UNICEF Learning Collaborative
Summary of Selected Research Articles
July to August 2018

Topic I: Prevention of mother-to-child transmission (PMTCT) and Paediatric HIV

Phillips, Tamsin K, et al., 'Linkage to care, mobility and retention of HIV-positive postpartum women in antiretroviral therapy services in South Africa', *Journal of the International AIDS Society*, vol. 21 (S4), 19 July 2018.

- This secondary analysis of women enrolled in the Maternal and Child Health – Antiretroviral Therapy (MCH-ART) study explored linkage to care after leaving an integrated antenatal clinic (ANC) providing ART, and postpartum retention and viral suppression.
- Among 617 women, 21 per cent did not link to HIV care after leaving the integrated ANC-ART clinic. Women who did not link to care were more like to be younger (<25 years), unmarried and newly diagnosed with HIV in the current pregnancy. They also presented for their first ANC visit later.
- Notably, even after tracing women to different clinics, 41 per cent of participants were not retained in care at 12 and 24 months after ART initiation.
- These data show that a substantial proportion of women do not link to postpartum ART care in this setting and after linkage, long-term retention continues to be a challenge. Interventions that target younger women and provide continuous support for engagement in care are needed.

Clouse, Kate, et al., '"I will leave the baby with my mother": Long-distance travel and follow-up care among HIV-positive pregnant and postpartum women in South Africa', *Journal of the International AIDS Society*, vol. 21 (S4), 19 July 2018.

- This qualitative survey explored mobility among peripartum HIV-positive women to understand the timing and motivation of travel, particularly vis-à-vis delivery and how it may affect healthcare access. A questionnaire on travel and anticipated travel before and after delivery were administered to pregnant women living with HIV at a public antenatal clinic and a large non-profit primary healthcare clinic. A questionnaire on travel undertaken was administered to postpartum women living with HIV at an academic research clinic.
- Almost half of the 150 participants planned to travel around delivery and nearly all travelled or planned to travel after delivery. Destinations included eight of South Africa's nine provinces and four countries. The responders mentioned they intended to continue ART for themselves and HIV care for their infants but few planned to seek care at their destinations. Overall, care for the infant was emphasized over care for the mother, but of note, HIV-exposed children were often left in the care of extended family members in other places.
- The results highlight the challenges of delivering HIV care to a mobile population and the need to adapt services during times of frequently mobility and/or populations that tend to be mobile. The study shows that travel around delivery and/or post-partum may be a potential reason for loss to follow-up. The authors call for health system

improvements that can track patients across multiple facilities, ask women about expected or upcoming travel and provide a supply of ARVs for the time she may be away from home and bi-directional communication between individual clients and health facilities.

Teasdale CA et al. 'HIV viral suppression and longevity among a cohort of children initiating antiretroviral therapy in Eastern Cape, South Africa,'
Journal of the International AIDS Society 2018, 21 August 2018:e25168
https://doi.org/10.1002/jia2.25168

- The Pediatric Enhanced Surveillance Study enrolled children living with HIV and eligible for ART (0-12 years of age) at five health facilities from 2012 to 2014.
- The aim of the study was to measure time to viral suppression (VS) among those initiating ART from start date to first viral load (VL) result.
- 349 (87.9%) started ART: one third were under 12 months, 35 per cent were under five and 31.2 per cent were 6 to 12 years.
- Overall, only 60 per cent of children achieved VS and 20 per cent experienced viral rebound following suppression.
- At 12 months, only 46.6% (95% CI 36.6 to 56.0) of children <12 months had achieved VS compared to 76.9% of children six to twelve years Children < 12 months had twofold increased risk of VL rebound compared with six to twelve year olds.
- Children with very high VL at ART initiation were half as likely to achieve VS.
- Viral suppression among children is sub optimal even in a context such as South Africa where PMTCT coverage and infant testing rates are high. This underscored the need to support caregivers and families to improve treatment outcomes and reduce barriers to adherence.

Topic II: Adolescent HIV Treatment

Novitsky, Vlad, et al., 'Lack of Virological Suppression Among Young HIV-Positive Adults in Botswana,' *Journal of Acquired Immune Deficiency Syndromes*, vol. 78 (5), 15 August 2018, pp. 557–565.

- Using data from a population-based household survey by the Botswana Combination Prevention Project, the authors analysed progress towards the UNAIDS 90-90-90 goals among young adults (aged 16–29 years) and older adults (aged 30–64 years), estimated HIV prevalence and ART coverage, and assessed viral suppression by age and sex.
- Sixty-six per cent of young adults knew their status compared to 87 per cent in older adults; 75 per cent, of young adults were on ART compared to 89 per cent of older adults and 90 per cent of young people, compared to 97 per cent among older adults achieved viral suppression. The lowest coverage for all targets in the population was found among young men.
- Additional analysis showed that the inferior HIV diagnosis and suboptimal linkage to care were the primary factors contributing to low viral suppression among young adults. Despite overall progress towards the 90-90-90 targets among the general population, young adults consistently have lower rates of testing, treatment and viral load suppression.

