Value for Money of Global Fund investment in HIV, tuberculosis and malaria in selected sub-Saharan African countries

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List of Acronyms

ART:	Antiretroviral therapy
EPP:	Estimation and Projection Package
FSW:	Female sex workers
HMIS:	Health Management Information System
ITN:	Insecticide-treated nets
MDR-TB:	Multidrug-resistant tuberculosis
MSM:	Men who have sex with men
NSP:	National Strategic Plan
OECD:	Organization for Economic Co-operation and Development
OIG:	Office of Inspector General (of the Global Fund)
OPEX:	Operating Expenses (of the Global Fund Secretariat)
PMTCT:	Prevention of mother-to-child transmission of HIV
TRP:	Technical Review Panel (of the Global Fund)
UNAIDS:	The Joint United Nations Program on HIV/AIDS
UNDP:	United Nations Development Program
USAID:	United States Agency for International Development
VfM:	Value for Money
VMMC:	Voluntary medical male circumcision
WHO:	World Health Organization

Executive Summary

Background

The Global Fund to Fight AIDS, TB and Malaria (Global Fund) is a global financing mechanism that, since it was founded in 2002, mobilized billions of dollars from development partners, foundations, individuals and governments. In the 2017-2019 replenishment cycle nearly $13 billion will be made available to support programs in eligible countries around the world. Accountability for donor funding is at the core of the success of the Global Fund, and goes further than guarding against misappropriation of financial resources; it also includes the extent and quality of the results and associated efficiencies in the processes including timeliness of deliverables.

The Global Fund has also emphasized value for money as a guiding principle, putting in place safeguards at both the governance and implementation levels to maximize the value of every dollar spent in the fight against the three diseases, from its efforts to keep operating expenses in check at the Secretariat level, to reallocating funds from grants that are poorly performing, to instituting measures for market influence that include pooled procurement. Cost-effectiveness is also assessed as part of the technical review of national concept notes, or proposals, for countries to access their funding envelopes.

This paper explores implementation-level processes that directly contribute to value for money, as this is where the majority of the Global Fund's portfolio is invested and where the attendant risks and inefficiencies are most pronounced. The Global Fund defines value for money as "using the most cost effective interventions as appropriate to achieve the desired results." For this report, we go beyond this definition to include aspects of utilization and or misappropriation of grants. We argue that if money is made available but ultimately not used or used for the wrong purpose, then this does not constitute value for money.

Methodology

We assessed value for money in six case study high-impact countries (large funding portfolio and large disease burden). We selected three high-impact Africa I countries (Democratic Republic of Congo, Côte d'Ivoire, and Ghana) and three high-impact Africa II countries (Ethiopia, Kenya, and Zimbabwe). Value for money was assessed on four dimensions: 1) concept note content - on choices of cost effective interventions based on the best available epidemiologic and service delivery data; 2) country grant absorptive capacity- a measure of a country's ability to use grants; 3) audit reports by the Office of the Inspector General to identify possible misappropriation of funds and 4) program performance-outcomes or impact judged against investments.

Results

The results are summarized and presented by data source including a review of concept notes and reports from the Technical Review Panel (TRP); absorptive capacity analysis; review of audit reports from the Office of the Inspector General (OIG) and comparison of Global Fund unit costs.

Review of concept notes and TRP reports

Findings from a review of concept notes suggest that, generally, concept notes present a strong epidemiological description of the epidemics as well as the status of service delivery, targeting and type of interventions. The interventions proposed by countries, often reflect their priorities and are integrated into national strategies to fight the three disease epidemics. Yet these interventions do not appear to go far enough to add value beyond the specific disease response, particularly when it comes to capacity and comprehensiveness related to programmatic data collection and use.

Another weak link in concept notes is the issue of additionality. Global Fund grants are intended to be additional health investment rather than a replacement of usual government commitments. While concept notes are required to detail government commitments on funding, this often does not come out clearly. Counterpart funding, which is matching financial contribution by governments to programming for the three epidemics and health systems, is not well articulated in some countries and yet this is critical and has implications for transitioning from Global Fund support and sustainability.

The Technical Review Panel's (TRP) assessment of value for money in concept notes is a key consideration in deciding and making recommendations for funding and it is clearly stated in their terms of reference. Since the (New) Funding Model was rolled out in 2014, the TRP has noted marked improvement in the choices of cost effective interventions and prioritization within concept notes compared to earlier funding requests. More applicants present stronger and evidence-based rationale for prioritization. However, assessing value for money in concept notes is not straight forward. TRP noted that "while applicants were able to prioritize interventions within a concept note, they were not able to assign firm cost ranges to the interventions. The lack of firm cost estimates of interventions and associated impact indicators makes it difficult to rank interventions across concept notes and/or across countries."

Absorptive capacity analysis

Absorptive capacity of grants is a measure of how country programs utilize available funds. Many Global Fund implementing countries are faced with a challenge of low absorptive capacity. Often, the underlying causes are weak health systems that cannot efficiently deliver services on time or base decisions on grant activities on insufficient or poor quality data. Low absorptive capacity results in late or non-delivery of interventions. Often, unabsorbed money might require reprogramming for it to be utilized, resulting in more delays in providing services. Estimates

based of disbursement data show that the average absorptive capacity for countries in the East and Southern Africa is about 66.1% while that for West and Central Africa is 65.7%. These results partly explain why Global Fund Secretariat estimates that, in the best case scenario, about $1.1 billion will remain unutilized by implementing countries by the end of 2017.

