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Aidspan Review of a Study by I. Katz et al on Factors Influencing Performance of Global Fund-Supported TB Grants

by
Dr David McCoy

This is a review of the following study:

**Factors influencing performance of
Global Fund-supported tuberculosis grants**

**by I. Katz,* M.A. Aziz,* M. Olszak-Olszewski,*
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Preface

Aidspan (www.aidspan.org) is an NGO based in Nairobi, Kenya. Its mission is to reinforce the effectiveness of the Global Fund. Aidspan performs this mission by serving as an independent watchdog of the Fund, and by providing services that can benefit all countries wishing to obtain and make effective use of Global Fund financing.

Aidspan and the Global Fund maintain a positive working relationship, but have no formal connection. *The board, staff and other structures of the Global Fund have no influence on, and bear no responsibility for, the content of this review or of any other Aidspan publication.*

The author of this review, Dr David McCoy (david.mccoy@aidspan.org), is a public health physician and honorary senior clinical research fellow at University College London. He serves as a consultant to Aidspan and also works part-time in the UK National Health Service.

While the authors of the original study have seen drafts of this review, the author of this review takes full responsibility for ensuring that the original study has been accurately and fairly represented, as well as for the opinions and recommendations expressed here. Aidspan is grateful for the comments and suggestions received from the authors of the original study.

Introduction

Global Fund-supported grants do not all work as well as they should. Some grants do well, while others struggle to be effective or efficient. Understanding the reasons for this variation may be useful. Global Fund employees recently published a study¹ that sought to describe the factors influencing the performance of Global Fund-supported tuberculosis (TB) grants. How was this study conducted and what did it say?

Study design and methods

A total of 108 TB grants from 88 countries were studied. All grants had to have reported results and received funding for a minimum of nine months as of January 2008. Of these, 67 grants (62%) had completed a Global Fund evaluation, which is normally conducted during the second year of a grant.

The performance results and targets for nine major TB output indicators (see Table 1) were then collected. The results were obtained from progress updates submitted by grant recipients (on a quarterly or semi-annual basis), while the targets were obtained from the grant agreement. For each indicator, the results were divided by the corresponding target to create a proxy performance measure. For example, if results exceeded targets, the performance measure would be more than 100% (signifying 'high -performance'); and the converse if results failed to reach targets. For the purpose of the study, high performance was capped at 150%; while for cases in which results were missing, a measure of 0% was assigned.

¹ I. Katz et al. Factors influencing performance of Global Fund-supported tuberculosis grants, *Int J Tuberc Lung Dis* 14(9):1097–1103. The full text of this paper is available [here](#).

Table 1: List of major TB output indicators identified by Global Fund

TB Advocacy	1. Number of people reached by TB educational sessions (e.g., information TB control, directly observed therapy short course (DOTS), private-public mix)
TB treatment	2. Number of smear-positive TB cases detected and treated 3. Number of TB cases successfully treated 4. Number of people enrolled on multi-drug resistant TB treatment
TB-HIV integration	5. Number of HIV-positive persons screened for TB 6. Number of HIV-positive persons provided with cotrimoxazole preventive treatment during TB treatment 7. Number of TB patients currently on antiretroviral treatment 8. Number of TB patients counselled and tested for HIV
Care and support	9. Number of TB patients provided with care and support services (e.g., nutritional support, psychosocial counselling)

Each grant was then given a single composite performance score derived from a simple average of the measure for each major output indicator. This score was then used as the dependent variable in regression analyses involving a range of independent variables relating to grant and country characteristics (see Table 2). This made it possible to determine which of those variables were significantly associated with the pattern of performance scores observed for each grant.