Apondi, Edith, et al., 'Trends over time for adolescents enrolling in HIV care in Kenya, Tanzania, and Uganda from 2001-2014,' *Journal of Acquired Immune Deficiency Syndromes,* Epub ahead of print. 4 July 2018.

- This retrospective cohort study compared HIV outcomes among younger adolescents (aged 10–14 years) and older adolescents (aged 15–19 years) enrolled in HIV care in Kenya, Tanzania and Uganda from 2001 to 2014.
- Overall, enrolment of adolescents as a percentage of all individuals enrolled in HIV care increased from 2.5 per cent in 2001–2004 to 3.9 per cent in 2013–2014. The proportion of older adolescents increased nearly threefold over the study period, while the proportion of younger adolescents largely remained stable or slightly declined.
- Notably over the study period, adolescents were enrolled in care earlier and the proportion initiating ART at advanced disease stages markedly decreased. However, twelve-month attrition increased for all adolescents both post-enrolment and pre-ART initiation (4.7 per cent to 12.0 per cent) and post-ART initiation (18.7 per cent to 31.2 per cent).
- The paper concludes that while expanding HIV services and ART coverage over time in these countries contributed to earlier adolescent enrolment and ART initiation, the high attrition rates remain a challenge and a call for more adolescent-focused retention programmes.

Kose, Judith, et al., 'Impact of a comprehensive adolescent-focused case finding intervention on uptake of HIV testing and linkage to care among adolescents in Western Kenya', *Journal of Acquired Immune Deficiency Syndromes*, Epub ahead of print. 25 July 2018.

- This quasi-experimental study assessed the impact of an innovative service package at health care facilities aimed at improving HIV testing uptake and linkage to care among adolescents (aged 10–19 years) in Western Kenya.
- Implemented at 139 hospitals, health centers and dispensaries, the intervention included capacity building for health workers, program performance monitoring tools, adolescent-focused HIV risk screening tools and adolescent-friendly hours. 77,644 adolescents were tested compared to 25,520 adolescents prior to the intervention. Although HIV positivity rates remained similar pre-and post-intervention, the number of adolescents tested increased from 198 to 534. TB clinics were the entry points with the largest proportion of adolescents diagnosed with HI followed by MCH and in patient clinics. HIV positivity was also relatively high in nutrition clinics especially among younger adolescents who were most likely peri-natally infected.
- Of note, the proportion of HIV-positive adolescents linked to care increased from 62 per cent to 94 per cent after the intervention, showing significant improvement across gender and all facility types.
- This study reported a three-fold higher HIV-positivity rate within MCH settings among older adolescent males (15-19 years) compared to their female counterparts. The authors proport that adolescent males 15-19 years of age may be newly identified sexual partners of females seeking MCH-related care and invited for partner testing or referred for testing or treatment of sexually transmitted infections. This study highlighted a promising intervention package that demonstrated significant increases

in HIV testing uptake and linkage to care services for both younger (aged 10–14 years) and older adolescents (aged 15–19 years) in Western Kenya.

Topic III: Adolescent Girls and Young Women (AGYW)

Rosenberg, Nora, et al., 'Comparing Youth Friendly Health Services to the Standard of Care through "Girl Power-Malawi": A Quasi-Experimental Cohort Study', *Journal of Acquired Immune Deficiency Syndromes,* Epub ahead of print. 1 August 2018.

- This quasi-experimental study examined the impact of models of youth-friendly health services on enrolment and uptake of services by AGYW (aged 15–24 years), using four public-sector health centres in Malawi. The study assessed several outcomes including HIV testing rates, condom use, hormonal contraception uptake, dual method uptake and STI screening.
- Adolescents were randomly enrolled in four different models: standard of care or different models of youth friendly health services (YFHS). The first YFHS consisted of having adolescent friendly space, providers and convenient hours. The second included all the above with twelve monthly empowerment sessions and the third included both YFHS and a conditional cash transfer linked to attending the empowerment sessions.
- Of 1000 AGYW enrolled, those receiving care at the youth-friendly models were 23 per cent more likely to receive HIV testing, 57 per cent more likely to receive condoms and 39 per cent more likely to receive hormonal contraception. The YFHS model that include the CCT reported the highest uptake across all outcomes.
- The intervention model led to significantly higher uptake of services, confirmed with both clinical observation and behavioural self-reports from participants. The authors highlighted the importance of adolescent-focused service delivery models that are distinct from those addressing the needs of children or adults.

Pulerwitz, Julie, et al., 'How empowered are girls/young women in their sexual relationships? Relationship power, HIV risk, and partner violence in Kenya', *PLoS One,* vol. 13 (7), 19 July 2018.