Review of OIG reports

Review of OIG findings from six countries has shown some critical issues relevant to the value for money principle. In some countries, though outputs are delivered, the achievement of expected or higher impact has been affected by limitations in quality of service. For example, challenges in the country's supply chain management system, affect the effective distribution and tracking of medicines and other commodities. Systematic procurement and supply chain weaknesses remain unmitigated and pose a risk to the delivery of quality drugs on time to patients. This has led to the availability of what should be highly regulated TB treatment drugs in the local market and cross-border transfers. The OIG country audits also found loopholes in financial controls and recommended implementation of adequate controls over financial risks, especially in areas of effective utilization and accountability of grant funds in order to reduce non-compliant expenditures. In most sub-Saharan African countries, significant data quality issues exist, leading to poorly informed decision making.

Global Fund unit costs

The most objective line of evidence on the implementation of the principles of value for money for Global Fund investments is the unit costs of the commodities/interventions. Global Fund supported first-line anti-retroviral treatments were provided at a unit cost of $0.19, $0.20 and $0.22 in West and Central Africa, East Africa and Southern Africa, respectively. The average unit costs for HIV test kits ranged between $0.84 and $1.4 in the African region. More than 340 million ITNs were distributed in the high-impact countries in Africa by 2015. Proven malaria prevention interventions were also delivered at a very reasonable unit costs as evidenced by the maximum average of unit costs of long-lasting insecticide treatment ($6.00), arthemesine lumefantrine treatments ($0.06), and malaria rapid diagnostic tests ($0.87). About 3.2 million pulmonary TB cases were detected and treated with the support of the Global Fund in the high-impact countries in Africa. Treatment regimen for intensive phase of TB treatment were delivered at a unit cost of $0.6. The lower unit cost of TB treatment programs has allowed for proportional attention to be given to prevention of TB in these countries. Although quality of services is a concern in some countries, generally Global Fund supported programs have used lower unit costs to meet ambitious targets in sub-Saharan Africa.

While unit costs of health products are important, they are just one aspect of the challenge. There are in-country variations in the availability and efficiency of the supply chain including lack of adequate storage facilities that affect commodity costs that should be explored in future research.

Conclusions

Evidence of attention to “value for money” in the concept notes is fairly good. Good quality epidemiologic and service data makes prioritization and choice of evidence-based cost-effective interventions easier and more likely to lead to higher impacts. The challenge of lack of actual expenditure cost estimates and lack of proper impact data makes value for money assessment at national level difficult. With the introduction of a new online health commodity marketplace (wambo.org), cost data for commodities is expected to become more readily available. Cost data, coupled with more investment in data systems (from country allocations and catalytic funding), is expected to generate more reliable service delivery data will become available.

Even though unit costs indicate that quality commodities are purchased at competitive prices, the low absorptive rates of available resources remain a challenge to service delivery and undermines the Global Fund’s value for money principles. Further efforts are needed to improve efficiency of supply chain management systems, data and information systems and quality of services as well as plugging loopholes that make non-eligible grant expenditures more likely. Future work on assessing value for money should focus on in-depth understanding of country policy and operational challenges that directly or indirectly impact achieving value for money.

Background

The Global Fund to Fight AIDS, Tuberculosis and Malaria (Global Fund) mobilizes billions of dollars in funding from development partners, foundations, individuals and governments as additional funding to fight the three epidemics. In the most recent funding replenishment in December 2016, close to $13 billion was pledged by donors to invest in national strategic plans in eligible countries to fight the three disease epidemics through 2019. Global Fund impact assessments made by the Global Fund itself suggest that annual investments of $4 billion have yielded significant progress: It is estimated that, in Global Fund supported countries between 2002 and 2016 about 22 million AIDS deaths were averted and new infections declined by 37% while tuberculosis and malaria deaths between 2000 and 2015 declined by 31% and 48% respectively [1].

The Global Fund is accountable by ensuring that its resources achieve intended results. It is also committed to the Paris Declaration on Aid Effectiveness, the aim of which is to improve the quality and efficiency of aid and its impact on development by making donors and recipients mutually accountable [2]. Accountability, however, goes beyond safeguarding against misappropriation of financial resources; it includes monitoring results, maximizing efficiencies, ensuring timeliness and that activities are evidence-based; and other qualitative aspects that are often hard to measure such as quality of outputs; fit-for-purpose of results; and appropriateness of choices compared to alternatives.

What is "value for money"?

According to the Global Fund, value for money means *"using the most cost effective interventions as appropriate to achieve the desired results."* Assessing value for money is one of the yardsticks against which concept notes are judged, as set forth in the terms of reference of the Technical Review Panel (TRP), alongside with technical soundness, feasibility, and sustainability. The TRP is an advisory panel of the Global Fund, composed of technical experts from various disciplines whose mandate is to evaluate the technical soundness of country concept notes submitted by implementing countries and make recommendations for funding.

More broadly, value for money can be examined via the systems and processes through which the Global Fund Board and Secretariat operate, and at implementation level. For example, safeguards are in place to minimize Secretariat operating expenses (OPEX); and the TRP, recommends for funding only concept notes/proposals that propose evidence-based, cost–effective interventions. The Secretariat also ensures that due process is followed during grant negotiations, and scrutinizes budgets and intervention unit costs before any grant is approved. The Secretariat can also authorize reprogramming of funds from poorly performing grants and make use of savings from efficiency gains wherever they occur. The Global Fund also works to

shape markets for commodities commonly used in the prevention and management of the three diseases. One way the Global Fund has done this is through the development of the pooled procurement to leverage volumes to secure lower prices. Currently an online marketplace called *wambo.org* which aims to increase efficiency in ordering goods is currently being rolled out. This platform intends to improve transparency of pricing, use vetted suppliers to ensure quality standards are met, and negotiate lower prices for bulk purchases [4] to improve value for money.

The bulk of Global Fund resources are used for program implementation at country level, so efforts to improve value for money are best focused on addressing inefficiencies there. Efforts to ensure value for money start with countries choosing the most cost-effective interventions and modes of delivery to address the national and sub-national epidemiological contexts.

