

Dear Diagnostics Team (Team1):

Below you will find answers to your questions on diagnostic tests in Lusaka and in particular on the current situation surrounding CD4 counts. We would like to make an early distinction between what we call “VCT” (HIV rapid tests) and “other” tests because a number of our responses have a “VCT” answer and an “other” answer. VCT can be performed virtually anywhere and finding out one’s HIV status requires very little technical capabilities. However, the “other” tests for follow-up and monitoring clinical conditions vary in complexity.

Also, we were unable to answer all of your questions and are in the process of finding answers to those remaining.

PROCESS

1. What are some obstacles to testing?

VCT: The main obstacle to testing is the human component (stigma and education). Physical access to counselors and testing supplies is only a problem in rural areas.

OTHER: These obstacles depend on the test, but in general include lack of facilities, financial restraints, and education/ignorance

2. What is the general population that each lab serves? What population in Lusaka is not getting access to these labs?

In theory everyone has access to the government operated clinics, which include district health centers, referral hospitals, and the University Teaching Hospital (UTH). In these clinics, HIV rapid tests, STI tests, and TB sputum tests are free of charge. However, follow-up tests require out of pocket payment (i.e. x-rays, kidney and liver function, CD4 count).

Due to the cost and wait time, people also depend on local NGO-operated hospices for diagnostic services. The extent of a hospice’s diagnostic capabilities depend on the location and current supply of reagents, but may include HIV rapid tests, malaria tests, urine and stool analysis, full blood count (hemoglobin, wbc, differential), TB sputum tests, blood grouping, syphilis testing, and sedimentation rate.

Lusaka also has a number of private clinics that perform diagnostic tests for an out-of-pocket fee, but the majority of the population cannot pay.

3. What kind of HIV/AIDS diagnostic labs are in operation in Lusaka?

All government clinics, ART centres, and VCT centres can perform HIV rapid tests on site. For patients testing positive, their follow-up test samples are sent to the CIDRZ diagnostic facility at Kalingalinga, which includes liver function tests and CD4 counts.

UTH performs viral load testing (PCR) or can arrange for samples to be sent to South Africa. This is costly, often inaccurate, and rarely performed. UTH also has a CD4

machine, but due the cost (90,000 Kwacha) most patients opt to have their CD4 counts performed by CIDRZ.

Hospices also perform HIV rapid tests.

4. How far do people usually travel to get to a test site?

In Lasaka, the furthest a patient would travel is roughly 15 km to a district clinic.

5. Are there test sites that collect samples outside of the lab setting?

Yes, some home-based care programs have VCT as part of their services. This say they are able to collect samples for later analysis while on their visits in the community.

6. Are samples collected and sent off somewhere else for analysis? How are samples collected?

Yes. Samples heading to the CIDRZ lab are collected by CIDRZ in a vehicle that makes daily rounds to the government clinics. We are not aware of how the samples are stored or tracked, but loss of samples is a common problem.

For some government clinics that do not have lab facilities or personnel, samples are sent to private health facilities. This is the case at the Mother of Mercy hospice, which performs malaria and TB sputum tests for the local district clinic (Kafue).

7. How are the results delivered to the patients?

Although some test results can be received shortly after testing, the majority of patients at both government facilities and hospices have to return for their results. This is due partly to patients not “being ready” to hear the results immediately and from a lack of human resources being able to meet with the patients to explain the results.

8. Are patients required to pay user fees, either officially or under the table?

In government clinics, patients do not pay for HIV rapid tests, STI tests, or TB sputum tests. Other tests require a fee (i.e. CD4 count = 90,000 Kwacha, xray = 20,000 Kwacha). Follow-up tests for patients on ARVs that are coordinated through CIDRZ is free.

In hospices, patients may pay an entrance fee of ~15,000 Kwacha, which would cover their diagnostic tests.

PRODUCT

1. When a patient comes in for an HIV/AIDS test what are they tested for?

VCT: When a patient wishes to know their status, they are tested with an HIV rapid test and a confirmatory test (Genie II). Recently, testing facilities have started using two HIV rapid tests for different antigens instead of a second confirmatory tests.

Other: Liver function, full blood count (Hb, differential count, WBC), kidney function, and CD4 (depending on facility)

2. Is the test kit portable?

VCT: Yes, the rapid test strips are portable but the tests are typically performed at a VCT center.

Other: No

3. What types of facilities are needed the read the test results?

VCT: Minimal lab space and equipment is required. 15 ul of blood is drawn and placed on a test strip. Results are read with the naked eye and the test seems to be independent of the climate.

Other: Depends on the specific test, but equipment may include a centrifuge, microscope, shaker table, blood analyzer, refrigerator, and means of sample collection and measurement.

4. How much does it cost to administer each test?

VCT: Rapid HIV tests at a registered VCT center are free from the government and do not require additional reagents.

Other: Unknown, but simple full blood counts, malaria tests, and urine analysis are relatively inexpensive, while liver function, kidney function, and CD4 counts are more expensive in terms of the equipment and reagents required.

5. Are patients tests for co-morbid conditions?

VCT: No. VCT centers only test for HIV status.

6. What level of training is needed to administer and read the test results?

VCT: At stand-alone VCT centers it is unknown who performs the tests. HIV rapid tests performed at facilities that provide other diagnostic tests are done by trained lab technicians.

Other: Lab technicians in Zambia are trained at a 3 year college and then gain practical experience at UTH through the Ridgeway Medical School.

CD4 count specific questions

The following is an attempt to answer your specific CD4 count questions and explain the situation in Lusaka.

Currently there are 4 known medical facilities that perform CD4 testing: UTH, Maina Soko Military Hospital, CIDRZ (Kalingalinga), and KARA Counseling (private). To our knowledge, the Our Lady Hospice does not have a CD4 machine and (as stated in the JICA report) would not have the staff to operate one.

The Military Hospital is only accessible to non-civilians and thus does not serve the general population.

KARA Counseling has a private clinic run by Dr. Gerrish. Patients can have a CD4 count performed, but they must pay out of pocket and make an appointment. Currently the machine is not being used to its capacity.

UTH performs follow-up CD4 testing for HIV patients, but at a cost of 90,000 Kwacha (~ 45 USD). The test is performed in the virology department, but is not being used to capacity because of free access to the CIDRZ facility.

CIDRZ (Kalingalinga) performs follow-up CD4 count tests for patients receiving ART through the government clinics. CIDRZ makes rounds to the government clinics to collect the samples and returns the results in approximately 1 week. If patients are showing signs of clinical progression of HIV they may be asked to return for their CD4 results in 1 week, but typically patients will see their results during their next follow-up visit. The capacity and use of the CIDRZ CD4 count machine is greater than UTH. Thus, the CIDRZ facility is the place performing the majority of CD4 counts in Lusaka. Access to the CIDRZ facility is through the patient's local government clinic as the samples are transported from there to Kalingalinga. However, the patient must be enrolled in the CIDRZ-sponsored, government-operated ART program.

A legitimate concern expressed by Team1 is what happens to HIV+ Zambians if CIDRZ ever decides to pull-out or PEPFAR/Global Fund stops providing ART? In their opinion, Zambian dependence on outside support and their lack of sustainability is a major concern for the future.