**Inequalities remain in uptake of HIV testing despite massive program scale-up**

Euphemia Sibanda1,2 and Miriam Taegtmeyer2

1. CeSHHAR Zimbabwe, Harare, Zimbabwe
2. Liverpool School of Tropical Medicine, Liverpool, United Kingdom

HIV testing is a necessary step for uptake of HIV prevention and treatment services. Since 2008 there have been large scale initiatives to intensify access to and uptake of HIV testing among untested populations at risk through provider-initiated HIV testing and counselling (PITC)1, community-based approaches2 and partner notification3, with Sub-Saharan Africa, the region worst affected by the HIV epidemic4, being most critically in need of these initiatives. As for other health interventions5,6 however, inequalities in uptake of HIV testing have been recorded7, and they may persist despite intensification of HIV testing efforts and treatment scale-up8.

In this issue of the Lancet Global Health, Ante-Testard *et al* used serial Demographic and Health surveys in 16 Sub-Saharan African countries to evaluate time trends in socio-economic inequalities in reported recent HIV testing (defined as having tested in the last 12 months). They compared recent HIV testing among the wealthiest and poorest, using both ratio (relative index of inequality, RII) and absolute difference (slope index of inequality, SII) measures. For each country, they compared periods before and after global scale-up of HIV testing (marked as the introduction of PITC), using 2008 as the cut-off year. In addition, they conducted a meta-analysis of average inequalities per survey period (before/after 2008) and measured inequalities based on educational attainment. All analyses were stratified by sex with sub-group analyses among young people aged 15-24 years. This paper provides both multi-country trends in recent HIV testing by socioeconomic status and pooled estimates of recent testing across countries by socioeconomic status. These data are important for gauging program successes in reducing inequality as HIV testing is intensified.

The authors clearly show that the poorest individuals (or the least educated) are less likely to have recently tested for HIV compared to the wealthiest (or most educated) people. Although there are notable improvements in recent HIV testing when comparing the period before and during scale-up of HIV testing (and antiretroviral therapy, ART), there is still marked inequality, which is more pronounced among men, with RII of 9.79 (4.24;22.6) and 2.77 (1.42;5.40) among women for the two periods, and 7.32 (4.09;13.11) and 3.55 (1.85;6.81) for men, with absolute differences plateauing in women and increasing in men. Geographic differences were seen: Eastern and Southern Africa did better with Malawi, Rwanda, Zambia and Zimbabwe showing reductions in inequality in both relative and absolute terms. On the other hand, West and Central Africa fared less well, with some countries showing increases in inequality between the two survey periods. Except for Zimbabwe and Lesotho, recent testing was reported more in urban than rural communities.

It is important to note that inequality in HIV testing is not only relevant from the human rights perspective but has implications for epidemic control, particularly if the people who have not tested are at higher risk of HIV infection. It is therefore critical for programs to carefully review who is being reached by services and to implement interventions that are tailored to address this. Inequalities may differ by setting or service5: in this paper authors show inequalities by wealth and education status, yet in other settings inequalities by age, gender9 or religion10 have been reported. Correspondingly, research needs to be conducted to explore cross country trends in inequalities at other points of the treatment or prevention cascades e.g. initiation of ART and achievement of viral suppression.

The paper published reports up to 2016; findings may not take account of recent changes resulting from accelerated scale-up, particularly as countries gear up to meet the 90-90-90 targets8. Review of the 2019 UNAIDS Global AIDS update however shows that the findings of the paper are in line with recent trends: although there has been global improvement in uptake of HIV testing, there are geographic differences in program successes in much the same way that the paper highlights differences between Eastern and Southern Africa and Western and Central Africa, with the former showing superior outcomes4. Importantly, the report notes that a key facilitator to program success is investment in the HIV response: in East and Southern Africa expenditures per person living with HIV are in line with the resource needs (which could explain program success even in remote/rural settings), while in Western and Central Africa only 48% of what is needed by 2020 is available4. Mobilisation of adequate resources for the HIV response is therefore critical for program success and corresponding reduction in inequality.

In summary, inequalities have persisted despite massive scale-up of HIV testing and this has potential to undermine epidemic control. Global estimates may mask inequality; it is important for programs assess and report inequality, bearing in mind that there could be differences in factors that drive it. There is need to ensure that adequate resources are channelled towards implementation that leaves no one behind.

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