Because of insufficient or unavailable data, the methods used rely on document reviews and use of proxy measures of value for money, which introduces elements of subjectivity [5]. There are also questions regarding the reliability of existing global unit cost estimates in different contexts that make direct country-to-country comparisons difficult.

Purpose

The overarching purpose of this report is to provide an assessment of whether the Global Fund's principle of value for money is being met using selected sub-Saharan African countries as case studies.

Methods and data sources

We conducted reviews of publicly available reports and analyses of existing country-level data available from the Global Fund website (http://www.theglobalfund.org). The analysis focuses on six case study countries including three high-impact Africa I countries (Democratic Republic of Congo, Côte d'Ivoire, and Ghana) and three high-impact Africa II countries (Ethiopia, Kenya, and Zimbabwe). The analysis included:

1. Concept note content review

We carried out a review and synthesis of the concept notes submitted under the "New Funding Model" (2014-2016). The concept note and the parameters used for the assessment are official Global Fund standards that have been used before for similar work [6, 7]. The Global Fund uses three critical components of value for money to assess country concept notes:

i) **Effectiveness:** what the program will do, measured by outcomes, impact and sustainability and based on evidence (epidemiological, past performance and best practice);

ii) **Efficiency:** how the program will achieve its results while minimizing the cost of inputs, through use of least cost procurement and well organized health delivery systems; and

iii) **Additionality:** investment represents additional money to achieve improved outcomes and does not replace other funding sources.

For purposes of operationalizing measurements we used what the Global Fund refers to as a "low-hanging fruit" in demonstrating value for money in concept notes [7]:

a) Use of *international reference pricing for unit costing* for pharmaceuticals,

b) Use of the *latest epidemiological* data as the rationale for interventions,

c) Use of *international guidelines and best practices* as the basis for proposed interventions,

d) Demonstration of clear *links between proposed interventions and investments from previous Global Fund grants,* other donors and government.

e) Demonstration of how the *program complies with Global Fund counterpart financing* requirements.

In each concept note, the presence of each of the five parameters listed above and how they were presented and explained was assessed.

To assess the extent to which the principle of value for money has been included in country concept notes, for each parameter, three rank categories are used: good; fair and weak. A parameter was rated *"good"* if it was evident that the parameter was well covered in the concept note; *"fair"* when it was mentioned but not fully explained and *"weak"* if it was missing or mentioned without detail. Where background information on unit cost was not given, the rating is *"unable to assess"*. Lastly, because it is difficult to give a weight for either the parameters or each three diseases and health systems, we did not attempt to give an overall score by disease or by country.

We also reviewed and summarized information related to value for money from TRP reports associated with concept notes submitted between 2014 and 2016. These reports are available at URL: http://www.theglobalfund.org/en/trp/. Since the publicly available TRP reports are not country specific, we could only make general observations on the content and quality of concept notes as per TRP assessment.

2. Country absorptive capacity analysis

Country absorptive capacity is defined by Global Fund as the percentage of actual expenditure compared to the total grant budget. The basis for choosing country absorptive capacity in assessing value for money is premised on the understanding that when money meant for provision of interventions is not used, or not used on schedule for its originally intended purpose, beneficiaries do not receive the intended value.

Absorptive capacity of Global Fund investments at country level was assessed by computing the ratio of disbursed finances to signed amounts for years 2014-2016 as a proxy measure of absorption, due to lack of publicly available actual expenditure data. This ratio does not take into account in-country grant balances or committed (planned but not yet expended) resources. However, since disbursement of the next tranche of grants funds to countries is contingent upon utilization of previously disbursed finances, the total amount disbursed is a fair reflection of actual in-country absorption. Disbursement data are available at the Global Fund website - http://www.theglobalfund.org/en/data/datasets/.

3. Office of Inspector General audit reports review

The OIG reports may contain information on routine audit findings but also investigations. Misappropriation of resources, including ineligible expenses, and/or poor deployment of resources results in lost efficiency in grants. Deviations in quality and timing of service delivery may also lead to loss of value for money. We reviewed the latest OIG country audit reports for the period 2014 to 2016 available from http://www.theglobalfund.org/en/oig/. The review provides examples of the issues related to value for money that were captured and reflected in reports from audits and investigations.

4. Program performance-outcomes/impact judged against investments

An assessment of unit costs was limited to comparisons between Global Fund recommended unit costs and those from Global Price Reporting mechanism. The country intervention costs per unit output or impact measure could not be generated. First, the available data, including from national health accounts, for the various programmatic areas are not detailed enough to show the final amounts from Global Fund spent on the various disease components. Second, even if the measure was estimated, it would be biased because impact partly comes from interventions that are not funded from Global Fund resources. While Global Fund is one of the biggest investors in fighting the three diseases, there are also other significant players and therefore any observed impact at national level may partly be attributed to non-Global Fund actions and investments.

Results

Results are presented in four sub-sections: concept note and TRP report review; absorptive capacity estimates; OIG audit report review and intervention unit costs.

1 (a). Concept Note Review

The results from the concept note reviews are provided for each country in a matrix summarizing the qualitative assessment rating of the concept notes content, with examples of the content covered and identified gaps, if any.

Kenya

Table 1 provides a summary of parameters assessed in the Kenyan concept note for the three diseases and health systems strengthening and the associated scoring.

The Kenyan concept note of 2015 provided an extensive review of the current epidemiologic data from various sources including the AIDS indicator survey, the Kenya Demographic and Health Survey, health information system and from modeled estimates using packages such as the Estimation and Projection Package (EPP) and Spectrum software recommended by the UNAIDS Reference Group on Estimates, Modelling and Projections.