Table 2: Country and grant-related variables used in regression analyses

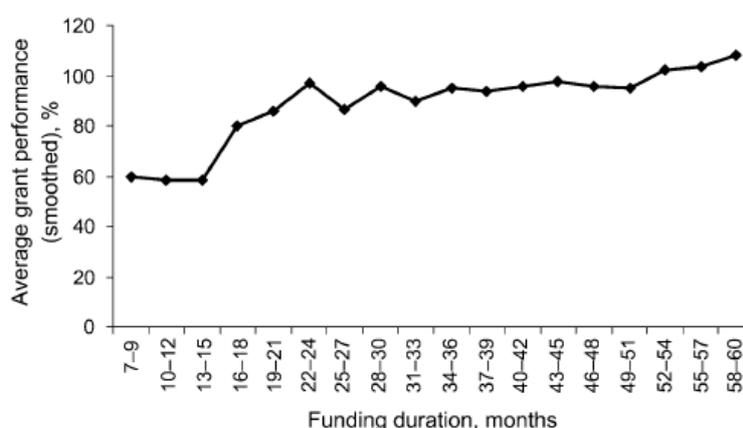
Grant characteristics	Country characteristics
1. Duration of funding (from time of first disbursement)	1. Health service measures, such as health personnel per capita, under-five mortality rate and per capita health expenditure
2. Whether or not a Phase 2 grant agreement had been signed	2. TB disease burden – Estimated number of smear-positive TB cases per 1,000 population
3. Three variables on whether the grant supports each of the following: i) behavioural prevention; ii) TB/HIV integration; and iii) care and support	3. Six country governance indicators constructed by the World Bank: voice and accountability; political stability and absence of violence; government effectiveness; regulatory quality; rule of law; and control of corruption
4. Proposal rating assigned by the Technical Review Panel (TRP) at the time of proposal approval	4. Socio-economic measures, such as gross national income (GNI) per capita, and low- or middle-income category, as determined by the income levels defined by the International Monetary Fund (IMF)
5. Type of principal recipient (PR) of the grant	
6. Local fund agent (LFA) – categorised according to KPMG, PricewaterhouseCoopers and “other”	
7. Continuity of Global Fund grant manager (defined according to whether grant management the grants had the same manager in the 12 months immediately preceding the study period)	
8. The time between approval of proposal and first disbursement date	
9. Per capita budget defined as: Phase 1 budget divided by the number of smear-positive TB cases in the recipient country; and Phase 1 budget divided by country population size	

Results / Findings

Performance scores

The average performance score across all TB grants was 89%. In other words, grants were reaching, on average, 89% of the targets that had been set for the main TB output indicators. However, the study found that performance scores changed over time. Generally speaking, scores averaged 60% in the first 15 months, after which there was a sharp increase between months 16 and 22 to about 95%. For those grants that extended into a Phase 2 agreement, scores tended to stabilise until about the 52nd month, after which, on average, performance results began to exceed targets. Figure 1 below presents these data graphically using a smoothed averaged (a rolling average of three sequential time periods) for all the grants in the study.

Figure 1: Average performance scores (rolling average of three scores)



Regression analysis

Regression models identified positive correlation at the 1% significance level (highly significant) for two independent variables:

- Duration of funding
- Whether or not a Phase 2 agreement had been signed

Three other variables were associated positively with performance at the 5% significance level:

- Phase 1 budget divided by the number of smear-positive TB cases in the recipient country
- Grants monitored by LFAs other than KPMG and PWC
- Political stability

One variable was associated negatively with performance at the 5% level:

- Estimated number of smear-positive TB cases per 1,000 population (TB incidence)

Discussion

Before examining the results of the regression analyses, it should be noted that this is not really a study of TB grant performance. Rather, it is a study of TB grant target-achievement. This is a subtle but important difference. Put simply, the achievement of targets does not necessarily indicate good performance because the targets that were set may have been too low; conversely, the under-achievement of targets may not indicate poor performance.

The study authors argue that the grant funding system of the Global Fund is designed in such a way as to establish targets that are “ambitious, but reachable.” They explain that on the one hand, funding applicants are incentivised to set ambitious targets to increase their chance of having their proposal approved – while, on the other hand, the failure to achieve targets may result in reductions in funding, leading applicants to set realistic targets. Furthermore, they suggest that the assistance of technical agencies such as Stop TB and the World Health Organisation (WHO) in the preparation of proposals and during final grant negotiations with the Global Fund Secretariat helps to ensure appropriate target-setting. Nevertheless, they concede that “despite these processes, some targets might be modest, while others are over-ambitious.”

