More than 5,000 people gathered in Mexico City on 21–24 July 2019 for the 10th International AIDS Society Conference on HIV Science (IAS 2019). Papers and presentations in four tracks – basic science, clinical science, prevention science and implementation science – highlighted new developments and the progress made thus far, the challenges of ending AIDS and the road ahead for HIV programmes, policy and practice. The presentations on novel approaches in prevention, the development of new treatment options and promising results from implementation research are reasons for hope.

But progress for children is critically lagging. While the 160,000 children (aged 0–14 years) who became newly infected in 2018 is a decrease from the 240,000 children newly infected in 2010, the pace of progress has slowed. In 2018, only 54 per cent of children living with HIV received antiretroviral therapy (ART), compared with 82 per cent of pregnant women living with HIV, and treatment data for adolescents aged 15–19 years are unreported in many countries. The global targets for children and adolescents were missed in 2018, and some regions remain further behind than others. These and other key points from the new Start Free, Stay Free, AIDS Free 2019 Report, which was launched at IAS 2019, paint a picture of the challenges that lie ahead in the future of the HIV response for children.

The evidence presented at IAS 2019 overwhelmingly signals that no one solution will suffice to achieve epidemic control and the end of AIDS; and where children and adolescents are concerned, efforts to reach global targets need to be redoubled. The HIV response must take on challenges at the individual, community and population levels. The innovations we invest in should be multi-fringed and person-centred, addressing structural, behavioural and biomedical components of HIV prevention, treatment and retention in care, and adaptable to the unique dynamics of the epidemic in each context.

Programmes and policies need not only innovation in concept and design, but also constant adjustments that reflect the contexts of beneficiaries and appropriate scale-up in partnership with communities. For UNICEF’s work towards ending HIV and AIDS for children, the conference highlighted both clinical advances, such as for paediatric treatment and biomedical prevention, and lessons from implementation, including issues of access, equity and programme quality based in the experience of what works in country and on the ground.


UNICEF’s Chewe Luo (Associate Director of Programmes, Chief of HIV/AIDS), Damilola Walker (Senior Advisor on Adolescents and HIV) and Catherine Langevin-Falcon (Senior Advisor on Knowledge, Advocacy and Partnerships) share their main takeaways from IAS 2019.

The progress on achieving HIV epidemic control offers reason for hope.

1. New developments such as long-acting injectables, implants and vaginal rings hold promise for preventing HIV in adolescent girls and young women, who often face challenges with adherence to pre-exposure prophylaxis (PrEP).

2. We are learning more about dolutegravir use in pregnancy. New evidence on the safety of the drug was presented, and WHO updated its guidelines to recommend dolutegravir as the preferred HIV treatment option in all populations.

3. Strategic HIV testing approaches, including index-linked case finding, partner notification and the use of self-testing approaches, are being used in diverse
settings with important implications for children and adolescents who are missed by traditional approaches. 

4. Rapid limiting antigen assays (rapid response assays) not only are helpful for expanding testing strategies but also can be a game changer for public health surveillance and clinical management, as a tool to track new infections when they are most highly transmissible and where they occur.

5. Structural prevention and layering of HIV prevention interventions, including keeping girls in school, addressing gender-based violence and offering cash transfers, are critical for adolescent girls and young women, for whom the HIV epidemic is driven by a range of socioeconomic factors.

6. Vaccine development remains complex due to the nature of the HIV virus. But the possibility of a safe and effective vaccine is inspiring to all those working to end AIDS – and when one finally becomes available it will be a turning point for epidemic control.

But there is also more work to be done, if epidemic control is to become a reality.

1. The ambitious 90-90-90 targets by 2020 are a raling cry for progress, but these treatment targets alone are not enough for epidemic control.

2. While progress has been made in the HIV epidemic at large, less progress has been made among adolescent girls and young women in sub-Saharan Africa. Further study based on implementation experience is needed to determine the best interventions to reduce the high risks of HIV incidence in this population.

3. Where health systems are weak, epidemic containment is challenging to achieve. Ending HIV outbreaks and sustaining progress require align with broader strategies to strengthen health systems.

4. In settings where the HIV epidemic is concentrated in key populations, adolescent and young people within these populations have disproportionately high rates of HIV incidence.

5. As we look ahead to 2030, the ethical and social implications of new policies and programmes cannot be an afterthought. With each new frontier of prevention and treatment, new ethical questions will arise; addressing them requires ongoing investment in implementation research looking across disciplines.

Abstracts, slides and rapporteur summaries are available on ias2019.org. For additional discussion, join the conversation on Yammer.