Table 1: Concept note assessment parameters by program area, Kenya, 2015

	Program areas			
Parameters assessed	HIV/AIDS	Tuberculosis	Malaria	Health Systems Strengthening
International reference pricing	Unable to assess	Unable to assess	Good	Unable to assess
Epidemiologic data use	Good	Good	Good	Good
International guidelines & best practices	Good	Good	Good	Weak
Linking past investments to proposed activities	Good	Good	Good	Good
Counterpart funding	Weak	Weak	Weak	Weak

The epidemiologic review in the concept note highlighted the key areas that need attention. For example, the HIV modes of transmission survey estimated that key populations account for about one-third of all new infections: this information was reflected in the proposed implementation plan.

A review of the pillars of the health care systems also provided evidence on the burden of and responses to the three diseases drawn from various sources including the 2013 service availability, readiness assessment and mapping survey, the health management information system (HMIS), National Health Accounts and national disease strategic plans which draw on international standards and past achievements and challenges.

The concept note included a review of the funding landscape which addressed the issue of additionality (non-Global Fund funding sources in the country that Global Fund's investments complement) and noted the availability of program funding by source, deficits, and potential actions to address the gaps. Domestic funding (from the country's own national budget) covered only about 37% and 48% of needs for HIV and tuberculosis, respectively. Counterpart financing (a co-financing requirement by Global Fund that a minimum amount of money must be made available by government to support programming) was also assessed and evidence of increasing government counterpart funding over time. Though absolute figures were given, whether government contribution increased as a proportion of overall health expenditure could not be determined from the information provided. The concept note stated that *"operative assumptions are annual increases in the national health budget estimated to correlate with projected annual GDP growth of 5.5% annually,"* implying that any increase of counterpart funding would be contingent on national economic growth and total national expenditure on health. This leaves a lot of uncertainty as to whether the absolute increase translated into percent increase (or decrease) in domestic health spending as compared to the total national budget.

The gap analysis and the choice of relevant modules to address the gaps reflected from the country epidemiologic profile. The concept note was detailed and explicit, identifying the potential operational challenges and gaps in treatment associated with the change from the 2013 HIV treatment guideline requiring initiation of treatment based on CD4 count level to the new guidelines of "test and treat;" but it did not reflect on the wider implications for the scale up on the overall programming including staffing, infrastructure, among other services needed for individuals on treatment.

The gap analysis for TB gave a stark picture of challenges facing the country, and yet the proposed response seems weak and unlikely to overcome the identified challenges. Some of the challenges are systemic such as limited infrastructure, personnel and increasing burden of multidrug-resistant TB. The plans on how community health systems and procurement and supply chain will be strengthened given the identified gaps seem weak. The need for reprogramming for malaria was well articulated although the reprogramming could have been avoided had the previous plan been based on accurate data (expected cases, and major changes in management roles that came with devolution of decision-making power to County governments that came with implementation of the new constitution).

Zimbabwe

Table 2 summarizes parameters assessed in the Zimbabwean concept note for the three diseases and health systems strengthening and the associated scoring.

The Zimbabwean concept note submitted in 2016 presented an extensive review and reference to the current epidemiologic data from various sources including the Zimbabwe Demographic and Health Survey, routine health information systems, Zimbabwe National HIV and AIDS Estimates Report 2013, published studies and from modelling using packages such as the Estimation and Projection Package (EPP) and Spectrum software on Estimates, Modelling and Projections.

The epidemiologic data presented showed that most new HIV infections (55%) occur among heterosexual people in stable unions or people considered to engage in low risk heterosexual sex, while key populations also account for a large proportion of new infections. Malaria has been declining while progress and gains in the control of TB remain modest. For HIV, the review identified legal barriers, prevailing gender norms, pervasive poverty, stigma and discrimination as key barriers to implementing HIV programming. The concept note's review of the health care system was not detailed enough to show gaps and how these would be adequately addressed by the proposed interventions. However, it identified areas for further programming such as the voluntary medical male circumcision (VMMC) that was underperforming. The plans for improving performance were not explicit and the proposal to expand services and create demand was not based on a clear understanding of why coverage VMMC had remained low in the first place.

Table 2: Concept note assessment parameters by program area, Zimbabwe, 2016

	Program areas			
Parameters assessed	HIV/AIDS	Tuberculosis	Malaria	Health Systems Strengthening
International reference pricing	Unable to assess	Unable to assess	Unable to assess	Unable to assess
Epidemiologic data use	Good	Good	Good	Weak
International guidelines & best practices	Good	Good	Good	Good
Linking past investments to proposed activities	Good	Good	Good	Good
Counterpart funding	Good	Good	Weak	Weak

With regards to counterpart funding, the concept note states that the 3% HIV/AIDS levy on income tax covers about 30% of the need to manage HIV but this was expected to be insufficient to cover Zimbabwe's counterpart funding commitment. The annual 7% proportion of the national budget to support TB programs was also reported to be insufficient. As with Kenya, growth in the government's contribution was not explained in percent change over time. Overall increases in funding to the health sector as the source for the counterpart funding for malaria program may not translate into actual increase in funding to the three diseases and health systems strengthening.

Ghana

Table 3 provides summary of parameters assessed in the Ghanaian concept note for the three diseases and health systems strengthening and the associated scoring.

The epidemiological analysis presented in the Ghanaian concept note for HIV relied on data from multiple sources including antenatal HIV sentinel surveys (2005-2013); National Demographic and Health Surveys, behavioral surveillance surveys conducted among female sex workers (FSW), men who have sex with men (MSM), commercial drivers, and inmates. The epidemiological review showed that there was a higher prevalence of HIV among MSM, FSW, TB patients, prisoners, and urban populations. Mode of transmission modelling show that about 40% of new infections are from casual heterosexual relationships and 24% from heterosexual sex among those in stable unions. Tuberculosis was estimated at prevalence of 92/100,000 population. Barriers that impede access to care include criminalization of FSW, MSM, negative societal norms, and poverty.

