

## Establishing and expanding molecular HIV diagnostics in Lesotho: A collaboration with Butha-Buthe District Hospital and the Ministry of Health



*Figure 1: A typical village in Butha-Buthe district. The partnership is committed to provide state-of-the-art molecular monitoring for all persons living with HIV in this remote high-prevalence area*

### **Context**

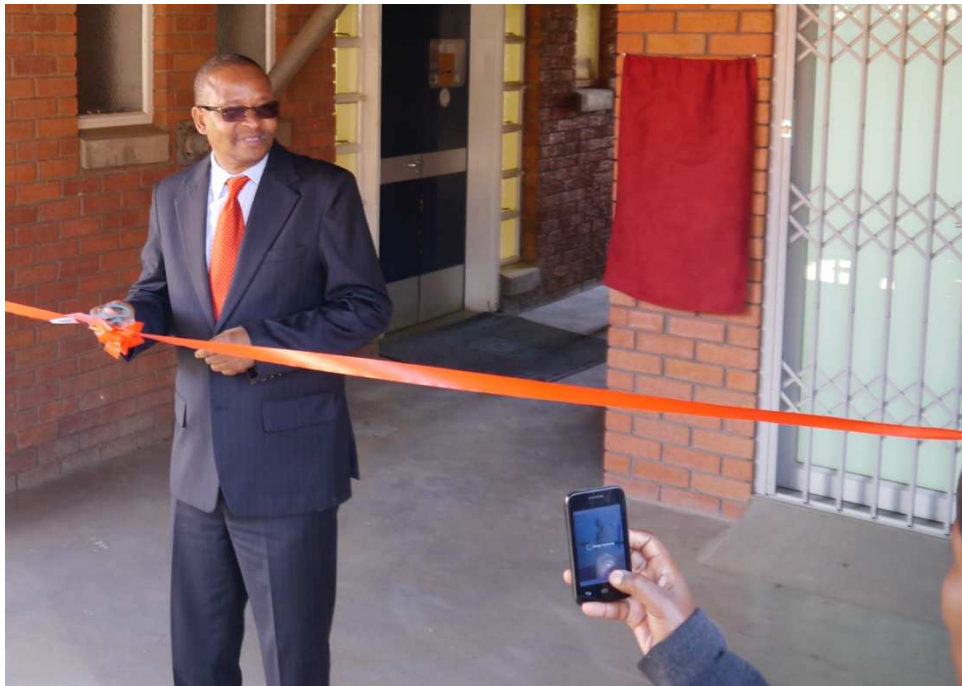
Lesotho, a small landlocked country surrounded by South Africa, has the second-highest HIV prevalence worldwide: An estimated 25% of the adult population are infected by HIV. Through joint efforts of the government of Lesotho and international partners about two thirds of all persons living with HIV are today receiving life-saving antiretroviral therapy. However, provision of antiretroviral therapy must go along with state-of-the-art laboratory monitoring to ensure successful therapy at long-term. The test of choice to determine if a therapy is effective is the quantitative viral load measurement. An undetectable viral load (“suppressed”) means that therapy works well whereas a high viral load hints at treatment failure. Although recommended by the World Health Organization since several years, regular viral load measurement was not accessible for people living with HIV in Lesotho until very recently. This partnership, supported by ESTHER Switzerland, aims at providing viral load monitoring to all persons receiving antiretroviral therapy in two rural districts in Lesotho. Moreover, the partnership is also the starting point for establishing HIV resistance testing in Lesotho for patients who fail antiretroviral therapy.

### **Project description**

The project has two goals

1. To improve HIV-care through sustainable access to viral load testing for all persons living with HIV in two districts in Lesotho (Mokhotlong and Butha-Buthe)
2. To set up the first laboratory for quality-controlled HIV resistance testing in Lesotho

Viral load monitoring and resistance testing shall be made available to an estimated 16'000 persons living with HIV in the districts of Butha-Buthe and Mokhotlong. Viral load monitoring will be used routinely to assess the efficacy in all individuals taking antiretroviral therapy in these two districts. A specifically developed innovative database will be used to monitor treatment success in every patient to ensure correct medical follow-up in case of treatment failure (repeated high viral load despite antiretroviral therapy). Aggregated anonymous data from the last 6 months of viral load monitoring are publicly available under: <https://lstowards909090.org/db/publicstats/report5>



*Figure 2: The Honourable Minister of Health, Dr. Molotsi Monyamane, inaugurates Lesotho's first decentralized viral load platform in Lesotho*

The partnership comprises trainings for laboratory technicians as well as for providers of antiretroviral therapy and aims at setting up a state-of-the-art medical follow-up for all people living with HIV in the two districts of the project. It aims at improving health outcomes of individuals living with HIV. Moreover, in order to ensure sustainability, the partnership will provide career opportunities to laboratory technicians and other health care professionals in Lesotho.

