CASE STUDY

UGANDA

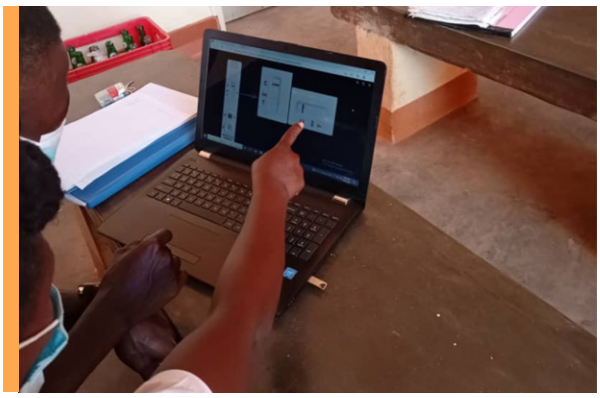
How Global Learning Centre supports capacity building of our same-day CD4 test in Uganda.

Introduction

Uganda ranks as one of the top ten countries in the world with 1.4 million of HIV cases reported in 2020[1]. Despite having 60% viral suppression[1], 46% of newly diagnosed patients living with HIV are found to have a CD4 cell count below 200 cells/µL[2]. This ranks Uganda with a prevalence of 5.4[2], higher than Tanzania (4.7%) and Kenya (4.2%)[2] with which it shares a border. Within Uganda the highest HIV prevalence is in the Central region (10.4%) due to its urbanization and location of the capital city Kampala[3] followed by the southwest (7.9%) and mid-west (5.7%) regions[4]. Despite this data, Uganda is one of few countries in the world that has managed to reverse its HIV epidemic[3], they have committed to decrease the prevalence by encouraging people to know their HIV status and seek early treatment and counselling[3]. Uganda's strong approach also includes political and educational campaigns, decentralisation of healthcare, and a focus on training community outreach volunteers and healthcare workers[3].

Objective

Training and implementation of VISITECT® CD4 Advanced Disease test in Uganda using a novel online learning platform reaching 169 facilities in the Western region that aimed at reaching 239 facilities conducted by implementing partner Baylor Uganda[5]. Focusing on community outreach where no CD4 testing capacity was available or access to conventional CD4 count technologies is limited.



Picture 1: End-Users learning with GLC platform at a community facility, Uganda

Methods

Using a capacity building model; Omega's training team (5 Master trainers) virtually trained local trainers (Training of Trainers, ToT), who cascaded training to end-users in-person (beginning 16th Aug 2021 – 17th September 2021) Omega's tailored training program comprised different learning tools:

- Global Learning Centre (GLC) e-learning platform available online and offline
- Toolkit with Training Material and Material for Competency Assessment
- Support Materials including technical guides, an instructional video and training PPT

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ToT was conducted over two-days including hands-on use of VISITECT® CD4 Advanced Disease. These sessions covered venous and capillary sampling, troubleshooting and methods for high throughput laboratory-based testing (known as batch testing). Previous virtual sessions with Omega team, ToT were provided with training materials and were prequalified as end-users using GLC. All users required ≥95% competency score on the GLC competency assessment. GLC administrator training was provided to selected users, to allow Baylor Uganda to manage their future end-users and trainers.

Forty-seven ToTs were trained virtually using this method from 28 facilities of different health settings as categorised by the World Health Organisation[6] across 17 districts. ToTs were divided into groups of up to 4 people, training was conducted via Zoom and WhatsApp.

End-user training was managed by Baylor Uganda ToTs. Rollout to 238 end-users and in up to 169 facilities occurred over 5-week period using all provided training materials and GLC offline version (Picture 1). Omega provided follow-up and support as required via WhatsApp and email. ToTs worked independently and in groups, covering facilities and health workers of all levels.

Results

End-user and Facility expansion Over a period of 5 weeks, Omega assisted the rollout to 47 ToTs. These ToTs then cascaded training to a further 238 end-users across over 169 facilities.