Table 3: Concept note assessment parameters by program area, Ghana, 2015

	Program areas			
Parameters assessed	HIV/AIDS	Tuberculosis	Malaria	Health Systems Strengthening
International reference pricing	Unable to assess	Unable to assess	Unable to assess	Unable to assess
Epidemiologic data use	Good	Good	Good	Fair
International guidelines & best practices	Good	Good	Good	Weak
Linking past investments to proposed activities	Good	Good	Good	Weak
Counterpart funding	Weak	Weak	Weak	Weak

Critical health system areas that greatly impact HIV and TB program performance include weak: procurement and supply chain, HMIS, human resource and community systems. A detailed analysis of the funding options and gaps was provided. For the period 2015-2017, the funding gap—the amount of current need that is unmet by any aid or domestic source-- for HIV was 10% while that for tuberculosis was 64%. To address this, the government secured a loan of €18,853,078 from the Government of Netherlands to support TB activities. Although it was stated that Ghana government contribution to the HIV/TB program was 37% in the previous strategic plan, and that there had been a gradual increment in absolute amounts spent, it was not clear what the current domestic contribution will be and whether it will be an increment or not for the three diseases. The funding gap for priority activities for malaria was about 43%.

Democratic Republic of Congo

Table 4 summarizes parameters assessed in the DRC concept note for the three diseases and health systems strengthening and the associated scoring.

The epidemiologic review in the concept note showed that HIV prevalence DRC was 1.2%, with a higher burden among women and mainly heterosexually transmitted. Prevalence of TB was about 54/100,000. Challenges facing programming include poor coverage of health facilities, conflict, gender-based violence, poverty, gender norms, stigma and discrimination.

Table 4: Concept note assessment parameters by program area, Democratic Republic of Congo, 2015

	Program areas			
Parameters assessed	HIV/AIDS	Tuberculosis	Malaria	Health Systems Strengthening
International reference pricing	Unable to assess	Unable to assess	Unable to assess	Unable to assess
Epidemiologic data use	Good	Good	Good	Weak
International guidelines & best practices	Good	Good	Good	Weak
Linking past investments to proposed activities	Fair	Fair	Weak	Weak
Counterpart funding	Weak	Weak	Weak	Weak

In addition to Global Fund grants, other funding is provided by the government, Action Damien, PEPFAR, WHO and USAID. Major funding gaps for the period 2015-2017 in key areas that have been identified as being critical include prevention of mother to child transmission of HIV (PMTCT),

multidrug resistant tuberculosis (MDR-TB), men who have sex with men (MSM), and female sex workers (FSW), and prevention in the general population. The proposed interventions respond to the gaps but at the same time the funding gaps are big and might affect implementation of activities in the key areas. According to official records, the 5% required level of counterpart financing has been achieved for each program and government made a commitment of $59.2 million for the 2015-2017 period. The minimum required counterpart funding for malaria will be met, but there was no indication of increased funding, save for the general increase in allocation to health sector over time.

Côte d'Ivoire

Table 5 summarizes parameter scoring from the Côte d'Ivoire concept note for malaria and tuberculosis. Côte d'Ivoire did not have an HIV concept over the review period.

The concept notes contained a substantial epidemiologic review drawing on various sources including the WHO Global TB Report 2014, Living Standards Measurement Survey (LSMS) 2008, and DHS/MICS 2011-2012, among others. The review in the TB concept note (2016-2017) indicated that between 1990 and 2013, the notified incidence of all forms of TB rose from 64 new cases to 112 new cases while the incidence of pulmonary TB rose from 45 to 69 new cases per 100,000 population. According to WHO estimates, the prevalence of MDR-TB among patients with TB who have never received any anti-TB drugs was 2.5% while that among those who had previously been treated for TB was 13%. Coverage of testing and treatment centers is very low approximately one center for every 145,000 people.

The identified barriers to accessing and using services included stigma, punitive laws, and limited service points. The review of health care and community health systems provided a clear status of the two as well as the national TB strategy and its priority areas. The programmatic gap analysis and selected modules for intervention generally reflected the identified needs.

The concept notes that malaria is endemic and that more than half of severe malaria cases happen in children under five years of age. Over 40% of consultations at health care facilities in the country were related to malaria. As of 2013, coverage of rapid diagnostic testing for malaria had gone up to about 75%. Key populations for malaria include pregnant women and the very poor with children under five accounting for 50% of severe malaria cases.

Table 5: Concept note assessment parameters per program area, Côte d'Ivoire, malaria, 2015; TB, 2016

	Program areas			
Parameters assessed	**HIV/AIDS**	**Tuberculosis**	**Malaria**	**Health Systems Strengthening**
International reference pricing	Not applicable	Unable to assess	Unable to assess	Unable to assess
Epidemiologic data use	Not applicable	Good		Good
International guidelines & best practices	Not applicable	Good	Good	Weak
Linking past investments to proposed activities	Not applicable	Good	Good	Weak
Counterpart funding	Not applicable	Good	Good	Good

The financial gap analysis showed that the TB program had a gap of 83%. The average annual state contribution to TB control for the period 2013-2014 was EUR 2.3 million and included a clear plan of having this increased to 2.9 million in 2015, 3.3 million in 2016 and 3.8 million in 2017. For malaria, vector control and case management accounted for 76% of the budget and the funding gaps stand at 93% and 46% respectively. The country's counterpart funding threshold for malaria program was 48% of the allocation amount, which surpassed the minimum threshold of 20%.

