

Title: Lessons from scaling-up HIV viral load testing in Tanzania: The importance of monitoring the HIV viral load cascade.

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Background: Access to HIV viral load (HVL) testing in Tanzania has risen steeply in 2017 with the scale-up of testing laboratories and expansion of the hub-and-spokes model to transport and process samples. Within the regions supported by the Elizabeth Glaser Pediatric AIDS Foundation, HVL testing has increased three-fold within six months; from 4,157 tests between October 2016-March 2017 to 12,159 tests between April-September 2017. While the focus on scale-up has been to ensure all HIV clients receive a HVL test, follow-up results along the HVL cascade is equally important.

Methods: This retrospective analysis evaluates the HVL cascade (figure 1). Data from electronic medical records from the national HIV database at 71 sites were analyzed, for factors associated with uptake of repeat HVL testing among those identified with high viral load (>1,000 RNA copies per ml). Variables included age, sex, treatment regimen, and facility level.

Results: From October 2015 till March 2017, 7,908 clients received a first routine HVL test, with a viral load suppression rate of 80%. Out of 1,616 clients with a high viral load, 710 (44%) received a repeat HVL test and 46% of these clients were then found virally suppressed. Likelihood of repeat test was higher among patients seen at hospitals (46%) compared to lower-level facilities (25%, $p<.0001$), and patients on 2nd line regimen (55%) compared to 1st line (42%, $p=.001$). Children and adolescents/youths under 25 years were more likely to receive a repeat test (54%) compared to older patients (40%, $p<.0001$). The likelihood of receiving a repeat VL did not vary by sex ($p=.106$).

Conclusion: While the scale-up of HVL in Tanzania has improved, the follow-up of clients with high viral load lags. As many differentiated service delivery models are implemented for stable clients, these findings call for stronger focus on models for clients with high viral load. Follow-up along the HVL cascade also requires more investments in monitoring and evaluation systems to be able to track these at-risk clients and document the outcome of enhanced adherence counseling and potential treatment switch.

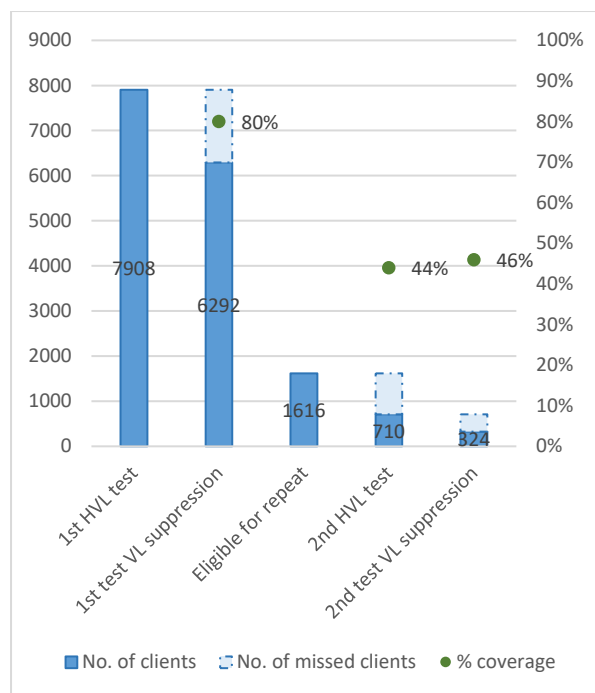


Figure 1: The HVL cascade at 71 sites across six regions in Tanzania, October 2015 – March 2017