Divergent paths to the end of AIDS

Writing in the middle of the northern hemisphere's summer holidays, the lull in journal submissions and acceptance that peer-review probably won't happen for a few weeks gives time to pause and reflect on the broader picture in HIV/AIDS in 2017. Just a few weeks after the International AIDS Society Conference on HIV Science and the launch of UNAIDS updated statistics on the global HIV epidemic, now is a good time to take stock.

Much has been made in the media worldwide and at IAS 2017 about the successes of the fight against HIV/AIDS. For the first time in the history of the epidemic, more than half of people living with HIV have access to treatment: 19·1 million in 2016 an increase of 2·4 million on 2015. As pointed out in an Editorial in *The Lancet* written to coincide with IAS 2017, there is a lot about which to feel positive: treatment expansion, declining incidence, increasing life expectancy, and new approaches to prevention. Several countries, even resource poor countries with severe generalised epidemics such as Swaziland, have achieved or are on track to achieve the UNAIDS 90-90-90 targets set to end HIV by 2030. In general, incidence is declining, even among some hard-to-reach key populations.

But there is also much that creates a sense of unease about future prospects. In central Asia, the Middle East and north Africa, Russia, and central and west Africa, the signs are less encouraging. For a range of different reasons. Central Asia and Russia are witnessing a rapid spread among injecting drug users, with overall incidence increasing 60% since 2010—harm reduction services could help to get a handle on this epidemic but authorities refuse to embrace evidence based approaches, exacerbating the situation by limiting access to effective preventive and treatment interventions and alienating a key population. Without change, there is a very real chance that the concentrated epidemic will spill over to the general population. In the Middle East and north Africa, high proportions of undiagnosed infections contribute to increasing HIV/AIDS related mortality. As we recently wrote, central and west Africa are lagging far behind the rest of the continent in terms of the 90-90-90 indicators. The Philippines is on the brink of declaring a state of emergency as the number of new HIV infections is growing so rapidly especially among young people and injecting drug users. The warning signs were there at least 18 months ago, and harm reduction interventions and improved sexual health education could have been introduced then to help rein in the epidemic—but injecting drug users are increasingly marginalised and victimised by an unsympathetic political regime and the religious mores of the country limit access to sexual health education and effective prevention.

These problems illustrate the diversity of the HIV/AIDS epidemic worldwide. From region to region, country to country, and from one location to the next, the nature of the epidemic differs, and the approaches needed to tackle it vary. Likewise, IAS 2017 showed more than ever how the science surrounding HIV is diverging. Reinvigoration of vaccine research and interest in new immunotherapeutic approaches are moving the cure agenda away from a focus on antiretrovirals: this diversification was perhaps best illustrated by the evolution of the popular HIV Cure Symposium (which has attracted a growing following over the past 5 years) into the HIV Cure *and Cancer* Symposium. With so much success in the scale-up of treatment, the treatments available in different places vary and the approaches to ensure retention in care and adherence to treatment will diverge depending on local infrastructure, resources, populations, and cultures. More prevention options are now available, and, as with treatment, how best to deploy these and the balance of interventions will need to be tailored to local conditions. Perhaps the last big shared challenge remaining is testing—in every region the number of undiagnosed HIV infections remains a substantial barrier to achieving UNAIDS targets and ending AIDS by 2030.

For much of the history of the epidemic the aims and the paths to achieving them have been broadly shared—treatment development and refinement, scale-up to as many people as possible, and innovation in prevention. But now there is a sense of being at a crossroads where different parts of the HIV community will take divergent paths. As the possible AIDS end-game comes into sight for some, the routes to that goal will differ by location and population. The scientific communities will also shift their focus to an ever broader set of questions working in more disparate specialties. During this phase, forums for discussion that bring diverse groups together, such as the IAS meetings, will be all the more valuable. ■ *The Lancet HIV*

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For the **UNAIDS report** see http://www.unaids.org/sites/default/files/media_asset/Global_AIDS_update_2017_en.pdf

For more on the **UNAIDS report** see **Editorial** *Lancet* 2017; **390:** 333

For more on **HIV in the Philippines** see **Editorial** *Lancet* 2017; **390:** 626 and **Editorial** *Lancet HIV* 2016; **3:** e105

For more on IAS see **Newsdesk** *Lancet Infectious Diseases* 2017; **17:** 902

For more on HIV in central and west Africa, see **Editorial** *Lancet HIV* 2017; **4:** e321