Ethiopia

Table 6 summarizes parameters assessed in the Ethiopian concept note for the three diseases and health systems strengthening and the associated scoring.

The concept note provided a detailed epidemiologic review as well a succinct description of the health care system. The review drew on several data sources including DHS, HMIS and other national surveys. According to DHS 2011, the national HIV prevalence among the general population aged 15-49 years was 1.5%, with 1.9 % in women and 0.9% in men. Key populations include: female sex workers, truck drivers, seasonal /migrant laborers, and discordant couples. It was reported that overall there was decreasing incidence, prevalence and AIDS mortality over the years.

Although TB incidence and mortality has been on the decline, Ethopia has the ninth highest TB burden globally. The prevalence of MDR-TB increased from 1.6% among new smear-positive TB cases in 2005 to 2.3% in 2014. Key populations for TB include prisoners, refugees, migrant population, pastoralist population and slum residents.

The concept note purports that "given the demonstrated ability of the malaria control program in Ethiopia to maintain high coverage rates for prevention measures, as well as to establish universal access to diagnosis and treatment", it was time to roll out elimination plans in low malaria transmission settings. However, while this was a good aspiration, the reported expansion of the health care and community systems since 2003 does not reflect the level of efficiency needed for elimination. The proposed action might go a long way towards elimination, but the funding gaps for 55% of required diagnostics and 49% of treatments makes elimination plans unrealistic in the near future.

Table 6: Concept note assessment parameters by program area, Ethiopia, 2015

	Program areas			
Parameters assessed	HIV/AIDS	Tuberculosis	Malaria	Health Systems Strengthening
International reference pricing	Unable to assess	Unable to assess	Unable to assess	Unable to assess
Epidemiologic data use	Good	Good	Good	Good
International guidelines & best practices	Good	Good	Good	Weak
Linking past investments to proposed activities	Good	Good	Weak	Weak
Counterpart funding	Weak	Weak	Weak	Weak

The national disease strategic plans identified the areas of focus in reducing the incidence but also challenges in coverage of services such as prevention of mother to child transmission, testing among children, and low testing treatment coverage. The new strategic plan focuses on these areas and the modules chosen for implementation reflect this. The funding gaps for the disease areas were substantial. While it was stated that increasing domestic resources for the national HIV response was one of the four critical enablers stipulated in the 2015-2020 HIV investment case, there wasn't enough detail on how much this would be and any associated annual increments. The same applies for TB and malaria program here this was pegged on overall increase in funding to the health sector with no specifics.

1 (b). Technical Review Panel report reviews

The TRP noted marked improvement in the prioritization within concept notes since 2014, compared to proposals submitted under the previous the rounds based system. More applicants presented stronger, evidenced-based rationale for prioritization of interventions, a key feature of the TRP's assessment of value for money.

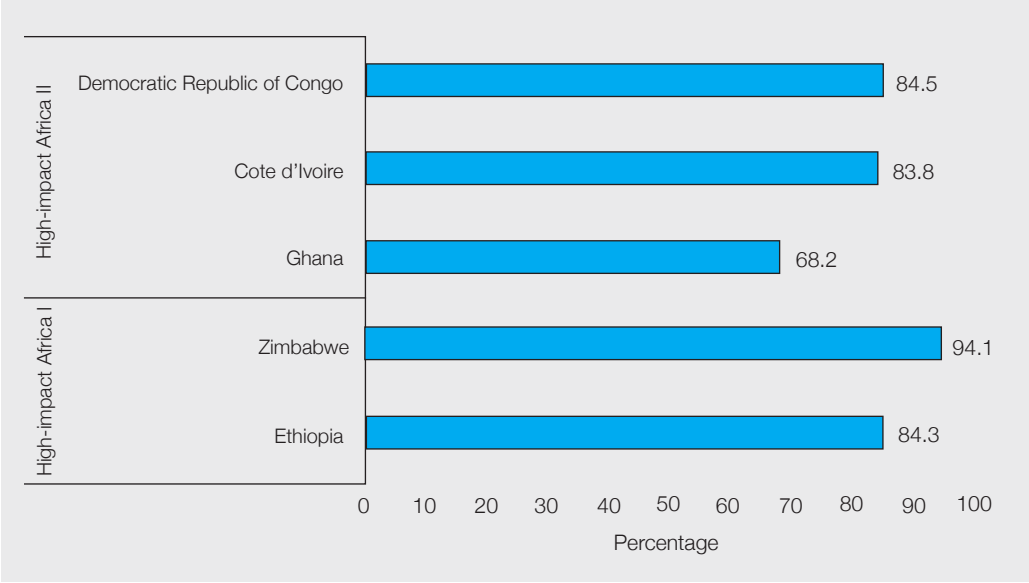
However, the TRP noted that "while [countries] were able to prioritize interventions within a concept note, they were not able to assign firm cost ranges to the interventions they prioritized. The lack of firm cost estimates of interventions and/or evidence based prioritization and associated impact indicators makes it difficult to rank interventions across concept notes and/or across countries" and lack of costing estimates makes determination of value for money difficult.

Despite Global Fund's and other investments and capacity building in national health information systems, programmatic data collection and use remains poor. It is not surprising that the majority of the poor concept notes come from countries with weaker systems and capacity. The corresponding lack of quality data makes it difficult or nearly impossible to evaluate the extent of impact as judged against investments. Also, countries' proposed expansion of programs such as antiretroviral therapy (ART); insecticide-treated nets (ITN) and malaria elimination cannot be properly planned or budgeted without a proper situation analysis and identification of bottlenecks, secure funding and proper plan for scale up. Plans based on inaccurate or old data are unlikely to effectively reach the hardest-to-reach populations.