- This analysis used results from a cross-sectional survey to examine the relationship power among different age groups of AGYW (15–17 years, 18–20 years and 21–24 years) and association with partner violence and HIV risk outcomes. The HIV risk outcomes included: (1) condom use at last sex with primary partner, (2) primary partner having other partners in past year, and (3) knowledge of partner's HIV status.
- Most respondents reported limited power in their sexual relationships. Older respondents, who were also more likely to be married or living with a partner, consistently reported lower levels of power. Relationship power was strongly associated with sexual violence and physical partner violence for all three age bands.
- The study reported that the association between relationship power and HIV risk was important but less consistent across age bands, potentially due to limitations of the sample size. Power was associated with condom use and knowledge of partner's HIV status for 15–17 year olds, and with awareness of their partner having other sexual partners for 18–20 year olds and 21–24 year olds.

- The authors suggest that HIV interventions should examine violence and address relationship power, particularly by using validated tools such as the Sexual Relationship Power Scale used in this analysis.

Becker ML et al. 'Vulnerabilities at first sex and their association with lifetime gender-based violence and HI prevalence among adolescent girls and young women engaged in sex work, transactional sex, and casual sex in Kenya', J Acquir Immune Defic Syndr. 2018 Aug 10.

- A cross-sectional bio-behavioural survey among AGYW (14-24 years) in Mombasa, Kenya was conducted in 2015 to compare the prevalence of first sex vulnerabilities across 1, 299 AGYW who self-identified as engaging in sex work (N=408), transactional sex (N=177) or casual sex (N=714). Regression analysis was used to identify age-adjusted associations between first sex vulnerabilities and outcomes (GBV after first sex and HIV).
- Median age at first sex was 16 year and 43.6% received gifts or money at first sex; 41.2% and 11.2% experienced a coerced and forced first sex respectively.
- First sex vulnerabilities were highest among AGYW engaged in sex work, followed by those engaging in transactional sex compared to AGYW practicing casual sex.
- Factors associated with GBV (prevalence 23.8%) and HIV (prevalence 5.6%) were first sex before age 15 before or within 1 year of menarche and receipt of money.
- Nearly one quarter of AGYW experienced GBV after first sex. HIV prevalence was also higher among AGYW living with HIV were two times more likely to report first sex before or within one year of menarche.
- These results point to the importance of education, violence prevention and economic empowerment for pre-teens and younger adolescents. Delaying sexual debut and incorporating sexual risk screening including questions about first risk may enable providers to identify AGYW who are at highest HIV risk and tailor interventions to their circumstances.

Topic IV: *Journal of Acquired Immune Deficiency Syndromes* (JAIDS)Supplements on Children and Adolescents

In August, *JAIDS* published a series from the World Health Organization (WHO) and the Collaborative Initiative for Pediatric HIV Education and Research (CIPHER) aiming to set a global prioritized research agenda for children and adolescents. The methods for this collaboration are described by Irvine et al.

The research priorities for testing, treatment and care among children are presented by Penazzato et al. To increase HIV testing among children interventions to improve access, uptake and linkage to care are discussed including the use of novel diagnostic tools and testing at various entry points. To improve treatment initiation and outcomes, strategies focus on adherence support, management of coinfections, optimal drug formulations and early ART. For service delivery, themes include strategies to improve access, uptake and retention in care, approaches to HIV disclosure and reduction of stigma.

Armstrong et al. similarly describe research priorities for testing, treatment, and care among adolescents. The article discusses strategies to improve access, uptake, linkage to care and self-testing, particularly for key populations. For treatment, priorities include strategies to monitor and improve adherence, novel drug delivery systems, management of coinfections, optimal drug sequencing and long-term outcomes. Priorities for service delivery include

service delivery models across the cascade, strategies to improve retention in care, support for pregnant adolescents living with HIV and providing psychosocial support.

Other articles in the series tackle meaningful engagement of children and adolescents in research, the potential of using already existing data, innovative clinical trial designs, and the use of modeling and implementation science. Read more here.

JAIDS also published a series on key lessons and insights from the Accelerating Children's HIV/AIDS Treatment (ACT) initiative, a joint investment by PEPFAR and the Children's Investment Fund Foundation (CIFF) to expand ART coverage among children in nine high-priority countries (Cameroon, Democratic Republic of the Congo, Kenya, Lesotho, Malawi, Mozambique, Tanzania, Zambia and Zimbabwe).

The articles address the pillars on which ACT was based: (1) policy for paediatric HIV services; (2) community engagement; (3) HIV case identification; (4) linkage to care and treatment; (5) HIV treatment initiation, monitoring, adherence and retention; (6) strategic information; and (7) domestic resource commitments for paediatric HIV. Notably, case identification remains the most significant barrier to close the treatment gap for children and adolescents; strategies in identification are described by Medley et al. and Simon et al. Linkage to HIV care and treatment is especially a concern for HIV-exposed infants, as described by Modi et al. Read more here.

Compiled and summarized by Jessica Rodrigues and Carthi Mannikarottu.