A Young Voice at the Conference

Mercy Mutonyi is a champion for HIV prevention programming for female sex workers and vulnerable young women at the Bar Hostess Empowerment and Support Programme, a Mercy Mutonyi is a champion for HIV prevention programming for female sex workers and vulnerable young women at the Bar Hostess Empowerment and Support Programme, a Mercy Mutonyi is a champion for HIV prevention programming for female sex workers and vulnerable young women at the Bar Hostess Empowerment and Support Programme, a

There were two key points that I hope policymakers and others take from IAS:

(a) Community engagement cannot be an afterthought. Often, communities are left out when it comes to HIV prevention research and designing prevention tools. IAS 2019 strongly reinforced the role of the community in HIV science. Voices of young people, women living with HIV, female sex workers and other vulnerable populations count when it comes to designing HIV prevention and treatment approaches.

(b) Integrated approaches are what works and what communities need. Following the release of the ECHO study results, the discussion clearly highlighted the need for integrated approaches in the HIV response, and specifically, not to leave out the sexual and reproductive health needs of those vulnerable to HIV. As emphasized in the Start Free, Stay Free, AIDS Free 2019 Report and spoke at a panel on gender transformation: research, programming, and the HIV response, Mercy shared with UNICEF that

Endgame takeaways from this year’s conference.

1. What do you see as the most important lessons for programmes and policies?

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Endgame takeaways from this year’s conference.

2. Does the research meet the needs of young people at risk of living with HIV? What is missing?

Over the decades, researchers and scientists have made many efforts to design HIV prevention solutions, but not enough of these solutions are acceptable among our communities. It needs to speak to our needs – and this can only be done through meaningful involvement of intended audiences in designing these interventions, beyond just being research participants. We know what will work for us and what won’t work for us. This lesson was often discussed at the conference and must continue to be raised.

Also, we need to look at interventions as options because not everyone has the same needs. What one person in one specific situation prefers is perhaps not what another prefers or needs, and adaptive programmes that lack flexibility and fail to present an array of options makes us less likely to be able to adhere [to treatment]. We also need to be presented with diverse information from the beginning, from the pipeline and those that are being implemented. A lot of times, we receive conflicting messages or scares, as was the case early in the dialogue on dolutegravir in pregnancy. Clarity in language and communication is still missing.

Lastly, policies are a barrier to accessing HIV prevention interventions. This includes policies around age of consent for services for young people as well as around stigma and discrimination against key populations. The newest developments in HIV research will mean nothing if funding and policies are still a barrier to access them.

3. What makes you most hopeful about the current HIV response and conversations about the future for research, policy and programming? As a young person, there is much to be hopeful about in current and future HIV research and programming. I see vulnerable populations in the centre of shaping HIV prevention and treatment because our opinions, voices and ideas matter – today and tomorrow, I see a future where HIV prevention and treatment are not perceived as cumbersome, expensive and with limited options. I am also hopeful for friendly policies that do not prevent vulnerable populations including young women and female sex workers from accessing HIV prevention services or young people living with HIV from accessing treatment and care.
based on UNAIDS 2019 estimates. The dashboard presents global, regional and national updates to Global HIV dashboards related to children and adolescents and new PrEP options. Watch and share the presentation: childrenandads.org/ias2019

The Future of the HIV Response

The New Face of the HIV and USPSTF

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trends in the HIV response for children, allows for comparisons between geographical regions by indicator and provides statistical profiles by country, age and sex over time.

Explore the interactive dashboard and the updated global snapshot.

Summary of Evidence on Key Takeaways

1. New developments such as long-acting injectables, implants and vaginal rings hold promise for preventing HIV in adolescent girls and young women, who often face challenges with adherence to pre-exposure prophylaxis (PrEP).

   Results from two recent studies evaluating daily oral PrEP as a component of prevention strategy in the HIV Prevention Trials Network highlighted the challenges of adherence in adolescent girls and young women who were participants aged 16–19 years. Adherence declined from 84 per cent at 3 months to 77 per cent at 6 months and 31 per cent at 12 months, in this initial intervention. (Benson, J., et al.)

   A new PrEP implant with istravir, a type of reverse transcriptase inhibitor, held promise for at least one year of prevention. The implants were generally well-tolerated and adherence remained above targets at both 12 months across the study through the phase. (Mathews, R. P., et al.)

   The final results from the previously reported VOICE study demonstrated effectiveness and tolerability of a vaginal ring containing dapivirine among women in Africa over a year-long period. The ring reduced the risk for HIV infection by an estimated 39 per cent, although this result is limited by the risk of a contemporaneous placebo group. However, it is notable that when offered a choice, the vast majority of the women accepted the vaginal ring (92 per cent) and continued in the study throughout 12 months. (Benson, J., et al.)

2. We are learning more about dolutegravir use in pregnancy. New evidence on the safety of the drug was presented, and WHO updated its guidelines to recommend dolutegravir as the preferred HIV treatment option in all populations.