2. Absorptive capacity analysis

The Global Fund defines absorption as the percentage of actual expenditures compared to grant budget; or, simply, how much of the budgeted funds have been spent by a country. Low absorption of grant fuds – whether from the Global Fund or other donors - translates into either no services being delivered or late delivery of services creating a cycle of service delays and at times the need to seek authority to reprogram funds for later use. While low absorptive capacity may also be a result of unintended efficiencies that lead to cost savings; this is generally not the case in most countries. Often, the underlying cause of low absorption are weak systems for health. Concept notes that are not based on solid country data are likely to end up with misaligned priorities and intervention choices, which can lead to delays in grant implementation, underspending budgeted grant funds, and less than desired outputs, outcomes and impact.

Estimates based of disbursement data show that the average absorptive capacity for countries in the East and Southern Africa and West and Central Africa was about 66%. Estimates for countries in this review range between 68% and 94%, Figure 1. The Global Fund secretariat estimates that, in the best case scenario, about $1.1 billion intended for disease prevention, treatment and care will remain unutilized by the end of 2017. Whatever the causes of low absorptive capacity are in a given country, they bring inefficiencies, low service provision and ultimately contribute to low value for money.



** Kenya excluded due to unresolved data issue*

3. Review of Office of Inspector General Reports

The reviews of OIG reports are summarized below by country. Country audit reports document unauthorized deviations (quality, quantity and timeliness) from approved implementation plans and expenditure. Audit findings can provide insights on value for money because undelivered services, poor quality and higher than expected costs of delivery all lead to loss of value for money as many of the intended beneficiaries end up not receiving the interventions, ultimately leading to lower than expected impacts.

Kenya

The OIG audit in Kenya (2015) noted impressive performance in ART and ACT coverage and TB notification. However, a number of unmitigated strategic portfolio issues were identified that call for a more long-term approach in fighting the three diseases: poor coordination with donors, low use of bed nets, delayed TB prevalence survey, and partial treatment coverage of people living with HIV. While the Global Fund Secretariat agreed with the decision of the Principal Recipient in Kenya to use existing national health output indicators to evaluate grant performance (Global Fund grants account for only 25-45% of programming for the three epidemics), use of the indicators limits performance assessment of Global Fund-specific investments. Other countries that receive significant proportion of program support from the Global Fund report both national and separate Global Fund targets to monitor national and Global Fund performance, respectively.

Zimbabwe

The 2016 audit reports showed that, though outputs were delivered, achievement of impact was affected by low quality of service. Quality breaches included non-compliance with HIV counselling and testing guidelines, lapses in monitoring of patients on treatment, gaps in retention of patients on treatment, inadequate response to malaria outbreaks, and curtailed active case finding for TB and drug-resistant TB. Weaknesses in the country's supply chain management system affect the effective distribution and accountability for medicines and commodities. The audit report found ineffective distribution of anti-malaria medicines, gaps in management of medicine regimen changes, inadequate disposal of expired medicines, and inaccurate and incomplete record keeping affecting accountability for medicines. Inadequate controls over financial risks, including ineffective utilization and accountability of grant funds, were also reported. The audit also found ineligible and unsupported costs, such as the duplicate regulatory inspections by the Ministry of Health and Medicines Control Authority of Zimbabwe (MCAZ)), non-compliance in the management of advances, payment of value added tax, inadequate review of supporting documentation, limitation in oversight of sub-recipients, and lapses in fund administrator role. All of these examples demonstrate events that do not reflect value for money.

Ghana

The OIG's audit report on Ghana (2015) found that the financial management processes were strong, however there were concerns. The audit identified systematic procurement and supply chain weaknesses that remained unmitigated that it posed a risk to timely delivery of quality drugs to patients. A fire at the Central Medical Stores and slow implementation pace of the Supply Chain Master Plan compound supply chain issues. The audit also noted significant unaddressed data collection and data quality issues, leading to challenges of inaccurate reporting and poorly informed decision making. Besides, the Secretariat does not yet have fully effective tools for identifying or mitigating strategic risks. These weaknesses and risks warrant further actions by the Global Fund to improve efficiency and thereby value for money.

Democratic Republic of Congo

The OIG's 2014 audit report for DRC noted significant improvements in programming including vector control for malaria, more people on ARVs and TB notification. The audit found that the supply chain controls were weak allowing purchase of substandard drugs, absence of mechanism to track expiration of drugs and common stock-outs. Gaps were

identified in data collection and transmission and this results in wrong data being reported and used for decision making. On fiduciary matters, DRC is under the additional safeguards policy- additional controls aimed at minimizing risks in challenging operating environments, and internal financial controls especially of the public Principle Recipient remain weak.

Côte d'Ivoire

The OIG audit report (2016) noted that the existing implementation arrangements have had a significant impact due to better coordinated service delivery and synergies between private and public providers, increased use of logistics management system, and better distribution of health products by the Central Medical Stores. Challenges included low absorptive capacity, and weak inventory control and reporting which contributed to inability to track expiry dates and drug stock-outs. The audit concluded that the national disease programs lack the required authority and flexibility to efficiently implement a large number of cross-cutting grant activities, leading to delays and under absorption of funds. For example, as of end of June 2016, budget absorption rates (without health product procurements) for the three disease programs were between 33% and 45%. The fiduciary control and support arrangements for the national disease programs had gaps and potentially limiting value for money. While the Civil Society Principal Recipients have effective financial and procurement controls, the national disease programs have only partially effective controls, leading to lower competition and transparency. This causes implementation delays and risks of financial loss.

