Europe and Thailand: A cohort study', \*PLoS Medicine\*, 30 January 2018.](#)

- This observational study calculated the risk of death and AIDS-defining events in children and adolescents with perinatal HIV infection in 17 high- and middle-income countries across the European region and Thailand.
- The analysis of 3,526 participants over a median of 5.6 years found higher risks of mortality among very young children, among patients with severe immune suppression and low body mass index (BMI), and among participants residing in Russia, Ukraine and Thailand compared to participants residing in Western or Central Europe.
- About 40 per cent of deaths occurred before or at six months after initiation of combination ART; higher risk in the period was associated with current severe immunosuppression, underweight and unsuppressed viral loads.
- The results suggest the need for close clinical follow-up in the six months after initiating combination ART and the allocation of additional clinical resources to support very young children and patients in the high-risk countries identified above.

[Pettifor, A., Stoner, M., Pike, C., and Bekker, L. G. 'Adolescent lives matter: preventing HIV in adolescents', \*Current Opinion in HIV and AIDS\*, Epub ahead of print, 14 Mar 2018.](#)

- This review examines the most effective prevention approaches to reach adolescent populations in the next five years.
- The authors made the following recommendations in light of their research: (a) prevention services for adolescents should be specific, tailored and comprehensive, taking into account this age group's unique development stage and needs; (b) adolescents should be included in the design, implementation and execution of programmes as well as the clinical development of new modalities; (c) HIV services should be a part of a broad programme on sexuality, sexual and reproductive health; (d) services should be age-bundled and offered in adolescent-friendly, community-based venues; and (e) social media should be used to create demand and for monitoring.
- Multiple layers of interventions tailored to adolescents and layered with biomedical, behavioural and structural components are a critical investment in a future of healthy adults.

[Enane, Leslie, A., et al. 'Retention and adherence: global challenges for the long-term care of adolescents and young adults living with HIV', \*Current Opinion in HIV and AIDS\*, Epub ahead of print, 22 Mar 2018.](#)

- This review explores recent research on retention in care and adherence to ART among adolescents and young adults living with HIV in high-income countries and low- or middle-income countries.

- Recent findings suggest that regardless of income setting, adolescents and young adults living with HIV have poorer outcomes and poorer rates of retention at each stage of the HIV care cascade, when compared to adults.
- Some barriers for adolescent retention include: fear of disclosure and stigma; resulting impact on family and social relationships; lack of family, social, school and financial support; distance and transportation barriers; and ART side effects and pill burden.
- High-quality studies of interventions to improve linkage to and retention in care for adolescents and young adults living with HIV are limited. Authors recommend further research examining adaptations of evidence-based interventions from adult HIV research, broad interventions like peer counselling, targeted interventions for adolescents at high risk of disengagement, and interventions specific to pregnant adolescents and adolescents from key populations.

Additional articles on paediatric and adolescent HIV:

- [Horton, Richard. 'Offline: Adolescent health—vulnerable and under threat', \*The Lancet\*, vol. 391, 3 February 2018.](#)
- [Chaudhury, Sumona, et al.. 'In utero exposure to antiretrovirals and neurodevelopment among HIV-exposed uninfected children in Botswana', \*AIDS\*, Epub ahead of print, 15 March 2018.](#)
- [Low, Yee Shan, et al. 'Modification of Initial Highly Active Antiretroviral Therapy \(HAART\) Regimen in Paediatric HIV Patients', \*The Open AIDS Journal\*, vol. 12, 12 March 2018.](#)

#### **Topic IV: HIV among adolescent girls and young women (AGYW)**

[Maughan-Brown, Brendan, et al., 'HIV risk among adolescent girls and young women in age-disparate partnerships: Evidence from KwaZulu-Natal, South Africa', \*Journal of Acquired Immune Deficiency Syndromes\*, Epub ahead of print, 16 February 2018.](#)

- This mixed-methods study assessed the association between age-disparate partnerships and HIV status among young women (15–24 years) in South Africa. Researchers also compared the proportion of HIV status and viral load  $\geq 1,000$  copies/mL among male partners in age-disparate and age-similar partnerships.
- Women who reported age-disparate partnerships were significantly more likely to have HIV than women who only reported age-similar partnerships; HIV prevalence was 12 percentage points higher among women who reported an age-disparity in any of their three most recent partnerships. The results were similar after controlling for the number of lifetime sexual partners and other confounders.
- Age-disparate male partners were more likely to be HIV-positive and have viral loads of  $\geq 1,000$  copies/mL compared to age-similar partners.
- Results indicate biological plausibility for a positive association between age-disparate partnerships and HIV-infection risk for young women, providing further evidence following previous studies with similar hypotheses.

- However, there is also evidence that current patterns of ART uptake among older male partners (10 or more years of difference) could mitigate some risk for young women in those intergenerational partnerships. The authors suggest that interventions addressing risk from age-disparate partnering, including expanding ART among male partners, may help to reduce HIV incidence among young women.

[Mayvu, Webster, et al., 'Sexual behavior experiences and characteristics of male-female partnerships among HIV positive adolescent girls and young women: Qualitative findings from Zimbabwe', \*PLoS One\*, vol. 13 \(3\), 22 March 2018.](#)

- This qualitative study explored sexual behaviour and characteristics of male-female partnerships among HIV positive adolescent girls and young women (AGYW) in Zimbabwe as a follow-up to a quantitative survey that sought to characterize male sexual partners and sexual behaviours of the same participants.
- From in-depth interviews with 28 AGYW, the authors reported accounts of HIV acquisition from male partners and a general low HIV risk perception, particularly with younger male partners. Respondents said they felt unable to suggest condom use to both older and younger partners due to a persistent lack of empowerment. Some also reported sexual relationships with men they perceived to have high HIV risk due to economic reasons.
- The authors emphasize the importance of HIV counselling services and testing services before marriage and conception, an increased focus on schooling and HIV education, and access to female-controlled HIV prevention resources in future prevention and treatment interventions.
- Discussions also suggested high levels of violence in many AGYW male-female partnerships. Programmes need to promote positive masculinity and address gender-based violence. The authors suggest that interventions targeting men should also promote condom use, HIV testing services and voluntary medical male circumcision.

Additional articles on HIV among AGYW:

- [Brown, Kristin, et al., 'Status of HIV Epidemic Control Among Adolescent Girls and Young Women Aged 15-24 Years - Seven African Countries, 2015-2017', \*CDC Morbidity and Mortality Weekly Report\*, vol. 67 \(1\), 12 January 2018.](#)
- [Musawenkosi, Mabaso, et al., 'Determinants of HIV infection among adolescent girls and young women aged 15-24 years in South Africa: a 2012 population-based national household survey', \*BMC Public Health\*, vol. 18 \(183\), 26 January 2018.](#)
- [Chiyaka, Tarisai, et al., 'Reaching young women who sell sex: Methods and results of social mapping to describe and identify young women for DREAMS impact evaluation in Zimbabwe', \*PLoS One\*, 15 March 2018.](#)