By the end of the project >10'000 individuals on antiretroviral therapy will have benefitted from viral load monitoring, and at least 4 laboratory technicians in Lesotho will be fully trained and competent in molecular HIV diagnostics.



Figure 3: A laboratory technician performing HIV viral load testing on the first decentralized viral load platform at Butha-Buthe Laboratory

## **Partnership**

The partnership comprises 3 institutions in Lesotho and 2 in Switzerland.

### **Institutions in Lesotho**

#### **District Health Management Team of Butha-Buthe**

The District Health Management Team (DHMT) represents the Ministry of Health at district level and is responsible for the health care facilities in the district. The Butha-Buthe Government Hospital is the district and referral hospital in Butha-Buthe district. Its laboratory serves as the reference laboratory of the district and hosts the first decentralized viral load platform in Lesotho (Cobas Ampliprep Taqman® 96, Roche Diagnostics). It receives blood samples for viral load monitoring from 8 governmental, 3 missionary and 2 private clinics in the district. The DHMT Butha-Buthe is headed by Dr. Lebohang Sao, District Health Manager.

#### **Central Laboratory Services of Lesotho (Ministry of Health)**

Butha-Buthe laboratory is under direct supervision, mentoring and auditing by Central Laboratory Services of the Ministry of Health (MoH) of Lesotho. The Central Laboratory Services are headed by Ms Tsietso Mots'oane.

### **Institutions in Switzerland**

#### **Swiss Tropical and Public Health Institute (SwissTPH)**

The "Towards 90-90-90" research consortium is headed by Niklaus Labhardt, who is a member of the Clinical Research Unit of SwissTPH. The consortium conducts epidemiological, clinical and operational research to address gaps in the treatment cascade for HIV infected individuals in Lesotho.

#### **Molecular Virology, Department of Biomedicine, University of Basel**

The MoVi research unit is headed by Thomas Klimkait and focuses since 1998 on research and diagnostic aspects around HIV therapy and drug resistance. The unit functions in the context of an accredited diagnostic laboratory for Virology, where Klimkait heads serological testing and the regional lab in the Swiss HIV notification system of the Federal Office of Public Health.

The laboratory Head is linked to Esther Switzerland through activities/projects of the Swiss HIV Cohort Study (SHCS) and his role in the Scientific Board.



### **Collaborating institutions**

#### **SolidarMed, Swiss Organization for Health in Africa**

[www.solidarmed.ch](http://www.solidarmed.ch)

SolidarMed is a not-for-profit organization based in Switzerland. It works since several decades in Lesotho and has a close partnership with the MoH for implementation of HIV care in Butha-Buthe district.

#### **The “Towards 90-90-90” consortium**

The partners listed above build the “Towards 90-90-90“-consortium. This consortium received an Open Call R4D Grant (IZ07Z0\_160876/1) in February 2016. Among others, the consortium since then implemented routine viral load monitoring in Butha-Buthe. For more information on the R4D grant: <http://www.r4d.ch/modules/thematically-open-research/hiv-care-cascade>

#### **The difference this partnership makes in Lesotho**

- Capacity building in molecular diagnostics related to HIV
- Improving HIV-care for about 16'000 persons living with HIV in Lesotho
- Improving medical management of persons who are failing treatment while taking antiretroviral therapy

Access the project website on:

<https://visibleimpact.org/projects/1261-molecular-hiv-monitoring-in-lesotho>

#### **Timeframe**

February 2017 to July 2018

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*The ESTHER Switzerland programme ( <https://www.esther-switzerland.ch/> ) is implemented by the Institute of Social and Preventive Medicine (ISPM) of the University of Bern, on behalf of the Swiss Agency for Development and Cooperation SDC).*