Ethiopia

The most recent audit report on Ethiopia (2015) did not focus on grant implementation but rather on a pre-implementation review of the proposal for piloting the National Strategy Financing model in Ethiopia. Therefore the value for money lessons for Ethiopia are mainly drawn from an earlier audit report (2012) that was carried out in 2010. However, there are some lessons on internal controls that were reviewed in both audits. The 2012 audit report noted significant progress in areas such HIV testing and counselling, access to ART and treatment for opportunistic infections. There were however serious concerns including ineligible expenses ($6 million), significant reprogramming without authorization as was the case with diversion of money from malaria control to health center construction. Audit of constructed facilities revealed significant defects such as cracks, lack of functioning toilets and access to water. They noted weak procurement systems and weak internal controls. The audit concluded that Ethiopia needed to refund $7 million. However, the 2015 audit indicates that there is progress being made noting that they were investing in building

and maturing national oversight mechanisms, and that the checks over key financial, programmatic and health products data remain at an early stage in their development.

4. Unit costs for Global Fund recommended interventions

Another line of evidence on the implementation of the principles of value for money for Global Fund investment is the unit cost of interventions. Global Fund-supported first-line anti-retroviral treatments were provided at a unit cost of $0.19, $0.20 and $0.22 in West and Central Africa, East Africa and Southern Africa, respectively. As compared to Global Pricing report mechanism (GPRM) prices for HIV, this is low [7]. The average unit costs for HIV test kits ranged between $0.84 and $1.40 in the African region. This is much lower than the current costs of HIV test kits. For instance, a test kit in South Africa on the open market is about R80 ($5.80). The commodities pricing demonstrates that Global Fund investment is making HIV testing and other services available at a lower cost through its market shaping efforts such as Pooled Procurement Mechanism and thus better value for money. However, it should be noted that this comparison is only a general picture because the Global Fund unit costs do not include the additional in-country supply chain costs.

Proven malaria prevention interventions were also delivered at a very reasonable unit costs as evidenced by the maximum average of unit costs of long-lasting insecticide treatment ($6.00), first-line malaria treatments ($0.06), and rapid diagnostic tests ($0.87). The current market costs of these products is much higher than these values. This could be partly due to the pooled procurement system of the Global Fund

Treatment regimen for intensive phase of TB treatment were delivered at a unit cost of $0.60. This is significantly lower than the unit cost of treating TB patients in low and middle income countries [8]. The lower unit cost of TB treatment programs has allowed for proportional attention to be given to prevention of TB in these countries. Though quality of services could be a concern in some countries, Global Fund investments have used lower unit costs to meet ambitious targets in sub-Saharan Africa.

Discussion

The quality of concept notes is improving and increasingly they demonstrate value for money. There remains, however, room for improvement. Good quality epidemiologic and service data coupled with choice of evidence-based cost-effective interventions, are important to achieving and measuring impacts. From the concept notes reviewed in this analysis, overall the quality of epidemiologic analysis is good. However, in some countries health systems analysis based on routine and more recent HMIS data is weak and countries are over-reliance on survey and modelled data. Information on the percent changes in total counterpart funding- a key aspect that demonstrates government's commitment to increase funding from local resources, is weak in most countries we analyzed as well.

The absence of firm cost estimates and at times lack of impact data makes value for money assessment difficult. With the evolution of Global Fund market shaping initiatives including pooled procurement mechanism and online procurement, cost data for commodities is expected to become increasingly more transparent and available. Increased investment in country health data systems from both the country allocations and catalytic funding are also expected to bring better quality service delivery data.

Observations from this review indicate that assessing for value for money beyond the contents of concept notes provides insights on performance as well as a broader understanding of whether Global Fund investments are achieving the intended goals. However, this area needs more in-depth country-level analyses. A nicely written concept note does not necessarily translate into good implementation and hence value for money, so analysis based on this is limited. While there are safeguards to ensure that activities are implemented as approved through grant making, deviations do occur, which can contribute to less than ideal outcomes and impacts. These risks are well articulated in the OIG audit reports touching management challenges, quality of products and services and timeliness in their delivery.

The low absorption of grants in many countries and low levels of counterpart funding brings to the fore and partly shows that indeed the principles of effectiveness, efficiency and additionality are not fully being addressed and achieved in the process of implementing grants. The systemic challenges that hinder absorption of grants similarly impact on delivery of effective interventions in an efficient manner. It is however important to note that these bottlenecks are starting to be systematically addressed in implementing countries.

Recommendations

- **Continue to invest in improved data quality and use it for smart investment**

  Countries must prioritize continual improvement of and investment in national data systems to produce sound, disaggregated, timely epidemiological profiling of the burden of diseases. This will also allow them to reduce reliance on often old survey and or modelled data as a basis for planning for service delivery.

  - o These data should also be used to track service delivery intervention unit costs. The unit costs can then be used for comparison with Global Fund's (and partners') generated unit costs of key interventions for different country income levels and thus provide information on whether the interventions are achieving value for money.

- **Improve transparency and accountability on domestic health contributions**

  As a part of accountability to their citizens as well as donors, implementing countries should improve transparency on reporting and making actual contribution to health funding from domestic resources as a percentage of national budget, including historic data to show trends over time.

- **Continue to improve country absorption capacity**

  From the OIG audit reports and grant implementation data, it is clear that bottlenecks still exist in the implementation of grants. The Global Fund should continue to work with countries to improve grant absorption to speed service delivery, and thereby improve impact. On the other hand, governments should be accountable to ensure that resources set aside for activities should be used as intended and in a timely manner. Policies and other bureaucracies that aid misappropriation of resources or hinder access to and use of funds should be addressed.

In conclusion, future assessment of value for money in Global Fund grants should include a process evaluation and an assessment of outputs and outcomes against investment. It is for this reason that we recommend that the assessment of value for money should go beyond concept note assessment to look at other qualitative and quantitative data sources. Future work should also take country policy and operational challenges into account that directly or indirectly impact achieving value for money.

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