CPAR UGANDA LTD

Tuberculosis in Uganda

Policy Brief II: Financing Tuberculosis Management

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1. The Rationale

> ***"If your health services largely depend on the kindness of other countries, then you know you are a banana republic.***
>
> ***If you have to hold a ceremony to receive just 9 GeneExpert machines, which your country cannot afford to buy without a fuss, then you are a banana republic."***

The immediate quotation above is a comment by Geoffrey Buga in response to a story, ***"Uganda receives Shs 500m Tuberculosis machines"*** (Namagembe 2017), that was published in the Daily Monitor newspaper.

The story in the Daily Monitor was accompanied by a photo of Uganda's State Minister for Health (General Duties), Hon. Sarah Opendi, receiving GeneXpert tuberculosis (TB) testing machines from the Ambassador of the United States of America to Uganda, Her Excellency Deborah Malac; a photo that was taken by Rachel Mabala.

Buga's critique provides a useful analytical framework through which to discuss the state of financing of TB management in Uganda.

- Using the example of TB management, are Uganda's health care services largely dependent on the kindness of other countries? If so, how so and why so?

- Is Uganda unable to afford to buy nine GeneXpert machines without a fuss? If so, how so and why so?

These questions that are inspired by Buga's critique frame the discussions in this policy brief that is authored by Ms. Norah Owaraga[1], with supervision from Professor Christopher Garimoi Orach[2].

This brief is the second in a series of policy briefs on TB in Uganda that Owaraga has authored as part of the research and policy advocacy project code named: ***"Tuberculosis: Working to Empower Nations' Diagnostic Efforts (TWENDE)."***

The first brief in the series of policy briefs on TB in Uganda that Owaraga has authored focused on Uganda's capacity to diagnose TB. These policy briefs on TB in Uganda that are authored by Owaraga are published by CPAR Uganda Ltd and are available for downloading from the CPAR Uganda Ltd website.

The two-year TWENDE project (2016 – 2017) is funded by the European & Developing Countries Clinical Trials Partnership (EDCTP) Association, specifically through its EDCTP2 Programme (2016); which programme is supported under Horizon 2020, the European Union's Framework Programme for Research and Innovation.

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2. Financing TB Management in Uganda

2.1. Sources of funding for TB Management in Uganda

Statistics for Uganda as published in the global TB annual reports by the World Health Organisation (WHO) for the four years 2013 to 2016 reveal two major sources of funding for TB management in Uganda – domestic sources and donations from international sources. For the four years (2013-2016), the combined budget of Uganda's national TB programme, as revealed by the WHO global TB reports, was US$ 117 million (approximately 367.1 billion shillings).

Only 63 percent, US$ 74.1 million (approximately 236.1 billion shillings) of the four-year budget for Uganda's national TB programme was covered. The proportion that was covered of Uganda's national TB programme budget for the four year period, according to the WHO global TB reports, was covered through allocations from domestic sources, which covered 10 percent (US$ 7.6 million, approximately 23.7 billion shillings); and through international donations which covered 90 percent (US$ 66.5 million, approximately 212.4 billion shillings).

The table below contains information sourced from global TB reports for the year 2013 (World Health Organisation 2014), for the year 2014 (World Health Organisation 2015), for the year 2015 (World Health Organisation 2016) and for the year 2016 (World Health Organisation 2017); which information is utilised to present detailed breakdowns of Uganda national TB programme budgets for the four years, presented in dollars and in Uganda shillings.

Uganda National TB Programme Budgets

Year	Budget	Uganda	Donations	Covered	Percentage Uganda	Percentage Donations	Not Funded	Percentage Not Funded
US Dollars (000)								
2013	31,000	1,500	20,000	21,500	07%	93%	9,500	31%
2014	24,000	2,000	5,500	7,500	27%	73%	16,500	69%
2015	24,000	2,400	17,000	19,400	12%	88%	4,600	19%
2016	38,000	1,700	24,000	25,700	07%	93%	7,220	19%
Total	**117,000**	**7,600**	**66,500**	**74,100**	**10%**	**90%**	**22,230**	**19%**
Uganda Shillings (000,000)								
2013	78,300	3,800	50,500	54,300	07%	93%	24,000	31%
2014	66,500	5,500	15,200	20,700	27%	73%	45,800	69%
2015	82,400	8,200	58,400	66,600	12%	88%	15,800	19%
2016	139,900	6,200	88,300	94,500	07%	93%	26,600	19%
Total	**367,100**	**23,700**	**212,400**	**236,100**	**10%**	**90%**	**69,700**	**19%**

By the measure of covered budgets of Uganda's national TB programme for the four year period 2013 to 2016, according to one of its citizens, Buga, Uganda qualifies as a 'banana republic' for its "***health services largely depend on the kindness of other countries.***" According to the WHO global TB reports, 93 percent of the covered budget of Uganda's national TB programme was in 2013 covered by donations from other countries; similarly in 2014, donations from others covered 73 percent of the covered budget of Uganda's national TB programme; in 2015, donations from others covered 88 percent of the covered budget of Uganda's national TB programme; and in 2016 donations from others covered 93 percent of the covered budget of Uganda's national TB programme.

