

## Progress in HIV science illuminated at the IAS2017 conference

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The biennial *International AIDS Society (IAS) Conference on HIV Science* was held in Paris, France in July 2017. This year Prof Linda-Gail Bekker of the University of Cape Town led the conference as the president of the IAS. A central theme, and a topic that Prof Bekker herself champions, was the roll-out of pre-exposure prophylaxis (PrEP). As plenary speaker Sheena McCormack put it: “PrEP adds a ‘D’ for drugs to the ‘ABC’ of prevention”. Results from several studies, involving diverse risk groups, showed positive results with regards to safety, acceptability and efficacy of PrEP use. A new study (HPTN 077) on the potential of the long-acting antiretroviral cabotegravir for HIV prevention also showed promising results. However, a cost-effectiveness analysis, using the Thembisa model, showed that PrEP (at 66% of the cost of ART in South Africa) will only be cost-effective if targeted at particularly high-risk populations.

Perhaps the most significant clinical results reported at the conference were the promise of long-acting injectable antiretroviral drugs for managing HIV infection. Results from the LATTE-2 study at 96 weeks confirmed earlier preliminary results indicating that monthly or bimonthly injections of cabotegravir and rilpivirine are non-inferior to cabotegravir-based oral regimens. Viral suppression was maintained for the vast majority of the patients receiving the long-acting injections, raising the prospect of simpler regimens that are more acceptable to patients and may result in better adherence.

### *HIV and Hepatitis C*

A number of sessions focused on HIV/Hepatitis C Virus (HCV) co-infection, which is especially prevalent in people who inject drugs. A 12-week course of Direct-Acting Antivirals (DAAs) can cure HCV in the majority of patients, including those receiving antiretroviral therapy for HIV. A trial conducted in West Africa showed that this is also the case in African patients. Modelling work suggests that HCV can be eliminated as a public health problem by 2030 — in line with the WHO’s target — if DAA treatment is scaled up rapidly and high coverage is achieved. But these drugs remain out of reach for many, with prices that are extremely high in industrialised countries and not low enough in many low and middle-income countries. Significant work is needed to enable health systems in resource-poor settings to roll out DAAs to all who need it. During a pre-conference meeting on viral hepatitis and HIV coinfection, and at the main conference,

Eduard Grebe presented a poster detailing baseline HCV prevalence and disease burden estimates for San Francisco, for the *End Hep C SF* elimination campaign developed by that city’s public health department.

### *HIV and cervical cancer*

In recent years, UNAIDS has started to prioritise non-communicable diseases in people living with HIV. One such disease, although it is technically caused by a sexually transmitted infection, Human Papilloma Virus or HPV, is cervical cancer — an AIDS-defining cancer that is the biggest killer of women among all cancers in sub-Saharan Africa. A new UNAIDS guidance document on HPV, HIV and cervical cancer — [“Leveraging synergies to save women’s lives”](#) — was distributed during a session dedicated to HPV and cervical cancer. The Global Fund to fight AIDS, Tuberculosis and Malaria announced a partnership with the organisation *Pink Ribbon, Red Ribbon* to integrate cervical cancer screening programmes into ART programmes funded by the Global Fund. Other presentations illustrated successes of and opportunities to screen women attending family planning or HIV services for cervical cancer. During a poster discussion session titled “It’s time to focus on STIs”, Cari van Schalkwyk gave a short presentation on the first results of her modelling work on HIV and HPV co-infection. Her main finding suggests that the increased transmission risk of HIV in the presence of an HPV infection, and vice versa, can be explained by sexual behaviour and network-level effects, without adjusting for biological co-factors.

In a poster session, van Schalkwyk and Dr Jean Maritz from the National Health Laboratory Service and the Faculty of Medicine and Health Sciences presented their work on the cost-efficiency and accuracy of pooled nucleic acid testing (NAT) of dried blood spots for early infant diagnosis of HIV infection. In addition to results on cost-efficiency of a pooled testing strategy at Tygerberg hospital, which used retrospective surveillance data, the poster also showcased a web-based [tool](#) that laboratories can use to estimate their own cost and runtime savings when using pooling instead of individual NAT.

Progress in HIV science is not as spectacular as it has been in the past, indicating a maturing field. But the HIV epidemic will remain a major cause of morbidity and mortality in the worst-affected countries. Progress in preventing new infections,

especially in young women and certain high-risk key populations, better treatments, the challenge of developing an effective vaccine or even a cure, and addressing co-morbidities like cancers and the disorders associated with an ageing HIV-infected population, will remain important challenges for years to come. Basic, clinical, epidemiological and operational research on HIV and the HIV response must continue to be prioritised even while we

strengthen our health systems and improve the implementation of existing interventions.

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