   • The analyses from Botswana and Brazil suggest the possible risk of neural tube defects among infants of women taking dolutegravir is lower than previously reported by the ACTG 529 study. Botswana’s last year of data analysis from Botswana included 22 health facilities that were not included in the Tsepamo study and found one case of neural tube defects in infants among 152 mothers taking dolutegravir use, compared to two cases among 2,328 HIV-negative mothers. (Ranagam, M. M., et al.)

   • Thus, there remains a smaller increase in prevalence of neural tube defect among children of women taking dolutegravir compared to those of pregnant women without HIV in this study. A surveillance-based study from Brazil showed that in 2013 there was no increase in neural tube defects in a cohort of 382 women using dolutegravir during pregnancy. Around half of this cohort received dolutegravir as part of the Access to ASMO Treatment Protocol. (Review of evidence)

   • WHO updated its guidelines to recommend dolutegravir as the preferred first-line and second-line treatment for all populations including pregnant women, based on a review of new evidence. In 2016, it is important to weigh the benefits for each sub-population and understand the limitations of evidence with small cohort sizes and variable geographical context. Therefore, intensified mitigation measures will be required to reduce the risk of neural tube defects in infants among pregnant women living and working including scaled-up surveillance and total supplementation during pregnancy. (See slides)

3. Strategic HIV testing approaches, including index-linked case finding, partner notification and the use of self-testing approaches, are being used in diverse settings with important implications for children and adolescents who are missed by traditional approaches.

   • Results from the PEPFAR-supported Community Impact to Reach Key and Underserved Individuals for Treatment and Support (CIRKUTS) project, on index and social network testing among adolescents and young people in Zambia, were presented. Trained community health workers identified 1,809 individuals who were HIV positive, followed up with 87 per cent for contacts and social networks. The HIV yield, or proportion of tests performed that are positive, in the population was 45.9 per cent. (Machinga, J. M., et al.)

   • Results of self-testing interventions were presented from several countries. In Malawi and Burundi, peer distributors improved uptake of HIV self-testing kits by female sex workers. Community engagement was a key component of an HIV testing intervention in Viet Nam. In addition to community-based distribution of kits, the programme included outreach through social media. (See slides)

4. Rapid limiting antigen avidity assays (rapid recency assays) not only are helpful for expanding testing options but may also be a critical tool for public health surveillance and clinical management, as a tool to help track new infections when they are most highly transmissible and where they occur.

   • Rapid recency testing using HIV can distinguish recent infections occurring within the last 12 months from long-term infections. Ambassador Deborah Birx of PEPFAR emphasised the importance of expanding rapid testing as a component of routine programme service delivery in all PEPFAR countries. (See slide)

   • Early evidence of recency testing using limiting antigen avidity assays was shared from Ethiopia, Malawi, Rwanda and Viet Nam under the Tracking with Recency and Screening to Control the Epidemic (TRACE) project. A validation study embedded in video-based distribution of testing kits by community-based distribution of kits, the programme included outreach through social media. (See slides)

   • Recency testing can be an important surveillance tool to understand new infections in young people; pilot projects from across the field found alarming rates of HIV incidence among adolescent girls and young women. A recency pilot among pregnant adolescent girls and young women in Malawi identified 10 per cent of participants to be recently infected with the bulk of new infections in a younger cohort aged 13–19 years. (See slides)

5. Structural prevention and layering of HIV prevention interventions, including keeping girls in school, addressing gender-based violence and offering cash transfers, are critical for adolescents and young women in whom the epidemic is driven by a range of socioeconomic factors.

   • The Population Council presented a novel analysis to determine the relative contributions of layered interventions for adolescent girls aged 15–19 years from Zambia. The study showed that, all else being equal, the DREAMS programme, were most likely to have comprehensive knowledge about HIV and report consistent condom use when they received educational and economic interventions in addition to social asset building and safe spaces interventions. (Mathews, R. P., et al.)

   • In Eswatini, the Shikhalisile Lusikasane Impact Evaluation found the lowest incidence of HIV in a cohort of adolescents and young women aged 15–25 who received a combination of financial and educational interventions compared to those who received only financial incentives or only education interventions. (Gomezara, G., et al.)

6. Vaccine development remains complex due to the nature of the HIV virus, but the possibility of a safe and effective vaccine is inspiring to all those working to end AIDS – and when one finally becomes available it will be a turning point for epidemic control.

   • The landmark study in HIV vaccine development to date has been the RV144 efficacy trial in Thailand, which showed that adults who received the experimental vaccine were 31 per cent less likely to acquire HIV at the end of the 3.5-year study period. The latest results from the Phases 2a ASCENT trial, a randomized controlled trial in 11 countries that assesses safety, tolerability and efficacy of a new DNA vaccine with adjuvant by two vaccine regimens, showed promising results for prime boost combination (African HIV vaccine) in Kenya, Rwanda and the United States. (Basham, D. J., et al.)