2.2. Uganda's ability to Afford GeneXpert Machines

Estimates (i-base 2010), put the cost of the cheapest complete GeneXpert machine that handles four cartridges at a cost of between US$ 25,000 (approximately 90.1 million shillings) and US$ 30,000 (approximately 108.2 million shillings). The online TB REACH Xpert Budget Estimation Tool, for example, on 17th August 2017, calculated the cost of a complete GeneXpert 4 Module machine with Laptop (GX IV-4-L) at US$ 26,461.26 (approximately 95.4 million shillings), including the annual calibration kit, test cartridge, the service pack and warranty extension for an additional three years.

The cost of installing GeneXpert machines, in addition, is relatively high for countries such as Uganda which are unable to cover in full the budgets of their respective national TB programmes. A study in Nigeria (Abdurrahman, et al. 2014), for example, revealed that installation of GeneXpert machines in Sub-Saharan African countries, such as Uganda, can range from US$ 2,621.98 (approximately 9.5 million shillings) to US$ 9,716.21 (approximately 35 million shillings), depending on whether a laboratory has the space and the utilities (electricity installations) that GeneXpert machines require.

The following are included in the basic costs for installation in the case of Nigeria (Abdurrahman, et al. 2014), assuming the requisite space and utilities exist:

- Customs clearance
- Working bench
- Chairs
- Stools
- Refrigerators
- Extension cables
- Printer cables
- Printer
- Tables
- Engraving of equipment
- Anti-virus
- Air-conditioners
- Voltage stabilizer
- Inverters/Batteries and accessories

It is realistic, therefore, to estimate 130.4 million shillings as the cost for procuring and installing one GeneXpert Machine. In February 2017, Hon. Opendi, was reported (Namagembe 2017) as having said that 112 health facilities in over 60 districts across the Country were equipped with GeneXpert TB machines and that 344 machines were still needed in order to achieve a target of all government hospitals and Health Centre IVs being equipped with GeneXpert machines by 2020.

An analysis (Owaraga 2017) of an online survey that was conducted in 2016/2017 by the TWENDE project, a survey which received responses from 81 districts, however, revealed that 81 districts have a total of 69 GeneXpert TB machines, serving the combined population of those 81 districts of 24.3 million people; meaning a ratio of GeneXpert machines to the population of 1:353,000.

It is feasible that the other 43 machines that Hon. Opendi reported as existent are located in the 31 districts for which the TWENDE survey did not receive responses. Nevertheless, with an average ratio of GeneXpert machine to the population as high as 1:353,000, it is no wonder Uganda's TB prevalence statistics are depressing. Hon Opendi was reported (Namagembe 2017) to have observed that:

> ***"The 2016 national TB prevalence survey has revealed that 41,000 TB patients are not detected annually, encumbering government efforts in the fight against the disease, putting the prevalence of TB in children at 36 cases per 100,000."***

Assuming, however unlikely, that the funds that Uganda allocated from its domestic sources to cover its national TB programme budgets for the four year period 2013 to 2016 were utilised to procure and install GeneXpert machines, Uganda would have been able to afford 182 machines in four years; an average of 45 machines per year.

Utilising its own domestic resources that are budgeted for its national TB programme, as revealed by the covered budgets of its national TB programme for the four years 2013 to 2016, it would take Uganda nearly eight years to procure and install its targeted 344 GeneXpert machines to equip all government hospitals and health centre IVs. This is assuming that the government utilises in full its budgetary allocation to its national TB programme for the purpose of only procuring and installing GeneXpert machines; a very unlikely scenario.

This status quo indicates that in order for Uganda to be able to procure and install the additional 344 GeneXpert machines that it targets to buy by 2020, at a whopping cost of 130.4 million shillings for each machine, it would have to heavily rely on the charity of other countries to donate the machines to Uganda. It is thus justified for Uganda to "***hold a ceremony to receive just 9 GeneExpert machines"*** because Uganda "***cannot afford to buy (them) without a fuss"***; and thus by Buga's assertion, Uganda is a 'banana republic'.

3. Implications and Further Research Questions

Procuring and installing GeneXpert machines is just but one of the many challenges that Uganda faces in ensuring that its citizens have access to cutting edge technologies that facilitate high level health care standards. Once the machines are installed there is a need to cover the recurring costs for maintenance, materials and supplies that the machines require in order to function.

Such recurring costs include, for example, materials such as cartridges, which are estimated (i-base 2010) to each cost US$22 (approximately 79,000 shillings). If three cartridges are needed per patient, then the cost per test is U$66 (approximately 238,000 shillings). The recurring costs include the cost of training and remunerating the necessary expert human resources, the cost of electricity supply, and others.

> ***"Everyone with TB should have access to the innovation tools and services they need for rapid diagnosis, treatment and care. This is a matter of social justice, fundamental to our goal of universal health coverage."***

This plea is attributed (Chirnside 2016) to the then WHO Director General, Dr. Margaret Chan. Whereas, Uganda is no longer considered among the TB high burden countries (HBCs), those with a high prevalence rate of TB. There is every indication that many Ugandans afflicted with TB are denied social justice for they are not easily accessing innovation tools and services, such as GeneXpert machines, that they need for rapid diagnosis.