This was implemented at District Level (49%) and Regional Reference (9%) Laboratories with qualified healthcare workers. Most importantly, it reached primary care (29%) and community outreach (13%) facilities where lay health workers are located (Figure 1). End-users roles included clinicians, nurses, pharmacists, laboratory professionals, phlebotomists, counsellors, and community health workers.

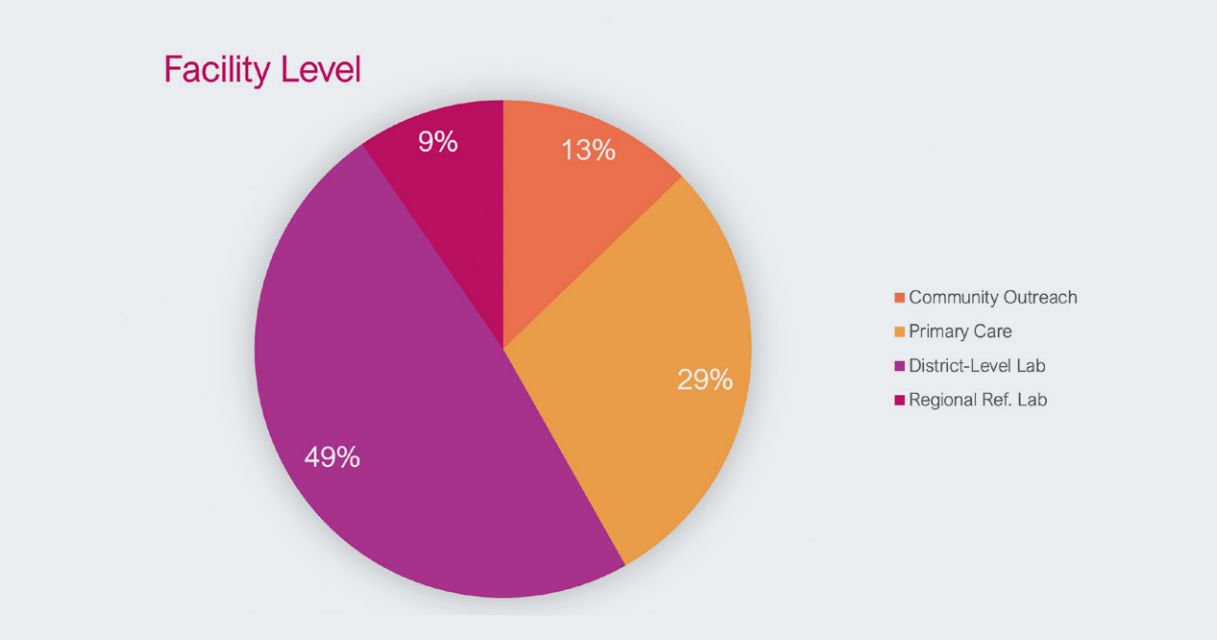

Figure 1: Pie chart shows the facility level percentages during the rollout of **VISITECT® CD4 Advanced Disease test**

Rollout to 238 end-users and in up to 169 facilities occurred over 5-week period

Decentralisation of CD4 testing Training on VISITECT® CD4 Advanced Disease extended across 2 cities and 17 districts mainly in the Western region (a total area of 51,340 km^2 (21% of Uganda[7])), of note, this covers one of the highest prevalence areas in Uganda (average 5.2%)[8] (Figure 2). Prior to this training event, there was no experience with the test in these areas.

