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Private lab tests in Uganda are costly. But price doesn't equal quality

By Timothy Amukele

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Laboratory tests are the backbone of clinical care. They are used to screen patients, to diagnose diseases and to manage conditions ranging from anaemia and diabetes to HIV and malaria.

Very few laboratories in Uganda are accredited. Arne Hoel / World Bank

Considerable effort has gone into improving laboratory services in many African countries. But, as many previous studies have shown, the quality of laboratory tests in much of sub-Saharan Africa is poor.

This is because most of these laboratories don't have the necessary infrastructure nor enough competent staff who are adequately trained or the adequate management systems in place.

In many African countries laboratory testing is provided both as a free service in the public health sector and for a fee by private companies. In some countries the majority of lab tests are done in the private sector; for instance, more than 90% of the laboratories in Uganda's capital city Kampala are privately owned.

Research shows that these services, for which patients pay out of their own pockets, tend to be costlier than those offered in the public sector. But there's been no evaluation of whether the more expensive tests provide better, more accurate results.

We tried to answer this question in our study which looked at the costs and accuracy of tests at laboratories in Kampala. We randomly selected close to 80 laboratories and ordered 13 of the most commonly ordered laboratory tests – among them tests for malaria, pregnancy, HIV, syphilis, glucose; complete blood counts, and liver and kidney function tests.

We found that people are paying up to 36 times more for private laboratory tests than they do in the public sector. And, most importantly, test prices do not predict their quality. Higher costs don't mean more accurate or clinically useful results.

The findings suggest that Uganda should put an external system in place to ensure that the public gets what they pay for.

Global standards

There are two broad sets of measures where the quality of laboratories can be checked against.

Firstly, countries are obliged to set up guidelines for both public sector and private laboratories.

But many countries around the world failed to follow these prescriptions, leading to the World Health Organisation also creating guidelines to help them set up their laboratory systems.

Although this has improved the quality of a few laboratories, the challenge is that the vast majority of laboratories are still not meeting the lowest bar of the guidelines.

The second set of measures are international accreditation standards that monitor laboratory quality. There are two. One is US-based and the other are standards created by the International Organisation for Standardisation based in Europe. Laboratories that meet these standards are considered accredited and recognised as meeting international performance standards. But laboratories are not obliged to go through this accreditation.

There are thousands of laboratories across Africa. Ideally, each of these should be accredited. But a 2014 study shows that in 37 of 49 sub-Saharan African countries there was not a single accredited clinical laboratory. Only 380 laboratories accredited to international standards in the region – and 91% of these were in South Africa, Namibia and Botswana.

Uganda has both accredited and non-accredited laboratories. We included both in our study to try and gauge whether the relevant "stamp of approval" affected the tests' accuracy.

To establish how accurate and expensive the tests were we sent real, but unknown samples, to all the laboratories in our study. And we then also recorded how much they charged us for performing the tests. To establish accuracy, we used results on the same samples from specialised laboratories both in Uganda and Australia to determine the correct results.

We made three important observations.

Our findings

Firstly, accuracy varied widely. About 98% of the samples from accredited laboratories were correct while only 66% of the samples from the unaccredited laboratories were correct.

Secondly, accuracy depended on the type of test that was being done. For example, about 90% of test results for HIV, malaria, and syphilis were correct. But only 38% of the tests for urine pregnancy screenings, blood counts, and liver and kidney function tests were accurate.

And test prices ranged widely for an individual test performed in different laboratories. Some labs in the private sector were charging 36 times more than others. Yet we found no relationship between price and quality.

Our findings show that both accreditation and the test being done matters. Tests done by an accredited laboratory is likely to produce correct results 98% of the time. The figure plummets in unaccredited labs.

The quality is likely to be acceptable at all the laboratories for common tests such as HIV and malaria. But for people who had kidney or liver disease, the quality of test is generally not good. These problems stem from a lack of clear and enforced laboratory quality requirements. They have real impact on what diagnoses and treatments patients receive, and must be fixed.

The way forward

The way to address this problem is to make the market more transparent by making quality measurable and obvious to the public.

Based on our study, there are two practical approaches that could work. The first is ensuring that laboratories in Africa have international accreditation. The second involves doing quality checks such as those used in this study.

Some countries –like South Africa and Namibia – have bodies that monitor the quality of the laboratories but this is not a uniform practise across the continent. The responsibility to enforce such a practice could emerge from bodies like the World Health Organisation or the African Society for Laboratory Medicine which aims to strengthen laboratories.

Achieving international accreditation should be the goal for every laboratory.

But accreditation is an expensive and challenging task in the short term, especially for small private laboratories. In the meanwhile countries that still have challenges with the quality of their laboratories could use the testing of unknown samples as an achievable, affordable, and effective way to monitor their laboratories and reestablish the public's trust.

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ABOUT THE AUTHOR

Timothy Amukele, Assistant Professor Johns Hopkins University, and Director of the Hopkins Bayview Medical Center Clinical Laboratories, *Johns Hopkins University*

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