According to the WHO (2017), Uganda was removed from the list of the 22 TB HBCs in 2015 alongside Afghanistan, which reduced the number of TB HBCs to 20. However, 10 new countries were added to the list and thus the list of TB HBCs as of 2016 consists of 30 countries and Uganda is not on the list.

How is it that a country that fits Buga's description of a 'banana republic', with many of its citizens denied social justice for they are not easily accessing innovation tools and services that they need for rapid diagnosis of TB, succeed in reducing its TB prevalence rate to the extent that it is no longer considered among the TB HBCs?

How is it that a country that fits Buga's description of a 'banana republic', that is heavily dependent on charity from other countries for financing TB management for its country, succeed in reducing its TB prevalence rate to the extent that it is no longer considered among the TB HBCs?

Is Uganda's dependence on charity from other countries for financing TB management for its country justified? How so?

In other words, is the nation-state Uganda genuinely not able to afford to cover the costs of its national TB programme?

Put another way, is the government justified, for example, to make an annual budgetary allocation of 1.9 trillion shillings to its Ministry of Defence (Mulondo 2017); and in comparison make an annual budgetary allocation to Uganda's national TB programme of only 92 billion shillings, of which budget it covers only six billion shillings?

These and many other questions such as these need answering if Uganda is not going to cease to ensure social justice for its citizens, through the access of innovation technologies and services that they need for rapid diagnosis of TB; and therefore cease fitting within Buga's description of a 'banana republic'.

4. Further Actions

CPAR Uganda Ltd, as part of its role within the TWENDE Consortium (2016), is interested in questions such as those raised in this policy brief and it plans to actively seek answers for them through empirical research activities with the view of contributing towards positively influencing policy and practice that will contribute towards kicking TB out of Uganda.

For that reason, CPAR Uganda Ltd confirms that this brief is targeted, first, towards the participants of the up-coming TWENDE policy workshops that it plans to hold during the last quarter of 2017, i.e. District Health Officers and District Chairpersons for all the 112 Uganda District Local Governments.

In line with the EDCTP ethos of dissemination of results, in August 2017, prior to the holding of the CPAR Uganda Ltd organised TWENDE policy workshops, CPAR Uganda Ltd will publish this brief in PDF format, online on its website, so that it is accessible worldwide to academics, health practitioners, policy makers, policy implementers, the media, and all other interested persons.

The TWENDE policy workshops that CPAR Uganda Ltd will organise will be conducted through the Government of Uganda's mechanism of District Integrity Forums, which forums are constituted by representatives of Uganda's political leadership, technocrats and civil society organisations. The CPAR Uganda Ltd organised TWENDE policy workshops will be held under Chatham House Rules (2016) – participants are free to use the information and ideas therein generated, but are not permitted to reveal the identity nor the affiliation of fellow participants.

In conjunction with the policy workshops, CPAR Uganda Ltd will hold post workshop press conferences and ensure that the discussions during the press conferences - the interface between the traditional media (journalists from Television, Radio and Print) and panels of leaders (politicians, technocrats and civil society) - are simultaneously shared on social media (Twitter and Face Book), in order to facilitate wider public engagement on issues related with the management of TB in Uganda.

TWENDE policy workshops and press conferences are part of the project's qualitative research activities.

The other TWENDE qualitative research activities that are being implemented by CPAR Uganda Ltd in Uganda include interviews and focus group discussions with public servants, civil servants, representatives of civil society organisations, private sector health care practitioners, TB patients or survivors, TB patient care givers, among others.

CPAR Uganda Ltd will utilise the qualitative data, i.e. the discussions that this brief shall generate, together with its other TWENDE qualitative data - from interviews, from focus group discussions and from press conferences - in order to author publications which contribute to the body of knowledge on TB in Uganda. In particular, the CPAR Uganda Ltd TWENDE publications will focus on contributing to the achievement of the TWENDE project objectives to:

- Provide valuable knowledge on how research innovation uptake can be accelerated.
- Encourage new research.
- Develop policymaker partnerships.
- Plot appropriate avenues through which local and international funding can make an impact.
- Empower Southern institutions to translate knowledge into policy and practice.

Disclaimer:

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The TWENDE Consortium consists of the following institutions: in Uganda - CPAR Uganda Ltd and Makerere University Kampala; in Tanzania – Kilimanjaro Clinical Research Institute and National Institute for Medical Research – Mbeya Medical Research Centre; in Kenya – the Kenya Medical Research Institute; the East African Health Research Commission of the East African Community; and the University of St. Andrews, United Kingdom (Consortium Coordinator). Whereas, the researcher who authored this report is the Managing Director of CPAR Uganda Ltd, one of the Consortium Partners, the views herein expressed in this report are not necessarily those of CPAR Uganda Ltd or those of the other TWENDE Consortium partner organisations.

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