However, even assuming that appropriate (ambitious but realistic) targets are set, there is still a question as to how well average percentage target achievement across a set of major output indicators acts as a proxy measure of overall grant performance. Here, the answer depends on the validity of the output indicators as a measure of performance. One limitation is the lack of any accompanying measure of the quality of TB services, without which it is hard to say if the achievement of output targets represents good performance. For example, a number of indicators are based on rather simplistic output counts for which quality standards and measures are absent or difficult to verify (e.g., “the number of people reached by TB educational sessions” and “the number of TB patients provided with care and support services”).

Another limitation is that the performance score of each grant is calculated as a simple average of the performance measure of all individual output indicators. This means that each of the nine output indicators is given equal weighting in terms of its contribution to an overall performance score, even though the nine indicators are not of equal importance. For example, the number or proportion of TB patients completing treatment may be more important than the number or proportion of TB patients provided with care and support. One may also question the appropriateness of having four over-lapping and equally weighted indicators of “TB-HIV integration” as this would give undue weight to this aspect of a TB programme.

But even if we assume that the targets have been set appropriately (e.g. taking into account contextual factors and existing TB programme performance levels) and that the average target achievement score is a reasonable proxy measure of grant performance, what can be said about the results from the study?

The study, for example, shows a pattern in the way TB grants perform on the basis of reaching their targets. To some extent the findings agree with performance-based funding theory. In the early part of a grant one might want or expect to see relatively low target achievement in order to spur on effort and ambition. But towards the end of the grant, one might want or expect a more steady state of target achievement as this provides a foundation for longer term sustainability.

However, one should be suspicious of the sudden increase in target achievement between months 16 and 22, and wonder to what extent this reflects the need to secure Phase 2 grant

extension rather than a more true or natural rate of progress. There is a well-recognised danger that performance targets, especially when linked to funding, can result in “perverse incentives” whereby targets may be reached through the dubious use of data or at the expense of quality.

Unfortunately, the study didn’t describe the degree of variance in the pattern of target achievement from one grant to another; nor did it describe the number and percentage of grants that were terminated after the Phase 1 evaluation. It is possible that if those grants that were not funded for Phase 2 were excluded from the analysis, the pattern shown in Figure 1 might differ. In addition, the study did not describe the effect of missing results or the capping of high performance at 150% on this pattern of target attainment.

What about the findings from the regression analyses? The factors found to be positively correlated at the 1% level are not surprising. After all, grants that progress to Phase 2 are by definition those that will have performed well against their targets. One would also expect a greater degree of target achievement as a grant matures, for the reasons described above.

The factors that were correlated at the 5% level are worthy of discussion. The correlation between target achievement and the amount of Global Fund funding relative to a country’s smear-positive TB rate might not be surprising, at first glance, because one might expect higher budgets per TB case to be associated with better *performance* across the range of TB output indicators. However, as previously mentioned, performance in this study is defined in terms of achieving set targets. It is therefore more correct to say that per capita budgets are significantly associated with achievable targets. But why should this be the case? There is a good chance that this is a random association.

The study authors mention that this finding contradicts earlier studies of Global Fund grant performance which found no correlation between “per capita Global Fund budgets” and (second year evaluation) performance ratings for all three diseases. The implicit conclusion from these other studies that budgets and levels of financing are not related to performance is counter-intuitive. One would expect that the more money a country spends on its health programmes, the better able it is to meet its population’s health needs, and thus the better its performance.

However, interpretation of any correlation between per capita Global Fund budgets and performance or target achievement is difficult without also knowing the contribution of other sources of funding to the same Global Fund-supported TB programme; the way in which performance is being defined; and the degree to which targets are set ambitiously (or not). It should also be the case that when multi-country studies are conducted, Global Fund budgets should be adjusted for purchasing power differences across countries (which wasn’t the case in this study).

The finding that the type of LFA is significantly associated with target achievement is also interesting and said to be consistent with other studies that have examined variables influencing disbursement rates and Phase 2 performance ratings.^{2, 3} However, there is no explanation as to why KPMG and PWC are associated with poorer target achievement compared to other LFAs; this is worthy of further investigation.