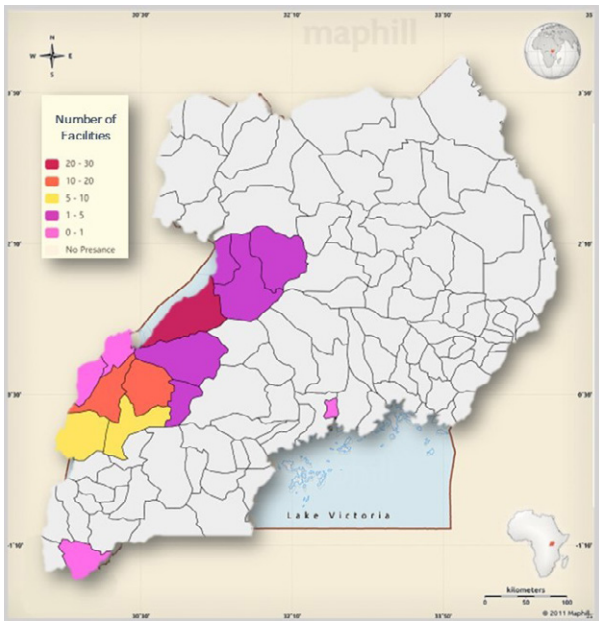

Figure 2: Expansion represented in number of facilities per district of VISITECT® CD4 Advanced Disease facilities. Map developed by www.paintmaps.com

Omega's training package advantage Using online/offline GLC and training materials, ToTs were able to reduce end-user hands-on training time. It also accelerated learning capacity having all users benefit from a standardised set of materials and work at their own pace to complete their final competency assessment. ToTs could emphasise key areas to ensure comprehensive understanding to each end-user. Figure 3 reflects the growth of number of facilities and end-users that this training program allowed in a short time period.

Offline GLC assisted fast-tracking implementation By having ToTs trained in the GLC offline version and using laptops during the delivery of training to end-users, all end-users were assessed on a standardised set of questions ensuring consistency between the interpretation of the results. All end-users had to achieve over 95% pass rate to receive their certificate.

No downtime between training and rollout By ToTs rolling out to end-users immediately following initial training, a strong knowledge base was achieved and reduced the possibility of staff turnover that could have affected end-user training and in turn have implementation impacts. This fact, in addition to VISITECT® CD4 Advanced Disease kits in-country and with trainers at facilities by Baylor Uganda, significantly assisted in the rollout.

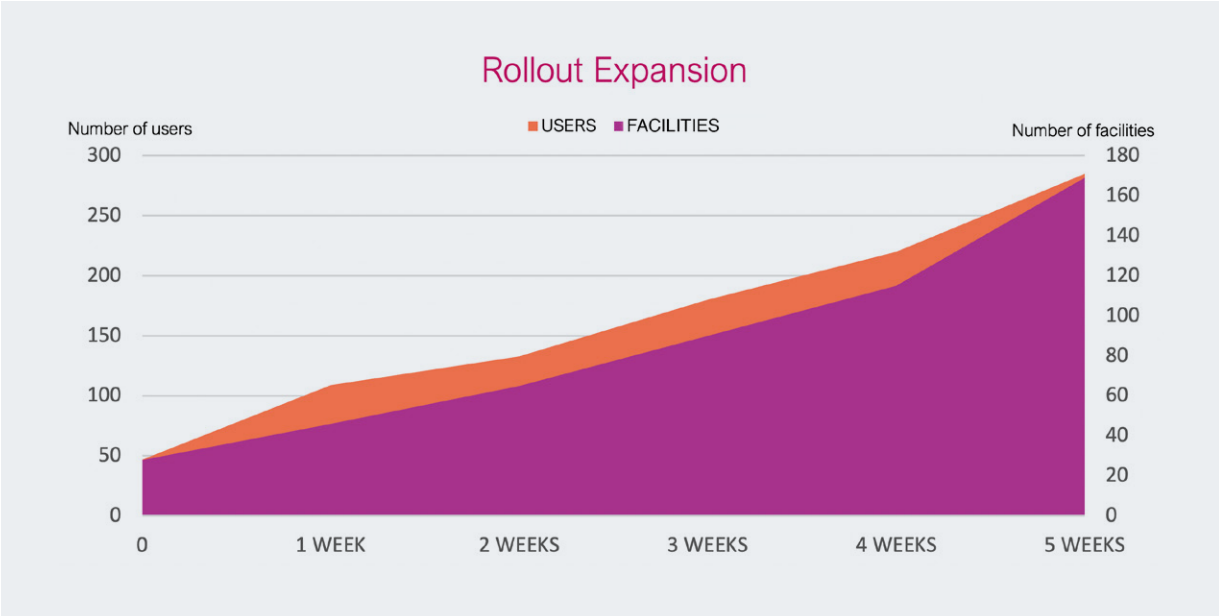

Figure 3: Expansion of number of users and facilities during implementation of VISITECT® CD4 Advanced Disease