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7. The ambitious 90-90-90 targets by 2020 are a rallying cry for progress but these treatment targets alone are not enough for epidemic control.

• The HPTN 071 (PopART) trial randomized communities in Zambia and South Africa to a standard of care, an intervention of universal HIV testing and voluntary medical male circumcision with universal ART, or an intervention of ART by national guidelines with a primary outcome of HIV incidence. While the universal ART intervention achieved 90-90-90 targets in the study population, it was not associated with a significant reduction in incidence. PopART was presented at CROI 2019 earlier this year. At IAS 2019, a discussion addressed efficacy and cost-effectiveness of the intervention, additional modelling and community engagement during the trial. (See video) While the intervention might have had better outcomes over a longer period of time, the population it reached is important to consider. The disconnect between individuals accessing treatment to achieve viral suppression and population-level changes in the epidemic could be because interventions do not adequately address which populations have access to treatment and are supported to be retained in care. (See the discussion in The Lancet HIV)

8. While progress has been made in the HIV epidemic at large, less progress has been made among adolescent girls and young women in sub-Saharan Africa.

Further study based on implementation experiences is needed to determine the best interventions to reduce the high risks of HIV incidence in this population.

• Additional analyses from the Evidence for Contraceptive Options and HIV Outcomes (ECHO), a randomized clinical trial comparing HIV risk among women on three common hormonal contraception methods, showed an alarming rate of HIV incidence in the study population of girls and women aged 16–35 years. The trial, conducted in Eswatini, Kenya, South Africa and Zambia, found no difference in HIV risk by contraceptive method (press release). During the study period, 397 new HIV infections occurred across all study arms, which was an incidence rate of 3.81 per 100 woman-years. (See slides)

9. Where health systems are weak, epidemic control is more challenging to achieve. Ending HIV requires sustained and sustained progress, and alignment with broader strategies to strengthen health systems.

• Weak health systems can exacerbate the crisis of the HIV epidemic. In 2019, Pakistan saw its largest ever HIV outbreak in the Larkana district in one province, among 876 new cases found between April and June, 82 per cent (719) were children under the age of 15 years. A WHO-led response suggested that most infections occurred through unsafe injection practices and poor infection control practices in clinics and hospitals, leading to widespread infections in robust health systems that meet established quality of care standards and can respond quickly to outbreaks cannot be ignored. Further studies are needed to better understand the source and nature of new outbreaks. (See slides)

10. In settings where the HIV epidemic is concentrated in key populations, adolescent and young women, within these populations there are disproportionately high rates of HIV incidence.

• In Viet Nam, the HIV epidemic is concentrated in key populations, particularly men who have sex with men. An analysis of HIV incidence in this population using a novel recency test found that nearly all (92.8 per cent) of recent infections in the cohort were among men aged 24 years of age and below (D. Vu, D. et al.) Routine testing recency testing in Viet Nam has found HIV transmission to be greatest among young people with the median age of new infections at 23 years. (See video) Similarly in Thailand, data from the Linkages across the Continuum of HIV Services for Key Populations in Thailand (LINK) project showed that young men who have sex with men under the age of 20 have high HIV prevalence and incidence compared to older men, and these younger men have some of the lowest rates of testing uptake. Only 11.2 per cent of men under 20 were tested compared to 59 per cent of men aged 25–49 years, according to LINKAGES data between 2016 and 2018. (Slides upcoming)

11. As we look ahead to 2030, the ethical and social implications of new policies and programmes cannot be an afterthought. With each new frontier of prevention and treatment, new ethical questions will arise; addressing them requires ongoing investment in implementation research looking across disciplines.

• While there is considerable evidence on safe breastfeeding for mothers living with HIV and on treatment, global recommendations on breastfeeding must be implemented according to national and subnational contexts. Local variations in the socio-economic and cultural context, the health of the mother/baby pair and the risks of HIV transmission weighed against the benefits of breastfeeding should influence a mother’s decision to breastfeed her baby, or not. (Session)

• Large-scale investments are being made in areas of data collection and analysis as part of HIV prevention and programme planning. Country and institutions investing in large-scale, population-based surveys must address the obligation to return results and data analysis to individuals and communities and to inform them of implications for health beyond HIV. Such surveys that are siloed in HIV and fail to include other conditions and issue areas are missed opportunities to address public health from an integrated lens. (Session)

• In clinical trials and prevention research, there is a need to communicate and engage with communities to truly reach the goals of informed consent. This includes engaging individuals living with HIV in the design and implementation stages of studies, communicating the progress of studies using language that is accessible and culturally sensitive, conveying the possibilities of further analysis of the data collected and conducting relevant follow-up. (Multiple sessions, including a Panel Discussion and discussions by the UNAIDS Vaccine Trial Network and HIV Prevention Trials Network)