The Kingdom of Lesotho is landlocked country surrounded by South Africa. It is a lower middle income country and has population of 1,924,381[1]. The country is divided into ten administrative districts and 73% of the population resides in rural areas. Lesotho is among the hardest hit countries in the world by both HIV and TB. The HIV prevalence among people aged 15-49 is 24.6% and annual incidence is 1.9%(2). There are 315,000 people living with HIV and TB/HIV co-infection is 74%(3). The TB incidence is 852 per 100,000 population(4).

Since the start of the public ART program in 2004, the country has scaled up treatment services in more than 200 facilities. The WHO 2013 ART guidelines with a cut-off of 500 C04 including Option B+ and targeted viral load (VL) monitoring were adopted in 2014. Currently, the ART coverage is 33% for adults and 57% for children(5). The country has adopted the WHO 2015 guidelines on Test and Start and implemented services as of June 2016. With the Test and Start approach, Lesotho plans to achieve the UNAIDS 90-90-90 targets in the five districts with the greatest HIV burden by end of 2017.

Laboratory Systems for VL Monitoring

The laboratory service is structured in three tiers: National, District and Health Center levels. The National Reference Laboratory (NRL) provides VL, EID, TB culture and DST. The 18 district laboratories provide basic diagnostic and patient monitoring tests while 216 health centers provide point of care testing (POC) and/or serve as collection sites. To improve the quality of services, the WHO step-wise quality improvement process was implemented in all clinical laboratories. The national HIV VL strategic and annual operational plan is in place[5,6].

In 2014, targeted VL monitoring was initiated. Plasma-based VL testing using the Roche Taqman platform is currently used. Recently, routine VL monitoring has started and coverage increased to 15%(6). The routine VL monitoring scale-up is expected to cover 50% by end of 2016 and >90% of patients on ART by end of 2017 (Fig 1). To scale up and improve quality of services, the following are being implemented: referral network is being strengthened; sample collection frequency from sites is increased through subcontract with Riders 4 Health (R4H) and DHL courier services; optimal use of VL platform by introducing 16-hour shift at NRL; sample tracking tool is being piloted; electronic LIS is used to transmit results from NRL to district labs; and preparations are underway to decentralize services at Mafeteng district laboratory.

Clinical/Program Systems for VL Monitoring

For achieving the Third 90, monitoring the program level viral suppression is an important quality of service indicator at the site and national levels. In order to guide and monitor the roll out of VL testing in Lesotho, the Ministry of Health developed the National Viral Load Scale-up Plan with technical assistance from partners, which was finalized in December 2015(6). Targeted VL testing was rolled out in 2014 to ART patients with signs of clinical or immunological failure, patients on 2nd or 3rd line regimens, pregnant and breastfeeding women, and children under 5 years. As of June 1, 2016, routine VL monitoring has been made available to all patients on ART. The National ART guidelines were recently revised and recommend VL testing every 6 and 12 months after ART initiation followed by annual testing thereafter if suppressed (<1000 copies/ml), Pregnant and breastfeeding women and all children and adolescents are to be monitored with VL every six months.

National-level training of trainers and subsequent district-level step-down trainings on comprehensive HIV have been conducted in the past year inclusive of training on VL monitoring and interpretation, management of treatment failure, and 2nd and 3rd line ART. Further district- and site-level trainings on use of VLs are ongoing as part of the nationwide roll-out of Lesotho’s new Test and Start ART guidelines.

Moving forward, VL testing will assist with differentiating the package of services ART patients receive, i.e. stable patients with viral suppression will be seen less frequently to decongest clinics and “unstable” patients with VL >1000 copies/ml will receive intensified adherence support with switching to 2nd or 3rd line ART as deemed appropriate with select monitoring of ARV drug resistance.