Outcomes and implementation considerations for optimizing dolutegravir-based antiretroviral therapy among PLHIV in northern Uganda

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Problem

In 2018, the Uganda Ministry of Health (MOH) adopted World Health Organization's (WHO's) guidance to switch first-line antiretroviral therapy (ART) from non-nucleoside reverse transcriptase inhibitors (NNRTIs) to dolutegravir (TLD/DTG).This study assesses the outcomes and implementation considerations for TLD/DTG optimization to guide policy-making decisions.

Response

The USAID Regional Health Integration to Enhance Services-North, Lango (RHITES-N, Lango) project, implemented by John Snow, Inc. (JSI), reviewed data from 70 health facilities in nine districts of Lango sub-region, a post-conflict area in northern Uganda. The study reviewed records of 78,000 people living with HIV (PLHIV) between March and December 2018 (before) and January 2019 and September 2021 (after).

The Phase 1 training-of-trainers TLD/DTG course for 30 participants was followed by onsite facility-based trainings in 18 priority hospitals. This informed Phase 2, in which training and mentorship was extended to an additional 52 health facilities. MOH and RHITES-N Lango supervised and provided hands-on mentorship.

Figure 1: **Number of Patients Optimized on TLD/DTG**
(USAID RHITES-N, Lango)

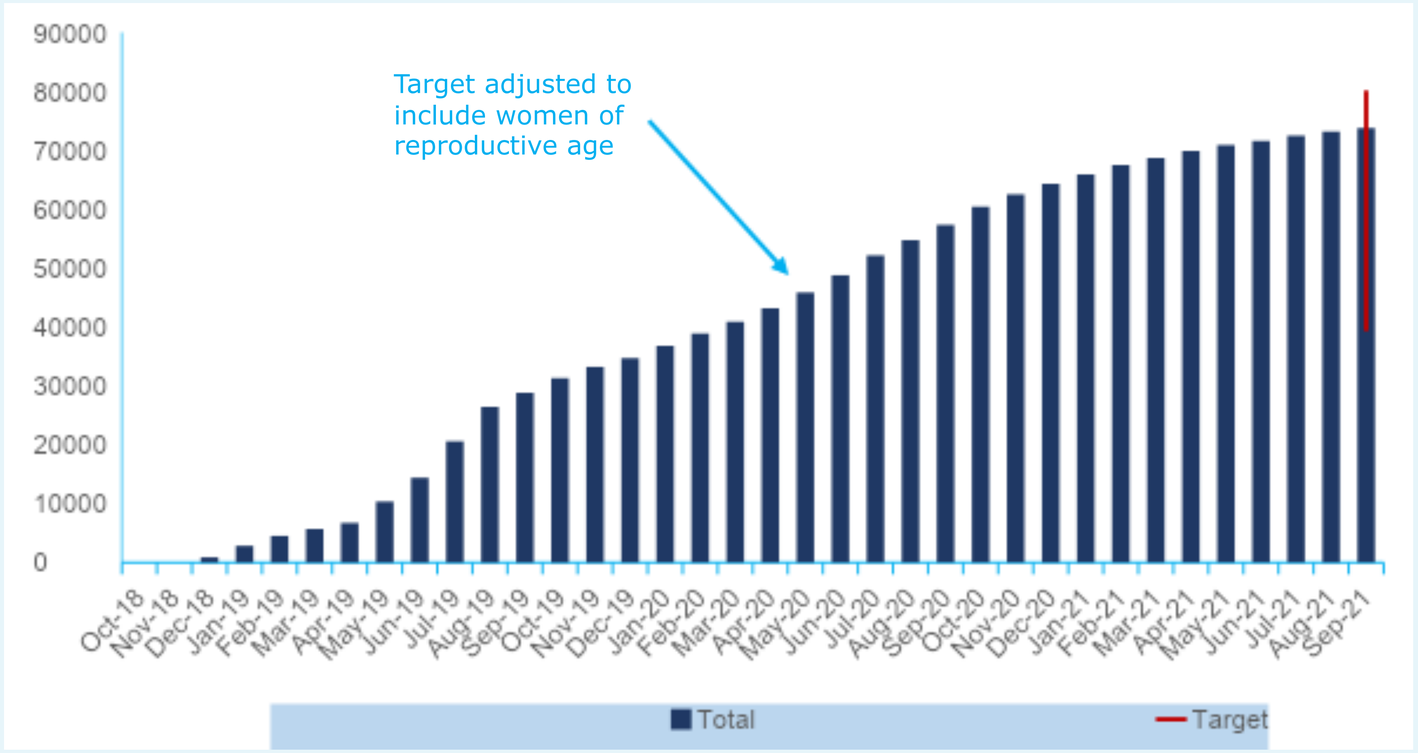
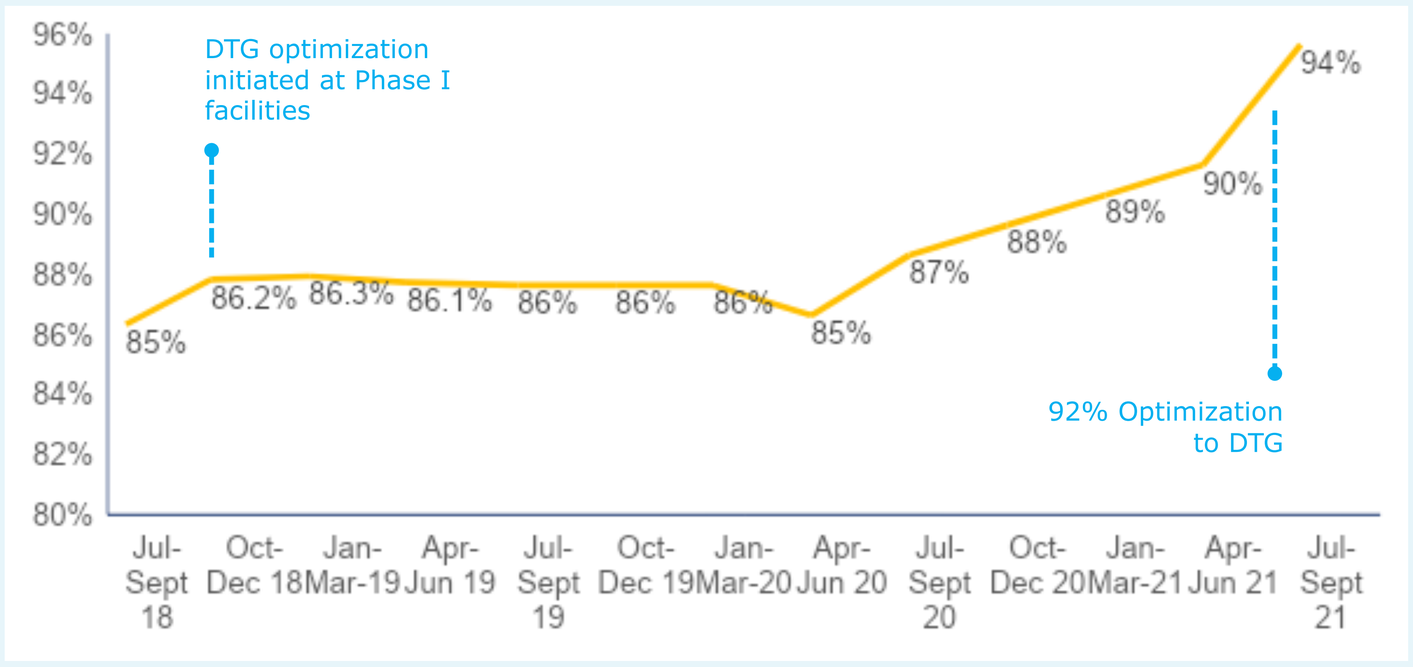