Interestingly, neither the income status of countries nor various health service indicators were associated with the grant performance indicators (i.e., average percentage target

² S. Radelet, B. Siddiqi. Global Fund grant programmes: an analysis of evaluation scores, *Lancet* 2007; 369: 1807-1813.

³ C. Lu et al. Absorptive capacity and disbursements by the Global Fund to Fight AIDS, Tuberculosis and Malaria: analysis of grant implementation, *Lancet* 2006; 368: 483-488.

achievement) used in this study. This may be because such variables are taken into consideration when targets are set. Conversely, the observation that “political stability and absence of violence” is associated with better target achievement may be because instability and violence may arise precipitously after targets have been set. Countries that are unstable and that suffer from the threat of violence may also be prone to setting over-ambitious targets for the sake of improving their chances of being funded.

However, what is interesting, but not discussed by the study authors, is the lack of correlation with any of the other five indicators of country governance (voice and accountability, government effectiveness, regulatory quality, rule of law, and control of corruption). This would appear to be counter-intuitive and is a finding that deserves more attention. These are all variables that fall under the rubric of health systems strengthening (HSS), and the prevailing and logical view is that HSS should enable more efficient and sustainable achievement of programmatic (disease-based) targets.

Finally, it is not clear why high TB incidence correlates negatively with target achievement. The authors suggest that it may be because TB grants are associated with over-ambitious targets, although it is not explained why this should be the case. Other notable negative findings are the lack of correlation between target achievement and the proposal rating assigned by the TRP at the time of proposal approval; and the type of PR. But, rather oddly, there was no examination of the correlation with the performance ratings given during the Year 2 formal evaluation.

Conclusions and Recommendations

The Global Fund is in many ways leading the international health community in measuring and improving grant performance and should be commended for this. But grant performance measurement is devilishly difficult, and further work is required to develop the methodology and enhance the validity of performance ratings and scores. In addition, performance measurement cannot be limited to a single composite measure of “target achievement” around a narrow and unbalanced set of indicators. Targets need to be assessed for their appropriateness – not just in terms of being ambitious and realistic, but also in terms of the wider context of overall country targets and disease-focused funding. Furthermore, measures of grant performance need to be able to incorporate some indicators of efficiency and quality.

On this last point, there is a need to be mindful of the inherent and unavoidable limitations of performance scores or ratings that are entirely based on quantitative indicators or measures. An assessment of performance needs to take into account a range of qualitative indicators and assessments of performance, as well as various contextual factors.

While multi-country quantitative analyses may provide useful indications of the factors that are *associated* with performance, one must be cautious about drawing conclusions and recommendations from cross-sectional studies. In addition, grant performance is the result of a complex set of *socially-mediated* contextual and health systems variables which exist and interact in different ways from one setting to another. As such, simple and quantitative associations between inputs, outputs and outcomes that are derived from the aggregating of data from multiple settings cannot be held to be universal or explanatory. Understanding if and how performance is poor or good, and why this is the case, requires additional methodologies that are more qualitative and holistic, and which view each country as a unique and separate study subject.

This study does however highlight the need for more research and capacity development on the exercise of “target setting.” For the Global Fund to be an effective performance-based

funding agency, it must be able to be confident that targets have been set appropriately. But at present, it does not seem as though the Global Fund is adequately confident of the appropriateness of the targets set in their final grant agreements.

This study also indicates a need for research and better understanding of the association between certain types of LFAs and the poor achievement of targets, as well as the relationship between measures of HSS with disease-based grant performance.

Finally, some additional analyses could be usefully carried out with the same set of data. It would be helpful to examine the variance in average performance score across grants; the proportion of grants that were terminated after the Phase 1 evaluation; and whether the exclusion of these grants from the analysis would alter aggregated pattern of performance scores over time. It would also be interesting to analyse the data without a 150% cap on “high performance.” Similarly, it would be interesting to examine the frequency and effect of missing results.

Discussions with the Global Fund Secretariat have revealed an interest in incorporating these recommendations into a new study based on a more up-to-date set of data.