Data-driven HIV programming to maximise health benefits

Lancet HIV 2020
Published Online
September 1, 2020
https://doi.org/10.1016/S2352-3018(20)30235-6
See Online/Articles
https://doi.org/10.1016/S2352-3018(20)30199-5

From the perspective of the ongoing COVID-19 pandemic, where evidence on effective prevention and treatment interventions for severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infections is limited, the near perfect efficacy of antiretroviral therapy (ART) for HIV treatment is enviable. ART prevents individual level HIV-associated morbidity and mortality, restoring life expectancy to near normal,[1] and prevents transmissions by decreasing viral load to undetectable levels.[2] To translate ART efficacy to population level health benefits, the Joint United Nations Programme on HIV/AIDS (UNAIDS) set goals to diagnose 90% of people living with HIV, link 90% of those diagnosed to ART, and achieve 90% viral suppression among people on ART by 2020.[3] In the 6 years since UNAIDS set the 90-90-90 goal, four large community randomised trials tested ART as a strategy to decrease HIV incidence with mixed results.[4] Clinical trials are the gold standard—a way to measure the underlying true efficacy while keeping everything else the same. Health programmes based on well executed trials are generally expected to have lower real-world effectiveness due to differences in intervention delivery and measurement of outcomes. In *The Lancet HIV*, Claire Steiner and colleagues[5] present the outcomes of the Bukoba Combination Prevention Evaluation (BCPE) in Tanzania in which they describe a data-driven approach to maximise the health benefits of HIV programming. By addressing gaps in the HIV care continuum, the authors more than halved the fraction of people living with HIV who were undiagnosed and more than doubled those with HIV on ART, improving on the observed efficacy in some clinical trials.

Because the results from ART community randomised trials were mixed, with only the SEARCH trial achieving high population viral suppression,[6] the BCPE investigators incorporated strategies to extend the reach of testing and more closely follow individuals through the continuum of HIV care.[7] First, they used a combination of community-based and facility-based HIV testing to reach men and young people who otherwise do not seek care at clinics. Second, same-day ART start was supported in the community and at clinics. Last, peer counsellors provided linkage and retention services, seeking out those individuals who had not been seen in the last 90 days or those lost-to-care. The welcome back to the clinic service included treatment navigation and expedited services—a stark contrast to standard measures for clients perceived as not engaged in care. The cost of the intervention was low, at US$18 per client. Overall, intervening throughout the continuum achieved higher viral suppression but fell just short of the 90-90-90 goal (64% [76% × 93% × 91%] *vs* 73% UNAIDS goal). Critically, their data driven approach identified gaps for future interventions to reach men, people who use alcohol, and those living in poverty, thus closing the gaps in HIV care.

Whereas clinical trials test hypotheses, quantitative and qualitative effectiveness evaluations identify gaps in coverage and can guide programmes as new interventions are integrated into existing health systems. This iterative process allows programmes to keep strategies that work, discard those that do not work, and maximise health benefits.[8] Pragmatic evaluations of HIV services will now occur in a world drastically altered by the COVID-19 pandemic. The last 6 months of this pandemic have focused attention on how to deliver HIV testing, linkage, and ART to people living with HIV with as little disruption as possible. This delivery must be better in low-income and middle-income countries (LMICs) where overstretched health systems to manage COVID-19 have resulted in fewer services for diagnosis, treatment, and prevention of HIV, tuberculosis, and other health conditions. For HIV, client-focused, streamlined, differentiated service delivery for HIV care as well as promising strategies such as telemedicine (allowing visits by phone or videoconference), community-based or home-based ART delivery, and multi-month scripting[9,10] could take us closer to the new 95-95-95 UNAIDS goals. Taking what we have learnt from clinical trials and programme evaluations, incorporating innovations and data-driven adaptations with ongoing monitoring and evaluation, we can maximise health benefits from HIV prevention and treatment programmes and achieve the UNAIDS goals. In many LMICs, inequities produced by the social determinants of health drive HIV infection and COVID-19. As we prepare to live with the coronavirus, we might have to adjust from an

HIV-focused approach to one that accommodates this new pandemic.

We declare no competing interests.

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