Figure 2: **VL Suppression before and after TLD/DTG Optimization**
(USAID RHITES-N, Lango)



Results

All 70 health facilities optimized TLD/DTG by September 2021. Emerging safety data permitted the inclusion of reproductive-age women mid-implementation, doubling targets from 40,000 to 80,000 PLHIV, with slow initial uptake of TLD/DTG in Phase 1 markedly improving in Phase 2, from 15% to 92% (Figure 1). PLHIV with suppressed viral load increased from 85% to 94% after optimization of TLD/DTG (Figure 2).

Lessons Learned

Key implementation concerns related to the national guidelines, laboratory systems, knowledge, and perceptions of health care providers. These included:

- Initial deficits in DTG-specific knowledge among providers.
- The requirement for baseline viral load testing.
- Stock outs from multi-month dispensing.
- Hesitancy to transition thriving PLHIV on NNRTI regimen to TLD/DTG.

However, the MOH guidelines were unclear about contraception for women of childbearing age and were inconsistent in weight bands (30 kilograms versus 35 kilograms in checklist versus guidelines), and there was a delay in providing official consent forms.

Conclusion

This study depicts the optimization of TLD/DTG with high viral load suppression in a resource-constrained setting. Health systems bottlenecks that contributed to the initial lag in TLD/DTG optimization were overcome. Formative evaluations at the start of ART optimization could inform future programming.

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