Medical Xpress

Advances in HIV Prevention, Treatment and Cure: a special issue of PLOS Medicine

November 7 2017

This week, publication of a special issue on Advances in HIV Prevention, Treatment and Cure begins in *PLOS Medicine*, advised by guest editors Linda-Gail Bekker of the Desmond Tutu HIV Centre, University of Cape Town, South Africa; Steven Deeks of the University of California San Francisco, USA; and Sharon Lewin of the Peter Doherty Institute of Infection and Immunity, University of Melbourne and Royal Melbourne Hospital, Australia.

HIV/AIDS remains one of the world's most critical health challenges, with around 36.7 million people living with HIV and an estimated 1.8 million new infections in 2016. Although progress in research, care, advocacy and donor funding has brought antiretroviral therapy to some 19.5 million people, AIDS-related illnesses continue to claim a million lives annually. The special issue will feature research and discussion articles aimed at advancing progress against HIV/AIDS, with ambitious global goals seeking to bring the epidemic under control by 2020.

In a Research Article, Samantha Kaplan of Yale School of Medicine, USA and colleagues report on almost 40,000 participants in an established antiretroviral programme in Khayelitsha township in South Africa, where maintaining long-term care—required for consistent viral suppression—is an important issue. About a quarter of patients were estimated to have disengaged from treatment in a 2-year period, but some 33% of these patients re-engaged in care. In a further research paper, Tonia Poteat, of the Johns Hopkins School of Public Health, Baltimore, USA and colleagues describe behavioural and psychosocial

factors associated with HIV infection in two key populations at elevated risk—transgender women and men who have sex with men, across 8 African countries.

In a research paper reporting on Link4Health, a cluster-randomized trial in Swaziland, Margaret McNairy of ICAP, Columbia University, New York, USA and colleagues describe the effect of a combined intervention comprising 5 evidence-based methods aimed at improving HIV linkage to and retention in care, including point-of-care testing, accelerated initiation of antiretroviral therapy and non-cash incentives. With a primary trial outcome of combined linkage to care at 1 month and retention in care at 12 months, McNairy and colleagues report substantial benefits for people with HIV as compared with standard care (adjusted relative risk 1.52, 95% CI 1.19-1.96).

In a Perspective article, Wafaa El-Sadr, also of ICAP in New York, and colleagues discuss the need for differentiated approaches to HIV prevention and care, tailored to the needs of specific groups of people (such as pregnant women or sex workers) and the relevant health care settings.

Turning to the long-term consequences of HIV infection, in another Research Article Mark Boyd of the Kirby Institute, University of New South Wales and the Faculty of Health and Medical Sciences, University of Adelaide, Australia and colleagues report analyses from D:A:D, a large multinational study focusing on comorbidities and the adverse effects of antiretroviral treatment. Boyd and colleagues assess the risks of cardiovascular disease and chronic kidney disease by predicted 5-year risk scores in people with HIV infection. As anticipated they find elevated risks of each disease occurring together with the other—for example, people at high risk of cardiovascular disease had a 5.63 fold increase (95% CI 4.47-7.09) in risk of chronic kidney disease events compared to those at low risk. The authors report that, for people at high

risk of cardiovascular and renal disease, the risk of both comorbidities was multiplicative as compared with that of people at low risk, and note that the risks for cardiovascular and chronic kidney disease in people with HIV should be assessed together.

Curing HIV infection remains an elusive goal. In a further research paper, Timothy Henrich of the University of California San Francisco, USA and colleagues describe detailed analyses of two patients who received prophylactic antiretroviral treatment within an estimated 10 to 12 days of HIV infection (at which point infection had not been identified), later followed by full antiretroviral therapy with four individual drugs. Although cure was not achieved in either case, detailed analyses allow the authors to follow the sequence of events and estimate the size of the viral reservoir, to inform future efforts towards curing HIV infection.

The Special Issue will continue with further research and discussion articles appearing over the next several weeks.

More information: Kaplan SR, Oosthuizen C, Stinson K, Little F, Euvrard J, Schomaker M, et al. (2017) Contemporary disengagement from antiretroviral therapy in Khayelitsha, South Africa: A cohort study. *PLoS Med* 14(11): e1002407. doi.org/10.1371/journal.pmed.1002407

Provided by Public Library of Science