Conclusion

Uganda has intensively reduced HIV prevalence since the first case of HIV was reported in 1982[3] thanks to programs of implementation of new diagnostics to detect HIV and introduction of ARVs, encouraging the use of community outreach, where resources are short, and the needs of economical testing are very high, more and more local clinics and medical centres are now armed with resources such as trained staff and supplies. However, more is needed to curb the level of advanced HIV disease found in newly diagnosed patients, VISITECT® CD4 Advanced Disease can help to identify those patients who urgently need medical attention sooner and reduce the impact of HIV in the community. This implementation was supported by the Ugandan Ministry of Health and facilitated by Baylor Uganda, an Implementing Partner focusing on decentralised facilities in the regions of highest prevalence.

The successful rollout of this test in Uganda was due to two major reasons. Firstly, a strong and engaged implementing partner with trainers capable of rolling out to over 169 facilities, and over 238 end-users that covered a large geographical area to ensure VISITECT® CD4 Advanced Disease reached down to the community outreach. Secondly, the use of GLC online and offline is ideal in decentralised, low-income settings where saving time and costs associated to training, which is essential to reduce the burden for community healthcare workers.

This case study proves that Omega have developed a successful training program applicable virtually but most importantly adaptable to use in the field whether at a hospital or right down to the community outreach. This program is comprehensive regardless of the education background of the trainees and empowers ToTs to knowledge transfer at decentralised facilities. This program is especially relevant in a climate where funding is extremely limited, and the COVID-19 pandemic restricts movement across countries and facilities.

We have demonstrated, with an engaged implementing partner, that the introduction of VISITECT® CD4 Advanced Disease in Uganda has made it possible to detect advanced HIV disease sooner at the community level and help reduce the burden of HIV. This same-day CD4 rapid test delivers benefits to the patient care pathway at the community level with engaged local support by Baylor Uganda.

References:

1. World Population Review Website. (2021). HIV Rates by Country. Available at https://worldpopulationreview.com/country-rankings/hiv-rates-by-country (Accessed: 24 May 2022).
2. UNAIDS. (2020). Uganda Country Factsheet. Available at https://www.unaids.org/en/regionscountries/countries/uganda (Accessed: 15 May 2022).
3. Vithalani J, Herreros-Villanueva M. (2018). HIV Epidemiology in Uganda: survey based on age, gender, number of sexual partners and frequency of testing. African Health Sciences. 2018;18(3):523-530. doi:10.4314/ahs.v18i3.8.
4. World Health Organization–Africa. (2017). Uganda Population-Based HIV Impact Assessment UPHIA 2016–2017. Available at https://www.afro.who.int/sites/default/files/2017-08/UPHIA%20Uganda%20factsheet.pdf. (Accessed: 25 May 2022).
5. Baylor College of Medicine Children's Foundation-Uganda. (2019). Baylor College of Medicine Children's Foundation-Uganda. Available at: https://www.baylor-uganda.org/. (Accessed: 01 August 2021).
6. World Health Organization. (2015). Improving the quality of HIV-related point-of-care testing: ensuring the reliability and accuracy of test results. World Health Organization. Available at https://apps.who.int/iris/handle/10665/199799 (Accessed: 25 May 2022).
7. Africa Open Data Website. (2016). District in Square Kilometers Uganda. Available at: https://open.africa/dataset/size-of-uganda-districts-in-square-kilometers (Accessed: 25 May 2022).
8. UNAIDS - Uganda AIDS Commission. (2021). Factsheet - Facts on HIV and AIDS in Uganda (Based on Data ending 31st December 2020). Available at: http://154.72.196.19/sites/default/files/resources/2020%20Uganda%20HIV%20-AIDS%20fact%20sheet%2C%206th%20Sept%202021.pdf (Accessed: 6 June 2022).